SSR
Society for the Study of Reproduction

# 52nd ANNUAL CONFERENCE

## Beyond Possible: Remarkable Transformation of Reproductive Biology

San Jose Convention Center
San Jose, CA

July 18-21, 2019

# CONTENTS




## ANNUAL MEETING PROGRAM SUPPORT

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Parsippany, New Jersey

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Research Triangle Park, North Carolina

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## EARMARKED SUPPORT

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BURROUGHS WELLCOME FUND CAREER DEVELOPMENT FELLOWS SCIENCE EDUCATION OUTREACH PROGRAM
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Bethesda, Maryland

**LALOR FOUNDATION**
LALOR FOUNDATION POST-DOCTORAL TRAVEL FELLOWSHIPS
Boston, Massachusetts

# PRESIDENT'S MESSAGE

## Welcome to the 52nd Annual SSR meeting in beautiful San Jose!

I am thrilled that we have the highest number of abstracts submitted since the 2013 SSR annual meeting. I think this is attributable to (and a tribute to!) the extremely exciting program that Program Committee co-chairs Carmen Williams and Masa Ikawa put together. The innovative science that will be presented at the 2019 meeting will be fitting of our venue in Silicon Valley.

The keynote talks and the focus sessions will highlight the broad impact of reproductive biology. The keynote presentations by Drs. Gavin Kelsey, Kathy Niakan, and Janet Rossant will discuss some of the most important and innovative current areas in reproductive biology: examination of epigenetic modifiers, CRISPR as an approach to interrogate human embryo development, and cell fate pathways in preimplantation development. Other keynotes will highlight how reproductive biology has roots and relevance (with National Academy of Sciences member Alejandro Sanchez Alvarado speaking on regeneration and plasticity in planarian flatworms) and cutting-edge technologies that seemed futuristic not so long ago (clinician-scientist Matthew Porteus addressing genome editing for human therapeutics). It is also a special treat that Dr. Diana Bianchi, director of the Eunice Kennedy Shriver National Institute of Child Health and Human Development at the NIH, will be a keynote speaker as well. It is an honor that she will be joining us to present her work and will get to meet some of you and get a glimpse into how the basic science at SSR drives advances relevant to NICHD's mission.

I am also very pleased that the SSR garnered funding support from the Gates Foundation this year, which has driven two add-on themes for the meeting that I am extremely passionate about. One of these themes is contraception – this was one key driving reason that I became attracted to reproductive biology. I am excited that Dr. Jeffrey Peipert will join us to present a keynote lecture. The work of his research team has provided some crucial insights into contraceptive choices and should give all reproductive biologists enriching food for thought on bridging of our research in reproductive biology to family planning. We also will have a special morning panel discussion on "Tailoring Your Research for Contraceptive Research and Development," organized by SSR Board member Darryl Russell and members of his committee who are working with the Gates Foundation on the SSR's partnership with them. And finally, we will have a new poster award supported by the Gates Foundation for research with application to contraceptive development. The second theme is science communication. This is a crucial skill for all of us in science, but perhaps even more important for those of us in the reproductive sciences, with much myth and misinformation swirling about reproduction. With Gates Foundation support, we are offering two special science communication workshops.

The Program Committee also has introduced some novel topics for focus sessions, such as regenerative medicine and the impact of climate change

on reproduction, as well as put together focus sessions on core fundamentals of our field. These focus sessions will include exchange lecturers from our "sibling" societies, ASRM, CFAS, SRB, SRF, and SRI. We also have spectacular special luncheons, with Dr. Renee Reijo Pera for the Diversity Symposium Lunch, and the Heritage lunch that will honor Dr. Neena Schwartz, past president of SSR and the Endocrine Society, as well as founder of American Women in Science (AWIS) and the Northwestern Center for Reproductive Science.

I am so grateful to Carmen, Masa and the members of their program committee, as well as all the others who have contributed to the 2019 annual meeting, including the Diversity Committee, the Heritage Committee, and the SSR Board of Directors and business office. Please join me in celebrating everyone's hard work of the past year!

Warmly,

**Janice Evans,** *SSR President*

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# WELCOME FROM THE 2019 SSR PROGRAM COMMITTEE CO-CHAIRS

## Welcome to San Jose for the 52nd Annual Meeting for the Society for the Study of Reproduction!

Our meeting's theme, "Beyond Possible: Remarkable Transformation of Reproductive Biology," is supported by a set of exciting lectures that highlight new and dramatic advances in our understanding of the basic science and translational applications of reproductive biology.

We will begin the meeting on Thursday with a Keynote lecture by Diana Bianchi, MD, PhD, Director of the Eunice Kennedy Shriver National Institute of Child Health and Human Development at the National Institutes of Health. Dr. Bianchi will discuss her pioneering work on the use of cell-free fetal DNA for diagnostic studies of fetal and maternal wellbeing. Our Plenary session on Friday will feature two lectures related to regenerative medicine. Alejandro Sanchez Alvarado, PhD, Investigator, Howard Hughes Medical Institute & Stowers Institute for Medical Research, will speak about reproductive plasticity in planarians, and Matthew Porteus, MD, PhD, Professor of Pediatrics, Stanford Medical School, will speak about translational applications of genome editing in humans.

On Saturday, the Plenary session will focus on the use of cutting-edge methodologies to understand development of oocytes and human preimplantation embryos. The Keynote lecturers will be Gavin Kelsey, PhD, Group Leader, Babraham Institute, who will speak on modifiers of epigenetic states during oocyte development and Kathy Niakan, PhD, Group Leader, The Francis Crick Institute, who will speak on her work using CRISPR gene editing approaches to understand differentiation of the human preimplantation embryo. The final day of the meeting will feature two Keynote lectures, one from Janet Rossant, PhD, Senior Scientist and Chief of Research Emeritus, Hospital for Sick Children, University of Toronto, who will discuss her work on embryos and stem cells. The final Keynote lecture will be from Jeffrey Peipert, MD, PhD, Chair, Department of Obstetrics & Gynecology, Indiana State University, on his research examining how contraceptive choices can impact public health.

The meeting will offer a series of 25 Focus Sessions (5 at a time) on topics representing the full breadth of ongoing research in reproductive and stem cell biology. A record number of posters will be presented in the mornings, some of which will be highlighted during embedded flash talks, and there will be plenty of time for networking. Finally, don't forget to take advantage of our pre- and post-meeting career development and communications activities. San Jose, in the heart of Silicon Valley, is an apt venue for what we anticipate will be a transformative program for the 52nd SSR Annual Meeting!

**Carmen Williams** and **Masahito Ikawa**

*2019 SSR Program Co-Chairs*

# WELCOME FROM THE **LOCAL ARRANGEMENTS COMMITTEE**

The Local Arrangements Committee welcomes you to northern California. We encourage you to experience some of the interesting and historic iconic sites. A one-hour trip on Caltrain will take you to downtown San Francisco to see the iconic cable cars, Fisherman's Wharf, and a site that says San Francisco to you. Alternatively, rent a car and take a day trip to the Great Basin Redwoods, or start early and head to the Monterey Bay Aquarium and further south on the famed Highway 1 to Big Sur or head north to Doran Beach or Fort Ross. The weekdays before and after the meeting are excellent times to avoid weekend crowds.

There's so much to do in and around town. Visit the Winchester Mystery House, the Tech Museum of Innovation, the Rosicrucian Egyptian Museum, San Jose Museum of Art, and Museum of Quilts and Textiles. Outdoor adventures include the Alum Rock Park, Los Gatos Creek Trail, Japanese Friendship Garden, and more. Visit **www.sanjose.org** for even more ideas on how to make the most of your time here.

Enjoy the conference and everything San Jose has to offer!

**Trish Berger**

*2019 SSR Local Arrangements Committee Chair*

## 2019 **LOCAL ARRANGEMENTS COMMITTEE**

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**Janice Evans** | Board Liaison

**Ashley George** | Board Liaison

**Al Conley** | Member

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**Polina Lishko** | Member

*Cell phones must be turned off or silenced during presentations.*

Thank you for your cooperation

# GENERAL INFORMATION

## SSR CODE OF CONDUCT

The Society for the Study of Reproduction is committed to a meeting environment in which all individuals are treated with respect and dignity and are free from all forms of harassment and discrimination.

Any form of harassment or bullying is prohibited and will not be tolerated. All attendees of the SSR annual meeting are expected to adhere to this policy. If you experience a violation of this code of conduct, please immediately inform the person so that they are aware of this unwelcome behavior. If the behavior continues further, report it immediately to an SSR staff member, identifiable by their SSR badge.

SSR will not permit or condone any acts of retaliation against those who have filed or corroborated a reported offense.

## SSR EXHIBITORS

For an up to date map and description of the 2019 SSR Annual Meeting Exhibitors, please visit the SSR Meeting App.

## CURRENCY EXCHANGE

ReadyStation is a self-service kiosk that converts US currency into payment network branded, non-reloadable debit cards for passenger/public use. Kiosks are located in the South Terminal A Ticket Lobby at the San Jose International Airport to the right of the luggage scale, next to the ticketing kiosks, and in the North Terminal A Ticket Lobby just inside the automatic doors located at the south end of the ticket lobby.

## AVERAGE SAN JOSE TEMPERATURES

| Month | High / Low(°F) | High/Low (°C) | Rain |
|---|---|---|---|
| **July** | **83/58** | **28/15** | **0 days** |

## TIME ZONE

California is in the **Pacific Time Zone (Greenwich Mean Time minus 8 hours)**. The state observes daylight saving time from early March to early November.

## TAXES

The state sales tax is 7.5%. Local taxes may be added up to 1.5% to your total bill.

## DIRECTORY ASSISTANCE

For local numbers, dial 411; for long distance, dial 1 plus the area code plus 555-1212; for toll-free numbers, call (800) 555-1212.

## EMERGENCIES

You can call 911 toll-free from any public telephone to obtain emergency police, fire, or medical assistance.

## LIQUOR/TOBACCO LAWS

**Alcohol is sold throughout California to people age 21 and older**. The legal drinking age is 21.

You must be age 18 or older to purchase tobacco products in the state. Smoking is prohibited in all public buildings (including restaurants, bars, and casinos) and enclosed spaces throughout California. It is illegal to smoke within 20 feet of doorways or windows of government buildings. Most large hotels have designated smoking rooms; if you smoke, request one—most hotels will fine guests who smoke inside a nonsmoking room. Many cities in California have passed ordinances prohibiting smoking in public areas, and smoking is prohibited in some national and state park buildings and areas.

## TRAVELING WITH DISABILITIES

Visitors who have physical or other challenges can still have a fantastic time in California. Special services are widely available, and access to trails, buildings, and attractions is continually being improved. Here are some helpful resources.

## WHEELCHAIR ACCESS

The Americans with Disabilities Act (ADA) states that all public buildings must be wheelchair accessible and have accessible restrooms. Most hotels and attractions are now outfitted with wide doorways and wheelchair ramps. City streets now feature a growing number of sidewalk corners with dropped curbs, and some public transit vehicles are equipped with lifts. Many state and national parks now have fully accessible ADA trails. If you need details, call destinations and services in advance.

## HELP FOR HEARING & MEMORY IMPAIRED

If you have limitations seeing, hearing, speaking, remembering, or moving that affect your ability to make or receive phone calls, dial **711** to have a specially trained communications assistant relay telephone conversations for all of your calls while you are in California.

Many movie theaters and performance spaces have special headsets to help you hear; ask when you purchase or pick up your tickets.

## DIRECTIONS & TRANSIT

San Jose is 45-minutes south of San Francisco and an hour north of the gorgeous Monterey Bay. The city is fast becoming northern California's transportation hub, with Mineta San Jose International Airport increasing their international flight selections, Bay Area Rapid Transit (BART) extending to San Jose, and the California bullet train project to begin construction soon.

### Fly In

Mineta San Jose International Airport (SJC) is Silicon Valley's airport and is located less than 4 miles from downtown San Jose. Serving nearly 4 million people and averaging 170+ daily flights, 40+ nonstop destinations and 15 domestic and international carriers, you're sure to find a flight. If not, no worries, San Francisco and Oakland international airports are a short ride. Find more information on SJC **https://www.flysanjose.com/**.

### Rail In

From San Francisco, hop on Caltrain, which connects you directly to San Jose Diridon station as your downtown stop.

From Oakland, you can take BART to Millbrae where you can catch the Caltrain to San Jose. For a shorter route, you can hop on BART to the city of Fremont followed by a car service or public bus to San Jose.

### Transportation

#### FAST FACTS

- Safe, compact, walkable and bike-friendly
- Downtown plentiful parking

#### LOCAL PUBLIC TRANSPORTATION

**VTA Light Rail and Bus:** Light Rail gets you quickly and inexpensively through the city, including the Alum Rock, Almaden and Santa Teresa areas of San Jose, plus neighboring Mountain View and Campbell. The extensive bus routes are

easy to navigate throughout all of Silicon Valley.
**Caltrain:** Easy access to San Francisco (including AT&T Park, home of the SF Giants) as well as access to shopping at the Gilroy Outlets is as easy as hopping on a train. Trains run daily with fares starting at $3 and increase based on zones traveled in and over what period of time.
**DASH (Downtown Area Shuttle) Shuttle:** Take advantage of the free shuttle, which hits key areas of Downtown San Jose. Shuttles run Monday to Friday, from approximately 6:30 AM to 9:15 PM.

### ALTERNATE PRIVATE TRANSPORTATION

- Eco City Cycles operates a pedicab service which is a fast, fun and green way to see the city. Cycles operate Wednesday to Saturday from 7 PM to 2 AM during good weather.
- Rent a bike for a day or more in San Jose and beyond with the Bay Area Bike Share program
- For all your biking resources in one place, check out our Bike San Jose page: **https://www.sanjose.org/trip-ideas/bike-san-jose**
- Rent a Zip Car if you feel like exploring on your own for just a few hours.
- Regular long-term rental cars can of course be easily arranged for pick up and drop at off any of the major Silicon Valley airports
- Cesar Chavez Park (near the Fairmont San Jose) as well as the San Pedro Square Market are both areas you can find a variety of regular taxi cab services day and night

### BEYOND SILICON VALLEY

To adventure beyond the immediate region, try **BART** (Bay Area Rapid Transit), **Greyhound Bus Lines**, **Ace** (Altamont Corridor Express) **Train**, **Capitol Corridor Train** and **Amtrack California** and **National Train Service**.

## REGISTRATION INFORMATION

### Registration Fees

Payment of registration fees is required to participate in the meeting. Registration covers attendance at all scientific sessions, the Opening and Closing Receptions, light breakfasts, and morning and afternoon refreshment breaks.

Optional events require separate tickets. Early purchase is encouraged; many of these events sell out quickly (see special events below). Spouses and guests wishing to attend the optional events must purchase a ticket. Optional event tickets are non-refundable. An SSR 2019 Annual Meeting badge is required for admission to all scientific sessions and for access to food functions. Registration fees are discounted for SSR members.

### Cancellation and Policy

Refunds, less a **$50 service fee**, will be issued for cancellations received in writing on or before June 3, 2019. Cancellations received after June 3rd and before June 21 will be subject to a service charge of USD $150. No refund will be issued for cancellations received on or after June 21, 2019. Registration may be transferred to another individual.

## PHOTOS AND VIDEOS AND SOCIAL MEDIA

### No Taking Pictures/Videos of Presentations

SSR supports learning and collaboration through presentation and discussion of the science. If you like what you see, talk to the presenter – you will have a better, more long-term experience and relationship than just a photo. Respect the research. No photos please.

### Social Media

You may share photos of yourself at the meeting on SSR's social media outlets(which will be monitored throughout the meeting) but you should obtain consent before posting photos of others at the meeting.

Follow and Like SSR **@SSRRepro** and tag us in your photos: **#SSR2019**

### Consent to Use of Photographic/Video Images

Registration and attendance at, or participation in, the SSR Annual Meeting and related special events constitutes an agreement by the attendee to allow the SSR free use and distribution of the attendee's image or voice in various media forms, including but not limited to photographs, videotapes, and electronic reproductions, in print or electronic format.

## PRESENTER INFORMATION

**Invited Speakers, Short Oral Presenters and Poster Flash Talk Presenters**

Upon arrival at the San Jose Convention Center, please pick up your registration materials and proceed to the Speaker Ready Room (Concourse Level Room 214), where all invited speakers and presenters of short orals and poster flash talks are required to check in and review their presentations. This room will have computers and trained personnel available for assistance should technical difficulties arise. Speakers may modify their presentation up to 24 hours prior to their scheduled session. A timed rehearsal is recommended. The slide preview room will be open during the following hours:

### Speaker Ready Room

San Jose Convention Center Room 214

Wednesday, July 17 | 12:00PM - 8:00PM

Thursday, July 18 | 12:00PM - 6:00PM

Friday, July 19 | 7:00AM - 4:00PM

Saturday, July 20 | 7:00AM - 4:00PM

Sunday, July 21 | 7:00AM - 1:30PM

## POSTER PRESENTATIONS

Poster sessions will be held at the San Jose Convention Center in the Lower Level. Program numbers will be indicated on the poster boards, and two posters will be positioned on each side of the poster boards. All posters will be on display the entire meeting and will be presented at the following times:

**Poster Session A |** Friday, July 19 | 8:00AM - 10:00AM

**Poster Session B |** Saturday, July 20 | 8:00AM - 10:00AM

**Poster Session C |** Sunday, July 21 | 8:00AM - 10:00AM

## FLASH TALKS

Flash Talks will be held at the **San Jose Convention Center in Room 211A and 211B**.

**Flash Talk A |** Friday, July 19 | 8:00-8:40 AM

**Flash Talk B |** Friday, July 19 | 8:00-8:40 AM

**Flash Talk C |** Saturday, July 20 | 8:00-8:40 AM

**Flash Talk D |** Saturday, July 20 | 8:00-8:40 AM

You are required to present during the session time indicated in your presentation notification. All posters must be mounted on Thursday, July 18, between noon and 6:00 PM, and must remain in place through 11:00AM on Sunday, July 21. Please remove your posters at the conclusion of Poster Session C. Posters still in place after 11:00AM on Sunday will be discarded. Poster Presenters whose abstracts have

also been selected for a 2-minute Poster Flash Talk Presentation must also prepare a poster for their assigned regular poster session and upload slides for presentation during the Poster Flask Talk time indicated in your presentation notification.

## FOOD SERVICE

An SSR 2019 Annual Meeting Badge is required for access to all SSR supported food functions.

### Meals

A light breakfast will be provided Friday, Saturday and Sunday from 8:00-10:00 AM. For all other meals, attendees are responsible for their own food, except where indicated with an event or purchased as a separate ticket.

### Coffee Breaks

There will be coffee and refreshment breaks Friday, Saturday and Sunday 3:00-3:30 PM in the Exhibit Hall.

## SAN JOSE DINING OPTIONS

Local Arrangements Highly Recommends:

**Original Joe's** – Italian Restaurant | 301 South 1st St

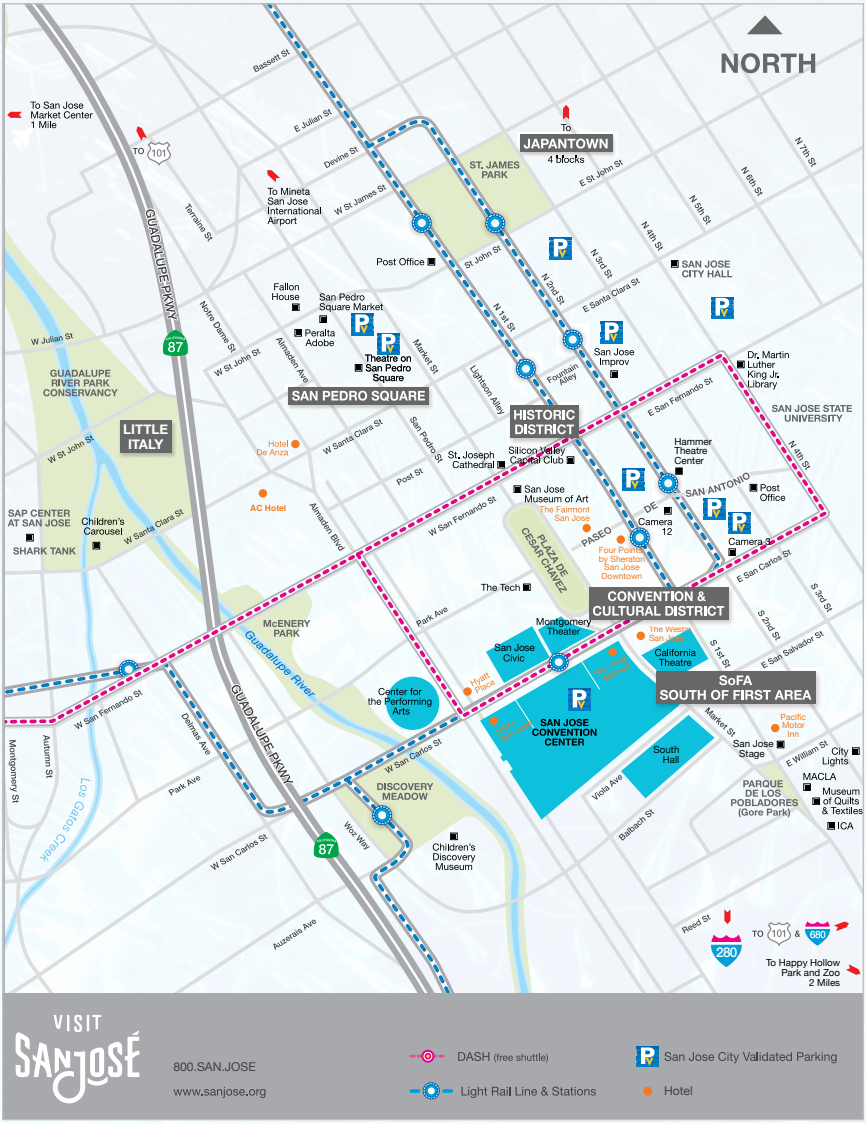
**Il Fornaio** – Italian Restaurant | Westin Hotel

**Morton's Steakhouse** | 177 Park Avenue

**Scott's Seafood** | 185 Park Avenue

**The Grill on the Alley** | Fairmont Hotel

**Arcadia** | San Jose Convention Center


NORTH
To San Jose Market Center 1 Mile
TO 101
To Mineta San Jose International Airport
JAPANTOWN
4 blocks
ST. JAMES PARK
Post Office
SAN JOSE CITY HALL
Fallon House
San Pedro Square Market
Peralta Adobe
Theatre on San Pedro Square
SAN PEDRO SQUARE
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LITTLE ITALY
HISTORIC DISTRICT
Hotel De Anza
St. Joseph Cathedral
Silicon Valley Capital Club
Hammer Theatre Center
SAN ANTONIO
Post Office
AC Hotel
San Jose Museum of Art
The Fairmont San Jose
Camera 12
Camera 3
SAP CENTER AT SAN JOSE
SHARK TANK
Children's Carousel
PASEO
Four Points by Sheraton San Jose Downtown
PLAZA DE CESAR CHAVEZ
The Tech
CONVENTION & CULTURAL DISTRICT
McENERY PARK
Guadalupe River
Montgomery Theater
San Jose Civic
California Theatre
SoFA SOUTH OF FIRST AREA
Center for the Performing Arts
SAN JOSE CONVENTION CENTER
South Hall
Pacific Motor Inn
San Jose Stage
City Lights
MACLA
PARQUE DE LOS POBLADORES (Gore Park)
Museum of Quilts & Textiles
ICA
DISCOVERY MEADOW
Children's Discovery Museum
Los Gatos Creek
GUADALUPE PKWY
87
280
680
Reed St
To Happy Hollow Park and Zoo 2 Miles
VISIT SANJOSÉ
800.SAN.JOSE
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DASH (free shuttle)
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# AWARDS COMMITTEE AND AWARDEE CITATIONS

## CHAIR WELCOME MESSAGE

The Awards Committee would like to extend our sincere congratulations to this year's SSR Awardees. The Awardees whose citations are found on these pages represent the best of a talented group of scientists that make up our society, and are truly exemplary in their service, mentoring and research in reproductive biology. We are proud to call them our colleagues and friends and pleased that their outstanding contributions have been recognized by their peers. This is truly a deserving group of Awardees. The members of the Awards Committee also thank the SSR membership for their excellent nominations and encourage you to nominate deserving individuals for SSR awards later this year. A description of the awards, application process, and application deadlines can be found on the SSR Awards Website.

**Vargheese Chennathukuzhi**

*Chair, 2019 Awards Committee*

## 2019 AWARDS COMMITTEE MEMBERS

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**Jenny Juengel**

# 2019 **CARL G. HARTMAN AWARD**

## Marilyn Renfree AO, FAA, FAIBiol, FSRB, PhD, DSc DSc (Hon.) LLD (Hon.)

Marilyn Renfree is the Ian Potter Chair of Zoology and University Laureate Professor, School of BioSciences, the University of Melbourne, Australia, and Fellow of the Australian Academy of Science.

She is a world authority on marsupials and has pioneered modern research on their reproduction, development, evolution, conservation, molecular and comparative genomics for 40 years. She is an internationally renowned reproductive biologist who uses a wide range of disciplinary expertise in insightful ways, overturning established paradigms. Her lifetime passion for Australian fauna has led to pioneering discoveries that have opened up new areas of international research. Professor Renfree has pursued the study of these unique mammals, overcoming the challenges of capturing, maintaining, breeding and experimentally manipulating them. She has used the tammar wallaby as a model species to investigate and understand biomedical problems but also to provide knowledge that is critical for the continued conservation and management of Australia's native fauna. Furthermore, she has used this model to understand how hormones, genes and signalling molecules control reproductive biology and development in a wider context, especially in sex determination and sexual differentiation, some of which has been translated to clinical guidelines. She observed an enigma in which some sexual dimorphisms were present before the differentiation of the testis and production of testosterone, and her team established that there was a direct genetic control of these, now known to be more widespread in both eutherian mammals and in birds. She established that marsupials do have fully functional placentas (contrary to popular opinion then and occasionally now!) and have a dual control of their embryonic diapause and of their complex and sophisticated lactation. She led the first Australian marsupial genome study on the tammar and was involved in the genomes of the platypus and of the koala. She has therefore had an unparalleled influence on marsupial reproduction and development nationally and internationally, making outstanding contributions to understanding mammalian reproduction.

Marsupials aside, Marilyn Renfree has also worked on the lactational control of reproduction in breastfeeding women, on the embryology of the African elephant showing their aquatic origins and with colleagues constructing fetal age determination during its first trimester. She also has worked on embryo culture and fetal development of the mouse and is currently involved in the conservation of the Northern white rhinoceros.

Professor Renfree obtained her PhD on embryo-maternal relationships in the tammar in 1972 at the Australian National University in Canberra, Australia, under the

supervision of Hugh Tyndale-Biscoe. She was awarded a Fulbright Fellowship to work with Joe Daniel at the University of Tennessee in Knoxville (where she was known as the 'possum lady from Australia and revised some of Carl Hartman's conclusions on opossum reproduction). She then was awarded a Ford Foundation fellowship to work with Anne McLaren in Edinburgh (on mice!) at the ARC Institute of Animal Genetics. In 1974 she was appointed a foundation member of staff at the brand new University of Perth, Western Australia, Murdoch University, where she was a Lecturer and established a 12 hectare (30 acres) Native Fauna Research Unit with tammars, agile wallabies and quokkas. In 1980 she moved to Edinburgh again on a Royal Society Fellowship, where she worked in the MRC Reproductive Biology Unit led by Roger Short. In 1982 she was recruited by Professors David de Kretser and Geoff Thorburn to the Department of Anatomy at Monash University where she was an NHMRC Research Fellow. She held that fellowship until in 1991 she was appointed as Head of the Department of Zoology (now School of BioSciences) at the University of Melbourne (only the second woman appointed to an advertised Chair at the University of Melbourne) where she remains to this time. She held an Australian Federation Fellowship from 2003 until 2007 and was Deputy Director then Director of the Australian Research Council Centre of Excellence in Kangaroo Genomics.

In recognition of her leadership and significant contributions to Research and Teaching, Marilyn has been the recipient of numerous national and international awards. In 1997 she was elected into the Australian Academy of Science, the highest national accolade for any scientist within Australia. In 2000 she was awarded the Gold Conservation Medal of the San Diego Zoological Society (USA), and in 2011 the Distinguished Scientist award from the Society for Reproduction and Fertility (UK). She has also received awards for her mentorship, including the Eureka Prize for Outstanding Mentor of Young Researchers in 2015 (she has mentored 60 PhD graduates and 25 Research Fellows). In 2007 she was awarded Doctor of Science from Murdoch University and in 2010 Doctor of Laws from Monash University, both of these representing the highest honour that each University can bestow upon an academic. Finally, in 2013 Marilyn was awarded the "Order of Australia", one of the Australian Government's highest honours in recognition of a lifetime of commitment and service to biology.

Marilyn served as the first female President for the Australian Society of Reproductive Biology from 1997 to 2000. She was a member of Council of the Australian Academy of Science, appointed as Vice President and as the Secretary Biological Sciences from 2011 to 2015. Marilyn has served on grants panels for both the Australian Research Council and the National Health and Medical Research Council. With regards to learned Journals, Marilyn has served on the editorial boards of several key journals for decades and has sat on numerous national and international committees and University and Institute review boards and granting bodies internationally.

Marilyn has been a much sought-after speaker, introducing audiences to the delights and amazing features of reproduction in marsupials – as well as the challenges of studying animals that are not the usual models for reproduction. She has delivered 28 Plenary and keynote lectures in the last 10 years. She was an organiser for the 2nd International Conference on Embryonic Diapause in 1981 and currently the 3rd International Symposium on Embryonic Diapause, in Switzerland in May 2019. She was the delegate leader (for Australian Academy of Science) of the Australian students selected to attend the Lindau Nobel Laureate conferences in Lindau Germany (2010 and 2014).

She has been a member of the SSR since 1972, and of the SRF since 1970. She was a Foundation member of the SRB in 1968. In recognition of her contributions, her colleagues organised a special international Symposium in 2017, which will be published as a special issue of the Reproduction Fertility and Development in mid-2019.

## 2019 **SSR RESEARCH AWARD**

### Humphrey Yao, PhD

Humphrey Hung-Chang Yao received his Ph.D. from the University of Illinois at Urbana and conducted postdoctoral training at Duke University. In 2002, Dr. Yao started his own research program as an Assistant Professor at the University of Illinois Urbana and received tenure in 2009. In 2010, Humphrey was recruited to the National Institute of Health's National Institute of Environmental Health Sciences as head of the Reproductive Developmental Biology Group. Dr. Yao has risen to the rank of Senior Investigator. His research career has been dedicated to understanding the molecular mechanisms governing dimorphic organogenesis of fetal reproductive tracts and gonads.

Dr. Yao has established himself as a leader in Reproductive Biology with his original hypotheses and innovative approaches. His paradigm-changing findings published in Science in 2017 challenge the classic model of sexual differentiation established by Alfred Jost in the 1950s. The impact of the findings is broad and long-lasting, as it redefines the fundamental knowledge that we learn from textbooks. Another landmark finding by Dr. Yao is the identification of the origins and establishment of ovarian theca cells published in Nature Communications in 2015. This study fills a critical void in ovarian biology and reveals a novel multicellular interaction among cell types that facilitate folliculogenesis. These original and novel findings not only epitomize Dr. Yao's creativity and innovative approaches, but also generate new knowledge and hypotheses that advance the understanding of reproductive biology.

During the past six years Dr. Yao published 18 peer-reviewed research articles and reviews in high quality journals such as Science, Nature Communications, Human Molecular Genetics, Development and Endocrine Reviews. Among the 18 peer-reviewed articles, three of them were published in Biology of Reproduction, a reflection of Dr. Yao's strong support of his home society. As a result of his impressive body of work, Dr. Yao received numerous awards, including the March of Dimes Starter Research Award, SSR New Investigator Award, and Young Andrologist Award from the American Society of Andrology. He was elected as the co-Chair for the 2018 Gordon Research Conference on Mammalian Reproduction. In addition, Dr. Yao was invited to present his research at more than 100 international, national, and regional conferences, symposia, workshops, and seminar series in Australia, Brazil, Canada, China, Denmark, Finland, Hong Kong, Japan, Spain, Taiwan, and the U.S.

Dr. Yao's expertise and leadership in reproductive biology are highly regarded and actively sought by the community, as evidenced by his service on journal editorial boards, grant review panels, and advisory boards. Dr. Yao was an Associate Editor for Biology of Reproduction from 2013-17, an editorial board member for five other journals (Adaptive Medicine, Development & Reproduction, Endocrinology, Journal of Drug Metabolism & Toxicology, and Sexual Development), and an ad hoc reviewer for more than 50 journals. He served as a regular and ad hoc member of the Cellular & Molecular Integrative Reproduction study session at NIH and was an expert reviewer for international funding agencies in Australia, Belgium, and France.

Dr. Yao is also a highly effective mentor and strong advocate of trainee development. Under Dr. Yao's guidance, his trainees presented at SSR annual meetings every year, and served the Society as trainee representatives. Three of his trainees were winners of the Trainee Research Award, 11 of his trainees were the finalists, and 43 of them received various travel awards to attend the SSR annual meetings. Dr. Yao is also currently the mentor or co-mentor of three K99/R00 awards and provided guidance and feedback to trainees outside of his lab regarding their K99/R00 grant applications and other service award proposals. With his dedication to mentoring, it was a genuine honor that Dr. Yao was nominated by his past and current trainees and received the 2016 Mentor of the Year Award at NIEHS. Dr. Yao has been an active member of SSR. Starting his research career as a trainee member (1994-99), Dr. Yao has been an active, regular member of the Society for more than 16 years (2002-present). Among 12 committees in the Society, Dr. Yao has served on 7 (Awards, Membership, Nominating, Program, Public Affairs, Publications, and Trainee Affairs). He was also the Editor for the Society Newsletter, chair of the Public Affairs and Trainee Affairs committees, and the SSR advisor to the FASEB Board of Directors.

In summary, the originality and innovative experimental practices of Dr. Yao's research are unparalleled, setting an exceptional standard in the reproductive

biology community. He has demonstrated productivity, contributions to the scientific community and SSR, and dedication to the training of future scientists. It is worth noting that Dr. Yao received an SSR Trainee Research Award as a graduate student and New Investigator Award as a junior faculty. He is a "homegrown" scientist highly deserving of the SSR Research Award.

## 2019 **SSR JANSEN DISTINGUISHED SERVICE AWARD**

### Sally Perreault Darney, PhD

Dr. Sally Perreault Darney is richly deserving of the 2019 Society for the Study of Reproduction (SSR) Jansen Service Award. She has been for many in the SSR a beacon of excellence in science and in service in support of science, particularly the reproductive sciences.

In the SSR, service begins with impactful research in the reproductive sciences. In her research program, Sally has exemplified scientific excellence that reaches broadly across the reproductive sciences and beyond. Her early studies on sperm function and gamete nuclear remodeling laid the foundation for a field that is of critical importance now, especially in the areas of stem cell function and transgenerational inheritance of effects of environmental exposures. Thus, it is natural that this work, coupled with the mandate of the Environmental Protection Agency (EPA) where Sally was employed for many years, expanded to critical analyses of male reproductive toxicity. Here Sally's group made important and lasting contributions, and indeed, by the 1990's, her basic studies at the EPA were fueling national and international guidelines for exposure and diagnostics. Her seminal work on male reproduction, paternal effects and vulnerable populations were well head of their time. Her early research provided the basis for understanding the father's contribution to child health and the inheritance of complex diseases. Throughout her research career, Sally maintained a balance of high-quality basic research with the growing need for translational application of such research to mitigate problems of human environmental exposure and to apply rigor in sorting "the wheat from the chaff" in evaluation of effects of such exposure. Evidence that she has also been a leader in her research field comes from her service in one of the most influential and high-powered positions in science as the National Program Director of ORD's Human Health Research Program. In this capacity she was responsible for directly answering to and reporting to congress and the Environmental Protection Agency. In this role she was responsible for multi-million-dollar budget planning, prioritization and oversaw the distribution of funds to Labs and Centers. This high-powered position was performed humbly, effectively and with great intellect drawing attention and resources to the areas of research that now dominate much of SSR members' research in the areas of: toxicology, paternal effects, parental preconception health and epigenetic inheritance. Notably these areas comprise some of

highest abstract submissions and draw wide attendance at our annual meeting. In this and other research-related positions she has been an example to our society of what intelligent, driven and capable scientists can achieve.

In the face of such intense research activity, it is inspiring that Sally's career has been marked by so much and such significant service. (Clearly this is an individual who has managed, against all odds, to carve out more than 24 hours in each day!) At the level of the SSR alone, her service has been remarkable: Board of Directors, 1993-1996; two stints as Treasurer, 1997-2000, 2012-2015; Associate Editor for Biology of Reproduction (BOR), 2004-2007 (more on this below); President, 2010-2011; Presidential Chain, 2009-2012; and Chair, Publications Committee (2017- ). These are just the "leadership" positions! To list all of Sally's committee contributions might exceed the page limit but includes most notably her continued participation in SSR strategic planning, finance, public affairs, and publication. But her service in science is not limited to the SSR, for Sally has played similar leadership roles in the American Society of Andrology (ASA), where she has served as committee chairs, on the Executive Council, as President (2005-2006), and as Editor-in-Chief of the Journal of Andrology (2007-2012).

Sally, in her roles as Research Biologist running a lab as "PI," then Division Head, managing the science of 70 federal employees, has impacted many scientists and trainees at all levels. The many EPA awards listed in her accompanying CV document her value and impact on scientists, current, future and past! In the SSR alone, we have seen her warm and gentle spirit, her interest and enthusiasm, empower trainees.

It is important to particularly highlight Sally's broader editorial service, not only because it is exemplary, but also because it has brought the name of our Society and the mission of our Society to the larger world and exemplifies service broadly in support of science. Some highlights of her service in government peer review and in advisory capacities include developing guidelines on reproductive toxicity testing, numerous NIEHS toxicity evaluation programs, the US EPA workgroup on fertility and early pregnancy, and serving on the EPA implementation team to reduce racial and ethnic asthma disparities. On the publication side, and since the outset of her independent career, Sally has served in the role that is the linchpin for all scientific publishing: peer review. But her excellence, generosity, and thoughtfulness in reviewing brought her to the level of editorial boards and editorial leadership. As an Associate Editor for BOR she handled a significant load of about 100 submissions per year and her selection of excellent reviewers and advice on acceptance decisions was invaluable and enhanced the reputation of the journal and its reach into the field of reproductive toxicology. It was a disappointment, but not unexpected or surprising, when Sally left the BOR editorial board to become one of the Editors-in-Chief of Journal of Andrology, published by the ASA. Here she had greater influence in developing editorial policy and editorial board appointments. But also, she played a significant role in the forward-thinking merger of Journal of Andrology with the International Journal of Andrology, published

by the European Academy of Andrology, to form the jointly owned new journal, Andrology. Together, BOR and Andrology have significant impact in Sally's field of reproductive toxicology and this impact is due in no small measure to Sally's leadership and advocacy for excellence in scientific publishing. Today her service role in that sphere is significantly enhanced by Sally's position as Editor-in-Chief of Environmental Health Perspectives (EHP), published by the National Institute of Environmental Health Sciences (NIEHS). With an impact factor of 8.44 and an exciting web interface with readers, EHP has broad reach into the scientific community and the public spheres of policy and health. We can think of no better position of influence for Sally to serve and promote the reproductive sciences, and their links to environmental health issues. In her position as Editor of EHP, she continues to carry the messages of the SSR, excellence in the reproductive sciences of humans and animals, far and wide. Importantly, she continues to draw international and national attention to critical understudied aspects of reproduction and developmental biology such as the health disparities in vulnerable populations, environmental toxicology and paternal reproductive health. Sally has recently brought that broad editorial experience back to the SSR as Chair of the Publications Committee.

In summary, Dr. Perreault-Darney is most worthy of this award and the SSR owes a debt of gratitude for all that she has given and done for our society. By many, she is viewed as an inspiration for our young SSR members and trainees, in that this level of dedication can make a difference. Taken together, Sally's roles in our field have been marked by integrity and excellence, and have promoted the reproductive sciences locally, nationally and internationally.

## 2019 **SSR VIRENDRA B. MAHESH NEW INVESTIGATOR AWARD**

### Francesca E. Duncan, PhD

Francesca E. Duncan has spent her research career focusing on female reproductive health. She graduated from Haverford College with a BS in Biology and Biochemistry and earned her doctorate in Cell and Molecular Biology from the University of Pennsylvania, working with Drs. Stuart Moss and Carmen Williams. After a short postdoc with Dr. Richard Schultz, she worked in Dr. Teresa Woodruff's laboratory at Northwestern (2009-2014) where she transitioned from a post-doctoral fellow to a Research Assistant Professor. She then established an independent research program as an Assistant Professor at the University of Kansas Medical Center in the Department of Anatomy and Cell Biology (2014-2016) before being recruited back to Northwestern in her current position as Assistant Professor of Obstetrics and Gynecology. Francesca also is the Executive Director of the Center for Reproductive Science at Northwestern, bringing together the reproductive science and medicine communities across the institution through collaborative research, funding and

teaching. She is also a course director in Northwestern's newly launched Master of Science of Reproductive Science and Medicine (MS-RSM) program.

Francesca's work as a postdoc focused on molecular changes associated with human and mouse eggs cultured in a variety of biological/physical or age-related conditions. One of the most important papers during this time was a study of human eggs collected from the supernatant of ovarian cortical pieces dissected from patients undergoing life-preserving, but fertility threatening, chemo- or radiation therapy. These eggs were collected from a broad span of individuals whose gonadal function was unaffected by disease and therefore provided the most prismatic information on chromosome cohesion changes with age to date (Duncan et al, Aging Cell 2012;11:1121). She also made a key original discovery regarding follicle interactions in vitro modeled after the anatomical clustering of follicles in the native ovary. Her paper, "Multiple Follicle Culture Supports Primary Follicle Growth Through Paracrine-Acting Signals" published in Reproduction (Duncan et al, 2013) set the stage for groups around the globe to extend these results and determine factors secreted by these early follicles and was enabling biology for the later work she did collaboratively on the development of an ovarian bioprosthetic (Laronda et al, Nat Commun. 2017 8:15261). Finally, and most profoundly, Francesca was and remains, a driving force behind our work on zinc as a cytoplasmic factor regulating meiotic resumption between GV and MII in the maturing egg. Her co-first author paper on the human zinc spark published in Scientific Reports (2016; with an Altmetric score of over 2315) inspired the title of a New York Times best-selling book by Jodi Peroult, 'The Spark of Life'.

This type of scholarly output would seemingly be sufficient, but this work is supplemented by publications on the development of the field of Oncofertility, the creation of a sophisticated tracking and analysis system that permits our human research tissue to be used in multiple ways, and primary research and editorials on the way our field of science is represented in the publishing world. These academic products enable a broader context for thinking about the field of oncofertility specifically and reproductive health broadly. By engaging in this broad manner of thinking, Francesca is creating a foundation for her lab to use as they create more collaborative ways to do the work of our collective future. Her contributions to the field's understanding of the oocyte aging process, as well as fertility restoration and ovarian cryopreservation methodology, are indisputably remarkable conceptual breakthroughs in the field of reproductive science.

Research in the Duncan laboratory tests the overarching hypothesis that deterioration of gamete-intrinsic cellular pathways together with changes in the ovarian microenvironment contribute to the reproductive age-associated decline in egg quantity and quality. The lab's latest papers include discussions of egg quality during the pubertal transition and age associated dysregulation of protein metabolism in the mammalian oocyte; work on the O-GlcNAc regulation of oocyte meiotic maturation and the regulation of oocyte health through HDAC8. These mechanistic and cell biological experiments require keen insights into the logical controls and

a tenacity in the interpretation of data that is at the cutting edge of our knowledge. Dr. Duncan is a most deserving recipient of the SSR Virendra B. Mahesh New Investigator Award and will be a leader in our field for years to come.

## 2019 **SSR TRAINEE MENTORING AWARD**

### Barbara Vanderhyden, PhD

Dr. Barbara Vanderhyden embodies all the qualities of an exceptional mentor: she is a role model to her trainees, an accomplished and respected investigator, an exceptional educator, and takes great care of those around her. Dr. Vanderhyden has had a very prolific career in reproductive biology, and has received many awards, highlighting both her scientific achievements and her exceptional mentoring. She has been recognized for these efforts by, among others, the Governor General of Canada (the Sovereign's Medal for Volunteers in 2014), the Excellence in Education Award, the Karen Campbell Award for Research Excellence, the Dr. J. David Grimes Career Achievement Award, the Capital Educator Award, and the YMCA-YWCA Woman of Distinction Award. She holds the prestigious Corinne Boyer Chair in Ovarian Cancer and is a Distinguished University Professor at the University of Ottawa, Canada.

Dr. Vanderhyden is an excellent citizen of the reproductive biology community who has contributed in many ways to fostering research in reproductive biology. The SSR service list has 20 entries her name, showing that she served in multiple roles in the SSR, including chair of key committees, a term as director and as president. She has shown equal commitment to other societies, including the Canadian Fertility and Andrology Society, and Ovarian Cancer Canada. She has served on the Canadian Institutes for Health Research Panel, multiple NIH panels, the European Commission on Cancer and the Cancer Research Society.

Dr. Vanderhyden has produced outstanding original research and made many important contributions to the field of reproductive biology, including the first demonstration of the role of oocytes in directing follicle development in the ovary. Her research covers a broad range of topics including oocyte-granulosa cell interaction, ovarian surface epithelium biology, ovarian cancer etiology, and mouse models of ovarian cancer. She has a long history of high-quality publication including an outstanding 12 articles in high impact journals in 2018-2019.

Dr. Vanderhyden's passion has attracted many trainees to investigate ovarian biology and ovarian cancer. She has trained over 12 masters, 16 PhDs, and 8 post-doctoral students in reproductive biology during her illustrious career. She has been, and continues to be, a generous mentor to her graduate students. Many of her trainees continue working in related fields and carry on in her tradition of

exceptional mentorship to train the next generations of students in reproductive biology. Beyond her own laboratory and classroom, she has devoted her time to mentoring other students in her institution, past trainees in their careers, and other young investigators in outside institutions. She has mentored ten other junior faculty members from the universities of Ottawa, Chicago, and Brown, and 3 engineers and scientists through the Women's Executive Network mentorship program. Despite her hectic schedule she always makes time not only for the students in her lab, but also, for any that have asked her help. She has a well-deserved reputation of treating all trainees with patience, compassion, and kindness.

Dr. Vanderhyden has been dedicated to scientific education and outreach. She is the founder and director of the Let's Talk Science, and Science Travel programs in Ottawa, Canada. For over 25 years, she has selflessly devoted time to teach thousands of graduate students the art of scientific communication, to reach tens of thousands of elementary and high school level students. Each year this program trains and organizes over 300 graduate students to perform over 900 activities in classrooms of the Ottawa region. She has been a pioneer in aboriginal student mentorship and science education by organizing an outreach program for schools in Northern Ontario, Northern Quebec, Nunavut and the Northwest Territories. She has been a positive force for science and has directly and indirectly mentored countless of scientists in some of Canada's most underserved communities.

In summary, Barbara Vanderhyden is an exceptional mentor, and has been instrumental to the well-being and success of countless mentees that now follow in her footsteps. She is an exceptional role model, particularly for young women aspiring to a career in science. She has left a giant footprint in reproductive biology through her teaching, mentoring, and scientific breakthroughs, and for these reasons is most deserving of the SSR Mentor Award.

## 2019 **FULLER W. BAZER SSR INTERNATIONAL SCIENTIST AWARD**

### Andreas Meinhardt, PhD

Prof. Andreas Meinhardt received his Master's in Human Biology at Philipps University in Marburg, Germany. His career in reproductive biology started with his PhD at the same university. After his postdoctoral stay at Monash University in Melbourne, Australia, he returned to Marburg. He was appointed as professor in the Department of Anatomy and Cell Biology at Justus-Liebig-University Giessen, Germany in 2001. His research interest includes reproductive immunology with a focus on the understanding of infection and inflammation of the epididymis and testis as a cause of infertility. His lab uses models of acute bacterial and chronic autoimmune testicular

and epididymal diseases to better understand pathomechanisms and provide rationales for improved treatment options in men. Andreas holds two Honorary/Adjunct Professorships, one with Monash University and the other with the Hudson Institute of Medical Research (Melbourne). He has served in the councils of the German Society of Andrology (2005-2012), European Academy of Andrology (2002-2010) and is the current President of the International Society of Andrology. Andreas is the German spokesperson of the International Research Training (IRTG) group between Justus-Liebig-University and Monash University on 'Molecular mechanism of male reproductive disorders' that aims to train promising PhD students to become the next leaders in andrology. The IRTG has currently trained approx. 20 students with successful candidates who have spent at least one year in the international partner's lab having obtained a double badged PhD title from both universities.

## 2019 **JANICE BAHR JUNIOR SCIENTIST TRAVEL AWARD**

### Annie Newell-Fugate, PhD, DVM

Dr. Newell-Fugate graduated from North Carolina State University College of Veterinary Medicine in 2004. She practiced clinical small animal medicine from 2004 to 2010 interspersed with the acquisition of her M.S. and Ph.D. degrees. She completed her post-doctoral training at University of Illinois at Urbana-Champaign under a National Institute of Health (NIH) K01 grant. Dr. Newell-Fugate joined the Veterinary Physiology and Pharmacology Department at Texas A&M University as an Assistant Professor in 2014. Dr. Newell-Fugate is the course coordinator and an instructor of record for VTPP 427-Biomedical Physiology II, which is required for undergraduate majors in the Biomedical Sciences. She is the director of the Texas A&M Comparative Endocrinology Laboratory. Her research focuses on the intersection of the effects of diet, sex steroids, and stress on reproductive function and adipocyte lipid metabolism. Dr. Newell-Fugate was the third-place recipient in the 2015 American Veterinary Medicine Association Young Investigator Award competition, received the 2018 TAMU College of Veterinary Medicine Outstanding Young Faculty Research Award, and is a 2018-2019 Montague-Center for Teaching Excellence Scholar.

## 2018 **BIOLOGY OF REPRODUCTION TOP RESEARCH ARTICLE AWARD**

### Vilceu Borginon, PhD

Histone 3 lysine 4, 9, and 27 demethylases expression profile in fertilized and cloned bovine and porcine embryos.
Werner Giehl Glanzner, Vitor Braga Rissi, Mariana Priotto de Macedo, Lady Katerine Serrano Mujica, Karina Gutierrez,

Alessandra Bridi, João Ricardo Malheiros de Souza, Paulo Bayard Dias Gonçalves, Vilceu Bordignon.
Biology of Reproduction 98(6):742-751, 2018

## 2019 **ANITA PAYNE SCHOLARSHIP**

### Christian Lee Andersen

Christian received his BS in Biochemistry and Molecular Biology from the University of Georgia in 2015. He joined the lab of Dr. Xiaoqin Ye in 2016 to pursue a PhD in Toxicology. Christian's research focuses on the effects that xenobiotics can have on the female reproductive tract. His current research focus aims to understand the effects of childhood and young adult chemotherapeutic exposure on uterine function later in life. He is a graduate-member of the Society of Toxicology, the Society for the Study of Reproduction, and the American Associate for the Advancement of Science. He currently serves as the president for the toxicology student group (UGATOX), the fundraising chair for Graduate Students and Postdocs in Science (GSPS) group, and mentors an undergraduate through UGA's CURO program. Christian was accepted into the prestigious Frontiers in Reproduction training program for the summer of 2019.

## 2019 **GATES FOUNDATION – SSR SCHOLARSHIP**

*(Funded by the Bill & Melinda Gates Foundation)*

### Nikola Sekulovski

Nikola received his BS in Molecular Biology from the Saints Cyril and Methodius University of Skopje in Macedonia. Nikola's current research emphasizes human and animal reproductive physiology, and molecular biology. Previously, he focused on human genetics, and virology. His current areas of interest are: signaling pathways involved in follicular development and ovulation, understanding the synergistic role of insulin signaling pathways with the canonical FSH and LHCGR signaling pathways, development of oocytes, and molecular mechanisms involving fertilization and embryogenesis, and discovering new therapeutic targets for cancers, as well as other diseases. Nikola has been selected to attend the MBL Frontiers in Reproduction course. He has been the recipient of the Fulbright Foreign Student Program Scholarship.

## BEST INTERNATIONAL ABSTRACTS

Awardees of the International Best Abstract Award will be announced onsite. Winners in each region were selected by Program Committee score, which were attributed to each abstract, based on technical characteristics (legibility, adherence to the rules for submitting an abstract) and content (title, reasoning, quality of the results, conclusions, and impact in the field of reproductive biology). Awardees will be recognized during the **Closing Ceremony, Sunday, 21 July**.

**A Novel Sperm Protein Is Required for Sperm-Egg Membrane Fusion.**
Ismael Lamas Toranzo, INIA, Spain

**Increased Expression of Kifc1 and Kifc5b Targeting Endogenous-siRNA Contribute to The Age-Related Decline in Oocyte Quality.**
Bettina Mihalas, The University of Newcastle, Australia

**Human Sex Reversal Is Caused by Duplication or Deletion of Core Enhancers Upstream of SOX9.**
Brittany Croft, Murdoch Childrens Research Institute, Australia

**Role of Prmt6 and Asymmetric Dimethylation Of H3R2 On Mouse Preimplantation Embryos.**
Shinnosuke Honda, Kyoto University, Japan

**ATP-Induced Calcium Signals and Contractions in Testicular Peritubular Cells.**
Lina Kenzler, RWTH Aachen University, Germany

**Biochemical Changes in Uterine Fluid Composition at The Initiation of Conceptus Elongation in Cattle.**
Constantine Simintiras, University College Dublin, Ireland

**Conceptus-Derived Proteins, CAPG P4HB, Alter the Transcriptome of Bovine Endometrial Cells Cultured In Vitro To Enhance the Pregnancy Recognition Process.**
Haidee Tinning, University of Leeds United Kingdom

**TRPV4 Is the Temperature-Sensitive Ion Channel of Human Sperm.**
Nadine Mundt, RWTH Aachen University, Germany

**Impaired Follicle Development in Female Mice Lacking Receptor Tyrosine Kinase 4 (Erbb4) In Ovarian Granulosa Cells.**
Florence Naillat, Oulu University, Finland

**Heat Stress-induced Changes in the Expression of Cellular and Extracellular Vesicle-coupled MiRNAs in In Vitro Cultured Bovine Granulosa Cells.**
Samuel Gebremedhn, University of Bonn, Germany

## TRAINEE AWARDS

### SSR Trainee Research Awards

SSR Trainee Research Awards are presented to the best oral and poster presentations by SSR Trainee members at the Annual Meeting as evaluated by the SSR Awards Committee. The finalists for the 2019 awards are listed below.

Poster Finalists present their posters during the regular poster session, and the presentations are evaluated during the scheduled presentation time; at other times, the posters are on display and are marked with a blue ribbon

Oral Presentation Finalists compete in a special session on **Thursday, July 19th at 1:30 PM in Executive Ballroom 210BC**. The Awards Committee evaluates the presentations according to the following criteria: (1) merit of the study, (2) presentation format, (3) delivery, (4) visual aids, and (5) response to questions during discussion.

From these finalists, the Awards Committee selects First (USD $500), Second (USD $300), and Third (USD $200) prizes to be awarded to the three best poster and three best oral presentations. Finalists will be recognized, and winners will be announced **Sunday, 21 July, at the Closing Ceremony**.

### 2019 SSR Trainee Research Finalists – Oral Presentation

**The Program of Maternal mRNA Translation During Oocyte Meiosis: A Genome-Wide Approach.**
Xuan Luong, University of California, San Francisco, USA

**Location Matters: Compartmentalized Protein Translation in Sertoli Cells.**
Ana Cristina Lima, Oregon Health & Science University, USA

**Intercellular Bridges Orchestrate Meiotic Initiation in Developing Mouse Ovaries.**
Gul Soygur, University of California, San Francisco, USA

**Epididymal Stem/Progenitor Basal Cells Express LGR5 And Can Differentiate into Principal Cells.**
Laurie Pinel, INRS-Institut Armand-Frappier, Canada

**A Novel Sperm Protein Is Required for Sperm-Egg Membrane Fusion.**
Ismael Lamas Toranzo, INIA, Spain

**Chromatin Remodeling During Bovine Preimplantation Development Indicates Species-Specific Differences in Regulators of Genome Activation in Cattle, Human, And Mouse.**
Michelle Halstead, University of California, Davis, USA

## 2019 SSR Trainee Research Finalists – Poster Competition

### PRE-DOCTORAL

**Evaluation of GPR56 in Mice: Phenotypic Effects in the Testis and Epididymis, and Localization in Spermatogenic Cells and Sperm.**
Madeleine G. Purcell, Randolph-Macon College Department of Biology, USA

**Hypoxia-Induced Vesicular Trafficking Between Uterine Cells Is Critical for Embryo Implantation and Establishment of Pregnancy.**
Arpita S. Bhurke, University of Illinois, Urbana-Champaign, USA

**FGL2 -Associated Transcriptional and Histopathological Features of Immunological Preeclampsia.**
Pascale Robineau-Charette, Ottawa Hospital Research Institute, Canada

**Adenosine Deaminase Acting on RNA (ADAR1) Deletion in Granulosa Cells Causes Dyssynchronous Ovulation and Infertility.**
Rikki Nelson, University of Kansas Medical Center, USA

**A Novel Role for Hippo Signaling in Gonadotropin Synthesis.**
Ariane Lalonde-Larue. Université de Montréal, Canada

**Aggressive Clear Cell Endometrial Cancer with Uterine-Specific Deletion of Pten And Dicer in A Preclinical Mouse Model.**
Xiyin Wang, Indiana University School of Medicine, USA

**POST-DOCTORAL**

**The Autophagy Protein FIP200 Mediates Progesterone Responses Governing Uterine Receptivity and Decidualization.**
Arin K. Oestreich, Washington University School of Medicine, USA

**The Role Of COUP-TFII In the Uterus During the Pre-Implantation Period.**
Yeong Seok Oh, National Institute of Environmental Health Sciences, USA

**Overexpression of Progesterone Receptor A or B Isoform in Uterine Epithelium Disrupts Embryo Implantation by Altering Leukemia Inhibitory Factor-Forkhead Box Protein O1 Signaling.**
Rong Li, National Institute of Environmental Health and Sciences, USA

**The Development of a Uterine Gland 3D Culture Model to Understand Pregnancy Establishment in Women.**
Harriet C. Fitzgerald, University of Missouri, USA

**Dysregulated Androgen-Induced Exosomal Mir-379-5p Release Determines Granulosa Cell Fate.**
Reza Salehi, Ottawa Hospital Research Institute, USA

**SWI/SNF Chromatin Remodeling Subunit SMARCA4/BRG1 Is Essential for Female Fertility.**
David A. Landry, University of Ottawa, Canada

## LALOR FOUNDATION MERIT AWARDS

*(Supported by a grant from the Lalor Foundation, Inc.)*

Winners are selected on the basis of abstracts submitted for presentation and evaluated by the Awards Committee according to the following criteria: scientific merit, interpretation and impact of the results, and clarity of the abstract. Each of the 10 presenters will receive a Lalor Foundation Merit Award of USD $500, which will be presented at the 2019 Annual Meeting. Awardees will be recognized **Sunday, 21 July, at the Closing Ceremony**.

## 2019 Lalor Foundation Merit Award Recipients

**The Program of Maternal mRNA Translation During Oocyte Meiosis: A Genome-Wide Approach.**
Xuan Luong, University of California - San Francisco, USA

**Human Sex Reversal Is Caused by Duplication or Deletion of Core Enhancers Upstream of SOX9.**
Brittany Croft, Murdoch Children's Research Institute, Australia

**Intercellular bridges orchestrate meiotic initiation in developing mouse ovaries.**
Bikem Soygur, University of California- San Francisco, USA

**Morphological and Epigenetic Abnormalities in the Placenta Linked to Embryo Culture in a Mouse Model of In Vitro Fertilization.**
Lisa Vrooman, University of Pennsylvania, USA

**Epigenetic Dysregulation of the Ido1 Gene Induced by BPA and TBBPA Exposure is Associated with Fetal Loss in Mice.**
Jasmine Reed, University of Rochester, USA

**ATP-Induced Calcium Signals and Contractions in Testicular Peritubular Cells.**
Lina Kenzler, RWTH Aachen University, Germany

**A Novel Sperm Protein Is Required for Sperm-Egg Membrane Fusion.**
Ismael Lamas Toranzo, INIA, Spain

**Epididymal Stem/Progenitor Basal Cells Express LGR5 and can Differentiate into Principal Cells.**
Laurie Pinel , University of Quebec, Canada

**Location Matters: Compartmentalized Protein Translation in Sertoli Cells.**
Ana Cristina Lima, Oregon Health & Science University, USA

**Investigating the Role of Zinc in Murine Preimplantation Embryo Development and The Effect on Cell Fate Determination in The Blastocyst.**
Julia Balough, Northwestern University, USA

## USDA NIFA-AFRI MERIT AWARDS

*(Supported by a Grant from USDA National Institute of Food and Agriculture)*

Winners are selected on the basis of abstracts submitted for presentation and evaluated according to the following criteria: relevance of research to the goal of enhancing understanding of reproduction in agriculturally important species, scientific merit, interpretation and impact of the results, and clarity of the abstract. Each of the 10 presenters will receive USD $500, which will be presented at the 2019 Annual Meeting. Awardees will be recognized **Sunday, 21 July, at the Closing Ceremony**.

### 2019 USDA NIFA-AFRI Merit Awards Recipients

**Conceptus-Derived Proteins, CAPG & P4HB, Alter the Transcriptome of Bovine Endometrial Cells Cultured In Vitro To Enhance the Pregnancy Recognition Process.**
Haidee Tinning, University of Leeds, UK

**Expression Pattern and Role of Mirnas During Early Development in The Cow.**
Erika E. Paulson, University of California Davis, USA

**Biochemical Changes in Uterine Fluid Composition at The Initiation of Conceptus Elongation in Cattle.**
Constantine Simintiras, University College Dublin, Ireland

**Conceptus Prostaglandin Synthase 2 is Not Essential for Early Development and the Establishment of Pregnancy in the Pig.**
Caroline Pfeiffer, University of Missouri, USA

**Follicle Stimulating Hormone Stimulation Restores Ovarian Microenvironment of Beef Heifers with Androgen Excess to Reduce Inflammation.**
Shelby Springman, University of Nebraska-Lincoln, USA

**Developmental Programming: Prenatal Testosterone-Induced Epigenetic Modulation and Its Effect on Gene Expression In Sheep Ovary.**
Niharika Sinha, Michigan State University, USA

**Chromatin Remodeling During Bovine Preimplantation Development Indicates Species-Specific Differences in**

**Regulators of Genome Activation in Cattle, Human, And Mouse.**
Michelle Halstead, University of California – Davis, USA

**Lipopolysaccharide Differentially Affects Pro-Inflammatory Responses in Theca Cells from Androgen Excess compared to Control Beef Cows.**
Kerri Bochantin, University of Nebraska-Lincoln, USA

**Seminal Plasma or TGFβ Increases Expression of IL6 and TNF in Bovine Endometrial Cells.**
Jason Rizo, University of Florida, USA

**Intrauterine Inhibition of Chemokine Receptor 4 Signaling Modulates Local and Systemic Inflammation in Ovine Pregnancy.**
Stacia McIntosh, New Mexico State University, USA

## THE GATES FOUNDATION POSTER AWARD FOR RESEARCH RELEVANT TO CONTRACEPTIVE RESEARCH AND DEVELOPMENT

*(Made possible by the Bill & Melinda Gates Foundation)*

### 2019 Recipient

**High-Throughput Screen Identifies New Hormone Alternative Contraceptive**
Alaknanda Alaknanda, The University of Adelaide, Australia

## BURROUGHS WELLCOME TRAVEL AWARDS

A grant from the Burroughs Wellcome Fund provides travel fellowships for under-represented minority trainees and junior faculty from the US and Canada to enable their participation in the SSR Annual Meeting. The fellowship includes reimbursement of meeting registration; up to USD $1,200 for housing, food, and travel expenses; and complimentary SSR Membership through the next calendar year. Recipients also receive a meeting T-shirt and a ticket to a social function. Fellowships are awarded competitively on the basis of applications submitted to and evaluated by the SSR Diversity Committee. Approximately six trainees and three junior (non-tenured) faculty with a background in reproductive biology receive fellowships each year. Awardees will be recognized Sunday, 21 July, at the Closing Ceremony.

### 2019 Burroughs Wellcome Fund Travel Awards Recipents

**FACULTY**

**Fernando Biase**, Auburn University, USA
**Angela Maria Gonella-Diaza**, University of Florida, USA
**Sharron Manuel**, Northwestern University, USA

**TRAINEES**

**Ky'Era Actkins**, Meharry Medical College, USA
**Zully Contreras-Correa**, Mississippi State University, USA
**Carolina Gonzalez-Berrios**, Auburn University, USA
**Sophia Jean**, Delaware State University, USA
**Alejandra Ontiveros**, Baylor College of Medicine, USA
**Shally Wolf**, Portland State University, USA

# TRAINEE AFFAIRS COMMITTEE

## TRAINEE CONTACTS

Have a question? We welcome your input and involvement! Please contact your SSR Senior Trainee Representative, Erica Schoeller or the Junior Trainee Representative, Ashley George, at **trainees@ssr.org**

## TRAINEE FORUM

**Thursday, July 18 |** 12:30 - 2:00 PM

The Trainee Forum is scheduled on **Thursday, July 18th from 12:30-2:00 PM** and is entitled, "Careers in the Sciences: What you can do with a PhD". There will be five speakers, each with varying roles in the pharmaceutical/biotech industry. This year's Trainee Forum will consist of a brief introduction by each panel member describing their path from graduate school to their current positions followed by a question and answer session from trainees.

The forum panel will consist of:

**Genevieve Wortzman-Show, PhD:** Associate Director, Medical Affairs at Regeneron

**Matt Show, PhD, JD:** Intellectual Property Corporate Counsel at DuPont

**Vanessa Ridaura, PhD:** Senior Scientist at Verily Life Sciences

**Maxim Schillebeeckx, PhD:** Program Leader at Guardant Health

**Jonah Cool, PhD:** Program Officer at the Chan Zuckerburg Initiative

## TRAINEE/MENTOR LUNCHEON

**Saturday, July 20 |** 12:15 - 1:15 PM | Cost $30.00

The Trainee-Mentor Luncheon (TML) coordinator, Dr. Heather Talbott (OHSU), has selected mentors for you to engage in an informal setting. The TML will be run on **Saturday July 20th from 12:15-1:15 PM**. We have capped the number of trainees at 150, to enable each table at the luncheon to have a lower trainee to mentor ratio and encourage productive discussions. This event is an excellent way to network with your fellow trainees and regular members in a casual setting. Please remember to sign up for the event when you register for the meeting! If you did not sign up during registration, please visit the SSR Registration Desk onsite. Tickets for the luncheon are $30. More information about the event and mentor biographies is posted on the SSR website.

Don't miss the opportunity to get face time with SSR leaders and experts in the field of reproductive science! The Trainee Mentor Luncheon Coordinators have been instrumental in recruiting a remarkable group of mentors who graciously agreed to give of their time and talents.

Trainees who have registered for this event may view biosketches of the mentors (available at www.ssr.org under Trainee Affairs) and select their top 3 choices. Assignments are sent prior to the meeting. You **MUST** be an SSR Trainee member to attend (no guests allowed).

## 5K FUN RUN/WALK

**Sunday, July 21 |** 6:00 - 8:00 AM | Cost $30.00

Don't forget to sign up for the run along the scenic Guadalupe River Trail!

**When?** Sunday July 21st from 6:00 - 8:00 AM

**Where?** Meet at the front of the San Jose Hilton for a short walk to Discovery Meadow adjacent to the Children's Museum to begin the Fun Run.

**How much?** Registration is $30

**What do I get?** Registration includes a T-shirt and the endless personal satisfaction of completing an athletic feat.

If you are unable to run but would like to support the run, consider sponsoring a participant. Donations support the Trainee Travel Awards Fund. For those looking for a more active role, please consider volunteering at this year's Fun Run/Walk. Includes T-Shirt (based on availability).

## CAREER CONSULTATION CENTER

**Friday to Sunday, July 19-21 |** 8:00 - 10:15 AM

This year's Career Consultation Center (CCC) coordinator is **Dr. Fei Zhao** (NIEHS), who has put together a diverse and impressive list of mentors with expertise in research, science policy, industry and publication! The CCC will be run concurrently with the poster sessions from July 19-21, 8:00 - 10:15 AM. Trainees will be able to schedule a brief (15 minute) one-on-one with a mentor of their choice (space-permitting) to discuss any career related subject, including resume review, choosing the next career steps, the funding application process, work-life balance, or visa/green card process advice. Interested trainees should contact Dr. Fei Zhao for further questions or to reserve an appointment. Mentor bios will be posted on the website soon. Space is limited.

## SSR TRAINEE TRAVEL AWARD (SSR-TTA)

The Society for the Study of Reproduction Trainee Travel Awards (SSR-TTA) were established to support participation of Trainee members at the annual meetings.

SSR will contribute up to $500 to support each of 20 Trainee members enrolled in the Continental North America (United States and Canada) and up to $1000 to support each of 5 international (non-North American) enrolled Trainee members as a contribution towards the costs of conference registration, travel, and accommodation. Applicants will be judged on abstract quality and volunteer service to the scientific community.

### 2019 SSR-TTA Recipients

#### CONTINENTAL NORTH AMERICA

**Ciro Amato**, National Institute of Environmental Health Sciences
**Emily Brehm**, University of Illinois
**Nicole Camlin**, Johns Hopkins Bloomberg School of Public Health
**Catheryne Chiang**, University of Illinois at Urbana-Champaign
**Ashley Cloud**, University of Kansas Medical Center
**Marie-Charlotte Dumargne**, McGill University
**Harriet Fitzgerald**, University of Missouri
**Patrick Hannon**, University of Kentucky
**Karl Kerns**, University of Missouri
**David Landry**, Ottawa Hospital Research Institute
**Chelsea Marcho**, University of Massachusetts- Amherst
**Rikki Nelson**, Kansas Medical Center
**Arin Oestreich**, Washington University School of Medicine
**Alejandra Elder Ontiveros**, Baylor College of Medicine
**Madeleine Purcell**, Randolph-Macon College Department of Biology
**Sweta Ravisankar**, Oregon National Primate Research Center
**Pascale Robineau-Charette**, Ottawa Hospital Research Institute
**Genoa Warner**, University of Illinois at Urbana-Champaign
**Grace Wiley**, University of Missouri
**Jocelyn M. Wessels**, McMaster University

**INTERNATIONAL**

**Nadine Mundt**, RWTH Aachen University, Germany

**Joanna Najmuła**, Institute of Animal Reproduction and Food Research of Polish Academy of Sciences, Poland

**Bettina Mihalas**, University of Newcastle, Australia

**Macarena Gonzalez**, The University of Adelaide, Australia

**Florence Naillat**, Oulu University, Finland

## T-SHIRT SALES


**$20.00** / each

2019 Annual Meeting T-shirts are available for $20 each in both female and unisex adult styles (x-small to XXL). Proceeds from the sales of the shirts provide much needed funding for Trainee Affairs. Available at the Information Desk at SSR Registration.

## TRAINEE VOLUNTEER SUBCOMMITTEE

The Co-Chairs of the Trainee Volunteer Subcommittee, **Brittany Foster** and **Liliya Gabelev**, have worked tirelessly fielding and organizing this year's group of volunteers, who provide invaluable assistance in running the meeting! Volunteers are responsible for much of the behind the scenes action, including assistance with the Fun Run, posters, Trainee booth, registration, session monitoring, signage placement as well as help in the slide preview room and the operations of trainee-specific events. The SSR is especially devoted to enhancing the trainee experience; therefore, we strongly urge you to take advantage of this opportunity to participate as a trainee volunteer at next year's meeting. It's a great way to meet peers and network with influential scientists in our field.

## ROOMMATE REFERRAL SERVICE (RRS)

The Roommate Referral Service Coordinator, **Arpita Bhurke**, managed the service for the San Jose meeting. Keep this trainee service in mind for next year if you are interested in sharing the cost of a hotel room for the 2020 Annual Meeting. Please fill out the Roommate Referral Application Form and email to **roommate@ssr.org**.

## TRAINEE FACEBOOK GROUP

For the latest news and views of your peers in reproductive science, please join our Facebook group, Society for the Study of Reproduction Trainee Affairs, at:
**https://m.facebook.com/groups/165646276973350**

## DIVERSITY COMMITTEE ACTIVITIES

The Diversity Committee provides mentoring, resources, and communication to SSR members who self-identify as underrepresented, including those from underrepresented populations and individuals with disabilities. The committee also advocates to the Board of Directors and Society as needed and works to ensure appropriate access and representation.

### Burroughs Wellcome Fund Travel Fellowships for Underrepresented Trainees and Junior Faculty

The Diversity Committee receives applications from underrepresented Minority Trainees and Junior Faculty for Burroughs Wellcome Fund Travel Fellowships and awards them on a competitive basis. Minorities shall be defined as underrepresented groups including, but not limited to, members of racial and ethnic minorities and persons with disabilities. Applicants must be citizens or permanent residents of the USA or Canada to qualify for these awards.

### Diversity Symposium Lunch

*(Lecture free for all registered attendees, additional $25 for lunch)*

**Friday, July 19** | 12:15 PM – 1:15 PM

San Jose Convention Center Room 210A

The Diversity Lunch, organized by the SSR's Diversity Committee, showcases compelling research by minority researchers and clinicians in academia and industry. This year's speaker is Renee Reijo Pera, PhD, Vice President of Research and Economic Development, Montana State University, USA.

There is no fee to attend the symposium, but a $25 pre-purchased ticket is required for the accompanying lunch. Pre-registration ticket purchase is encouraged to guarantee availability; a limited number of tickets will be available for purchase onsite.

## Exhibit Booth

Stop by the booth to network with other meeting participants and to learn more about the opportunities provided by the Diversity Committee:

- Travel awards provided by the Burroughs Wellcome Fund
- Information about the Diversity Symposium
- Training and funding opportunities available
- How to get involved in SSR networking activities
- Print out personal business cards
- Get your headshot taken

# SPECIAL EVENTS

## NICHD PRE-MEETING WORKSHOP

*(Sponsored by the NICHD)*

**Thursday, July 18 |** 10:00 - 11:30 AM | Cost $10.00 *(Trainee Registrants Only – No Guests)* | San Jose Convention Center Room 212A

Topic: **"NIH Support for Typical and Non-typical Career Trajectories: Getting to Where You Want to Be"**

This session will explore NIH funding mechanisms in support of the typical post-doc to faculty pathway, as well as other types of post-post-doc career trajectories, and how NIH support can factor in.

Stuart Moss and Susan Taymans, program officers in the Fertility and Infertility Branch of NICHD, will give brief overviews of NIH funding mechanisms, including some lesser known ones, to support scientists on their own road to an independent science career. The session will also feature presentations from scientists with a variety of career pathways, from the "traditional path" to research intensive faculty (with some interesting stops along the way), to less typical paths such as non-research-intensive faculty, industry, and policy. Speakers will talk about their challenges and successes in obtaining NIH funding in light of their strategies for career development, and how the realities of life and family interact. Following the presentations, there will be a Q and A session with the whole panel.

## PRE-MEETING MEDIA TRAINING WORKSHOP

*(Made possible by the Bill & Melinda Gates Foundation)*

**Thursday, July 18 |** 10:00 AM - 12:00 PM | Cost $20.00

San Jose Convention Center Room 211A

**Does speaking with the media make you break out in a cold sweat?**

This two-hour presentation will provide practical interview best practices techniques and tips you can begin using immediately. Learn the basics of how to communicate with confidence, control and credibility in a media interview.

- Learn how to organize your media messages to tell your story
- Prepare for an interview and get ready for any question
- Understand what the media wants and how to engage
- Speak in a way that is quotable

## SCIENCE COMMUNICATION POST-MEETING WORKSHOPS

*(Made possible by the Bill & Melinda Gates Foundation)*

The SSR is proud to present, with support from the Gates Foundation, a two-part workshop on science communication to be presented by instructors from the **Alan Alda Center for Communicating Science**. This workshop will highlight features of the "Alda Method," honed by Alan Alda himself through his 11 years of hosting the PBS television series "Scientific American Frontiers" and improvisational techniques he developed in his 50 years of acting on stage and on screen.

### Alda Institute Workshop

**Monday, July 22** | 9:00 AM – 10:30 AM | Cost: $15

San Jose Convention Center Room 211

Topic: **"Connection is a Choice"**

This workshop introduces participants to general principles in how to craft short, clear, conversational statements, intelligible to non- scientists, about what you do and why it matters. The session will be an interactive presentation and discussion on interpreting technical material using examples and analogies to illuminate unfamiliar concepts to your audience.

### Alda Intensive Workshop

**Monday, July 22** | 10:45 AM – 12:15 PM | Cost: $20

San Jose Convention Center Room 211

Topic: "**Building on Some Basics**"

The workshop is more hands-on and interactive and introduces participants to the improvisational techniques that are the foundation of the Alda Method. In this session, participants will practice skills to speak vividly and expressively about their research and to create common ground through conversational language and foster more genuine connections with an audience. This workshop is limited to 32 participants, so sign up early, first come, first served!

## OPENING RECEPTION

**Thursday, July 18 |** 5:30 PM - 7:30 PM | Free for registrants, $50 for guests, children 12 & under admitted free

San Jose Convention Center, Lower Level

## DIVERSITY SYMPOSIUM LUNCH

**Friday, July 19 |** 12:15 PM - 1:15 PM

San Jose Convention Center Room 210A

The Diversity Lunch, organized by the SSR's Diversity Committee, showcases compelling research by minority researchers and clinicians in academia and industry. This year's speaker is Renee Reijo Pera, PhD, Vice President of Research and Economic Development, Montana State University, USA.

There is no fee to attend the symposium, but a $25 pre-purchased ticket is required for the accompanying lunch. Pre-registration ticket purchase is encouraged to guarantee availability; a limited number of tickets will be available for purchase onsite.

## WINRS BREAKFAST/SUBCOMMITTEE MEETING

**Saturday, July 20 |** 7:00 AM - 8:00 AM | Free for all registered attendees

San Jose Convention Center Room 210A

Join the Women in Reproductive Sciences (WinRS) Subcommittee to discuss **"Overcoming Impostor Syndrome"** with a panel of experts, including:

- Dr. Zelieann Craig, University of Arizona
- Dr. Ping Xia, Johns Hopkins School of Medicine
- Dr. Kate Loveland, Hudson Institute of Medical Research
- Dr. Janice Bailey, Québec Research Funds for Nature and Technologies

## HERITAGE LUNCH

*(Made possible by Dr. Andrzej Bartke)*

**Sunday, July 21 |** 12:15 - 1:15 PM | Cost $35.00 for Non-Trainees, free for the first 50 Trainee Members

San Jose Convention Center Room 210A

Speaker: **Kelly Mayo, PhD, Northwestern University, USA**

The Heritage Lunch will honor the life and achievements of Dr. Neena Schwartz, The William Deering Professor of Endocrinology Emerita at Northwestern University.

Neena's laboratory was a pioneer in demonstrating that estradiol and progesterone are inadequate negative feedbacks for suppression of the gonadotropic follicle-stimulating hormone (FSH) in the female lacking ovaries, and discovered a gonadal peptide called inhibin, necessary for proper suppression of FSH.

In 1974, under the guidance of Professor Schwartz, the efforts in reproductive biology research at Northwestern University were organized into a Program for Reproductive Research. This program catalyzed the acquisition of external research grants, the recruitment of new faculty and the establishment of training programs in the reproductive sciences. In recognition of the increasingly multidisciplinary nature of reproductive science and medicine, the Northwestern University Center for Reproductive Science (CRS) was formally established with Professor Schwartz as the Director in 1987.

Neena was an active feminist advocate for women in science throughout her career, and a founding member of the Association for Women in Science organization in 1971. She also co-founded the Women in Endocrinology group under the auspices of the Endocrine Society, served terms as the president of the Endocrine Society and the Society for the Study of Reproduction, and has been recognized for her exceptional mentorship of women scientists. In 2010, she wrote a memoir of her life in science, *A Lab of My Own*.

Neena received the Williams Distinguished Service Award from the Endocrine Society in 1985, and the Carl Hartman Research Award from the Society for the Study of Reproduction in 1992. She was elected a fellow of the American Association for the Advancement of Science (1986) and of the American Academy of Arts and Sciences (1992). She served on the board of the AAAS from 2000 – 2002 and received their Mentor Award for Lifetime Achievement in 2002.

## CLOSING EVENT

**Sunday, July 21 |** 7:00 - 11:00 PM | Free for all registered attendees

Children's Discovery Museum of San Jose

Since opening in 1990, the Children's Discovery Museum of San Jose has become one of the largest and most respected museums of its kind in the nation. With interactive exhibits and programs encompassing science, humanities, performing arts, and health and physical fitness, the award-winning Museum offers new exhibits each year that respond to children's diverse educational needs. With the broad themes of community, connections and creativity, hands-on exhibits invite self-directed, open-ended explorations. But most of all, it's fun! Come comfy, casual, and ready to play… climb, slide, and maybe get a little dirty. And in true SSR style, there will be a great band. Your conference badge is your ticket in!

# SCHEDULE AT-A-GLANCE

| TIME | THURSDAY \| JULY 18 | FRIDAY \| JULY 19 |
|---|---|---|
| 6:00 am | | |
| 6:30 am | | |
| 7:00 am | | **Committee Meetings** 7:00–7:45AM; **Past President's Breakfast** 7:00–7:45AM *Invitation Only* |
| 7:15 am | | |
| 7:30 am | | |
| 7:45 am | | |
| 8:00 am | | **Flash Talks A & B** 8:00–8:40AM; **Trainee Career Center** 8:00–10:15AM; **Poster Session A & Breakfast** 8:00–10:00AM |
| 8:15 am | | |
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| 8:45 am | | |
| 9:00 am | | |
| 9:15 am | | |
| 9:30 am | | |
| 9:45 am | | |
| 10:00 am | **NICHD Pre-Meeting Workshop** 10:00–11:30AM; **Pre-Meeting Media Training Workshop** 10:00–12:00PM | **Break** 10:00–10:30AM |
| 10:15 am | | |
| 10:30 am | | **Concurrent Focus Sessions** 10:30AM–12:00PM |
| 10:45 am | | |
| 11:00 am | | |
| 11:15 am | | |
| 11:30 am | | |
| 11:45 am | | |
| 12:00 pm | | |
| 12:15 pm | | **Diversity Symposium Lunch** 12:15–1:15PM *Registration Required* |
| 12:30 pm | **Trainee Forum** 12:30–2:00PM | |
| 12:45 pm | | |
| 1:00 pm | | |
| 1:15 pm | | |
| 1:30 pm | | **Trainee Research Award Platform Competition** 1:30–3:00PM |
| 1:45 pm | | |
| 2:00 pm | | |
| 2:15 pm | **Volunteer Meeting** 2:15–3:00PM | |
| 2:30 pm | | |
| 2:45 pm | | |
| 3:00 pm | | **Break** 3:00–3:30PM |
| 3:15 pm | | |

| SATURDAY \| JULY 20 | | | SUNDAY \| JULY 21 | | | MONDAY JULY 22 |
|---|---|---|---|---|---|---|
| **Committee Meetings** 7:00–7:45AM | **WinRS Breakfast/ Subcommittee Meeting** 7:00–8:00AM *Registration Required* | | **Fun Run** 6:00–8:00AM | **Gates Foundation-SSR Breakfast Workshop** 7:00–8:00 AM *Registration Required* | | |
| **Flash Talks C & D** 8:00–8:40AM | **Trainee Career Center** 8:00–10:15AM | **Poster Session B & Breakfast** 8:00–10:00AM | | **Trainee Career Center** 8:00–10:15AM | **Poster Session C & Breakfast** 8:00–10:00AM | **Alda Institute Workshop** 9:00–10:30AM *Registration Required* |
| **Break** 10:00–10:30AM | | | **Break** 10:00–10:30AM | | | |
| **Concurrent Focus Sessions** 10:30AM–12:00PM | | | **Concurrent Focus Sessions** 10:30AM–12:00PM | | | **Alda Intensive Workshop** 10:45AM–12:15PM *Registration Required* |
| **Trainee Mentor Lunch** 12:15–1:15PM *Registration Required* | | | **Heritage Lunch** 12:15–1:15PM *Registration Required* | | | |
| **Concurrent Focus Sessions** 1:30–3:00PM | | | **Concurrent Focus Sessions** 1:30–3:00PM | | | |
| **Break** 3:00–3:30PM | | | **Break** 3:00–3:30PM | | | |

| TIME | THURSDAY \| JULY 18 | FRIDAY \| JULY 19 |
|---|---|---|
| 3:30 pm | **Opening Ceremonies**<br>3:30–5:30PM<br>BOR Awards<br>SSR New Investigator Award<br>Keynote Lecture<br>Merck KGaA Medical Innovation Presentation | **Plenary Session**<br>3:30–5:30PM<br>Keynote Lecture<br>Hartman Award<br>Keynote Lecture |
| 3:45 pm | | |
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| 5:15 pm | | |
| 5:30 pm | **Opening Reception**<br>5:30–7:30PM<br>*San Jose McEnery Convention Center* | |
| 5:45 pm | | |
| 6:00 pm | | |
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| 6:30 pm | | **President's Reception**<br>6:30–8:30PM<br>*Invitation Only* |
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| SATURDAY \| JULY 20 | SUNDAY \| JULY 21 | MONDAY JULY 22 |
|---|---|---|
| **Plenary Session**<br>3:30–5:30PM<br>Keynote Lecture<br>Research Award<br>Distinguished Service Award<br>Keynote Lecture | **Plenary Session**<br>3:30–5:30PM<br>Keynote Lecture<br>Bahr Award<br>Bazer Award<br>Trainee Mentor Award<br>Keynote Lecture | |
| | **Closing Ceremonies**<br>5:30–6:15PM<br>SSR Business Meeting<br>Trainee Merit Awards<br>Best International Abstracts<br>Burroughs Wellcome Fellows<br>Trainee Travel Awards<br>Gates Foundation Poster Award | |
| **BoR Reception**<br>6:30–8:30PM<br>*Invitation Only* | **Closing Reception**<br>7:00–11:00PM<br>*Children's Discovery Museum of San Jose* | |

# SESSIONS AT-A-GLANCE

# 2019 SSR ANNUAL MEETING
# DETAILED SCHEDULE

## THURSDAY | JULY 18



10:00AM – 11:30AM

### NICHD PRE-MEETING WORKSHOP

San Jose Convention Center Room 212A

*Sponsored by NICHD*

**NIH SUPPORT FOR TYPICAL AND NON-TYPICAL CAREER TRAJECTORIES: GETTING TO WHERE YOU WANT TO BE**

This session will explore NIH funding mechanisms in support of the typical post-doc to faculty pathway, as well as other types of post-post-doc career trajectories, and how NIH support can factor in.

Stuart Moss and Susan Taymans, program officers in the Fertility and Infertility Branch of NICHD, will give brief overviews of NIH funding mechanisms, including some lesser known ones, to support scientists on their own road to an independent science career. The session will also feature presentations from scientists with a variety of career pathways, from the "traditional path" to research intensive faculty (with some interesting stops along the way), to less typical paths such as non-research-intensive faculty, industry, and policy. Speakers will talk about their challenges and successes in obtaining NIH funding in light of their strategies for career development, and how the realities of life and family interact. Following the presentations, there will be a Q and A session with the whole panel.

10:00AM – 12:00PM

### PRE-MEETING MEDIA TRAINING WORKSHOP

San Jose Convention Center Room 211A

*(Made possible by the Bill & Melinda Gates Foundation)*

Does speaking with the media make you break out in a cold sweat? This two-hour presentation will provide

practical interview best practices techniques and tips you can begin using immediately. Learn the basics of how to communicate with confidence, control and credibility in a media interview.

- Learn how to organize your media messages to tell your story
- Prepare for an interview and get ready for any question
- Understand what the media wants and how to engage
- Speak in a way that is quotable

12:00PM – 1:30PM **TRAINEE FORUM**

San Jose Convention Center Room 212B

**CAREERS IN THE SCIENCES: WHAT YOU CAN DO WITH A PHD**

The Trainee Forum consists of five speakers, each with varying roles in the pharmaceutical/biotech industry. This year's Trainee Forum will consist of a brief introduction by each panel member describing their path from graduate school to their current positions followed by a question and answer session from trainees.

*Panelists*

**Genevieve Wortzman-Show, PhD,** Associate Director, Medical Affairs at Regeneron

**Matt Show, PhD, JD,** Intellectual Property Corporate Counsel at DuPont

**Vanessa Ridaura, PhD,** Senior Scientist at Verily Life Sciences

**Maxim Schillebeeckx, PhD,** Program Leader at Guardant Health

**Jonah Cool, PhD,** Program Officer at the Chan Zuckerburg Initiative

3:30PM - 5:30PM **OPENING CEREMONIES**

San Jose Convention Center Room 210BC

**2018 BIOLOGY OF REPRODUCTION TOP RESEARCH ARTICLE AWARD**

Vilceu Borginon, PhD
McGill University
Montreal, Canada

**SSR NEW INVESTIGATOR AWARD**

Francesca E. Duncan, PhD
Assistant Professor
Northwestern University
Feinberg School of Medicine
Chicago, Illinois

**KEYNOTE SPEAKER**

Diana Bianchi, MD
Director
Eunice Kennedy Shriver National Institute of Child Health and Human Development, USA

**Found in Translation: Insights Regarding Fetal, Maternal and Placental Biology from Clinical Implementation of Cell-Free DNA Sequencing**

Merck KGaA
Darmstadt, Germany

**MERCK KGaA: MEDICAL INNOVATION PROGRAM FOR HUMAN REPRODUCTION**

*(Made Possible by Merck KGaA, Darmstadt, Germany)*

*Panelists*

Allison Baxter Catherino, Ph.D.
Scientific Director, Fertility & Endocrinology
US Medical Affairs

5:30PM – 7:30PM **OPENING RECEPTION**

San Jose Convention Center Lower Level

# FRIDAY | JULY 19

8:00AM – 10:00AM **POSTER SESSION A**

San Jose Convention Center Lower Level

8:00AM – 8:40AM **FLASH TALKS A | 1-20**

**DEVELOPMENT/CONTRACEPTION/ ENDOCRINOLOGY/ENVIRONMENT**

San Jose Convention Center Room 211A

*Senior Co-Chair* **Jerry Bouma**, Colorado State University, USA

*Trainee Co-Chair* **Marie-Charlotte Dumargne**, McGill University, Canada

**A1.** Lats1 and Lats2 are Required for the Maintenance of Pluripotency in the Mullerian Mesenchyme.

**Guillaume St. Jean**, University of Montreal, Canada

**A2.** Multilayer Programming Via RB1 Guides Male Germline Stem Cell Establishment.

**Guihua Du**, Nanjing Medical University, China

**A3.** Single-Cell Sequencing of Neonatal Uterus Reveals an Endometrial Stromal Progenitor Indispensable for Female Fertility.

**H. Duygu Saatcioglu**, Massachusetts General Hospital, USA

**A4.** Single-Cell RNA Sequencing Reveals Similarities Between Bovine and Human Primordial Germ Cell Development.

**Delia Soto**, University of California, Davis, USA

**A5.** Transcriptional Networks of Mammalian Female Reproductive Tract Development.

**Alejandra Ontiveros**, Baylor College of Medicine, USA

**A6.** A Novel Role for Hippo Signaling in Gonadotropin Synthesis.
Ariane Lalonde-Larue, University of Montreal, Canada

**A7.** Identification of the SLIT/ROBO Signaling Pathway as A New Regulator of Leydig Cell Steroidogenesis.
Emmanuelle Martinot, University of Montreal, Canada

**A8.** Steroid Receptor Expression and Cellular Proliferation in the Female Guinea Pig Reproductive Tract.
Amy E. Flowers, University of California, Davis, USA

**A9.** Gestational Endocrinology in Three Cetaceans; Killer Whales, Belugas and Bottlenose Dolphins.
Erin L. Legacki, University of California, Davis, USA

**A10.** Luteinizing Hormone Actions on Primate Follicular Development and Function during Matrix-free Three-Dimensional Culture.
Shally Wolf, Portland State University, USA

**A11.** Waltheria Indica Root Exhibits Male Contraceptive Effect Through Inhibition of Androgensis In Male Wistar Rats.
Afisu Basiru, University of Ilorin, Nigeria

**A12.** High-Throughput Screen Identifies New Hormone Alternative Contraceptive.
Alaknanda Alaknanda, The University of Adelaide, Australia

**A13.** Developmental Programming: Prenatal Testosterone-Induced Epigenetic Modulation and Its Effect on Gene Expression In Sheep Ovary.
Niharika Sinha, Michigan State University,USA

**A14.** Paternal di(2-ethylhexyl) phthalate (DEHP) Exposure Leads To Altered Developmental Gene Expression In Embryos.

Chelsea Marcho, University of Massachusetts-Amherst, USA

**A15.** Prenatal and Ancestral Di(2-ethylhexyl) Phthalate Exposure Decrease Expression of Hormone Receptor, DNA, Methyltransferase, and Ten-eleven Translocation in Mouse Ovaries.

Saniya Rattan, University of Illinois at Urbana-Champaign, USA

**A16.** Iodoacetic Acid Inhibits Follicle Growth and Alters Expression of Genes that Regulate Apoptosis, the Cell Cycle, and Ovarian Steroidogenesis in Mouse Ovarian Follicles.

Andressa Varella Gonsioroski, University of Illinois at Urbana-Champaign, USA

**A17.** Ovulatory Prostaglandin Synthesis and Metabolism is Altered in Human Granulosa Cells by an Environmentally Relevant Phthalate Metabolite Mixture.

Patrick Hannon, University of Kentucky, USA

**A18.** Mitotic And Meiotic Germ Cells In The Developing Ovary Are Equally Sensitive To Benzo(A)Pyrene-Induced Germ Cell Death.

Kelli F. Malott, Melody Lee, Laura Ortiz, Ulrike Luderer

**A19.** E-Cigarette Exposure Delays Pregnancy Onset and Impairs Future Offspring Health.

Margeaux Wetendorf, University of North Carolina Chapel Hill, USA

**A20.** The role of beta-carotene metabolism in maternal cardiac remodeling: findings in mice lacking beta-carotene 9′,10′-oxygenase (BCO2).

Chelsee Holloway, Rutgers University, USA

8:00AM – 8:40AM **FLASH TALKS B | 1-20**

**GENOMICS/EPIGENETICS/STEM CELLS/ PREIMPLANTATION EMBRYOS/MALE GAMETOGENESIS**

San Jose Convention Center Room 211B

*Senior Co-Chair* Shuo Xiao, University of South Carolina, USA

*Trainee Co-Chair* Mancy Tong, Yale University, USA

**B1.** Genomic Insights into IVF Failure; Dysregulated Inflammation in Stimulated Follicles.

Chloe Fortin, Université Laval, Canada

**B2.** Transcriptomic Profiling and Bioinformatic Analysis of Endometriosis-Associated Ovarian Clear Cell Carcinoma.

Kaitlyn Collins, Indiana University School of Medicine, USA

**B3.** SWI/SNF Chromatin Remodeling Subunit SMARCA4/BRG1 Is Essential for Female Fertility.

David Landry, Ottawa Hospital Research Institute, Canada

**B4.** Dysregulated Expression of XIST And Imprinted Genes of the KCNQ1 Locus in Bovine Haploid Androgenetic Embryos.

Luis Aguila, Université de Montréal, Canada

**B5.** Unique Epigenetic Programming Distinguishes Functional Spermatogonia Stem Cells in The Immature Mouse Testis.

Keren Cheng, University of Texas at San Antonio, USA

**B6.** Mobilized Peripheral Blood Mononuclear Cells Combined with Platelet-rich Plasma Accelerates Restoration of Cyclophosphamide-disrupted Ovarian Function in Rats.

Yihua Yang, University of California Irvine, USA

**B7.** Impact of Chronological Age on Sperm Methylome And Its Implication on Early Development.

Oladele Oluwayiose, University of Massachusetts Amherst. USA

**B8.** NANOS2 Knockout Pigs as A Model to Devise Strategies for Treating Male Infertility.

Mariana Giassetti, Washington State University, USA

**B9.** Highly Efficient Genome Editing Using CRISPR/ Mb3Cpf1 In Mice.

Zhuqing Wang, University of Nevada, Reno, USA

**B10.** Expression Pattern and Role of Mirnas During Early Development in The Cow.

Erika E. Paulson, University of California Davis, USA

**B11.** Phosphorylation of Mechanistic Target of Rapamycin (MTOR) in Porcine Blastocysts is Dependent on the Concentration of Glutamine in the Medium.

Paula Chen, University of Missouri, USA

**B12.** Embryo Mortality: A transcriptome perspective in Holstein cows.

Carolina Gonzalez-Berrios, Colorado State University, USA

**B13.** Expression of Terra Differs in Early Bovine Embryonic Development in A Stage-Dependent Manner- A Possible Link to Maternal Ageing.

Pawel Kordowitzki, Institute of Animal Reproduction and Food Research of Polish Academy of Sciences, Poland

**B14.** Spontaneous Calcium Signaling Within the Mouse Seminiferous Epithelium.

Justine Fischoeder, RWTH Aachen University, Germany

**B15.** Subcellular Localization of PRAMEY During Bovine Sperm Maturation.

Chandlar Kern, The Pennsylvania State University, USA

**B16.** Computerized Evaluation of Jaguar (Panthera Onca) Frozen-Thawed Semen Using Tris And ACP-117C Extenders.

Silva Herlon, Laboratory of Carnivore Reproduction UECE, Brazil

**B17.** Sperm Tail Mitochondrial Sheath Length Correlates with Bull Fertility Outcomes.

Grace Wiley, University of Missouri, USA

**B18.** Autophagy Core Protein ATG5 Is Required for Sperm Individualization and Normal Male Fertility in Mice.

Qian Huang, Wayne State University, USA

**B19.** Nuclear DNA Damage is Clearly Reflected by Changes in the Human Sperm Proteome.

Taylor Pini, Colorado Center for Reproductive Medicine, USA

**B20.** Influence of Epididymosome Exposure on the Developmental Potential of Maturing Spermatozoa in the Domestic Cat Model.

Tricia Rowlison, Smithsonian Conservation Biology Institute, USA

10:00AM – 10:30AM **BREAK**

San Jose Convention Center Lower Level

## 10:30AM – 12:00PM FOCUS SESSIONS

### 10:30AM – 12:00PM FOCUS SESSION 1

**MALADAPTIVE RESPONSES TO ENVIRONMENTAL EXPOSURES**

San Jose Convention Center Room 212B

*Senior Co-Chair* Krista McCoy, East Carolina University, USA

*Trainee Co-Chair* Ashley Cloud, University of Kansas Medical Center, USA

10:30AM **S1.1** | INVITED

**The Maternal Lactocrine Continuum Programming Uterine Capacity.**

Frank (Skip) Bartol, Auburn University, USA

11:00AM **S1.2** | ORAL

**Ovarian Metabolism of an Environmentally Relevant Phthalate Mixture.**

Genoa R. Warner, Zhong Li, Madeline L. Houde, Cassandra E. Atkinson, Daryl D. Meling, Catheryne Chiang, Jodi A. Flaws

11:15AM **S1.3** | ORAL

**Worldwide Pollution by Persistent Organic Pollutants Impacts the Sperm DNA Methylation of Inuit Men in a Dose-Dependent Manner.**

Marie-Charlotte Dumargne, Xiaojian Shao, Mathieu Dalvai, Gunnar Toft, Jens Peter Bonde, Marie-Michelle Simon, Tony Kwan, Vanessa Dumeaux, Donovan Chan, Guillaume Bourque, Tomi Pastinen, Sarah Kimmins, Jacquetta Trasler, Janice Bailey

11:30AM **S1.4** | INVITED

**Maternal Programming of Fetal Development Via Endocrine Disruptors.**

Almudena Veiga Lopez, Michigan State University, USA

10:30AM – 12:00PM **FOCUS SESSION 2**

**WILLIAM HANSEL OVARIAN BIOLOGY SYMPOSIUM: NEW MODELS OF PCOS**

San Jose Convention Center Room 211A

*Senior Co-Chair* Hugh Clarke, McGill University Health Centre, Canada

*Trainee Co-Chair* Emily Suzanne Brehm, University of Illinois at Urbana-Champaign, USA

10:30AM **S2.1** | INVITED - **American Society for Reproductive Medicine-SSR Exchange Lecture**

**Engineering Reproduction.**

Teresa Woodruff, Northwestern University, USA

11:00AM **S2.2** | ORAL

**Follicle Stimulating Hormone Stimulation Restores Ovarian Microenvironment of Beef Heifers with Androgen Excess to Reduce Inflammation.**

Shelby Springman, Mohamed Nafziger, Alex Abedel-Majed, Kerri Snider, Jeff Bochantin, Jeff Bergman, Renee M. McFee, John S. Davis, Jennifer R. Wood, Andrea S. Cupp

11:15AM **S2.3** | ORAL

**Impaired Follicle Development in Female Mice Lacking Receptor Tyrosine Kinase 4 (Erbb4) In Ovarian Granulosa Cells.**

Florence Naillat, Ville Veikkolainen, Milena Doroszko, Nsrein Ali, Ilkka Miinalainen, Claes Ohlsson, Matti Poutanen, Nafis Rahman, Klaus Elenius, Seppo J. Vainio

11:30AM **S2.4** | INVITED

PCOS and Metabolic Dysfunction: Is It All About Androgens?

Annie Newell-Fugate, Texas A&M University, USA

10:30AM – 12:00PM **FOCUS SESSION 3**

**ADVANCES IN REGENERATIVE MEDICINE**

San Jose Convention Center Room 210C

*Senior Co-Chair* Amander Clark, University of California Los Angeles, USA

*Trainee Co-Chair* Brittany Foster, Louisiana State University, USA

10:30AM **S3.1** | INVITED

iPSCs in Mitochondrial Medicine.

Alessandro Prigione, Max Delbruck Berlin, Germany

11:00AM **S3.2** | ORAL

Differentiation of Primate Primordial Germ Cell-Like Cells Using Mouse Xenogeneic Reconstituted Testis.

Enrique Sosa, Esmeralda Villavicencio, Ernesto J. Rojas, Amander T. Clark

11:15AM **S3.3** | ORAL

Developmental Kinetics and Transcriptome Dynamics of Stem Cell Specification in the Spermatogenic Lineage.

Nathan Law, Melissa J. Oatley, Jon M. Oatley

11:30AM **S3.4** | INVITED

**Apoptosis in the fetal mouse testis eliminates developmentally defective germ cell clones.**

Diana Laird, University of California San Francisco, USA

10:30AM – 12:00PM **FOCUS SESSION 4**

**MAKING GOOD SPERM**

San Jose Convention Center Room 211B

*Senior Co-Chair* Rich Cardullo, University of California Riverside, USA

*Trainee Co-Chair* Alison Ermisch, Colorado Center for Reproductive Medicine, USA

10:30AM **S4.1** | INVITED

**The Atypical Centriole of the Sperm.**

Tomer Avidor-Reiss, University of Toledo, USA

11:00AM **S4.2** | ORAL

**Mitochondrial Porin, VDAC2, Has Unexpected Roles in Sperm Flagella Formation.**

Jessica Dunleavy, Denis Korneev, Donna Merriner, Anne O'Connor, Grant Dewson, Moira O'Bryan

11:15AM **S4.3** | ORAL

**FAM170A Loss Causes Subfertility and Defective Sperm Motility in Mice.**

Darius Devlin, Kaori Nozawa, Masahito Ikawa, Martin M. Matzuk

11:30AM **S4.4** | INVITED

**The Evolution of Cooperative Sperm in Peromyscus Mice.**

**Heidi Fisher,** University of Maryland, USA

10:30AM – 12:00PM **FOCUS SESSION 5**

**PROGRAMMING REPRODUCTIVE ORGAN DEVELOPMENT**

San Jose Convention Center Room 212A

*Senior Co-Chair* **Tony DeFalco,** Cincinnati Children's Hospital Medical Center, USA

*Trainee Co-Chair* **Saniya Rattan**, University of Illinois at Urbana-Champaign

10:30AM **S5.1** | INVITED

**New Insights into Ovarian Development and Function.**

**Dagmar Wilhelm,** The University of Melbourne, Australia

11:00AM **S5.2** | ORAL

**Human Sex Reversal Is Caused by Duplication or Deletion of Core Enhancers Upstream of SOX9.**

Brittany Croft, Thomas Ohnesorg, Jacky Hewitt, Josephine Bowles, Alexander Quinn, Jacqueline Tan, Vincent Corbin, Emanuele Pelosi, Jocelyn van den Bergen, Rajini Sreenivasan, Ingrid Knarston, Gorjana Robevska, Dung Chi Vu, John Hutson

11:15AM **S5.3** | ORAL

**Estrogen Regulates Key Developmental Pathways to Determine Somatic Cell Fate in The Gonad.**

Deidre Mattiske, Andrew Pask

11:30AM **S5.4** | INVITED

**The Battle of The Sexes: Setting the Gonad on The Male Trajectory.**

Blanche Capel, Duke University Medical Center, USA

12:00PM – 1:30PM **BREAK**

San Jose Convention Center Lower Level

12:15PM - 1:15PM **DIVERSITY SYMPOSIUM LUNCH**

San Jose Convention Center Room 210A

*(There is no fee to attend the symposium, but a $25 pre-purchased ticket is required for the accompanying lunch. Pre-registration ticket purchase is encouraged to guarantee availability; a limited number of tickets will be available for purchase onsite.)*

**KEYNOTE SPEAKER**

**Renee Reijo Pera, PhD**
Vice President of Research and Economic Development
Montana State University, USA

| | |
|---|---|
| 1:30PM – 3:00PM | **TRAINEE RESEARCH AWARD PLATFORM COMPETITION**<br>San Jose Convention Center Room 210BC |
| **PC1** - 1:30 PM | The Program of Maternal mRNA Translation During Oocyte Meiosis: A Genome-Wide Approach.<br>**Xuan Luong**, University of California, San Francisco, USA |
| **PC2** - 1:45 PM | Location Matters: Compartmentalized Protein Translation in Sertoli Cells.<br>**Ana Cristina Lima**, Oregon Health & Science University, USA |
| **PC3** - 2:00 PM | Intercellular Bridges Orchestrate Meiotic Initiation in Developing Mouse Ovaries.<br>**Gul Soygur**, University of California, San Francisco, USA |
| **PC4** - 2:15 PM | Epididymal Stem/Progenitor Basal Cells Express LGR5 And Can Differentiate into Principal Cells.<br>**Laurie Pinel**, INRS-Institut Armand-Frappier, Canada |
| **PC5** - 2:30 PM | Novel Sperm Protein Is Required for Sperm-Egg Membrane Fusion.<br>**Ismael Lamas Toranzo**. INIA, Spain |
| **PC6** - 2:45 PM | Chromatin Remodeling During Bovine Preimplantation Development Indicates Species-Specific Differences in Regulators of Genome Activation in Cattle Human, And Mouse.<br>**Michelle Halstead**, University of California, Davis, USA |
| 3:00PM – 3:30PM | **BREAK**<br>San Jose Convention Center Lower Level |

3:30PM - 5:30PM

## DR. KWANG YUL CHA SYMPOSIUM ON REGENERATIVE MEDICINE SESSION

San Jose Convention Center Room 210BC

**KEYNOTE SPEAKER**

Alejandro Sanchez-Alvarado, PhD
Stowers Institute, USA

**Understanding the Source of Reproductive Plasticity in Planarians**

**CARL G. HARTMAN AWARD**

Marilyn Renfree AO, FAA, FAIBiol, FSRB, PhD, DSc DSc (Hon.) LLD (Hon.)
Professor, University of Melbourne, Australia

**KEYNOTE SPEAKER**

Matthew Porteus, MD
Stanford University, USA

**Genome Editing in Humans: Where Are We and Should There Be Limits?**

# SATURDAY | JULY 20

7:00AM – 8:00AM **WINRS BREAKFAST/SUBCOMMITTEE MEETING** *(Free for all registered attendees)*

San Jose Convention Center Room 210A

**TOPIC: "OVERCOMING IMPOSTOR SYNDROME"**

*Panelists*

Dr. Zelieann Craig, University of Arizona

Dr. Ping Xia, Johns Hopkins School of Medicine

Dr. Kate Loveland, Hudson Institute of Medical Research

Dr. Janice Bailey, Scientific Director of the Québec Research Funds for Nature and Technologies

8:00AM – 10:00AM **POSTER SESSION B**

San Jose Convention Center Lower Level

8:00AM – 8:40AM **FLASH TALKS C | 1-20**

**MEIOSIS/FEMALE GAMETOGENESIS/ FERTILIZATION/OVARY**

San Jose Convention Center Room 211A

*Senior Co-Chair* Milo Wiltbank, University of Wisconsin, USA

*Trainee Co-Chair* Karine Doiron, University of Montreal, Canada

**C1.** Manipulation of An Inactive Form of Cofilin As Proof-Of-Principle for Auxin-Inducible Protein Degradation In Oocytes.
Nicole Camlin, Johns Hopkins Bloomberg School of Public Health, USA

**C2.** Sumoylation Is Essential for Proper Meiotic Maturation and Progression in Mouse Oocytes.
Amanda Rodriquez, Baylor College of Medicine, USA

**C3.** Dynamic TAF Expression and Function in Establishing the Ovarian Reserve.
Megan Gura, Brown University, USA

**C4.** Investigating the Effect of Allelic Diversity on The Establishment of The Ovarian Reserve.
Ruby Boateng, The Jackson Laboratory, USA

**C5.** Zinc Biology in Early Mammalian Ovarian Follicle Development.
Yu-Ying Chen, Northwestern University, USA

**C6.** Understanding the Role of Hemoglobin During Oocyte Maturation.
Megan Lim, The University of Adelaide, Australia

**C7.** Zinc Exocytosis During Egg Activation Is Dependent on Myosin Light Chain Activity in The Mouse and Human.
Hoi Chang Lee, Northwestern University, USA

**C8.** Sperm Capacitation-induced Zinc Efflux is Necessary for Increased Proteasomal Activity and Release from Oviduct Glycans of the Sperm Reservoir.
Karl Kerns, University of Missouri, USA

**C9.** Identification of A Rare, Fertility Affecting Mutation in Bovine Eml5.
Michal Zigo, University of Missouri, USA

**C10.** Effect of Heat Stress on the Corpus Luteum Proteome During Early Pregnancy Establishment in Pigs.
Ronald Schultz, Iowa State University, USA

**C11.** Adenosine Deaminase Acting on RNA (ADAR1) Deletion in Granulosa Cells Causes Dyssynchronous Ovulation and Infertility.
Rikki Nelson, University of Kansas Medical Center, USA

**C12.** Dysregulated Androgen-Induced Exosomal Mir-379-5p Release Determines Granulosa Cell Fate.
Reza Salehi, Ottawa Hospital Research Institute, Canada

**C13.** Lipopolysaccharide Differentially Affects Pro-Inflammatory Responses in Theca Cells from Androgen Excess compared to Control Beef Cows.
Kerri Bochantin, University of Nebraska-Lincoln, USA

**C14.** Long-Term Hyperandrogenemia and/or Western-Style Diet Impairs Rhesus Macaque Oocyte Maturation, Fertilization, and Preimplantation Embryo Development.
Sweta Ravisankar, Oregon Health and Science University, USA

**C15.** Ovarian Impacts of Atm Haploinsufficiency In Response to Phosphoramide Mustard.
Kendra Clark, Iowa State University, USA

**C16.** Steroidogenic Factor 1 Is Essential for Reproductive Function in Mature Female Mice.
Olivia Smith, Université de Montréal, USA

**C17.** MicroRNAs and Their Diverse Roles in Ovarian Function- A Meta-Analysis.
Oluwatosin Adesina, University of Nottingham, UK

**C18.** Core Binding Factors Are Essential for Ovulation, Luteinization, And Female Fertility in Mice.
Somang Lee-Thacker, University of Kentucky, USA

**C19.** Molecular Profiling Demonstrates Active Luteal Rescue in The Cow and Implicates Calcium Signaling, Immune Pathways, And Retinoic Acid Biosynthesis,
Camilla Hughes, The Pennsylvania State University, USA

**C20.** Investigating the Impact of Manganese Supplementation on Corpus Luteum Function.
Jamie Studer, Iowa State University, USA

8:00AM – 8:40AM **FLASH TALKS D | 1-20**

**UTERUS/PLACENTA/TRANSLATIONAL**

San Jose Convention Center Room 211B

*Senior Co-Chair* Vasantha Padmanabhan, University of Michigan, USA

*Trainee Co-Chair* Kelsey Quinn, University of North Carolina at Chapel Hill, USA

**D1.** Progesterone Stimulates Histone Citrullination To Increase Insulin Like Growth Factor Binding Protein 1 (IGFBP1) Expression in Ovine Luminal Epithelial Cells.
Coleman Young, University of Wyoming, USA

**D2.** Biochemical Changes in Uterine Fluid Composition at The Initiation of Conceptus Elongation in Cattle.
Constantine Simintiras, University College Dublin, Ireland

**D3.** Conceptus-Derived Proteins, CAPG & P4HB, Alter the Transcriptome of Bovine Endometrial Cells Cultured In Vitro To Enhance the Pregnancy Recognition Process.
Haidee Tinning, University of Leeds, UK

**D4.** The Role of COUP-TFII in the Uterus During the Pre-implantation Period.
Yeong Seok Oh, National Institute of Environmental Health Sciences, USA

**D5.** Seminal Plasma or TGFβ Increases Expression of IL6 and TNF in Bovine Endometrial Cells.
Jason Rizo, University of Florida, USA

**D6.** Global Transcriptomics of the Mouse Uterus and Oviduct.
Elle Roberson, University of Texas at Austin, USA

**D7.** The Autophagy Protein FIP200 (RB1CC1) Mediates Progesterone Responses Governing Uterine Receptivity and Decidualization.
Arin Oestreich, Washington University School of Medicine, USA

**D8.** Overexpression of Progesterone Receptor A or B Isoform in Uterine Epithelium Disrupts Embryo Implantation by Altering Leukemia Inhibitory Factor-Forkhead Box Protein O1 Signaling.
Rong Li, National Institute of Environmental Health and Sciences, USA

**D9.** Hypoxia-Induced Vesicular Trafficking Between Uterine Cells Is Critical for Embryo Implantation and Establishment of Pregnancy.
Arpita Bhurke, University of Illinois, Urbana-Champaign, USA

**D10.** Insulin Signaling Is Crucial for Successful Decidualization And Implantation in Mice.
Nikola Sekulovski. School of Medicine, SIU – Carbondale, USA

**D11.** FGL2-Associated Transcriptional and Histopathological Features of Immunological Preeclampsia.
Pascale Charette, Ottawa Hospital Research Institute, USA

**D12.** Effects of Bovine Pregnancy-Associated Glycoproteins on Gene Transcription in Bovine Endometrial Explants.
Amanda Schmelzle, University of Missouri, USA

**D13.** Circulating CD31+ Exosomes are Significantly Elevated with a Proliferative and Angiogenic but Anti-apoptotic mRNA Signature in Pregnant Women with Placenta Accreta Spectrum.
Qianrong Qi, University of California, Irvine, USA

**D14.** Development of Immunotolerance in Bovine Fetuses Infected with BVDV.
Hanah Georges, Colorado State University, USA

**D15.** Transcriptome Analysis Reveals the Key Regulators and Molecular Mechanisms Underlying Myometrial Activation During Equine Placentitis.
Shavahn Loux, University of Kentucky, USA

**D16.** Identification of Putative Factors Associated with Pelvic Organ Prolapse in Sows During Late Gestation.
Zoe Kiefer, Iowa State University, USA

**D17.** Diversity of the Endometrial Microbiota is Enhanced in Women with Endometriosis.
Jocelyn M. Wessels, McMaster University, Canada

**D18.** The Development of a Uterine Gland 3D Culture Model to Understand Pregnancy Establishment in Women.
Harriet Fitzgerald, University of Missouri, USA

**D19.** Aggressive Clear Cell Endometrial Cancer with Uterine-Specific Deletion of Pten and Dicer in A Preclinical Mouse Model.
Xiyin Wang, Indiana University School of Medicine, USA

**D20.** Pharmacological Inhibition of CHK2 Signaling to Protect Ovarian Reserve from Genotoxic Cancer Treatments.
Chihiro Emori, The Jackson Laboratory, USA

10:00AM – 10:30AM **BREAK**
San Jose Convention Center Lower Level

## 10:30AM – 12:00PM FOCUS SESSIONS

### 10:30AM – 12:00PM FOCUS SESSION 6

**PLACENTAL ADAPTATIONS TO ADVERSITY**

San Jose Convention Center Room 211A

*Senior Co-Chair* Alina Maloyan, Oregon Health Sciences University, USA

*Trainee Co-Chair* Rachel West, Colorado Center for Reproductive Medicine, USA

10:30AM **S6.1** | INVITED

Understanding Placental Adaptation to Maternal Malnutrition.

Michael Satterfield, Texas A&M University, USA

11:00AM **S6.2** | ORAL

Morphological and Epigenetic Abnormalities in the Placenta Linked to Embryo Culture in a Mouse Model of In Vitro Fertilization.

Lisa Vrooman, Eric A. Rhon-Calderon, Olivia Y. Chao, Duy Nguyen, Laren Riesche, Richard M. Schultz, Marisa S. Bartolomei

11:15AM **S6.3** | ORAL

Protective Role of Il33 On Negative Pregnancy Outcomes Associated with Lipopolysaccharide Exposure.

Keisuke Kozai, Khursheed Iqbal, Regan L. Scott, Pramod Dhakal, Michael J. Soares

11:30AM **S6.4** | INVITED - **Society for Reproductive Biology-SSR Exchange Lecture**

New Diagnostics for Pregnancy Complications.

Tu'uhevah Kaitu'u-Lino, The University of Melbourne, Australia

10:30AM – 12:00PM **FOCUS SESSION 7**

**REPRODUCTIVE AGING**

San Jose Convention Center Room 212B

*Senior Co-Chair* Francesca Duncan, Northwestern University, USA

*Trainee Co-Chair* Kathryn Grive, Cornell University, USA

10:30AM **S7.1** | INVITED

**Developmental Mechanisms for Protracted Female Fertility: Insights from the Naked Mole-Rat.**

Ned Place, Cornell University, USA

11:00AM **S7.2** | ORAL

**Increased Expression of Kifc1 And Kifc5b Targeting Endogenous-Sirna Contribute to The Age-Related Decline in Oocyte Quality.**

Bettina Mihalas, Nicole J. Camlin, Miguel J. Xavier, Alexandra E. Peters, Janet E. Holt; Jessie M. Sutherland, Eileen A. Mclaughlin, Andrew L. Eamens, Brett Nixon

11:15AM **S7.3** | ORAL

**The Telomere Length of Spermatozoa as An Epigenetic Biomarker of Sperm Quality and Aging.**

Mingju Cao, Peter Chan, Marie-Claude Léveillé, Bernard Robaire

11:30AM **S7.4** | INVITED

**The Conversion of a Homeostatic to Reactive Matrix: Hyaluronan And The Aging Ovarian Stroma.**

Michele Pritchard, University of Kansas Medical Center, USA

10:30AM – 12:00PM **FOCUS SESSION 8**

**EDITING THE GERM LINE AND GENOME**

San Jose Convention Center Room 210C

*Senior Co-Chair* Joao Ramalho-Santos, University of Coimbra, Portugal

*Trainee Co-Chair* Saniya Rattan, University of Illinois at Urbana-Champaign

10:30AM **S8.1** | INVITED

Super-Mendelian Inheritance Mediated by CRISPR–Cas9 in The Female Mouse Germline.

Kimberly Cooper, University of California San Diego, USA

11:00AM **S8.2** | ORAL

In Utero Imaging of Clock Gene Expression Reveals the Development of the Circadian Clock.

Keenan Bates, Ron McCarthy, Tatiana Simon, Jacob Amme, Sarah England, Erik Harzog

11:15AM **S8.3** | ORAL

A Genetic Toolbox for Functional In Vivo And Structural in Situ Analysis of the Mouse Testis.

David Fleck, Naofumi Uesaka, Justine Fischoeder, Lina Kenzler, Nadine Mundt, Jennifer Spehr, Marc Spehr

11:30AM **S8.4** | INVITED

Editing the Non-Human Primate Genome.

Erika Sasaki, Keio University School of Medicine, Japan

10:30AM – 12:00PM **FOCUS SESSION 9**

**BECOMING HAPLOID**

San Jose Convention Center Room 211B

*Senior Co-Chair* **Andy Childs**, Imperial College London, UK

*Trainee Co-Chair* **Brittany Croft**, Murdoch Children's Research Institute, Australia

10:30AM **S9.1** | INVITED

**Molecular and Evolutionary Strategies of Meiotic Cheating by Selfish Elements.**

**Takashi Akera**, University of Pennsylvania, USA

11:00AM **S9.2** | ORAL

**Control of Anaphase Onset in Mammalian Female Meiosis I.**

Lenka Radonova, Michal Skultety, Kristina Kovacovicova, Jaroslava Sebestova, Thang Quang Dang-Nguyen, Michael Hopkins, Bela Novak, Martin Anger

11:15AM **S9.3** | ORAL

**Interplay Between Caspase 9 And X-Linked Cellular Inhibitor of Apoptosis Protein (XIAP) In the Elimination of Mouse Oocytes During Fetal and Neonatal Ovarian Development.**

Xueqing Liu, Fatima El Mansouri, Teruko Taketo

11:30AM **S9.4** | INVITED

**Phenotypic Variation in Female Reproductive Parameters in Genetically Diverse Mice: A Window to Understand Human Infertility.**

**Ewelina Bolcun-Filas**, Jackson Laboratory, USA

10:30AM – 12:00PM

## FOCUS SESSION 10

**THE VIRENDRA B. MAHESH NEUROENDOCRINE SESSION: NEUROENDOCRINE CONTROL OF METABOLISM**

San Jose Convention Center Room 212A

*Senior Co-Chair* Djurdjica Coss, University of California Riverside, USA

*Trainee Co-Chair* Heather Talbott, Oregon National Primate Research Center, USA

10:30AM **S10.1** | INVITED

Conflicting Desires: A POMC Switch for Breeding and Feeding.

Jennifer Hill, University of Toledo, USA

11:00AM **S10.2** | ORAL

Translational Control in The Gonadotrope: Musashi Mediates Crosstalk Between Metabolism and Reproduction.

Ana Rita Silva Moreira, Tiffany K. Miles, Anessa Haney, Linda Hardy, Melody L. Allensworth, Michael G. Kharas, Christopher J. Lengner, Melanie C. MacNicol, Angus M. MacNicol, Gwen V. Childs, Angela K. Odle

11:15AM **S10.3** | ORAL

Gonadotrope-Specific Acvr2a and Acvr2b Conditional Knockout Animals Are Hypogonadal and Fsh-Deficient.

Gauthier Schang, Luisina Ongaro, Ulrich Boehm, Se-Jin Lee, Daniel Bernard

11:30AM **S10.4** | INVITED

Activation of a Classic Feeding Circuit Slows Neuroendocrine Pulse Generation Controlling Fertility: Implications For PCOS?

Rebecca Campbell, University of Otago, New Zealand

12:00PM – 1:30PM **BREAK**

San Jose Convention Center Lower Level

12:15PM - 1:15PM **TRAINEE MENTOR LUNCH**

San Jose Convention Center Room 210A

## 1:30PM – 3:00PM FOCUS SESSIONS

1:30PM – 3:00PM **FOCUS SESSION 11**

**SIGNALS REGULATING IMPLANTATION**

San Jose Convention Center Room 212B

*Senior Co-Chair* Indrani Bagchi, University of Illinois Urbana-Champaign, USA

*Trainee Co-Chair* Riley Thompson, University of Tennessee, USA

1:30PM **S11.1** | INVITED

**Comparative Insights into How Uterine Glands Function in Pregnancy Establishment.**

Tom Spencer, University of Missouri, USA

2:00PM **S11.2** | ORAL

**WNK1 in the Uterus: A Previously Undescribed Role in Implantation.**

Ru-pin Alicia Chi, Nyssa Adams, San-pin Wu Chou-long Huang, John Lydon, Francesco DeMayo

2:15PM **S11.3** | ORAL

**Intrauterine Inhibition of Chemokine Receptor 4 Signaling Modulates Local and Systemic Inflammation in Ovine Pregnancy.**

Stacia McIntosh, Clara Maxam, Marlie Maestas, Kelsey Quinn, Ryan Ashley

2:30PM **S11.4** | INVITED

**Embryo-Maternal Interaction Prior To Implantation in Cattle.**

Pat Lonergan, University College Dublin, Ireland

1:30PM – 3:00PM **FOCUS SESSION 12**

**THE JOHN J. EPPIG SESSION: MODULATION OF OOCYTE GROWTH**

San Jose Convention Center Room 211A

*Senior Co-Chair* Richard Schultz, University of California Davis, USA

*Trainee Co-Chair* Kelsey Brooks, Oregon National Primate Research Center, USA

1:30PM **S12.1** | INVITED

**The Critical Roles of Protein Sumoylation In Oocyte Development.**

Stephanie Pangas, Baylor College, USA

2:00PM **S12.2** | ORAL

**The Orphan Nuclear Receptor Nr5a2 Regulates Primordial Follicle Activation.**

Marie-Charlotte Meinsohn, Anthony Estienne, H. Duygu Saatcioglu, David Pepin, Bruce D. Murphy

2:15PM **S12.3** | ORAL

**Tgfβ/Smad Signaling Regulates Transzonal Projection (Tzp) Formation in Growing Follicles of The Mouse Ovary.**

Sofia Granados-Aparici, Qin Yang, Hugh Clarke

2:30PM **S12.4** | INVITED

**The Tail That Wags The Dog – Post-Transcriptional Regulation By Ccr4-Not**

Guang Hu, National Institute of Environmental Health Sciences, USA

1:30PM – 3:00PM **FOCUS SESSION 13**

**DR. MILTON K.H. LEONG SESSION: GENOMIC INSIGHTS INTO REPRODUCTIVE SUCCESS**

San Jose Convention Center Room 210C

*Senior Co-Chair* Folami Ideraabdullah, University of North Carolina – Chapel Hill, USA

*Trainee Co-Chair* Benjamin Duran, Ohio State University, USA

1:30PM **S13.1** | INVITED

**Genomic Insights into Reproductive Success.**

Pierre Ray, CHU-Grenoble Alpes, France

2:00PM **S13.2** | ORAL

**Dynamic Evolution of Male Fertility Genes in Humans and Other Great Apes.**

Marta Tomaszkiewicz, Arslan A. Zaidi, Danling Ye, Kristoffer Sahlin, Rahul Vegesna, Paul Medvedev, Kate Anthony, Corey Liebowitz, Michael DeGiorgio, Mark D. Shriver, Kateryna D. Makova

2:15PM **S13.3** | ORAL

**Integrated Epigenome, Exome and Transcriptome Analyses Reveal Molecular Subtypes and Suggest Homeotic Transformation in Uterine Fibroids.**

Jitu George, Huihui Fan, Benjamin Johnson, Anindita Chatterjee, Amanda L. Patterson, Julie Koewitz, Marie Adams, Zachary Madaj, Hui Shen, Jose M. Teixeira

2:30PM **S13.4** | INVITED

**Genes and Mechanism of Androgenetic Hydatidiform Moles: An Answer to A 40-Year Old Question.**

Rima Slim, McGill University, Canada

1:30PM – 3:00PM **FOCUS SESSION 14**

**IN AND OUT OF THE TESTIS THROUGH THE BLOOD-TESTIS BARRIER**

San Jose Convention Center Room 211B

*Senior Co-Chair* Jannette Dufour, Texas Tech University Health Science Center, USA

*Trainee Co-Chair* Jess Dunleavy, Monash University, Australia

1:30PM **S14.1** | INVITED

**Sperm and Cancer/Testis Antigens Egress Mouse Testes to Maintain Immune Protection.**

Kenneth Tung, University of Virginia, USA

2:00PM **S14.2** | ORAL

**ATP-Induced Calcium Signals and Contractions in Testicular Peritubular Cells.**

Lina Kenzler, David Fleck, Nadine Mundt, Robert Moosmann, Jennifer Spehr, Marc Spehr

2:15PM **S14.3** | ORAL

**The Role of ECM in Testicular Organoid Development.**

Maxwell Edmonds, Hanna Pulaski, Kyle E. Orwig, Teresa K. Woodruff

2:30PM **S14.4** | INVITED

Use of Endogenously Produced BTB Modifiers to Enhance Efficacy of Non-Hormonal Male Contraceptives.

C. Yan Cheng, Population Council, USA

1:30PM – 3:00PM **FOCUS SESSION 15**

**ALTERNATIVE INSTRUCTIONS: REWIRING REPRODUCTIVE CANCERS**

San Jose Convention Center Room 212A

*Senior Co-Chair* Kanako Hayashi, Southern Illinois University School of Medicine, USA

*Trainee Co-Chair* Fei Zhao, National Institute of Environmental Health Sciences, USA

1:30PM **S15.1** | INVITED

Epigenetic Rewiring of Ovarian Cancer for Cancer Therapy.

Ken Nephew, Indiana University, USA

2:00PM **S15.2** | ORAL

Anti-apoptotic Based Fertoprotective Agents do not Protect the Ovarian Stroma from Radiation-induced Fibrosis in the Nonhuman Primate.

Sharrón Manuel, Mary B. Zelinski, Brian W. Johnson, Megan J. Larmore, Michele T. Pritchard, Francesca E. Duncan

2:15PM **S15.3** | ORAL

TGFbeta is Critical for Stromal and Epithelial Paracrine Signaling in Endometrial Cancer.

Diana Monsivais, Maya L. Kriseman, Julio Agno, Ramya Masand, Chad Creighton, Martin M. Matzuk

2:30PM **S15.4** | INVITED

Tackling Endometrial Cancer: A New Frontier.

Julie Kim, Northwestern University, USA

3:00PM – 3:30PM **BREAK**

San Jose Convention Center Lower Level

3:30PM - 5:30PM **PLENARY SESSION**

San Jose Convention Center Room 210BC

**KEYNOTE SPEAKER**

Gavin Kelsey, PhD
The Babraham Institute, UK

**Single-Cell Sequencing Reveals Genetic and Dietary Influences on The Oocyte Epigenome**

**SSR RESEARCH AWARD**

Humphrey Yao, PhD
Principal Investigator
NIEHS/NIH, Reproductive Developmental Biology Lab

**KEYNOTE SPEAKER**

Kathy Niakan, PhD
The Francis Crick Institute, UK

**Regulation of Differentiation During Human Preimplantation Embryo Development**

# SUNDAY | JULY 21

6:00AM – 8:00AM

## FUN RUN

Hilton San Jose

*(Registration cost: $30, includes tank t-shirt, based on availability.)*

The meeting point for runners and walkers will be at the main entrance of the Hilton at 6:00 AM. At 6:15 AM, participants will walk half a block to Discovery Meadow next to the Children's Museum. The 5K circuit will begin at 6:30 AM. This 5K course will follow a scenic path along the Guadalupe River Trail.

If you are unable to run but would like to support the run, consider sponsoring a participant. Donations support the Trainee Travel Awards Fund. For those looking for a more active role, please consider volunteering at this year's Fun Run/Walk. Includes T-Shirt (based on availability).

7:00AM – 8:00AM

## GATES FOUNDATION - SSR BREAKFAST WORKSHOP *(Free for all registered attendees)*

San Jose Convention Center Room 210A

**TAILORING YOUR RESEARCH FOR CONTRACEPTIVE RESEARCH AND DEVELOPMENT**

This workshop is supported by the Bill & Melinda Gates Foundation as a part of a collaborative project with the SSR. The workshop purpose is to stimulate SSR members thinking about how their research may be suitable to developing a contraceptive project. The structure will be an interactive workshop including brief perspectives on the experiences and lessons learned from four different contraceptive research stakeholders, followed by a brief Q&A session with all speakers addressing audience questions.

*Panelists*

Diane Duffy, Eastern Virginia Medical School, USA

Greg Kopf, FHI360, USA

Jeff Jensen, Oregon Health Sciences University

Stephen Ward, Bill & Melinda Gates Foundation

8:00AM – 10:00AM **POSTER SESSION C**

San Jose Convention Center Lower Level

10:00AM – 10:30AM **BREAK**

San Jose Convention Center Lower Level

## 10:30AM – 12:00PM FOCUS SESSIONS

10:30AM – 12:00PM **FOCUS SESSION 16**

**SOCIETY FOR REPRODUCTIVE INVESTIGATION-SSR EXCHANGE LECTURES: NOVEL MECHANISMS REGULATING PARTURITION**

San Jose Convention Center Room 211A

*Senior Co-Chair* Deborah Sloboda, McMaster University, Canada

*Trainee Co-Chair* Arpita Bhurke, University of Illinois at Urbana-Champaign, USA

10:30AM **S16.1** | INVITED

**Gene X Environment Interactions and Preterm Birth.**

Jerry Strauss, Virginia Commonwealth University, USA

11:00AM **S16.2** | ORAL

**Loss of REST in Uterine Leiomyoma leads to an Altered Progesterone Response.**

Ashley Cloud, Michelle McWilliams, Faezeh Koohestani, Sornakala Ganeshkumar, Sumedha Gunewardena, Vargheese Chennathukuzhi

11:15AM **S16.3** | ORAL

**Human Fetal Membranes Induce Vital Neutrophil Extracellular Trap Formation: Potential Relevance for Tissue Damage Contributing to Preterm Birth.**

Mancy Tong, Vikki M. Abrahams

11:30AM **S16.4** | INVITED

**Pregnancy Length, Parturition and the Telomere Gestational Clock.**

Mark Phillippe, Massachusetts General Hospital, USA

10:30AM – 12:00PM **FOCUS SESSION 17**

**IMPACT OF CLIMATE CHANGE ON REPRODUCTION**

San Jose Convention Center Room 212B

*Senior Co-Chair* Janice Bailey, Québec Research Funds for Nature and Technologies, Canada

*Trainee Co-Chair* Katie Chiang, University of Illinois - Champaign/ Urbana, USA

10:30AM **S17.1** | INVITED

**Temperature-Dependent Sex Determination in Marine Turtles: Is the Future Female.**

Peter Dutton, National Marine Fisheries Service, USA

11:00AM **S17.2** | ORAL

**Heat Stress Increases the Incidence of Uterine Disease in Dairy Cattle Without Affecting the Vaginal Bacteria Load.**

Paula Molinari, I. Martin Sheldon, John J. Bromfield

11:15AM **S17.3** | ORAL

**Heat Stress-induced Changes in the Expression of Cellular and Extracellular Vesicle-coupled MiRNAs in In Vitro Cultured Bovine Granulosa Cells.**

Samuel Gebremedhn, Ahmed Gad, Jozef Laurincik, Radek Prochazka, Hoda Samir Aglan, Michael Hoelker, Karl Schellander, Dawit Tesfaye

11:30AM **S17.4** | INVITED

**Physiological Mechanisms Through Which Heat Stress Compromises Reproduction in Pigs.**

Jason Ross, Iowa State University, USA

10:30AM – 12:00PM **FOCUS SESSION 18**

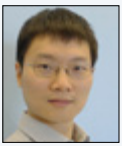
**RNA MODIFICATIONS IN REPRODUCTION**

San Jose Convention Center Room 210C

*Senior Co-Chair* Sue Hammoud, University of Michigan, USA

*Trainee Co-Chair* Anne-Sophie Pépin, McGill University, Canada

10:30AM **S18.1** | INVITED



**Sperm RNA Code: How Many More Secrets?**

Qi Chen, University of California, Riverside, USA

11:00AM **S18.2** | ORAL

**Single Cell RNA-Sequencing Reveals Critical Role of Interferon Signaling in Human Peri-Implantation Stage Embryos.**

Rachel West, Hao Ming, Deirdre M. Logsdon, Rebecca A. Kile, Courtney K. Grimm , Sandeep Rajput, Jiangwen Sun, William B. Schoolcraft, Rebecca L. Krisher, Zongliang Jiang, Ye Yuan

11:15AM **S18.3** | ORAL

**The Roles Of Retrotransposon Reactivation In Mammalian Preimplantation Development.**

Andrew Modzelewski, Anne Biton, Gang Chen, Martin Kinisu, Yang Wan, Lin He

11:30AM **S18.4** | INVITED

**Role of RNA Uridylation In Germ Line Differentiation.**

Marcos Morgan, University of Edinburgh, UK

10:30AM – 12:00PM **FOCUS SESSION 19**

**REPRODUCTIVE TRACT MODULATION OF SPERM FUNCTION**

San Jose Convention Center Room 211B

*Senior Co-Chair* Rebecca Krisher, Colorado Center for Reproductive Medicine, USA

*Trainee Co-Chair* Liliya Gabelev, University of California - Berkley, USA

10:30AM **S19.1** | INVITED

**Disruption of Semen Liquefaction in the Female Reproductive Tract: A Potential Novel Contraceptive.**

Wipawee Winuthayanon, Washington State University, USA

11:00AM **S19.2** | ORAL

**Reversing Poor Gamete Quality and Protecting Embryogenesis in Older Fathers.**

Macarena Gonzalez, Haley S. Connaughton, Rebecca L. Robker

11:15AM **S19.3** | ORAL

**Sperm-Associated Beta-Defensin 22 Influences the Female Immune Response to Seminal Fluid and Is A Determinant of Fertility and Fecundity in Mice.**

Sarah Robertson, Ricky A. Mathias, Honyueng Chan, Peck Y. Chin, John S. Schjenken

11:30AM **S19.4** | INVITED

**The Role of Extracellular Vesicles in the Female Reproductive Tract.**

Patricia Martin-DeLeon, University of Delaware, USA

10:30AM – 12:00PM **FOCUS SESSION 20**

**MECHANISMS OF EARLY EMBRYO DEVELOPMENT**

San Jose Convention Center Room 212A

*Senior Co-Chair* Naojiro Minami, Kyoto University, Japan

*Trainee Co-Chair* Malavika Adur, Iowa State University, USA

10:30AM **S20.1** | INVITED

**Transcriptional and Epigenetic Reprogramming During Bovine Preimplantation Development.**

Pablo Ross, University of California Davis, USA

11:00AM **S20.2** | ORAL

**Unraveling the Transcriptome by Single Cell RNA-Seq Of Porcine Oocytes and Parthenogenetic Preimplantation Embryos.**

Piotr Pawlak, Natalia Derebecka, Arkadiusz Kajdasz, Zofia E. Madeja, Ewelina Warzych, Joanna Wesoly, Dorota Lechniak

11:15AM **S20.3** | ORAL

**Investigating the Role of Zinc in Murine Preimplantation Embryo Development and The Effect on Cell Fate Determination in The Blastocyst.**

Julia Balough, Francesca E. Duncan, Thomas V. O'Halloran, Teresa K. Woodruff

11:30AM **S20.4** | INVITED

**Investigating Embryonic Chromosomal Instability in Preimplantation Development.**

Shawn Chavez, Oregon Health & Science University, USA

12:00PM – 1:30PM **BREAK**

San Jose Convention Center Lower Level

12:15PM - 1:15PM **HERITAGE LUNCH**

San Jose Convention Center Room 210A

*(Cost $35, no cost first 50 Trainees, registration required)*

*Speaker* Kelly Mayo, PhD, Northwestern University, USA

## 1:30PM – 3:00PM FOCUS SESSIONS

1:30PM – 3:00PM **FOCUS SESSION 21**

**METABOLIC DRIVERS OF HERITABLE PHENOTYPES**

San Jose Convention Center Room 212B

*Senior Co-Chair* Justin St. John, Hudson Institute of Medical Research, Australia

*Trainee Co-Chair* Bryan McLendon, Texas A&M University, USA

1:30PM **S21.1** | INVITED - **Canadian Fertility & Andrology Society-SSR Exchange Lecture**

**Early Life Adversity: Impacts On The Mother, The Placenta And Offspring.**

Deborah Sloboda, McMaster University, Canada

2:00PM **S21.2** | ORAL

**Using A Genetic Model of Epigenetic Inheritance to Determine the Inter- and Transgenerational Impacts of Paternal High-Fat Diet on The Sperm Epigenome and Descendant Phenotypes.**

Anne-Sophie Pépin, Christine Lafleur, Vanessa Dumeaux, Deborah M. Sloboda, Sarah Kimmins

2:15PM **S21.3** | ORAL

**Lasting Brain DNA Methylation Perturbations And Cognitive Impairments Following Preimplantation Alcohol Exposure.**

Lisa-Marie Legault, Mélanie Breton-Larrivée, Anthony Lemieux, Maxime Caron, Clara Amegandjin, Daniel Sinnett, Elsa Rossignol, Graziella Dicristo, Serge McGraw

2:30PM **S21.4** | INVITED

**Metabolic Induction of Epigenetic Modifications in Early Embryos.**

Roger Sturmey, The Hull York Medical School, UK

1:30PM – 3:00PM **FOCUS SESSION 22**

**OVARIAN CONVERSATIONS**

San Jose Convention Center Room 211A

*Senior Co-Chair* Claude Robert, Université Laval, Canada

*Trainee Co-Chair* Chihiro Emori, The Jackson Laboratory, USA

1:30PM **S22.1** | INVITED

**Progesterone Receptor Action in the Primate Ovulatory Follicle.**

Jon Hennebold, Oregon Health & Science University, USA

2:00PM **S22.2** | ORAL

**Participation of The Adenosine Salvage Pathway and Cyclic AMP Modulation in Mouse Oocyte Energy Metabolism.**

Dulama Richani, Cathy F. Lavea, Raji Kanakkaparambil, Angelique H. Riepsamen, Michael J. Bertoldo, Sonia Bustamante, Robert B. Gilchrist

2:15PM **S22.3** | ORAL

**Cargo Proteins in Luteal Extracellular Vesicles Have Catalytic Activity That May Regulate Activation of Luteal Resident Immune Cells.**

Martyna Lupicka, Joy L. Pate

2:30PM **S22.4** | INVITED

**Photostimulated Ovarian Recrudescence: The Role of Gonadotropins.**

Kelly Young, California State University – Long Branch, USA

1:30PM – 3:00PM **FOCUS SESSION 23**

**CHA HEALTH SYSTEMS SYMPOSIUM ON EPIGENETIC MODULATION OF PLURIPOTENCY**

San Jose Convention Center Room 210C

*Senior Co-Chair* Marisa Bartolomei, University of Pennsylvania, USA

*Trainee Co-Chair* Ariane Lismer, McGill University, Canada

1:30PM **S23.1** | INVITED

**Chromatin Reprogramming During Mammalian Gametogenesis and Early Development.**

Wei Xie, Tsinghua University, China

2:00PM **S23.2** | ORAL

**Epigenetic Dysregulation of the Ido1 Gene Induced by BPA and TBBPA Exposure is Associated with Fetal Loss in Mice.**

Jasmine Reed, Sarah E. Latchney, Philip Spinelli, Martha Susiarjo

2:15PM **S23.3** | ORAL

**Role of Prmt6 and Asymmetric Dimethylation Of H3R2 On Mouse Preimplantation Embryos.**

Shinnosuke Honda, Yuri Kunimoto, Naojiro Minami

2:30PM **S23.4** | INVITED

**Understanding Human Pluripotent States and Their Applications.**

Thorold Theunissen, Washington University, USA

1:30PM – 3:00PM **FOCUS SESSION 24**

**SPERM-EGG CONVERSATIONS**

San Jose Convention Center Room 211B

*Senior Co-Chair* Rafael Fissore, University of Massachusetts Amherst, USA

*Trainee Co-Chair* Nikola Sekulovski, Southern Illinois University, USA

1:30PM **S24.1** | INVITED - **Anita Payne New Perspectives on Reproductive Biology Lecture**

**Bouncer and SPACA4 – Small Proteins with Big Roles in Fertilization.**

Andrea Pauli, Research Institute of Molecular Pathology, Austria

2:00PM **S24.2** | ORAL

**TRPV4 is the Temperature-Sensitive Ion Channel of Human Sperm.**

Nadine Mundt, Marc Spehr, Polina Lishko

2:15PM **S24.3** | ORAL

**Sperm-Oocyte Communication Via PYK2 Requires CD9 Expression by The Oocyte.**

William Kinsey, Huizhen Wang

2:30PM **S24.4** | INVITED

**Sperm Signaling in ART and Science.**

Pablo Visconti, University of Massachusetts – Amherst, USA

1:30PM – 3:00PM **FOCUS SESSION 25**

**MIXED SIGNALS: UNRAVELING PATHWAYS IN DISEASES OF THE FEMALE REPRODUCTIVE TRACT**

San Jose Convention Center Room 212A

*Senior Co-Chair* Shannon Hawkins, Indiana University, USA

*Trainee Co-Chair* Diana Monsivais, Baylor College of Medicine, USA

1:30PM **S25.1** | INVITED - **Society for Reproduction and Fertility-SSR Exchange Lecture**

**Understanding the Role of Endometrial Hypoxia to Improve Management of Heavy Menstrual Bleeding.**

Jackie Maybin, University of Edinburgh, UK

2:00PM **S25.2** | ORAL

**Macrophages in Endometriosis Exhibit Phenotypic Heterogeneity and have Potential as Therapeutic Targets.**

Chloe Hogg, Beth Henderson, Prakash Ramachandran, Neil Henderson, Andrew W. Horne, Jeff W. Pollard, Erin Greaves

2:15PM **S25.3** | ORAL

**The Efficacy of Niclosamide On the Intra-Abdominal Inflammatory Environment in Endometriosis.**

Kanako Hayashi, Mingxin Shi, Allison Whorton, Arpan Roy, Nikola Sekulovski, James A. MacLean

2:30PM **S25.4** | INVITED

**The Versatile Fibroblast, Maestro of Endometrial Homeostasis and Pregnancy Success, is Derailed in Endometriosis.**

Linda C. Giudice, University of California San Francisco, USA

3:00PM – 3:30PM **BREAK**

San Jose Convention Center Lower Level

3:30PM - 5:30PM **PLENARY SESSION**

San Jose Convention Center Room 210BC

**KEYNOTE SPEAKER**

Janet Rossant, PhD
The Hospital for Sick Children, Toronto, Canada

**Embryos, Stem Cells and Ethical Concerns**

**JANICE BAHR JUNIOR SCIENTIST TRAVEL AWARD**

Annie Newell-Fugate, PhD, DVM
Assistant Professor, Texas A&M University, USA

**FULLER W. BAZER SSR INTERNATIONAL SCIENTIST AWARD FUND**

Andreas Meinhardt, PhD
Justus-Liebig-University, Institute of Anatomy & Cell Biology, Giessen, Germany

**SSR TRAINEE MENTOR AWARD**

Barbara Vanderhyden, PhD
Ottawa Hospital Research Institute, Ottawa, Canada

**KEYNOTE SPEAKER**

Jeffrey F. Peipert, MD, PhD
Indiana University School of Medicine, USA

**Impact of Long-Acting Reversible Contraception on Public Health Outcomes**

5:30PM - 6:15PM **CLOSING CEREMONIES**

San Jose Convention Center Room 210BC

**SSR BUSINESS MEETING**

**TRAINEE MERIT AWARDS**

**BEST INTERNATIONAL ABSTRACTS**

**BURROUGHS WELLCOME FUND FELLOWS**

**TRAINEE TRAVEL AWARDS**

**THE GATES FOUNDATION POSTER AWARD**

*(Made possible by the Bill & Melinda Gates Foundation)*

7:00PM - 11:00PM **CLOSING RECEPTION**

Location: Children's Discovery Museum of San Jose

*(10 minutes walk from San Jose Convention Center)*

# MONDAY | JULY 22

## SCIENCE COMMUNICATION WORKSHOPS
*(Made possible by the Bill & Melinda Gates Foundation)*

The SSR is proud to present, with support from the Gates Foundation, a two-part workshop on science communication to be presented by instructors from the Alan Alda Center for Communicating Science. This workshop will highlight features of the "Alda Method," honed by Alan Alda himself through his 11 years of hosting the PBS television series "Scientific American Frontiers" and improvisational techniques he developed in his 50 years of acting on stage and on screen.

9:00AM – 10:30AM **ALDA INSTITUTE WORKSHOP** *(Cost: $15)*

San Jose Convention Center Room 211

**CONNECTION IS A CHOICE**

This workshop introduces participants to general principles in how to craft short, clear, conversational statements, intelligible to non- scientists, about what you do and why it matters. The session will be an interactive presentation and discussion on interpreting technical material using examples and analogies to illuminate unfamiliar concepts to your audience.

10:45AM – 12:15PM **ALDA INTENSIVE WORKSHOP** *(Cost: $20)*

San Jose Convention Center Room 211

**BUILDING ON SOME BASICS**

The workshop is more hands-on and interactive and introduces participants to the improvisational techniques that are the foundation of the Alda Method. In this session, participants will practice skills to speak vividly and expressively about their research and to create common ground through conversational language and foster more genuine connections with an audience. This workshop is limited to 32 participants, so sign up early, first come, first served!

# 2019 SSR ANNUAL MEETING **POSTERS**

*Please use the author index or meeting app to find corresponding poster presentations.*

*Posters with a ✪ indicates the poster is also a **Trainee Research Award Poster Finalist**.*

*Posters with a ⚡ indicates the poster is also presented as a **Flash Talk**.*

## POSTER SESSION A

**FRIDAY, JULY 19, 2019**
**8:00 – 10:00 AM**

### DEVELOPMENT/EVOLUTION

**P2 -** Agarose-Based-Soft-Culture-Matrix (Abscm) Containing Extracellular Matrix Proteins Improves Developmental Competence Of Porcine Oocytes.
Ji Eun Park, Minji Kim, Joohyeong Lee, Seung Tae Lee, Eunsong Lee

**P11 -** Testicular Endothelial Cells Promote Self-Renewal Of Spermatogonial Stem Cells In Rats.
Yong-Hee Kim, Seok-Man Kim, Myeong-Geun Oh, Dong Ha Bhang, Bang-Jin Kim, Sang-Eun Jung, Gottfried Dohr, Sun-Uk Kim, Sandra Ryeom, Buom-Yong Ryu

**P16 -** Studies On The Endocrinology Of Testicular Development In The Mule.
Alan J. Conley, Claudia Barbosa Fernandes, Maria Augusta Alonso, Erin Lee Legacki, Sarah Fingerhood, Amy Mclean, Trish Berger, Kevin Keel

**P19 -** Loss Of Transzonal Projections Mediating Germline-Soma Communication In The Ovary Is Triggered By Lhcgr-Initiated Signaling Independently Of Oocyte Meiotic Maturation.
Karen F. Carvalho, Laleh Abbassi, Stephany El-Hayek, Qin Yang, Rafael Mondadori, Vilceu Bordignon, Hugh J. Clarke

**P22 -** Potential Roles Of Coup-Tfii Positive Cells In Ovarian Morphogenesis.
Ciro M. Amato, Kathryn Mcclelland, Humphrey H.C.Yao

**P25 -** Maternal Dietary Protein-Induced Reduction In The Follicular Pool Of Neonatal Bovine Offspring.
Naritsara Suayroop, Chainarong Navanukraw, Ligia D. Prezotto, Jennifer F. Thorson

**P27 -** UNC5CL As A Possible Mediator Of Sertoli Cell Proliferation.
Lien T. Tu, Barbara Jean Nitta-Oda, Trish Berger

**P29 -** Post-Thaw Survival Of Presumptive Germline Stem Cells In Cryopreserved Quail Testes Following Chorioallantoic Membrane Culture.
Jonathan Molina, Patricia Byrne, Thomas Jensen

**P31 -** Left-Right Asymmetry In Bovine Fetal Ovarian Development: Ovarian Weight, Follicle Population, Estradiol Production And Expression Of Transcription Factor FIGLA.
Ming Yuan Yang

**P32 -** Amh And Activin B Synergistically Repress The Ovarian Program In The Mouse Fetal Testis.
Karina F.Rodriguez, Paula R.Brown, Barbara C.Nicol, Humphrey H-C.Yao

## ENDOCRINOLOGY

**P35 -** Gestation-Dependent Upregulation Of Thymic Progesterone Receptor Expression By The Maternal Thymic Epithelial Cells In Pregnancy.
Soo Hyun Ahn, Sean L.Nguyen, Geoffrey R. Grzesiak, Tae Hoon Kim, Jae Wook Jeong, Margaret G.Petroff

**P37 -** NCKX3 Depletion Lead To Abnormal Motor Function And Social Behavior In Mice.
Dinh Nam Tran, Jae-Hwan Lee, Bo Hui Jeon, Eui-Man Jung, Eui-Bae Jeung

**P39 -** Regulatory Effect Of Systemic Glucocorticoid On Tracheal Calcium Processing Proteins And Mucosal Secretion.
Bo Hui Jeon, Bonn Lee, Eui-Man Jung, Eui-Bae Jeung

**P42 -** Progesterone Signaling During Pregnancy In The Lab Opossum, Monodelphis Domestica.
Yolanda P. Cruz, Karin Yoshida, Joanna J. Line, Kobi Griffith, Alexandra Wooldredge

**P44 -** Pleiotropic HIF1a Regulates Steroidogenesis And Proliferation In Bovine Granulosa Cells.
Vijay S. Baddela, Arpna Sharma, Jens Vanselow

**P50 -** Androgen-Induced Liver Dysfunction In PCOS.
Irving Salinas, Aierken Abudu, Sambit Roy, Kevin Childs, Jie Wang, Todd Lydic, Hanne Hoffman, Aitor Aguirre, Aritro Sen

**P52 -** Effect Of Preovulatory Estradiol On Subsequent Luteal Progesterone Secretion In Beef Cows.
Megan K.Mclean, Thomas W.Geary, Abby L.Zezeski, Michael F.Smith, Thomas E.Spencer, Ky G.Pohler, Sydney T.Reese, George A.Perry

**P57 -** Effect Of Progesterone Supplementation In A Resynchronization Protocol On Follicular Dynamics And Pregnancy Success.
Kaitlin M. Epperson, Jerica J J. Rich, Saulo Menegatti Zoca, Stephanie D. Perkins, Emmalee J. Northrop, Julie A. Walker, Jim R. Rhoades, George A. Perry

**P59 -** Membrane-Localized Estrogen Receptor 1 (Mesr1) Regulates Estrogen Responsive Genes And Histone Protein Modifying Transcripts.
Ana M. Mesa, Jiude Mao, Theresa I. Medrano, Manjunatha K. Nanjappa,

Madison T. Ortega, Paul D. Caldo, Jessica A. Kinkade, Ellis R. Levin, Cheryl S. Rosenfeld, Paul S. Cooke

**P63 -** Estrogen Receptor-Enos Phosphorylation Partitioning: Temporal And Spatial Interactions Within Uterine Endothelial Caveolae.
Mayra B. Pastore, Dongbao Chen, Maja Okuka, Ronald R. Magness

**P66 -** Propanil Acutely Changes Steroidogenic Enzymes In Heat-Killed Streptococcus Pneumoniae Immunized Female Mice.
Malia Berg, Ida Holásková, Jennifer Franko, Rosana Schafer, Robert Dailey

**P69 -** New Transgenic Mouse Models For Analysis Of Classical And Non-Classical Androgen Receptor Signaling.
Paul S. Cooke, William H. Walker

## OVARIAN BIOLOGY

**P71 -** Small Extracellular Vesicles From Bovine Follicular Fluid Exposed To Low Progesterone Levels Increase PTEN Levels In Cumulus Cells.
Ana Clara F.C.M. de Ávila, Alessandra Bridi, Flávio VieiraMeirelles, Felipe Perecin, Juliano C.Da Silveira

**P73 -** Role Of Vaspin In The Ovarian Follicles Of Polish Large White Pigs: Signaling Pathway And Action On Steroid Synthesis Via GRP78 Receptor And Kinases PKA and ERK1/2.
Patrycja Kurowska, Ewa Mlyczynska, Joelle Dupont, Agnieszka Rak

**P76 -** Chronic (5 Year) Hyperandrogenemia And/Or Western Style Diet Impact Metabolic And Reproductive Outcomes In Female Rhesus Macaques.
Cecily V. Bishop, Diana Takahashi, Emily Mishler, Richard L. Stouffer, Ov D. Slayden, Cadence True, Jon D. Hennebold

**P78 -** MicroRNAs And Their Diverse Roles In Ovarian Function- A Meta-Analysis.
Oluwatosin Adesina, Katie Woad, Victoria James, Nigel Mongan

**P79 -** Luteinizing Hormone Receptor Deficiency In Follicles Harboring Immature (Germinal Vesicle) Oocytes After Controlled Ovarian Stimulation.
Maíra Casalechi, Cynthia Dela Cruz, Fernando Reis

**P82 -** Effect Of Fish Oil Supplementation On Progesterone Synthesis In The Bovine Following Intrauterine Infusion Of PGF2alpha.
Brian P.Krum, Jessica C.Cedillo, Jason E.Bruemmer, Terry E.Engle, Patrick D.Burns

**P84 -** Metabolic Pathways Triggered By Luteinizing Hormone In Luteal Cells.
Emilia Przygrodzka, Pan Zhang, Hou Xiaoying, Robert Powers, John S. Davis

**P87 -** The Effects Of A Phthalate Metabolite Mixture On Expression Of Genes Important For The Growth Of Antral Follicles.
Daryl D. Meling, Jason R. Szumski, Genoa R. Warner, Liying Gao, Andressa V. Gonsioroski, Saniya Rattan, Jodi A. Flaws

**P89 - Proteomic Analysis Of The Potential Pathways Mediating The Temporal Luteolytic Responsiveness Of Porcine Corpus Luteum To Prostaglandin F2alpha.**
Karolina Lukasik, Pawel Likszo, Pawel Kordowitzki, Dariusz Jan Skarzynski, Beenu Moza Jalali

**P92 - Genetic Variants Identified In Cows With An Excess Androgen Ovarian Microenvironment Provides Clues To Women With Polycystic Ovary Disease.**
Alexandria P. Snider, Sarah Nafziger, Jeff Bergman, Scott G. Kurz, John S. Davis, Jennifer R. Wood, Jessica L. Petersen, Andrea S. Cupp

**P99 - FOS/AP-1 Is A Critical Transcriptional Regulator In The Ovulatory Process In The Human Ovary.**
Yohan Choi, Mats Brännström, James W. Akin, Thomas E. Curry Jr., Misung Jo

**P102 - Quantification Of KIT Ligand And Leukemia Inhibitory-Factor Expression In Multilayer And Small Antral Follicles In Cattle And Nonhuman Primate Ovaries.**
Wilson P. Simmons, Shaina Jachter, Cecily V. Bishop

**P105 - Amphiregulin Can Regulate The Expression Of Cyp17a1 In Cultured Mouse Theca Cells.**
Hanako Kakuta, Tomomi Sato

**P107 - Balanced Expression And Activation Of YAP1 In Granulosa Cells Are Vital For Ovarian Follicle Development.**
Xiangmin Lv, Cong Huang, Li Chen, Hongbo Wang, Cheng Wang

**P109 - Stimulatory Effects Of Transforming Growth Factor-Alpha In Bovine Granulosa Cells Of Small Antral Follicles.**
Allie L. Lundberg, Nicole M. Jaskiewicz, David H. Townson

**P111 - Mutation Of The Conserved SUMOylation Site In NOBOX Leads To Premature Ovarian Aging In Mice.**
Bethany K. Patton, Amanda Rodriguez, Stephanie A. Pangas

**P115 - Complement Components (C3 And C4) May Be Important In Facilitating Luteal Rescue During Early Pregnancy In Dairy Cows.**
Adelaide C. Hellmers, Camilla K. Hughes, Joy L. Pate

**P117 - Regulation of the Angiogenic Inducer, Cysteine Rich 61-Connective Tissue Growth Factor-Nephroblastoma Overexpressed 1 (CCN1), in Bovine Luteal Cells.**
Michael R. Goulet, Jake R. Donahue, Paul C. Tsang

**P119 - VCAM1 Is Induced By Androgens Within the Ovarian NR2F2+ Stromal Lineage.**
Nicholes Candelaria, Achuth Padmanabhan, Minerva Solis, Katharine E. Shelly, Jan M. McAllister, Sheng Wu, JoAnne S. Richards

**P121 - GDF-9 And BMP-15 Gene Expression In Canine Cumulus Cells Before And After In Vitro Maturation.**
Georges Ramirez, Jaime Palomino, Monica De Los Reyes

**P124 -** Granulosa Cells Of Ovarian Antral Follicles Exhibit Distinct Follicle Size-Related Processes.
Natasja GJ. Costermans, Jaap Keijer, Evert M. Van Schothorst, Bas Kemp, Nicoline M. Soede, Katja J. Teerds

## REPRODUCTIVE AGING

**P128 -** New Links And Genetic Connections Between Menarche And Antral Follicle Count In African American And European American Women.
Sonya M. Schuh, Julia Kadie, Mitchell P. Rosen, Barbara Sternfeld, Renee A. Reijo Pera, Marcelle I. Cedars

**P130 -** Profiling The Age-Associated Transcriptomic Changes In Mouse Ovarian Tissue.
Zijing Zhang, Lynae Brayboy, Maria F. Schlamp, Xiaotian Wu, Haley Clark, Gary Wessel

**P133 -** Characterization of Akt Isoforms In The Mouse Ovary And Their Impact On The Ovarian Reserve.
Dadou L. Lokengo, Pascal Adam, Laurence Tardif, Sophie Parent, Eric Asselin

**P136 -** The Disorder Of Folliculogenesis In Ob/Ob Mice.
Hee-Seon Yang, Mohammad Lalmoddinmollah, Kil Soo Kim, Hyo-Il Jung, Yong-Pil Cheon

**P138 -** Telomere Dynamics Throughout Spermatogenesis.
Heather E. Fice, Bernard Robaire

**P140 -** Involvement Of Nfκappab Signaling In The Rate Of Mammalian Primordial Follicle Growth Activation And Ovarian Aging.
Evelyn M. Llerena Cari, Jeryl Sandoval, Sarah Mckenna, Elise Bales, Leanna Nguyen, Alex J.Polotsky, Clyde J.Wrigth, Joshua Johnson

## ENVIRONMENT

**P143 -** Second-Phase Validation Of Developmental Toxicity Test Using Mouse Embryoid Body's Area.
Jae-Hwan Lee, Seon Mi Park, Eui-Man Jung, Eui-Bae Jeung

**P145 -** Adult Exposure To Di(2-Ethylhexyl) Phthalate And Diisononyl Phthalate Negatively Affects Fertility In Female Mice Twelve Months After Initial Exposure.
Catheryne Chiang, Saniya Rattan, Emily Brehm, Liying Gao, Daryl D. Meling, Jodi A. Flaws

**P147 -** Metabolic Regulation Of Sex Differentiation Under Starvation In Medaka.
Yu-Ta Sakae, Yuki Sugiura, Akira Oikawa, Masatoshi Mita, Toshiya Nishimura, Minoru Tanaka

**P159 -** Impacts Of Thermal Neutral Housing On Murine Reproduction And Metabolism.
Katie L. Bidne, Rong Fan, Alana L. Rister, Eric D. Dodds, Soonkyu Chung, Jennifer R. Wood

**P162 - Proteomic Signature Of BPA-Induced Transgenerational Effects On Male Reproduction In A Mouse Model.**
Md Saidur Rahman, Do-Yeal Ryu, Shehreen Amjad, Won-Ki Pang, Sarder Arifuzzaman, Won-Hee Song, Yoo-Jin Park, Myung-Geol Pang

**P166 -** Withdrawn

**P170 - Impact Of High Fat Diet-Induced Obesity On Ovarian DNA Damage Repair Proteins In Rats.**
Bailey C. McGuire, María E. González Alvarez, Karl Kerns, Peter Sutovsky, Aileen F. Keating

**P174 - Hexavalent Chromium (CrVI) Induced Cell Cycle Arrest And Apoptosis Of Immortalized Rat Trophoblast Cell Line Rcho-1.**
Sakhila K. Banu, Jone A. Stanley, John Wu, Joe A. Arosh, Pramod Dhakal, Michael Soares

**P178 - The JAK-STAT Pathway is affected by Heat Stress in the Corpus Lutea of Post-Pubertal Crossbred Gilts.**
Crystal M. Roach, Katie L. Bidne, Matthew R. Romoser, Jason W. Ross, Lance H. Baumgard, Aileen F. Keating

**P180 - Sexual Dimorphism in Susceptibility to Age-dependent Metabolic Disorders and Lifespan in Mice Born through ICSI.**
Yue Wang, Tong Zhou, Huili Zheng, Wei Yan, Zhuqing Wang

**P182 - Differential Effect Of Bisphenols (BPA, BPF and BPS) In Regulating Gene Expression And Receptivity In Endometrial Epithelial Ishikawa Cells.**
Kai-Fai Lee, Hongjie Fan, Chris KC Wong, William SB Yeung, Ernest HY Ng

**P184 - Effects Of Dibutyl Phthalate (DBP) Exposure On The Expression Of Transcription Factors In The Mouse Ovary.**
Franchesca M. Nunez, Jazmin G. Beltran-Gastelum, Zelieann R. Craig

## GENOMICS/EPIGENETICS AND OTHER GENE REGULATION

**P189 - Dramatic Epigenetic Changes In The Genome Impact Gene Expression And The Differentiation Of Ovarian Granulosa Cells.**
Tomoko Kawai, S.A Masudulhoque, Joanne S. Richards, Masayuki Shimada

**P191 - FSH-Regulated Histone Modification And Gene Expression In Mouse Granulosa Cells.**
Ejimedo Madogwe, Milena Taibi, Yasmin Schuermann, Audrey St-Yves, Raj Duggavathi

**P193 - Role Of Sex Steroids In Intergenerational Effects Of General Anesthetic Sevoflurane In Young Adult Rats.**
Anatoly E. Martynyuk, Ling-Sha Ju, Jiao-Jiao Yang, Ning Xu, Timothy E. Morey, Nikolaus Gravenstein, Christoph N. Seubert, Barry Setlow

**P200 - Specific Endometrial-AKT Isoform Deletion Using PR-Cre Mice Alters Mouse Estrous Cycle And Uterine Development.**
Laurence Tardif, Dadou Lokengo, Pascal Adam, Sophie Parent, Eric Asselin

**P204 -** Analysis Of Necroptosis In Bovine Mammary Glands With Mastitis.
Guangdong Xing, Haijing Ji, Yinxue Xu

**P207 -** Influence Of microRNAs From Semen On Bovine Fertility.
Stephanie D. Perkins, Brittney N. Keel, Emmalee J. Northrop, Tara G. McDaneld, Robert A. Cushman, Bo R. Harstine, Mel DeJarnette, Matthew D. Utt, George A. Perry

**P208 -** Peroxiredoxin Is A Powerful Biomarker Of Male Fertility.
Do-Yeal Ryu, Won-Ki Pang, Sarder Arifuzzaman, Won-Hee Song, Md Saidur Rahman, Yoo-Jin Park, Myung-Geol Pang

**P215 -** Heat Shock Can Influence The Expression Of DROSHA In Bovine Oocytes.
Luiz S A. Camargo, Carolina C R. Quintao, Gustavo T. Souza, Michele Munk, Vanessa G P Souza

**P219 -** Effects of Advanced Maternal Age and Assisted Reproductive Technologies on Genomic Imprinting in Oocytes and Preimplantation Embryos.
Mellissa RW. Mann, Audrey J. Kindsfather, Catherine A. Pressimone

**P222 -** Aberrant ER Binding and Excessive Histone H3K27ac Association Near Persistently Altered Genes in the Adult Mouse Uterus Following Neonatal DES Exposure.
Wendy N. Jefferson, Tianyuan Wang, Carmen J. Williams

**P224 -** Cross-species transcriptome analysis of oocyte maturation.
Tyler B. Garner, Francisco J. Diaz

**P227 -** Using Mouse Models Of LINE-1 To Study Retrotransposons During Development.
Wenfeng An, Partha Saha, Simon Newkirk

**P229 -** Altered Reproductive Epigenetic Profiles In Mature IVF-Conceived Offspring.
Eric Rhon-Calderon, Laren Riesche, Lisa Vrooman, Marisa Bartolomei

**P232 -** Investigation Of Polycystic Ovary Syndrome Ancestry-Driven Comorbidity Patterns.
Ky'Era Actkins, Digna Velez Edwards, Melinda Aldrich, Lea Davis

## STEM CELLS

**P234 -** Quiet! They May Be at Rest: Metabolic Characterization and modulation of Paused-Pluripotency.
João Ramalho-Santos, Maria Inês Sousa, Bibiana Correia, Ana Sofia Rodrigues

**P240 -** Odotogenesis Of Mesenchymal Stem Cells Derived From Various Dental Tissues.
Young-Bum Son, Sung-Lim Lee, Young-Hoon Kang, Si-Jung Jang, Dinesh Bharti, Gyu-Jin Rho

**P242 -** Epigenetic Reprogramming In A Dish – An In Vitro Model Of Transgenerational Epigenetic Inheritance.
Jake D. Lehle, I-Chung Chen, John R. McCarrey

**P245 -** The Effect Of Transplantation Of Autologous Bone Marrow-Derived Mesenchymal Stem Cells Into The Porcine Cervix.
Zdzislaw Gajewski, Maria Sady, Maciej Olszewski, Magdalena Gajewska, Malgorzata Domino, Jaroslaw Olszewski

**P249 -** Autologous Canine Fetal Fibroblasts May Be Used As Feeder Layers As Well As A Source Of Canine Induced Pluripotent Stem Cells.
Mirae Kim, Seon-Ung Hwang, Kiyoung Eun, Yeon Woo Jeong, Sang-Hwan Hyun

## TESTIS/MALE GAMETOGENESIS

**P252 -** Increased ROS levels in Sertoli Cells And In Epididymal Fluid Are A Cause Of Subfertility In Aging Arsa Knockout Mice.
Nongnuj Tanphaichitr, Kessiri Kongamanas, Arpornrad Saewu, Wongsakorn Kiattiburut, Mark Baker, Kym F. Faull, Dylan Burger

**P256 -** PTBP1 Contributes To Spermatogenesis Through Regulation Of Proliferation In Spermatogonia.
Manabu Ozawa, Manami Senoo, Takashi Takijiri, Takuya Yamamoto, Yasuhiro Yamada, Masahito Ikawa

**P258 -** Glycerol Kinase 2 Is Important For Proper Arrangement Of Crescent-Like Mitochondria To Form The Mitochondrial Sheath.
Keisuke Shimada, Haruhiko Miyata, Masahito Ikawa

**P260 -** Axonemal Dynein Light Intermediate Polypeptide 1 Forms A Complex With PACRG In The Manchette For Cargo Transport.
Wei Li, David Williams, Zhibing Zhang

**P264 -** Seasonal ANALYSIS OF GONADAL TRANSCRIPTOME IN ENDEMIC CYPRINID Honmoroko (Gnathopogon CAERULESCENS).
Tatsuyuki Takada, Shogo Higaki, Reika Kawahara, Noriyoshi Sakai, Akira Hirasawa

**P267 -** Reproductive Pathology Of Lead Poisoning And Protective Influence Of Methanol Extract Of Tiger Nut (Cyperusesculentus) In Red Sokoto Buck.
Mohammed Adam, King Akpofure Nelson Esievo, Mohammed Bisala, Joseph Olusegun Ayo, Adamu Sani

**P272 -** TDRKH Scaffolding Function Controlling Different Steps In Pachytene Pirna Biogenesis Is Essential For Transposon Silencing And Adult Spermatogenesis.
Deqiang Ding, Chen Chen

**P274 -** Effects Of Trehalose On Cryopreservation Of Spermatogonial Stem Cell By Equilibration Time And Temperature.
Sang-Eun Jung, Myongzun Kim, Jin Seop Ahn, Ju-Hee Jin, Seok-Man Kim, Joong-Hyuck Auh, Buom-Yong Ryu

**P276 -** DRC7 Is Required For Sperm Flagellum Formation And Male Fertility In Mice.
Haruhiko Miyata, Akane Morohoshi, Keisuke Shimada, Kaori Nozawa, Takafumi Matsumura, Masahito Ikawa

**P278 - The Interaction Of PHB with AKT Protein Plays A Key Role In Sperm Motility.**
Hong Chen, Xiaohui Li, Ranran Chai, Guowu Chen, Wenjing Tantai, Lingfei Zhang, Wai Sum O, Patricia A. Martin-DeLeon

**P281 - CRISPR Interference For In Vivo Gene Knockdown In Mammalian Male Germ Cells Using Lentivirus Injection.**
Naseer A. Kutchy, Zhicong Liao, Bluma J. Lesch

**P283 - Impact Of Glycosylation On The Functions Of Sperm During Maturation In Rhesus Monkey (Macaca Mulatta).**
Ram Lakhansingh, Abhishek Chandra, Archana Srivastav, Sukanta Mondal

**P286 - Centrosome Inheritance During Spermatocyte Meiosis In C. Elegans Nematodes.**
Mara Schvarzstein, Anthony James, Katherine A. Rivera Gomez

**P288 - Proteomic Characterization Of Poor Sperm Chromatin Compaction Suggests Nuclear Retention.**
Jacob K. Netherton, Mark A. Baker

**P291 - Exploring Role Of DNA Damage-Binding 1 (DDB1) Protein In Mouse Spermatogenesis.**
Raed Abu-Dawud, Maha Alanazi, Mohamed Rajab, Hala Ahmed, Nadya Alyacoub, Falah Almohanna, Bhavesh Mistry, Abdullah Assiri

**P294 - Effect Of Induced-Obesity By Hyperlipidic Diet On Toxicity Testicular By Subchronic Exposure To Fluoride In Wistar Rats.**
Jeannett Alejandra Izquierdo-Vega, Itziar Hernández-Martínez, Manuel Sanchez-Gutiérrez, Araceli Hernández-Zavala, Eduardo Osiris Madrigal-Santillán, Valeria Lagunas-Ortiz, Kevin Flores-Elizalde

**P297 - Deletion Of The Mouse Prame Gene Affects DDX4 Expression In Seminiferous Tubules During The First Wave Of Spermatogenesis.**
Mingyao Yang, Weber Beringuifeitosa, Wan-sheng Liu

**P300 - Morphological And Ultrastructural Evaluation Of Jaguar (Panthera onca) Sperm Cryopreserved In Different Extenders.**
Herlon Victor Rodrigues Silva, Thalles Gothardo Pereira Nunes, Lívia Batista Campos, Andréia Maria Da Silva, Alexandre Rodrigues Silva, Lúcia Daniel Machado Da Silva

**P303 - Anatomy And Functional Ultrastructure Of The Pathways Spermatids In The Scorpion Mud Turtle (Kirosternon scorpioides).**
Vinicius Maia Ribeiro Godoy, Alana Lislea Sousa, Antonio Chaves de Assis Neto

**P305 - The Perforatorium And Postacrosomal Sheath Of Mouse Spermatozoa Share Common Developmental Origins And Protein Constituents.**
Nicole Protopapas, Lauren E. Hamilton, Morgan Lion, Wei Xu, Sutovsky Peter, Richard Oko

**P308 - The Caenorhabditis Elegans Ortholog Of Human T-Complex Protein 11 (TCP11), M05D6.2, Is Necessary For Sperm Production And Fertility.**
Danielle Cooley, Emily Lopes, Amber Jacob, Matthew R. Marcello

**P311 - Does miRNA378 Have A Role In Modulating Testicular Aromatase Activity?**
Tana Jo Almand, Barbara Jean Nitta-Oda, Trish Berger

**P314 - Effect of □-Carrageenan on the Cryopreserved Sperm Quality of Canine Semen.**
Nabeel AbdelbagiTalha, YuByeol Jeon, Il-Jeong Yu

**P315 - New Model for Sperm Chromatin Fragmentation.**
Hubert A. Szczygiel, W. Steven Ward

## MALE REPRODUCTIVE TRACT

**P318 - Metformin And Nigella Sativa Seed Oil Extract Improves Male Reproductive Parameters And Histology Following Diet Induced Obesity In Wistar Rats.**
Kristian Leisegang, Walid Almaghrawi, Ralf Henkel

**P320 - Characteristics Of Sperm Binding To The Mouse Oviduct.**
Kankanit Doungkamchan, David J.Miller

**P322 - Male Mice Housed In The International Space Station Sire Healthy Offspring.**
Taichi Noda, Takafumi Matsumura, Masafumi Muratani, Risa Okada, Mutsumi Yamane, Ayako Isotani, Takashi Kudo, Satoru Takahashi, Masahito Ikawa

**P324 - Localization And Expression Of The Vacuolar ATPase And Cytokeratin 5 During Postnatal Development In The Pig Epididymis.**
Bongki Kim, Yun-Jae Park, Yu-Da Jeong, Gye-Woong Kim, Ji-Hyuk Kim, Hack-Youn Kim, Hee-Bok Park, Sun-Young Baek, Hak-Jae Chung

**P326 - Calcium And Sperm Motility In Drosophila Melanogaster.**
Halli S. Weiner, Frances Sunga, Mollie K. Manier

**P328 - The Effect Of STM paste® On The Viability Of Bovine Cryopreserved Spermatozoa With Egg Yolk Plasma And Native Phospho Caseinate Containing Triladyl Diluent.**
Sung Woo Kim, Yeun Hye Yu, Chan-Lan Kim, Seung Rye Choe, Namtae Kim, Yeoung-Gyu Ko

**P331 - Evaluation of the G Protein-Coupled Receptor 56 (GPR56) in Mice: Phenotypic Effects in the Testis and Epididymis, and Localization in Spermatogenic Cells and Sperm.**
Madeleine G. Purcell, Jolene I. Davis, Steven M. Neal, Maria Agustina Battistone, Sylvie Breton, James A. Foster

**P334 - Derivation of Organoids and Gene Expression in Epididymal Columnar Cells.**
Daniel G. Cyr, Tifen el Belaidi, Sylvie Pinto, Laurie Pinel, Julie Dufresne, Mary Gregory

## FEMALE GAMETOGENESIS

**P337 -** Withdrawn

**P341 - Poorly-controlled Severe Type 1 Diabetes Mellitus Impairs LH-LHCGR Signaling in Ovary and Decreases Female Fertility in Mice.**
Jaewang Lee, Jihyun Kim, Wontae Kim, Jung Won Choi, Jin Hyun Jun, Teresa K.Woodruff

**P345 - Single-Cell RNA-Seq Reveals A Highly Coordinated Transcriptional Program In Mouse Germ Cells During Primordial Follicle Formation.**
Jing Li, Yuanlin He, Tinghe Wu

**P347 - The Influence Of FSH During Bovine IVM On Lipid Storage And Metabolism.**
Maite del Collado, Gabriella M. Andrade, Alessandra Bridi, Ana Clara F. C. M. Ávila, Flávio V. Meirelles, Juliano C. da Silveira, Felipe Perecin

**P352 - Mitofusin 1 Is Required For The Oocyte-Granulosa Cell Communication That Regulates Oogenesis.**
Thiago S. Machado, Karen F. Carvalho, Bruna M. Garcia, Amanda F. Zangirolamo, Carolina H. Macabelli, Fabrícia H C. Sugiyama, Mateus P. Grejo, José Djaci Augusto Neto, Fernanda K S. Ribeiro, Fabiana D. Sarapião, Katiane Tostes, Anand D. Pandey, Flávio V. Meirelles, Francisco E G. Guimarães, Marcelo M. Seneda, Marcos R. Chiaratti

**P353 - Performance Of Brazilian Senepol Donors After OPU and IVC: Oocyte Recovery Rates.**
Aline S. Camargos, Ana Paula A. Pires, Graziela Tarôco, José Renato Chiari, Roberta R. Silva, Bruna K. Cirilo

**P356 - Discovery of Large Quantity of Acanthocytes in Ovarian Follicular Fluids of the Infertility Patients.**
Ping Xia

**P358 - Cytoplasm Lipid Can Be Modulated By CAY10499 Through HSL Pathway And Related With Mitochondrial Function In Porcine In Vitro Matured Oocytes.**
Qingrui Zhuan, Haojia Ma, Jing Chen, Yuxi Luo, Yan Luo, Lei Gao, Yunpeng Hou, Shien Zhu, Xiangwei Fu

**P361 - ZIM2, a KRAB Domain-Containing Zinc Finger Protein, Is Abundantly Expressed In Bovine Oocytes And Early Embryos.**
Mingxiang Zhang, Jaelyn Z. Current, Jianbo Yao

**P364 - Cumulus-Oocyte Communications And Partnership: Roles Played By The Fragile-X Related Proteins.**
Karen Nenonene, Alexandre Bastien, Jennifer Mckey, Blanche Capel, Isabelle Gilbert, Edward William Khandjian, Robert Viger, Claude Robert

**P366 - Anethole And Robinin Improves Follicular Morphology During Vitrification Of Ovine Ovarian Tissue.**
Maria L. G. Santos, Daniele C. C. Brito, Yago P. Silva, Renato F. Silva, Francielli W. S. Cibin, Claudio C .Campello, Benner G .Alves,

Valdevane R. Araújo, Francisco C. L. Pinto, Otília D. L. Pessoa, José R. Figueiredo, Ana Paula D. L. Rodrigues

**P370 -** Distinct Spatial Localization of the Filopodial Regulator, MYO10, Suggests a Role in the Formation of the Transzonal Projections Coupling Granulosa Cells to the Growing Oocyte.
Sibat Anam, Sofia Granados Apirici, Qin Yang, Flora Crozet, Marie-Emilie Terret, Hugh J. Clarke

**P372 -** Regulation Of The Porcine Oocyte Maturation By RSPO2-WNT Signaling.
Dong Jin Oh, Seon-Ung Hwang, Junchul David Yoon, Mirae Kim, Sang-Hwan Hyun

## MEIOSIS/FERTILIZATION

**P374 -** Role Of Origin Recognition Complex Subunit 4 (ORC4) Protein In Erythroblast Enucleation On Murine Erythroleukemia (MEL).
Anna Ung, William S. Ward

**P376 -** Novel Splice Variant Of Slo1 Channel Represents A Calcium-Sensitive Regulatory Subunit Of KSper Channel In Human Sperm.
Lenka Vyklicka, Benjamin Slobodnik, Polina V.Lishko

**P380 -** Cyclin B2 Is Required For Progression Through Meiosis In Mouse Oocytes.
Enrico Maria Daldello, Xuan Luong, Cai-Rong Yang, Jonathan Kuhn, Marco Conti

**P388 -** Sperm Mitochondrial DNA Biomarkers And Couple Fecundity: The Longitudinal Investigation Of Fertility And The Environment (LIFE) Study.
Allyson J. Rosati, Nicole Brandon, SL Mumford, EF Schisterman, Brian W. Whitcomb, Richard Pilsner

**P390 -** Membrane Raft-Associated Src Family Kinases (SFK) Regulate Sperm Acrosome Reaction in Chickens.
Chathura Priyadarshana, Rangga Setiawan, Naoto Ishikawa, Atsushi Tajima, Alexander Travis, Atsushi Asano

**P391 -** New Sub-Cellular Compartmentalization Of cAMP-Specific Phosphodiesterase 8A In Ovarian Follicular Cells.
Amel Lounas, Nathalie Vernoux, Marc Germain, Marie-Eve Tremblay, François J. Richard

**P393 -** Dynamics Of The Protein Modification During Sperm Capacitation In Differential Male Fertility.
Yoo-Jin Park, Won-Ki Pang, Do-Yeal Ryu, Ji-Hyun Son, Md Saidur Rahman, Won-Hee Song, Myung-Geol Pang.

**P397 -** Pannexin 1 Hemichannels And Their Effect On Bovine Oocyte Maturation And Development.
Zachary T. Dye, Paul W. Dyce

**P402 -** Destruction Dynamic Of Securin In Mammalian Meiosis I.
Lenka Radonova, Michal Skultety, Martin Anger

**P404 -** Withdrawn

**P409 -** The Addition Of Conjugated Linoleic Acid During In Vitro Maturation Modulates The Oocyte Gene Expression Of Genes Related To Lipid Metabolism In Bovine.
Jennifer Cardoso Couto, Gabriela Azenha Milani Soriano, Adriano Felipe Mendes, Anthony Castilho, Ines Cristina Giometti, Lauren Chrys Soato Marin Schaffer, Caliê Castilho

**P413 -** Copper Supplementation During In Vitro Maturation Of Porcine Oocytes Improves Nuclear And Cytoplasmic Maturation.
Hyerin Choi, Sang-Hwan Hyun

## PREIMPLANTATION DEVELOPMENT

**P417 -** Interleukin-6 Increases Inner Cell Mass And Hypoblast Cell Numbers In Bovine Blastocysts.
Lydia K. Wooldridge, Sally E. Johnson, Alan D. Ealy

**P419 -** Effect Of Fatty Acids On Early Development Of Bovine Preimplantation Embryos.
Natsuko Emura, Shiho Kusanagi, Yuriko Saito, Ruri Miura, Ken Sawai

**P426 -** Duration Of Gonadotropin Support Influences Follicular Growth And Oocyte Competence In Prepubertal Calves.
Ana Rita T. Krause, Fernanda F C. Dias, Gregg P. Adams, Reuben J. Mapletoft, Jaswant Singh

**P436 -** Beneficial Effects Of N-Acetylcysteine Supplementation On The Development Of Toluene-Exposed Mouse Preimplantation Embryos In Splitted Monozygotic Twin Embryos Model.
Jin Hyun Jun, Jung Eun Park, Yoon Ji Choi, Jihyun Kim, Wontae Kim, Jung Won Choi, Jaewang Kim

**P439 -** The Degradation of CITED2 Is Important for Early Embryonic Development in Mouse.
Juan Lin, Yuan Fang, Shenming Zeng

**P441 -** Extracellular Vesicles from the Uterine Microenvironment and Polyamines in Embryo Dormancy.
Ranran Cheng, Weimin Liu, William S.B. Yeung

**P447 -** H2A Variants Are Involved In Reprogramming Of Gene Expression In Preimplantation Embryos And Primordial Germ Cells.
Dai Tsukioka, Fugaku Aoki

**P448 -** Cytokine Supplementation Improves The In Vitro Culture Of Bovine Embryos.
Katy S. Stoecklein, M. Sofia Ortega, Lee Spate, Thomas E. Spencer, Randall S. Prather

**P452 -** Effects Of Embryo Aggregation On Preimplantation Development And Mitochondrial Function Of Porcine Embryos.
Sanghoon Lee, Pil-Soo Jeong, Mun-Hyeong Lee, Hyo-Gu Kang, Hae-Jun Yang, Jae-Jin Cha, Seon-A Choi, Seung Hwan Lee, Young-Ho Park, Jong-Hee Lee, Bong-Seok Song, Bo-Woong Sim, Sun-Uk Kim

**P457 - Elongating Pig Conceptuses Utilize Glucose via Glycolytic Branching Pathway, and Compensate for the Decrease in Available Pyruvate by Utilizing Glutaminolysis to Provide Carbon for the TCA Cycle Anaplerotic Pathway.**
Heewon Seo, Avery C. Kramer, Bryan A. Mclendon, Guoyao Wu, Robert C. Burghardt, Fuller W. Bazer, Greg A. Johnson

**P459 - Porcine Conceptuses Differentially Metabolize Glucose and Fructose to Produce Pyruvate and Lactate.**
Avery C. Kramer, Heewon Seo, Bryan A. McLendon, Guoyao Wu, Robert C. Burghardt, Fuller W. Bazer, Gregory A. Johnson

**P465 - Medium Renewal On Day 3 And Its Effect On Blastocyst Formation: A Randomized Retrospective Research Study.**
Dorina Dulaj, Sara Cnudde, Alanna White, Sule Dogan, Fang Li, Michael Fakih, Nicholas Shamma, Ahmad Hammoud, Iqbal Khan

**P468 - Correlation Analysis Between C Natriuretic Peptide And Pregnancy Outcome.**
Lidan Guo, Weina Yang, Donghui Huang

**P470 - Evaluating CRISPR/Cas9 Guide RNA Formulations for Gene Editing Efficiency in Rhesus Macaque Pre-Implantation Embryos.**
John Statz, Fernanda de Carvalho, Cathy Ramsey, Trevor McGill, Martha Neuringer, Carol Hanna, Jon Hennebold

**P473 - EPGN Improves Preimplantation Embryo Development Of Porcine Oocyte.**
Ga-Hye Kim, Sang-Hwan Hyun

## FEMALE REPRODUCTIVE TRACT/IMPLANTATION

**P478 - Prediction Of Implantation Competence Of Pre-Implantation Mouse Embryos By Time Lapse-Monitoring And Outgrowth Assay.**
Jaewang Lee, Jihyun Kim, Wontae Kim, Jung Won Choi, Jin Hyun Jun

**P481 - Amazingly Active Peristaltic Movements And Fluid Production Of The Mouse Oviduct: Their Roles In Fluid And Sperm Transport And Fertilization.**
Toshiaki Hino, Ryuzo Yanagimachi

**P484 - PRNP Genome Engineering In Cattle Using All-In-One CRISPR/Cas9 Piggybac Vector.**
Kyeong-Min Kim

**P486 - Reliability of ISGs Expression in Peripheral Blood Leukocytes for Prediction of Gestational Conditions in Embryo Transferred Cows.**
Keiichiro Kizaki, Hitomi Yoshino, Toh-ichi Hirata, Kosuke Iga, Hideo Matsuda, Tadayuki Yamanouchi, Yutaka Hashiyada, Kei Imai, Toshina Ishiguro-Oonuma, Toru Takahashi, Kazuyoshi Hashizume

**P487 - Osteopontin Modulates Gene Expression In Peri-Implantation Trophoblast.**
John D. Aplin, Stephane Berneau, Susan J. Kimber, Melissa Westwood, Daniel R. Brison, Peter T. Ruane

**P491 - Uterine Epithelial Deletion of Gp130 Causes Implantation Failure Due To The Downregulation Of Progesterone Receptor And Snail Family Transcriptional Repressor 1 In Mice.**
Takafumi Namiki, Jumpei Terakawa, Takiko Daikoku, Junya Ito, Naomi Kashiwazaki

**P495 - Genome-Wide siRNA Screen Reveals the Human Decidualization Genetic Network.**
Liang Ma, Meade Haller, Yan Yin

**P498 - Effect of Preovulatory Estradiol and Postovulatory Progesterone on the Establishment of Pregnancy in Beef Cattle.**
Lauren A. Ciernia, Michael F. Smith, George A. Perry, Jerica J. Rich, Emmalee J. Northrop, Stephanie D. Perkins, Jonathan A. Green, Abby L. Zezeski, Thomas W. Geary

**P505 - Menopause Drives Malignant Transformation Of Endometrial Hyperplasia.**
Jumpei Terakawa, Vanida A. Serna, Makoto M. Taketo, Adrian A. Suarez, Takeshi Kurita

**P508 - Effects of IL-1beta In Human Trophoblast Cells.**
Seung Hye Paek, Seoungo Jung, Jinyoung Kim

**P511 - Histological Changes In Oviducts And Uterine Horns Of Adult Domestic Cats During The Estrous Cycle.**
Julie Lamy, Pierre Comizzoli, Adrienne E. Crosier

**P514 - C/EBPbeta, A Transcription Factor, Genome-Widely Regulates Gene Expression Through H3K27ac Modifications During Decidualization Of Human Endometrial Stromal Cells (ESCs).**
Haruka Takagi, Yuichiro Shirafuta, Ryo Maekawa, Hiroshi Tamura, Norihiro Sugino

**P515 - The Role And Regulation Of Peroxisome Proliferator-Activated Receptor Gamma Coactivator 1-Alpha (PGC1A) In Decidualization Of Human Endometrial Stromal Cells.**
Haruka Takagi, Isao Tamura, Yuichiro Shirafuta, Ryo Maekawa, Hiroshi Tamura, Norihiro Sugino

**P519 - Regulatory Role Of Oncostatin M (OSM) And Amphiregulin (AREG) In The Response Of Human Trophoblasts To Pro-Inflammatory Signals.**
Marion Ravelojaona, Julie Girouard, Céline Van Temsche, Cathy Vaillancourt, Carlos Reyes-Moreno

**P524 - PSAT1, Present In The Uterine Luminal Fluid In Cattle, Alters The Endometrial Cell Transcriptome And Blastocyst Quality In Vitro.**
Tiago Henrique De Bem, Haidee Tinning, Niamh Forde

**P530 - Morphometric Evaluation Of The Ovaries, Preantral Follicles And Oocytes Of Six-Banded Armadillos (Euphractus Sexcinctus).**
Andreia Maria Da Silva, Andreza Vieira Brasil, Luana Grasiele Pereira Bezerra, Erica Camila Gurgel Praxedes, Samara Sandy Jerônimo Moreira, Lívia Batista Campos, Alexandre Rodrigues Silva

**P533 - Effects Of Progesterone And Interferon Tau On Polyamine Synthesis And Secretion In The Ovine Uterus.**
Katherine M. Halloran, Robyn M. Moses, Claire Stenhouse, Guoyao Wu, Fuller W. Bazer

**P535 - Decreased Live Birth Rate in Mouse Surrogate Pregnancy Receiving Embryos Generated by In-Vitro Fertilization (IVF) Compared to Natural Conception.**
Royce Harner, Zhuoni Xiao, Rhodel Simbulayan, Priyanka Manadhar, Elena Ruggeri, Xiaowei Luo, Annemarie Donjacour, Emin Maltepe, Adrian Erlebacher, Paolo Rinaudo

**P537 - Evaluating The Endometrial Transcriptome Following Controlled Ovarian Stimulation In The St. Kitts African Green Monkey (Chlorocebus Sabeus).**
Kimicia Z. Isaac, Shervin A. Liddie, Matthew S. Lawrence, John J. Callanan, Pompei Bolfa, Ronan Whiston, Aspinas Chapwanya

**P540 - Involvement Of Estrogen Receptor  With Cell Proliferation During Postpartum Uterine Regeneration Period.**
Tomomi Sato, Marina Miyamori, Yukari Yamashita

**P543 - Scanning Electron Microscopy Of The Surface Epithelium Of The Bovine Endometrium.**
Fayth G. Kumro, Lauren A. Ciernia, Joao G.N. Moraes, Martin Schauflinger, Scott E. Poock, Matthew C. Lucy

**P546 - The Evidence Of Heterochromatic Of Endometrial Glandular Epithelium In A Case Of Equine Endometrosis.**
Malgorzata Domino, Anna Krajewska, Lukasz Zdrojkowski, Maria Sady, Zdzislaw Gajewski

**P548 - Comparison Of Circulating And Uterine Microrna In Pregnant And Non-Pregnant Beef Heifers.**
Savannah L. Speckhart, Andi Lear, Rhianna Wallace, Jon A. Green, Michael F. Smith, S. Gunewardena, Lane Christenson, Ky G. Pohler

**P554 - Pig Conceptuses Secrete Interferon Gamma To Recruit T-Helper And T-Regulatory Cells To The Endometrium To Contribute To A Controlled Inflammatory Environment That Supports Implantation.**
Bryan A. Mclendon, Heewon Seo, Avery C. Kramer, Guoyao Wu, Robert C. Burghardt, Fuller W. Bazer, Gregory A. Johnson

**P557 - Müllerian Inhibiting Substance And Calcitriol Induce Growth Inhibition And Apoptosis Of Human Endometrial Stromal Cells In Endometriosis.**
Seung Ju Oh, Jieun Kang, In-Bai Chung, Hyuck Dong Han, Yeon Soo Jung

**P561 - Comparison Of The Pregnancy Rates According To The Stage Of Development Embryos Produced In Vitro And Transferred Into Brahman Recipients.**
Erly Luisana Carrascal-Triana, Juan Andres García-Jimenez

**P564 - Differential Response Of Bovine Endometrium Ipsilateral And Contralateral To The Corpus Luteum To A Day 14 Conceptus.**
Sandra Bagés-Arnal, José M. Sánchez, Beatriz Fernández-Fuertes, Michael Mcdonald, Susanta K. Behura, Tom E. Spencer, Trudee Fair, Pat Lonergan

**P569 - Integrated Analysis Of mRNA and microRNA Expression In The Bovine Oviduct: Can We Pinpoint Embryo Receptivity?**
Angela M. Gonella-Diaza, Ricardo Perecin Nociti, Gabriella Mamede Andrade, Everton Lopes, Juliano Coelho Da Silveira, Mario Binelli

**P571 - Effects Of The Estrous Cycle And Early Pregnancy On Circulating Immune Cells In Dairy Heifers.**
Neha Oli, Frankie Gambonini, Joy L. Pate, Troy L. Ott

**P572 - Significance Of Adrenomedullin And Pinopodes During Endometrial Receptivity.**
Kelsey E. Quinn, Brooke C. Matson, Kathleen M. Caron

## PREGNANCY/MYOMETRIUM

**P575 - The Impact Of Oxygen On Early Trophoblast Column Establishment.**
Alexander G. Beristain, Jenna Treissman, Hoa T. Le

**P577 - Characterization Of Natural And Synthetic Molecules To Reduce Inflammation Associated With Gestational Complications.**
Jovane Hamelin Morrissette, Julie Girouard, Gervais Bérubé, Carlos Reyes-Moreno

**P585 - Normalizing The Immune System Of The Rat For Analysis Of Immune Cell Function At The Maternal-Fetal Interface.**
Regan L. Scott, Michael J. Soares

**P589 - CITED2 Disruption in the Mouse and Rat Exhibit Distinct Developmental Phenotypes.**
Marija Kuna, Pramod Dhakal, Lindsey N. Kent, Khursheed Iqbal, Michael J. Soares

**P592 - ASCL2 is Essential for Invasive Trophoblast Lineage Development.**
Kaela M. Varberg, Regan L. Scott, Masanaga Muto, Khursheed Iqbal, Keisuke Kozai, Elin Grundberg, Michael J. Soares

**P594 - The Inhibitory T Cell Co-Receptor Molecule B7-H4 (VTCN1) Inhibits Invasion And Promotes E-Cadherin Expression In A Stem Cell-Derived Model Of Primitive Human Trophoblast.**
Jie Zhou, Yuchen Tian, Toshihiko Ezashi, Danny Schust

**P597 - Matrix Metalloproteinases 2 and 9 Enhance the Contractile Response to Oxytocin in Human Uterine Tissue.**
Craig Ulrich, Veronica Arinze, Heather Burkin

**P603 - New Insights into Gestational Endocrinology of the Mare.**
Shavahn C. Loux, Barry A. Ball

**P606 - Uterine Glucocorticoid Signaling is Necessary for Placental Functions and Fetal Growth.**
Shannon Whirledge, Andreanna Burman, Edwina Kisanga, Seth Guller

**P610 -** Bouncing Back: Macrophage-Associated Immune Signaling During Involution Of The Postpartum Uterus.
Sarah J. Bacon, Kristina M. Ramsden, Rebecca Ortiz, Banna Hussain

## TRANSLATIONAL

**P613 -** Role of PAX2 In The Development Of Fallopian Tube Derived High Grade Serous Ovarian Cancer.
Jose A. Colina, Peter Varughese, Angela Russo, Joanna E. Burdette

**P615 -** A Calcium-Dependent Phospholipase A2 (cPLA2) Expression Is Regulated By MIG-6 During Endometrial Tumorigenesis.
Tae Hoon Kim, Hanna E. Teasley, Munseok P. Jeong, Jae-Wook Jeong

**P617 -** Defining A Proteomic Biomarker Panel For The Noninvasive Diagnosis Of Endometriosis.
Genna E. Wilber, Gregory W. Burns, Irving E. Vega, Asgerally T. Fazleabas

**P619 -** Identification Of A Novel Metastasis Suppressor Of Mouse Ovarian Tumor Cells.
Naofumi Miwa, Mayu Hanaue

**P623 -** Rucaparib Is Not A Simple Chemotherapeutic Panacea: Findings Of A Graduate Toxicology Course.
Kenneth L. Campbell

## CONTRACEPTION

**P632 -** Investigation Of Novel Male Reproductive Tract-Specific Genes As Contraceptive Targets.
Kaori Nozawa, Qian Zhang, Haruhiko Miyata, Zhifeng Yu, Darius J. Devlin, Ryan M. Matzuk, Masahito Ikawa, Martin M. Matzuk

## EDUCATION/ COMMUNICATION/ RESEARCH RESOURCES

**P635 -** Revisiting Third Cerebroventricle Access In Cattle For Study Of Hypothalamic Function: Technical Approach, Experimental Applications, And Physiological Pitfalls.
Meaghan M. O'Neil, Sarah M. West, Rodolfo C. Cardoso, Gary L. Williams

**END FRIDAY POSTERS**

## POSTER SESSION B

**SATURDAY, JULY 20, 2019**
**8:00 – 10:00 AM**

### DEVELOPMENT/EVOLUTION

**P1 -** The Remain of the Male: Unexpected Contribution of the Male Tract Mesenchyme to the Female Reproductive Tract.
Humphrey Hung-Chang Yao

**P4 -** Sex Determination in Xenopus.
Danielle C. Jordan, Benjamin J. Evans, Marko E. Horb

**P6 -** Lats1 and Lats2 are Required for the Maintenance of Pluripotency in the Mullerian Mesenchyme.
Guillaume St-Jean, Mayra Tsoy, Adrien Levasseur, Martin Morin, Charlène Rico, Marilène Paquet, Nicolas Gévry, Alexandre Boyer, Derek Boerboom

**P8 -** Single-Cell Sequencing Of Neonatal Uterus Reveals An Endometrial Stromal Progenitor Indispensable For Female Fertility.
H. Duygu Saatcioglu, Motohiro Kano, Heiko Horn, Lihua Hang, Samore Wesley, Nicholas Nagykery, Minsuk Hyun, Rana Suliman, Joy Maliackal Poulo, Jennifer Hsu, Caitlin Sacha, Dan Wang, Guangping Gao, Esther Oliva, Mary E. Sabatini, Patricia K. Donahoe, David Pepin

**P10 -** Multilayer Programming Via RB1 Guides Male Germline Stem Cell Establishment.
Guihua Du, Melissa J. Oatley, Yang Qi-En, Xin Wu, Jon M. Oatley

**P13 -** Single-Cell RNA Sequencing Reveals Similarities Between Bovine and Human Primordial Germ Cell Development.
Delia A. Soto, Pablo J. Ross

**P15 -** Development of In Vitro Maturation Rate in Korean Crossbreed Goat
Dayeon Jeon, Sang Hun Lee, Jinwook Lee, Kwan-woo Kim, Yeoung-Gyu Ko, Dong-Kyo Kim, Sung-Woo Kim, Sung-Soo Lee

**P17 -** Transcriptional Networks Of Mammalian Female Reproductive Tract Development.
Alejandra Elder Ontiveros, Rachel D. Mullen, Richard R. Behringer

**P20 -** Maternal Influenza A Virus Infection Decreases The Expression Of T Cell Differentiation Genes In The Murine Fetal Thymus.
Thomas R. Hansen, Hana Van Campen, Jeanette V. Bishop, Gerrit J. Bouma, Quinton A. Winger, Leticia D P Sinedino, Christie E. Mayo, Richard A. Bowen

**P23 -** The Ancient NEMP Protein Family Supports Metazoan Fertility, Viability, And Mechanical Resistance Of The Nuclear Envelope Via Interactions With LEM Domain Proteins.
Helen McNeill, Andrea Jurisicova, Yonit Tsatskis, Robyn Rosenfeld, Juli Brill, Xu Sun, Xian Wang, Curtis Boswell, Rod Bremner

**P26 -** Equine Preantral Follicle Population and Density.
Benner G. Alves, Kele A. Alves, Gustavo D. Gastal, Melba O. Gastal, Jose R. Figueiredo, Eduardo L. Gastal

**P28 - Evaluation Of Cryopreserved Murine Testicular Tissue Following Post-Thaw In Ovo CAM Culture.**
Arpita Mohapatra, Patricia Byrne, Jonathan Molina, Thomas Jensen

**P30 - Highly Profiling Human Sperm Purification Using Sperm Sorting Chip With Cervix Mucous Viscosity.**
Jung Kyu Choi, Jae Ho Lee

**P33 - Ovarian Influences On Postnatal Mouse Uterine Development.**
Jessica Milano-Foster, Pramod Dhakal, Thomas E. Spencer

## ENDOCRINOLOGY

**P36 - Effect of OP and BPA On Calcium Signaling In Cardiomyocyte Differentiation Of Mescs.**
Jae-Hwan Lee, Seon Myeong Go, Yeong-Min Yoo, Eui-Bae Jeung

**P40 - Effect Of Steroid Hormone On The Calcium-Processing Proteins In The Immature Rat Brain.**
Seon Myeong Go, Seon Young Park, Jae-Hwan Lee, Eui-Bae Jeung

**P46 - Study On The Role Of Kisspeptin In The Regulation Of Motility Spectrum Of Ejaculated Spermatozoa Of The Buffalo Bull.**
Muhammad Shahab, Lubna Khan, Shazia Shamas, Hira Zubair, Riffat Bano, Syed Murtaza H. Andrabi, Hussain Ahmad

**P48 - Steroid Receptor Expression And Cellular Proliferation In The Female Guinea Pig Reproductive Tract.**
Amy E. Flowers, Alan J. Conley, Brian Reid

**P51 - Luteinizing Hormone Actions On Primate Follicular Development And Function During Matrix-Free Three-Dimensional Culture.**
Shally N. Wolf, Maralee Lawson, Olena Tkachenko, Cecily Bishop, Jing Xu

**P54 - Gestational Endocrinology In Three Cetaceans; Killer Whales, Belugas And Bottlenose Dolphins.**
Erin Legacki, Todd Robeck, Karen Steinman, Alan Conley

**P56 - Differences In Relative Abundance Of Gnrh-I And Gnrh-II In Granulosa Cells Of Bovine Antral Follicles At Specific Stages Of Follicular Development.**
Jerica J J. Rich, Emmalee J. Northrop, Kaitlin M. Epperson, Saulo Menegatti Zoca, Stephanie D. Perkins, Russell F. Daly, Robert A. Cushman, George A. Perry

**P60 - Induction Of Ovulation In Donkeys Using GnRH or hCG.**
Ava Kent, Shelby Nester, Erik Peterson, Robert Gilbert, Hilari French

**P62 -** Withdrawn

**P64 - Endocrine Function Of The Rat Leydig Cells Is Most Compromised By Morning Stress.**
Tatjana S. Kostic, Marija Lj. Medar, Aleksandar Z. Baburski, Silvana A. Andric

**P68 - The Farnesoid X Receptor (FXR) Is Involved In Ovulatory Response To Superstimulation.**
Ikuo Tomioka, Yuka Tanahashi, Kentaro Takae, Kanako Morohaku, Hiroshi Fujii

## OVARIAN BIOLOGY

**P70 - Exploring Necroptosis in Primate Luteolysis: A Role for Ceramide.**
Konstantin Bagnjuk, Jan Bernd Stöckl, Thomas Fröhlich, Georg Josef Arnold, Rüdiger Behr, Ulrike and Dieter Berg, Lars Kunz, Cecily Bishop, Jing Xu, Artur Mayerhofer

**P72 - Transcriptomic Analysis Of Major Signaling Pathways Regulated By Gonadotropins In The KGN Line Of Human Ovarian Granulosa Tumour Cells.**
Patricia Gabrielle Tremblay, Marc-André Sirard

**P75 - In Vitro Effects Of Follicular Stimulating Hormone (FSH) On Ovine Luteal Endothelial Cells (LEC); Implications For Regulation Of Angiogenesis And Blood Vessel Functions.**
Anna T. Grazul-Bilska, Thanya Bunma, Chainarong Navanukraw, Dale A. Redmer, Sheri T. Dorsam

**P81 - Effects Of Hypoxia On Agonist-Induced Progesterone Synthesis In Fish Oil Supplemented Bovine Luteal Cells.**
Brian P. Krum, Patrick D. Burns

**P85 - The Role Of FGF2/FGFR1 Signaling On Cumulus-Oocyte Complexes During In Vitro Maturation.**
Chao Du, Hua Guo Hua

**P90 - Synthetic Agonist Of PPARG Inhibits Dominant Follicle Development In Cattle.**
Juliana Germano Ferst, Rogério Ferreira, Monique Tomazele Rovani, Andressa Minussi Pereira Dau, Alfredo Quites Antoniazzi, Bernardo Garziera Gasperin, Vilceu Bordignon, Dimas Oliveira, Paulo Bayard Dias Gonçalves

**P94 - Neuregulin-1β (NRG1β), An Anti-Inflammatory Peptide, Signaling In Granulosa Cell (GC) Physiology.**
Indrajit Chowdhury, Saswati Banerjee, Wei Xu, Sameer Mishra, Winston E. Thompson

**P96 - Doxorubicin Obliterates Female Mouse Ovarian Reserve Through Promoting Primordial Follicle Atresia And Overactivation.**
Yingzheng Wang, Mingjun Liu, Sarah B. Johnson, Gehui Yuan, Alana K. Arriba, Maria E. Zubizarreta, Shuo Xiao

**P100 - Early Reduced Growth Rates Predict Delayed Or Altered Puberty And May Adversely Affect Reproductive Longevity In Beef Heifers.**
Jessica A. Keane, Sarah Nafziger, Mohamed A. Abedal-Majed, Sarah Tenley, Mariah Hart, Jeff Bergman, Scott Kurz, Jennifer Wood, Adam Summers, Andrea S. Cupp

**P103 - Integrated Analysis Of Genome-Wide Gene Expression And Histone Modification In Mouse Granulosa Cells Undergoing Luteinization During Ovulation.**
Yuichiro Shirafuta, Isao Tamura, Haruka Takagi, Ryo Maekawa, Hiroshi Tamura, Norihiro Sugino

**P106 - Do Activin A And FOXL2 Co-Regulate Gene Expression In Ovarian Somatic Cells?**
Andrew J. Childs, Pablo Hurtado Gonzalez, Rebecca Sumner

**P110 -** Ovarian Dynamics And Gonadotrophins During Emergence Of The Dominant Follicle In Postpartum Lactating Versus Non-Postpartum Cycling Mares.
Marilia Pastorello, Melba O. Gastal, Gabriella K. Piquini, Daniel B. Godoi, Eduardo L. Gastal

**P114 -** Expression And Regulation Of Cysteine Rich 61-Connective Tissue Growth Factor-Nephroblastoma Overexpressed (CCN1) In Ovarian Adenocarcinoma (OVCAR8) Cells.
Sarah Piet, Sarah R. Walker, Paul C. Tsang

**P118 -** Applyig Biomimetic Rigidity Via Alginate Hydrogel For In Vitro Domestic Cat (Felis Catus) Ovarian Follicle Culture In A Microfluidic Chip.
Jennifer B. Nagashima, Helim Aranda-Espinoza, Rami El Assal, Utkan Demirci, Nucharin Songsasen

**P120 -** To Study The Association Of ABO Blood Type With Ovarian Reserve In North Indian Women With Subfertility.
Indu Lata, Prabhakar Mishra

**P122 -** Ovine And Bovine Granulosa Cells Respond Differently To Fibroblast Growth Factor 2.
Lauriane Relav, El Arbi Abulghasem, Christopher A. Price

**P125 -** Gonadotropin And Oxygen Regulation Of Leukemia Inhibitory Factor Production By Rhesus Macaque Non-Luteinized Granulosa Cells.
Heather A. Talbott, Adam J. Krieg, Jon D. Hennebold

## REPRODUCTIVE AGING

**P127 -** Expression Of Terra Differs In Early Bovine Embryonic Development In A Stage-Dependent Manner- A Possible Link To Maternal Ageing.
Pawel Kordowitzki, Isabel López De Silanes, Maria Blasco, Dariusz Skarzynski

**P131 -** Effect Of Aging On Meiosis Progression, Developmental Competence And DNA Double-Strand Breaks In Mouse Oocytes.
Gao Lei, Jia Gongxue, Huang Zhengyuan, Yue Mingxing, Zhang Chao, Zhu Shien, Fu Xiangwei

**P135 -** Poor Ovarian Reserve Is Associated With The Increased Levels Of FBXO31 In Human Granulosa Cells.
Yonglian Lan, Feiyan Zhao, Zhimin Xin, Shuyu Wang, Xiaokui Yang

**P137 -** Kinetics Of FSH Glycoform Interactions With The FSHR And Activation Of Intracellular Signaling Events.
Xiaoying Hou, Vladimir Y. Butnev, Pan Zhang, Jeffrey V. May, George R. Bousfield, John S. Davis

**P139 -** A-To-I RNA Editing Landscape During Human Folliculogenesis Reveals Age Associated Defects In RNA Editing.
Nehemiah S. Alvarez, Pavla Brachova, Lane K. Christenson

## ENVIRONMENT

**P144 -** Calbindin-D9k Prevent Endoplasmic Reticulum Stress Induced Pancreatic Beta Cell Death.
Dinh Nam Tran, Changhwan Ahn, Jae-Hwan Lee, Yeong-Min Yoo, Eui-Bae Jeung

**P146 -** Propylparaben Exposure Affects Mouse Cultured Antral Follicle Growth And Steroidogenesis.
Ayelet Ziv-Gal, Kristene Gedye, Zelieann Craig, Arnon Gal

**P148 -** Prenatal Exposure To An Environmentally Relevant Phthalate Mixture Alters The Ovarian Steroidogenic Pathway In The F1, F2, And F3 Generations Of Adult Cycling Female Mice.
Emily Brehm, Kathleen N. Leon, Changqing Zhou, Liying Gao, Jodi A. Flaws

**P150 -** The Role Of Beta-Carotene Metabolism In Maternal Cardiac Remodeling: Findings In Mice Lacking Beta-Carotene 9',10'-Oxygenase (BCO2).
Chelsee Holloway, Youn-Kyung Kim, Loredana Quadro

**P152 -** Iodoacetic Acid Inhibits Follicle Growth And Alters Expression Of Genes That Regulate Apoptosis, The Cell Cycle, And Ovarian Steroidogenesis In Mouse Ovarian Follicles.
Andressa Gonsioroski, Daryl Meling, Liying Gao, Michael Plewa, Jodi Flaws

**P153 -** Mitotic And Meiotic Germ Cells In The Developing Ovary Are Equally Sensitive To Benzo(A)Pyrene-Induced Germ Cell Death.
Kelli F. Malott, Melody Lee, Laura Ortiz, Ulrike Luderer

**P155 -** Withdrawn

**P157 -** Gestational Diabetes-Associated Epigenetic Modifications Involved In Developmental Origins Of Ovarian Dysfunction.
Olivia Nave, Christina Seger, Aritro Sen

**P161 -** Withdrawn

**P164 -** Combined Therapeutic Approach Of Interferon-Tau (IFNT) And Arginine Decreased Body White-Fat Gain And Adiposity In Obese Zucker Diabetic Fatty (ZDF) Rats.
Erin A. Posey, Guoyao Wu, Fuller W. Bazer

**P165 -** Successful Detection Of Marijuana-Derived Phytocannabinoids In Human Follicular Fluid By Mass Spectrometry.
Brandon A. Wyse, Noga Fuchs Weizman, Miranda Defer, Mugundhine Sangaralingam, Sahar Jahangiri, Isabel Wiesenfeld, Clifford L. Librach

**P167 -** Oxidative Stress Alters The Expression Profile Of Dppa3 In Oocytes And Decreases Di-Methylation Of Histone H3K9 In The Pre-Implantation Embryo.
Alison F. Ermisch, Kelsey R. Timme, Jennifer R. Wood

**P169 -** Ovulatory Prostaglandin Synthesis And Metabolism Is Altered In Human Granulosa Cells By An Environmentally Relevant Phthalate Metabolite Mixture.
Patrick R. Hannon, James W. Akin, Thomas E. Curry, Jr

**P172 -** Epigenetic Reprogramming And Transgenerational Inheritance Of Epimutations In Medaka.
Ramji K. Bhandari, Xuegeng Wang

**P175 -** Impact Of Heat-Induced Hyperthermia On Certain Proteins And Cytokines In Periovulatory Follicle Of Lactating Dairy Cows.
Louisa A. Rispoli, Rebecca R. Payton, Chelsea Abbott-Finn, Ky G. Pohler, Lannett Edwards

**P177 -** Paternal Di(2-Ethylhexyl) Phthalate (DEHP) Exposure Leads To Altered Developmental Gene Expression In Embryos.
Chelsea Marcho, Alex Shershebnev, Haotian Wu, Alexander Suvorov, Jesse Mager, J. Richard Pilsner

**P179 -** Neonatal Genistein Exposure Results In Uterine Implantation Deficits Due To Impaired Gland Formation And Function.
Elizabeth Padilla-Banks, Wendy N. Jefferson, Lindsey Royer, Ripla Arora, Carmen J. Williams

**P183 -** Human Relevant Level Of Bisphenol A And Di-(2-Ethylhexyl) Phthalate Inhibit Steroidogenesis In MLTC1 Cells Line.
P K. Chaturvedi, Pramod Kumar, Surabhi Gupta, R S Sharma

## GENOMICS/EPIGENETICS AND OTHER GENE REGULATION

**P186 -** SNF5, a SWI/SNF Chromatin Remodeling Complex Core Subunit, Is Required For Porcine Embryo Development.
Yu-Chun Tseng, Jennifer S. Crodian, Birgit Cabot, Ryan A. Cabot

**P188 -** The Accuracy Of Gene Expression In Blood To Assess Early Pregnancy And Embryo Loss In Dairy Cattle.
Irene Malo Estepa, Dayle Johnston, Michael G. Diskin, Mark A. Crowe

**P197 -** Effect Of Preservation At Freezing Or Supra-Zero Temperatures On Epigenetic Modifications And Nuclear Envelope Structure Of Oocytes' Germinal Vesicles In The Cat Model.
Pei-Chih Lee, Pierre Comizzoli

**P199 -** Characterization Of A Novel F-Box Domain Containing Gene In The Chicken Primordial Germ Cells.
Deivendran Rengaraj, Bo Ram Lee, Jae Yong Han

**P202 -** Somatic Cell Nuclear Transfer In Early Bovine Embryo Development Is Associated With Changes In Small Non-Coding RNA Species.
Jocelyn M. Cuthbert, Stewart J. Russell, Qinggang Meng, Irina A. Polejaeva, Kenneth L. White, Abby D. Benninghoff

**P205 - TET1 Regulates Expression Of Pluripotency Genes In Porcine Blastocysts By Controlling DNA Methylation Levels.**
Kyungjun Uh, Junghyun Ryu, Noah Wax, Kayla Carey, Hannah Miko, Kiho Lee

**P209 - Functional Connections Within Steroidogenic Pathway In Primary Cultures Of Bovine Granulosa Cells Investigated With PPI And Co-Expression Networks.**
Dariusz Jan Skarzynski, Malgorzta J. Wieteska, John A. Hession, Katarzyna K. Piotrowska-Tomala Karolina Piotrowska-Tomala, Agnieszka W. Jonczyk, Pawel Kordowitzki, Karolina Lukasik, Leo Creedon

**P211 - Identifying Genetic Factors That Contribute To Female Infertility In Humans.**
Karen Schindler, Katarzyna M. Tyc, Warif El Yakoubi, Jessica Landis, Yiping Zhan, Xin Tao, Richard T. Scott, Jinchuan Xing

**P214 - Gene Regulatory Networks Between Porcine Oocytes And Surrounding Cumulus Cells.**
Bailey N. Walker, Sarah Dickinson, Katelyn Kimble, Fernando Biase

**P220 - Impact Of Chronological Age On Sperm Methylome And Its Implication On Early Development.**
Oladele A. Oluwayiose, Haotian Wu, Nicole Brandon, Alexander Suvorov, Rahil Tayyab, Cynthia Sites, Richard J. Pilsner

**P223 - Sperm Protamines And Bull Fertility.**
Muhammet R. Ugur, Naseer A. Kutchy, Erika Bezerra Menezes, Asma-Ul Husna, Holly Evans, Mustafa Hitit, Abdullah Kaya, Arlindo Moura, Erdogan Memili

**P225 - Transcriptomic Profiling And Bioinformatic Analysis Of Endometriosis-Associated Ovarian Clear Cell Carcinoma.**
Kaitlyn Collins, Xiyin Wang, Chi Zhang, Doug Rusch, Aaron Buechlein, Chad Creighton, Shannon Hawkins

**P228 - TET1 Is Required For Maternal Imprint Erasure During Primordial Germ Cell Development.**
Rexxi D. Prasasya, Marisa Bartolomei

**P230 - Histone Lysine Beta-Hydroxybutyrylation, An Epigenetic Mark, Is Induced By The Ketone Body Beta-Hydroxybutyrate In Cattle Cells.**
Juliano R. Sangalli, Maite Del Collado, Rafael V. Sampaio, Juliano C. Da Silveira, Felipe Perecin, Richard M. Schultz, Pablo J. Ross, Flávio V. Meirelles

**P233 - miR-23b of Endometrial Origin: Small, Non-coding Regulator of Trophoblast Transcriptome.**
Joanna Najmula, Monika M. Kaczmarek

## STEM CELLS

**P235 - Trophoblastic Spheroid (BAP-EB) Differentiation From Human Embryonic Stem Cells.**
Si Yu Tian, Sze Wan Fong, Chao Min Yue, Andy CH Chen, Kai-Chuen Lee, William S.B. Yeung, Yin-Lau Lee

**P237 - Mobilized Peripheral Blood Mononuclear Cells Combined With Platelet-Rich Plasma Accelerates Restoration Of Cyclophosphamide-Disrupted Ovarian Function In Rats.**
Yihua Yang, Qiuyan Huang, Bo Liu, Aiping Qin, Dongbao Chen

**P244 - The Effect Of DNA Demethylation On The Differentiation Of A BMP4-Induced, In Vitro Model Of Trophoblast.**
Rowan M. Karvas, Juliann Leake, Danny J. Schust, Toshihiko Ezashi, R M Roberts, Laura C. Schulz

**P246 - Serotoninergic System On Human Amniotic Epithelial Cells (hAEC).**
Jessica Romero-Reyes, Jessica López-Jiménez, N. Fabián Díaz, Ignacio Camacho-Arroyo

**P248 - Differentiation of Neuro-organoid Derived from Pig Embryonic Stem Cell Line.**
Seon-Ung Hwang, Kiyoung Eun, Mirae Kim, Hyunggee Kim, Sang-Hwan Hyun

**P250 - Characterization Of Human Cerebral Organoids Derived From Induced Pluripotent Stem Cells.**
Kyoung-Ha So, Ga-Hey Kim, Young Seok Park, Sang-Hwan Hyun

## TESTIS/MALE GAMETOGENESIS

**P253 - Spar1 Is A Novel Transmembrane Gene Required For Acrosome Formation In Mouse.**
Julio M. Castaneda, Yuhkoh Satouh, Darius J. Devlin, Martin M. Matzuk, Masahito Ikawa

**P254 - Autophagy Core Protein ATG5 Is Required For Sperm Individualization And Normal Male Fertility In Mice.**
Qian Huang, Shiyang Zhang, Wei Li, Ling Zhang, Shizheng Song, Rex A. Hess, Zhibing Zhang

**P259 - Influence Of Epididymosome Exposure On The Developmental Potential Of Maturing Spermatozoa In The Domestic Cat Model.**
Tricia M. Rowlison, Pierre Comizzoli

**P261 - HIPK4 Is Essential For Murine Spermiogenesis.**
J. Aaron Crapster, Paul G. Rack, Zane Hellmann, Josh Elias, Jennifer Lin, Yanfeng Li, Barry Behr, James K. Chen

**P263 - Temporal-Dynamic Single-Cell Transcriptome Analyses Identify Novel Adult Spermatogonial Stem Cell States In Mouse.**
Brian P. Hermann

**P265 - Cep76 Is A Centriole-Related Gene With An Essential Role In Sperm Development.**
Brendan J. Houston, Richard Burke, Liina Nagirnaja, Alexandra Lopes, Don Conrad, Moira K. O'Bryan

**P268 - Effects Of Sertoli Cell Secreted C-Peptide On High Glucose Induced Endothelial Cell Damage.**
Jannette M. Dufour, Karl Mueller, Tanir Moreno, Gurvinder Kaur

**P271 - Acyl-Coa Synthetase 6 (ACSL6)-Mediated Activation Of DHA Is Required For Normal Spermatogenesis And Fertility In Mice.**
Benjamin J. Hale, Regina F. Fernandez, Jessica M. Ellis, Chris B. Geyer

**P277 - Mitochondria-Eating Protein Is Essential For Sperm Function, But Not Oocyte Quality, In In Vitro Fertilization.**
Makoto Orisaka, Yasuyuki Nakamura, Hirofumi Arakawa, Yoshio Yoshida

**P279 - Mitofusin2 Is Required For Male Fertility.**
Xiaoli Wang, Yujiao Wen, Jin Zhang, Shuiqiao Yuan

**P282 - Soy-Isoflavones Regulates Steroidogenic Capacity In Testes Of Male Rats At All Ages.**
Bamidele O. Jeminiwa, Rachel C. Knight, Erica M. Molina, John F. Fischer, Samantha M. Bradley, Benson T. Akingbemi

**P284 - Mrnip Is Critical For Male Meiosis And Fertility.**
Renata Prunskaite-Hyyrylainen, Julio Castañeda, Samina Kazi, Kaori Nozawa, Zhifeng Yu, Ramiro Ramirez-Solis, Martin M. Matzuk

**P287 - NANOS2 Knockout Pigs As A Model To Devise Strategies For Treating Male Infertility.**
Mariana I. Giassetti, Michela Ciccarelli, Ki-Eun Park, Bhanu P. Telugu, Jon M. Oatley

**P290 - Mining and mRNA Expression Profiling Of WD-40 Family Genes Including DDB1- And CUL4-Associated Factor Genes In The Mouse And Human Testes.**
Bhavesh Mistry, Maha Alanazi, Hana Fitwi, Olfat Alharazi, Mohamed Rajab, Abdullah Altorbag, Dilek Colak, Falah Almohanna, Abdullah Assiri

**P292 - Short-Term Treatment With mTORC1 Inhibitors Rapamycin And Everolimus Negatively Impact Male Germ Cell Differentiation.**
Oleksandr Kirsanov, Randall H. Renegar, Nicholas D. Serra, Christopher B. Geyer

**P295 - Vitrification Of Testicular Tissue From Adult Spix's Yellow-Toothed Cavies' (Galea Spixii) Using Different Cryoprotectants.**
Andreia Maria Da Silva, Ana Gloria Pereira, Erika Camila Gurgel Praxedes, Samara Sandy Jerônimo Moreira, Moacir Franco De Oliveira, Pierre Comizzoli, Alexandre Rodrigues Silva

**P298 - Patterns Of The PRAMEY Expression In The Bovine Testis And Epididymis.**
Weber B. Feitosa, Chandlar H. Kern, Wan-Sheng Liu

**P302 - Steroidogenesis During Prenatal Testicular Development In Spix Cavies (Galea Spixii).**
Amilton Cesa Santos, Alan James Conley, Moacir Franco Oliveira, Antonio Chaves De Assis Neto

**P304 - Examination of centriole marker in spermatozoa separated by density gradient.**
Mariam Asadullah, Emily L. Fishman, Ahmed Hussain, Andrew Gerts, Tariq Shah, Puneet Sindhwani, Tomer Avidor-Reiss

**P307 - Mitochondrial Dynamic and Acrosomal Reaction are Disturbed In Spermatozoa from Stressed Adult Rats.**
Silvana A. Andric, Isidora M. Starovlah, Sava M. Radovic, Tatjana S. Kostic

**P310 -** Withdrawn

**P313 - Proper Axonemal Assembly Requires Wampa, An Essential Dynein For Male Fertility.**
Elisabeth Bauerly, Matthew C. Gibson

## MALE REPRODUCTIVE TRACT

**P317 - Suitability Of Different Techniques Of Measuring Sperm DNA Damage And Sperm Preservation For Remote Labs: A Comparative Study.**
Yasmine Amr Issa, Uwe Paasch, Sonja Grunewald, Amira Eid

**P319 - Identification And In Vivo Evaluation Of Bioactive Flavonoids Isolated From Typha Capensis Rhizome Extract On Leydig And Prostate Cancer Cells.**
Kristian Leisegang, Abdulkarem Ilfergane, Edith Antunes, Ralf Henkel

**P323 - Incorporation Of Cystine Via Soluble Carrier Family 7 Member 11 (SLC7A11) Is Part Of The Redox Regulatory Mechanism In Spermatozoa.**
Fernando Peña, Jose M. Ortiz-Rodríguez, Francisco E. Martin-Cano, Cristina Ortega Ferrusola

**P325 - Investigation Of Regulatory Mechanism Of Quiescin Sulfhydryl Oxidase 2 (QSOX2) In The Epididymis.**
Tse-En Joan Wang, Shiori Minabe, Hiroko Tsukamura, Matsuda Fuko, Pei-Shiue Jason Tsai

**P327 - Splicing Up Your Sex Life; Why Men Are Failing To Produce In The Bedroom.**
Mark A. Baker, Jacob Netherton, Gary Hime

**P329 - Sperm Tail Mitochondrial Sheath Length Correlates With Bull Fertility Outcomes.**
Grace Wiley, Eriklis Nogueira, Camile Sanches, Karl Kerns, Peter Sutovsky

**P332 - Proteins Of The Seminal Plasma Of Romosinuan Bulls And Its Relationship With The Spermal Quality In Times Of Rain And Drought, Under The Conditions Of The Valle Del Sinú.**
Natalia Herrera

## FEMALE GAMETOGENESIS

**P336 - Maternal Rnas Methylation Profiles In Oocyte And Somatic Cells.**
Karine Dubuc, Isabelle Gilbert, Alexandre Bastien, Géraldine Delbès, Claude Robert

**P339 - Non-Canonical Activity Of Retinoic Acid Stimulates ERK1/2 Pathway To Regulate Meiotic Initiation In Mouse Fetal Germ Cells.**
Yukiko Yamazaki, Toshifumi Yokoyama, Ferhat Ulu, Sung-Min Kim

**P342 - Follicle-Stimulating Hormone Receptor Is Expressed In Bovine Preantral Follicles From Primary To Full Secondary Stage Of Development.**
Juliana I. Candelaria, Anna C. Denicol

**P344 -** SWI/SNF Chromatin Remodeling Subunit SMARCA4/BRG1 Is Essential For Female Fertility.
David A. Landry, Atefeh Abedini, Ashna Parbhakar, Reza Salehi, Barbara Vanderhyden

**P346 -** DPAGT1 Is Essential For Oocyte And Follicle Development In Mice.
You-Qiang Su, Hui Li, Lanying Shi

**P348 -** Analysis Of Oocyte-Specific Multi-Copy Gene, Oog1 Using CRISPR/Cas9 System.
Yuri Kunimoto, Yuka Miki, Satoshi Tsukamoto, Takuro Horii, Izuho Hatada, Naojiro Minami

**P349 -** Igf3, A New Key Player In Fish Ovary.
Jianzhen Li, Christopher H.K. Cheng

**P351 -** GDF9 - BMP15 Enhance HAS2, PTGS2, TNFAIP6 Gene Expression In Canine Cumulus Oocyte Complexes.
Monica De Los Reyes, Jaime Palomino, George Ramirez

**P355 -** AMH Promotes Maturation Of Nude Oocytes But Inhibits FSH-Induced COC Maturation And Cumulus Expansion.
Liping Hua, Zan Li, Tong Qiao, Guohua Hua, Liguo Yang, John S. Davis, Aixin Liang

**P359 -** Comparison of brazilian Gir and Holstein-Gir oocyte recovery rates after OPU.
Aline S. Camargos, Larissa M. Cruvinel, Graziela Tarôco, José Renato Chiari, Roberta R. Silva, Bruna K. Cirilo

**P362 -** Morphological and Molecular Assessment of Cryopreserved Bovine Ovarian Tissue.
Paula Cornally, James O'Connor-Moneley, Goerga Longhurst, Lynne O'Shea

**P365 -** Oocyte-Specific Deletion Of BAF250a Affects Oocyte Epigenetic Modifications And Embryonic Development.
Zhenbo Wang, Qian Zhou

**P367 -** Preantral Follicle Numbers And Size In Heifers Carrying The Bovine High Fecundity Trio Allele.
James V. Constantino, Christopher Premanandan, Brian W. Kirkpatrick, Milo C. Wiltbank, Alvaro Garcia-Guerra

**P371 -** The Effect Of Genetic Merit For Fertility And Lactational Status On Oocyte Quality And The Follicular Microenvironment In Dairy Cows.
Charlotte B. Reed, Susanne Meier, Chris R. Burke, Janet L. Pitman

**P373 -** In Vitro Growth Of Early Preantral Follicles By Two Culture Protocols.
Kanako Morohaku, Tomohiro Kohama

## MEIOSIS/FERTILIZATION

**P375 -** CITED2 Participates In Mouse Oocyte Meiosis And Histone Modification.
Juan Lin, Yuan Fang, Shenming Zeng

**P377 - Addressing The Compartmentalization Of Specific Integrin Heterodimers In Mouse Sperm.**
Katerina Dvorakova-Hortova, Michaela Frolikova, Eliska Valaskova, Jiri Cerny, Audrey Lumeau, Natasa Sebkova, Veronika Palenikova, Noemi Sanches-Hernandez, Alzbeta Pohlova, Pavla Manaskova-Postlerova

**P379 - Prenatal Exposure To Di-(2-Ethylhexyl) Phthalate And High-Fat Diet Synergistically Disrupts Mouse Fetal Oogenesis And Affects Folliculogenesis.**
Huanyu Qiao, Supipi Mirihagalle, Tianming You, Lois Sue, Chin Tan, Liying Gao, Saniya Rattan

**P381 - Mito-TEMPO As A Superoxide Scavenger Assists Meiotic Maturation Through Reduction Of Mitochondrial Derived Superoxide During Porcine Oocyte Maturation In Vitro.**
Seul-Gi Yang, Hyo-Jin Park, Jin-Woo Kim, Min-Ji Kim, In-Su Kim, Ho-Guen Jegal, Deog-Bon Koo

**P383 - The RNA Binding Protein Dazl Functions As Repressor And Activator Of Maternal Mrna Translation During Mouse Oocyte Maturation.**
Cairong Yang, Gabriel Rajkovic, Enrico Maria Daldello, Xuan Luong, Marco Conti

**P385 - Genetic Regulatory Mechanisms Of Mammalian Spermatogonial And Spermatocyte Populations During Postnatal Testis Maturation Revealed By Single-Cell Sequencing.**
Kathryn J. Grive, Yang Hu, Eileen Shu, Andrew Grimson, Olivier Elemento, Jennifer K. Grenier, Paula E. Cohen

**P387 - Ovarian Synchronization By Follicle Aspiration And Moderate FSH Treatment Improves Oocyte Quality And The Efficiency Of In Vitro Embryo Production In Cattle.**
Ana Caroline Silva Soares, Kelly Nader Gomes Marques, Luiz Gustavo Bragança Martignoni, Valentina Lodde, Alberto Maria Luciano, Jose Buratini

**P392 - Evaluation Of The Variability Among Bulls For CD9 And SERPINA5 On The Bovine Sperm Head.**
Saulo Menegatti Zoca, Jerica J J Rich, Kaitlin M. Epperson, George A. Perry

**P395 - Nek5 Regulates Cell Cycle Progression During Mouse Oocyte Maturation.**
Zhiming Han, Yuanyuan Li, Lei Guo, Hui Li, Shengsheng Lu

**P399 - Na/K-Atpase And Fertility Of Breeding Boars.**
Muhammad Imran, Murray Pettitt, Mary Buhr

**P401 - The Origin And Characterization Of Surface-Borne Glutathione-S-Transferase Omega 2 Within Mouse And Boar Capacitation.**
Lauren E. Hamilton, Wei Xu, Michal Zigo, Jiude Mao, Peter Sutovsky, Richard Oko

**P406 - Role of the Xlr3 Gene Family in Meotic Sex Chromosome Inactivation in Mice.**
Michael J. O'Neill, Natali S. Naveh, Anne Czechanski, Laura G. Reinholdt, Robert J. Foley

**P408 - Live-Cell Imaging Analysis Of The Effects Of Manipulating Expression Of The Actin-Binding**

**Protein Nexilin On Meiotic Maturation In Mouse Oocytes.**
Amber M. Martin, Nicole J. Camlin, Janice P. Evans

**P411 - Effect Of Melatonin On MPF Protein Amount And Camp Levels During Bovine Oocyte In Vitro Maturation.**
Hugo Fernandes, Letícia Schefer, Daniela Martins Paschoal, Fernanda Cavallari De Castro, Cláudia Lima Verde Leal

**P414 - Follicular Environment Of Endometriosis Patients Alters Chromosomal Alignment And Spindle Structure In A Mouse IVM Model.**
Sergio Romero, Ingrid Zorrilla, Paola Berrío, Ricardo Pella, Francisco Escudero, Ygor Pérez, Mario García, Carla Gonzáles, Patricia Orihuela

## PREIMPLANTATION DEVELOPMENT

**P416 - Hippo Signaling Pathway Disruption During Bovine Preimplantation Embryo Development.**
Jyoti Sharma, Pavneesh Madan

**P418 - Expression Pattern And Role Of miRNAs During Early Development In The Cow.**
Erika E. Paulson, Pablo J. Ross, Richard M. Schultz

**P420 - Involvement Of Linker Histone Variants In Mouse Oogenesis.**
Satoshi Funaya, Yuria Kawabata, Fugaku Aoki

**P421 - Functional Analysis Of Pwp1 During Early Embryogenesis In The Mouse.**
Atsushi Takasu, Daiki Shikata, Naojiro Minami

**P422 - Effects Of Phytohemagglutinin On Aggregation Efficiency And Developmental Competence Of Parthenogenetic Embryos In Pigs.**
Joohyeong Lee, Eunsong Lee

**P424 - CRISPR Cas9 Editing of Bovine IVF Embryos via Electroporation of Zygotes.**
Dennis K. Miskel, Mikhael Poirier, Luisa Beunink, Franca Rings, Dawit Tesfaye, Karl Schellander, Michael Hölker

**P427 - SETD8/PR-SET7-Mediated Histone H4K20 Monomethylation Is Required for Mouse Preimplantation Development.**
Daiki Shikata, Takuto Yamamoto, Shinnosuke Honda, Naojiro Minami

**P430 - Embryo Development and Survival in Pubertal Ewe Lambs.**
Jennifer L. Juengel, Laurel D. Quirke, Jacqui L. Peers-Adams, Peter D. Johnstone, Peter Smith

**P432 - Conceptus Prostaglandin Synthase 2 is Not Essential for Early Development and the Establishment of Pregnancy in the Pig.**
Caroline A. Pfeiffer, Ashley E. Meyer, Lee D. Spate, Josh A. Benne, Raissa F. Cecil, Kelsey E. Brooks, Thomas E. Spencer, Randall S. Prather, Rodney D. Geisert

**P434 -** Effect of downregulating AGO1 transcripts by RNA interference on early development of porcine embryos.
Yuriko Saito, Ayako Sasaki, Natsuko Emura, Ruri Miura, Ken Sawai

**P437 -** Effect of Galectin-1 on Anti-Inflammatory and Pro-Inflammatory Related Gene Expression Within Bovine Endometrium.
Lindsay F. Grose, Heather L. Baldwin, Jeanna M. LaBarbara, Patrick Lonergan, Daniel J. Mathew

**P440 -** Zona Pellucida Does Not Affect The Pre-Implantation Embryonic Development In Mice.
Jihyun Kim, Jaewang Lee, Sooseong You, Jin Hyun Jun

**P442 -** Oxygen Concentration Alters Mitochondrial Function In In Vitro Fertilized (IVF) Preimplantation Mouse Embryos.
Ling Zhang, Elena Ruggeri, Annemarie Donjacour, Xiaowei Liu, Paolo Rinaudo

**P444 -** Sexually Dimorphic Transcriptional Changes In Murine Inner Cell Mass (ICM) Generated In Vivo Or By In Vitro Fertilization (IVF).
Elena Ruggeri, Xiaowei Liu, Royce Harner, Saul Albarran, Annemarie Donjacour, Paolo Rinaudo

**P446 -** Mimicking Hypoxia In Donor Cells Improves SCNT Embryo Development.
Raissa F. Cecil, Joshua A. Benne, Taylor K. Hord, Paula R. Chen, Lee D. Spate, Randall S. Prather

**P449 -** Proteomic Assessment Of The Porcine Intra-Uterine Secretome During The Peri-Implantation Period In Response To Heat Stress.
Malavika K. Adur, Matthew R. Romoser, Katie L. Bidne, R Blythe. Schultz, Aileen K. Keating, Lance H. Baumgard, Jason W. Ross

**P451 -** Embryo Mortality: A Transcriptome Perspective In Holstein Cows.
Carolina L. Gonzalez-Berrios, Leticia D.P. Sinedino, Hanah M. Georges, Jeanette V. Bishop, Hana Van Campen, Milton G. Thomas, Thomas R. Hansen

**P454 -** Effect Of Saponin Treated Spermatozoa On Efficiency Of EGFP-Expressing Transgenic Mice Produced By ICSI-SMGT.
Sanghoon Lee, Mun-Hyeong Lee, Hyo-Gu Kang, Ju-Hyun An, Hae-Jun Yang, Jae-Jin Cha, Seung Hwan Lee, Young-Ho Park, Jong-Hee Lee, Bong-Seok Song, Bo-Woong Sim, Sun-Uk Kim

**P456 -** Effect Of Seminal Plasma On Uterine Capacity To Support Conceptus Elongation In Cattle.
Sandra Recuero, Jose M. Sanchez, Sandra Bages-Arnal, Michael Mcdonald, Alan K. Kelly, Marc Yeste, Beatriz Fernandez-Fuertes

**P458 -** Attenuation Of FABP3 Mrna In Porcine Oocytes Impairs Embryo Survival And Quality.
Karina Gutierrez, Werner G. Glanzner, Mariana P. De Macedo, Vitor B. Rissi, Luke G. Currin, Luis B. Agellon, Vilceu Bordignon

**P461 -** Developmental Programming Of Bovine Preimplantation Embryos By Choline Chloride.
Eliab Estrada-Cortes, William Ortiz, Elizabeth Jannaman, Charles R. Staples, Jeremy Block, Peter J. Hansen

**P463 -** Warburg Metabolism Is Utilized By Developmentally Competent In Vivo Produced Mouse Embryos, But Is Disrupted By In Vitro Culture.
Ben B. Goheen, Sandeep K. Rajput, Courtney Kathleen Grimm, John C. Becker, William B. Schoolcraft, Rebecca L. Krisher

**P467 -** Effect Of Physiological Heat Stress On HSP70 And CASPASE 3 Levels In Bovine Oocytes.
Luiz S A Camargo, Luiz G B Siqueira, Naiara Z. Saraiva, Gilson G. Maia, Beatriz P. Nogueira, Carolina C R Quintao, Clara S. Oliveira

**P472 -** Sin3a Is Required For Mouse Preimplantation Development Via Regulating Hdac1.
Panpan Zhao, Yanna Dang, Shuang Li, Lefeng Wang, Tong Liu, Kun Zhang

**P474 -** Culture Of Human 3PN Zygotes In Physiologically Relevant Reduced Nutrients Results In Normal Peri-Implantation Development After Extended Culture.
Deirdre M. Logsdon, Ye Yuan, William B. Schoolcraft, Rebecca L. Krisher

**P476 -** Supplement Of GDF8 During In Vitro Maturation Of Porcine Oocyte Enhanced Subsequent Embryonic Development After Somatic Cell Nuclear Transfer.
Junchul David Yoon, Sang-Hwan Hyun

## FEMALE REPRODUCTIVE TRACT/IMPLANTATION

**P480 -** Seminal Plasma Promotes Decidualization Of Endometrial Stromal Fibroblasts And Induces A Potent Transcriptional Response Featuring IL-11 Induction.
Ashley F. George, Karen S. Jang, Mette Nyegaard, Jason Neidleman, Trimble Spitzer, Guorui Xie, Joseph Chen, Eytan Herzig, Warner C. Greene, Linda C. Giudice, Nadia R. Roan

**P482 -** Screening And Characterization Of Molecules Modulating Embryo Implantation Using A High Throughput In-Vitro Co-Culture Model.
Xian Chen, Nga Siu Leung, Raymond HW Li, William SB Yeung, Fai Kai Lee

**P485 -** Bipotent Stem Cells Support The Cyclical Regeneration Of Murine Uterine Endometrial Epithelium.
Shiying Jin

**P488 -** The Concentration Of Some Inflammatory Cytokines, Prostaglandin E2, MUC-1 And Cortisol In Uterine Washing Of Repeat Breeder Dairy Cows With And Without Subclinical Endometritis.
Gamal Ahmed El-Amrawi

**P492 -** Involvement Of Specific Akt Isoforms In Decidualization Processes In The Mouse Uterus.
Pascal Adam, François Fabi, Laurence Tardif, Sophie Parent, Eric Asselin

**P494 - Effect Of The Restriction Of Essential Amino Acid On Lipid Metabolism And Milk Protein Synthesis In Vitro.**
Ricardo A. Córdoba, Camilo A. Calle, Mark D. Hanigan, Tatiana Ruiz-Cortés

**P496 - Effect Of Interferon Tau On Bovine Endometrial Epithelial And Fibroblast Cell Transcriptomes In 3D Cell Culture.**
Heather L. Baldwin, Lindsay F. Grose, Gillles Charpigny, Susanta K. Behura, I Martin Sheldon, James G. Cronin, Patrick Lonergan, Thomas E. Spencer, Daniel J. Mathew

**P499 - New Transcriptomic Insights Into Processes Associated With Formation Of Egg-White In The Magnum Of Laying Hens.**
Nirvay Sah, Donna Lee Kuehu, Rajesh Jha, Birendra Mishra

**P501 - Comparable Developmental Competence Of Mouse Blastocysts In Outgrowth In Vitro And Implantation In Utero.**
Jin Hyun Jun, Jihyun Kim, Wontae Kim, Jung Won Choi, Jaewang Lee

**P502 - Picturing The Dynamics Of Trophoblast Differentiation In Peri-Implantation Stage Human Embryos By Single Cell RNA Sequencing.**
Ye Yuan, Hao Ming, Rachel C. West, Deirdre M. Logsdon, Rebecca A. Kile, Courtney K. Grimm, Sandeep K. Rajput, Jiangwen Sun, William B. Schoolcraft, Rebecca L. Krisher, Zongliang (Carl) Jiang

**P504 - Decreased Expression Of Microrna-210 In Ectopic Lesion May Promote Endometriotic Lesion Development In Baboons And Women With Endometriosis.**
Kentaro Kai, Niraj R. Joshi, Gregory Burns, Samantha Bond, Erin Vegter, Ariandna Ochoa-Bernal, Yong Song, Genna Wilber, Asgerally T. Fazleabas

**P507 - Stromal Cell-Derived Factor-1 Stimulates Invasion Of Human Extravillous Trophoblast Cells.**
Seoung O. Jung, Wooyoung Jeong, Seunghye Peak, Jinyoung Kim

**P509 - Taurine Protects Pregnant Rats And Their Fetuses Against Lead Toxicity.**
Hoda Samir Aglan, Marwa Mohamed Safar, Afaf Abdel-Moniem Ain-Shoka, Asmaa Munir Kandil, Samuel Gebremedhn, Karl Schellander, Dawit Tesfaye

**P517 - E-Cigarette Exposure Delays Pregnancy Onset And Impairs Future Offspring Health.**
Margeaux Wetendorf, Lewis Randall, Mahlet T Lemma, Sophia Hurr, Claire M. Doerschuk, Kathleen M. Caron

**P521 - Short And Long Term Effects Of Uterine Disease On Oocyte Transcriptome In Dairy Cows.**
Rachel L. Piersanti, Jeremy Block, Jose E.P. Santos, I. Martin Sheldon, John J. Bromfield

**P523 - Female Fertility In Atp6v0d2-/- Mcoln1-/- Double Knockout Mice.**
Yuehuan Li, Ahmed E El Zowalaty, Zidao Wang, Christian Lee Anderson, Xiaoqin Ye

**P525 -** Ovarian Superstimulation Down-Regulates Expression Of Follicular Fluid-Derived Exossomal Micrornas In Nelore Cows.
Fernanda F. Franchi, Priscila H. Dos Santos, Patricia K. Fontes, Ana Clara F. C. M. De Ávila, Juliano C. Da Silveira, Edson Mareco, Anthony C.S. Castilho

**P528 -** VEGF Suppresses Scar Formation During Endometrial And Cutaneous Wound Healing.
Muruganandan Shanmugam, Sanket Nayak, Subhendu Das, Margaret Bruce, Sabita Dhal, Pravansu Mohanty, Nihar R. Nayak

**P532 -** Withdrawn

**P534 -** Cell-Type-Specific Gene Expression Signature In The Oviductal Epithelium During Different Stages Of Early Pregnancy In Mice.
Emily A. Harris, Nathan C. Law, Sierra LW. Olsen, Wipawee Winuthayanon

**P536 -** Peri-Implantation Stage Human Embryos Cease Cell Proliferation And Increase Metabolism To Prioritize Important Cellular Events For Implantation.
Sandeep K. Rajput, Rachel C. West, Hao Ming, Deirdre M. Logsdon, Rebecca A. Kile, Courtney K. Grimm, Jiangwen Sun, William B. Schoolcraft, Rebecca L. Krisher, Zongliang (Carl) Jiang, Ye Yuan

**P538 -** Prostaglandin E2 Signaling Gene Signatures In Human Endometriotic Epithelial And Stromal Cells By RNA-Seq.
Joe A. Arosh, Jone A. Stanley, Esther V. Davidraj, Kaylon L. Bruner-Tran, Kevin G. Osteen, Sakhila K. Banu

**P541 -** Contribution Of Early Growth Response-1(EGR1) To Mouse Implantation Through Decidual Reaction Regulation.
Min Young Lee, Minji Kang, Chongsuk Ryou, Yong-Pil Cheon

**P544 -** Impact Of Cage Type And Caloric Availability On Estrous Cyclicity In Mice.
Moniece G. Lowe, Simranjit K. Kalotia, Ryan T. Scott, Joseph S. Tash, Lane K. Christenson, Joshua S. Alwood, April E. Ronca

**P547 -** Potential Dysregulation Of The Phosphatidylinositol 3-Kinase Signaling Pathway In Adult Female Mice Exposed To Di(2-ethylhexyl) Phthalate and Diisononyl Phthalate.
Karen Chiu, Daryl D. Meling, Catheryne Chiang, Jodi Flaws

**P549 -** Deep Learning Classification of Estrous Stages in Mice.
Andrew Jong, Ryan T. Scott, Lane K. Christenson, April E. Ronca, Tony Lindsey, Joshua S. Alwood

**P552 -** NOTCH1 Activation Enhances Invasiveness Of Endometriotic Epithelial Cells Through Epithelial-To-Mesenchymal EMT And Contributes To The Development Of Endometriosis.
Yong Song, Ren-Wei Su, Niraj R. Joshi, Tae Hoon Kim, Jae-Wook Jeong, Asgerally T. Fazleabas

**P555 -** Progesterone Decreases Diameter At Follicle Selection During Either Low Or High Circulating FSH Or LH In Bovine.
Victor E. Gomez-León, Oliver J. Ginther, Rafael R. Domingues, Milo C. Wiltbank

**P558 - Comparison Of The Clinical Outcome Of FET With And Without Pretreatment With The Gnrh Agonist.**
Seung Ju Oh, Jieun Kang, Yingmei Wang, In-Bai Chung, Hyuck Dong Han, Yeon Soo Jung

**P559 - Insights On The Establishment Of The Uterine Microbiome In Virgin Holsteins Heifers.**
Joao Gabriel Nascimento Moraes, Lauren Ciernia, Fayth Kumro, Tamara Gull, Scott Poock, Matthew Lucy

**P562 - Expression And Activation Of Stats In Porcine Endometrium During Peri-Implantation Period.**
Beenu Moza Jalali, Karolina Lukasik, Dariusz Jan Skarzynski

**P565 - Critical Role Of High-Mobility Group Protein Box-1 (HMGB1) In Embryo Implantation And Pregnancy Outcomes.**
Shizu Aikawa, Wenbo Deng, Xiaohuan Liang, Jia Yuan, Amanda Bartos, Xiaofei Sun, Sudhansu K. Dey

**P567 - Uterine Expression Of Basigin Is Required For Proper Decidualization In Female Mice.**
Kailiang Li, Romana Nowak

**P570 - Uterine Luminal Microenvironment During The Bovine Estrous Cycle As Defined By Proteins Secreted By The Endometrium.**
Kasey M. Schalich, Prasanthi P. Koganti, Juan M. Castillo, Soon Hon Cheong, Vimal Selvaraj

## PREGNANCY/MYOMETRIUM

**P574 - Loss Of REST In Uterine Fibroids Leads To Aberrant Cav2.1 Expression.**
Fatimah Aljubran, Michelle M. Mcwilliams, Faezeh Koohestani, Sornakala Ganeshkumar, Vargheese Chennathukuzhi

**P576 - Apelin In The Human Trophoblastic Cells: Expression, Signalling Pathway, Proliferation, Cell Cycle And Hormone Secretion.**
Ewa Mlyczyńska, Monika Dawid, Patrycja Kurowska, Eliza Drwal, Malgorzata Opydo-Chanek, Wacław Tworzydło, Agnieszka Rak

**P579 - Sire Influences Gene Expression In Trophoblast Cell Markers In Vitro.**
M. Sofia Ortega, Thomas E. Spencer

**P583 - Temporal Expression Pattern Of Fabp3 During Mouse Placenta Development.**
Hui Gao, Yichen Wang, Liu Tian, Changjun Zhang, Honglu Diao

**P588 - Cell Morphology And Differentiation In A 3D Human Uterine Myometrial Tissue Model.**
Anutr Sivakoses, Craig C. Ulrich, Jiavanna S. Wong-Fortunato, Janet A. Lambert, Iain L.O. Buxton, Heather R. Burkin

**P591 - Circadian Rhythms Of Clock Genes And Angiogenic Factors In Bovine Placental Explants.**
Zully E. Contreras-Correa, Racheal L. Lemire, Derris D. Burnett, Caleb O. Lemley

**P595 -** A Study On The Origin Of The Mouse Placental Trophoblast Lineage.
Shanshan Guo, Xiuhong Cui, Shuguang Duo, Shiwen Li, Fei Gao, Hongmei Wang

**P599 -** Gene Expression Profiles Of Immune Cells Under The Influence Of Bovine Trophoblast Cell Derived Extracellular Vesicles.
Ana C. Silva, Kira P. Morgado, Christopher J. Davies, Irina A. Polejaeva, Heloisa M. Rutigliano

**P601 -** Identification Of Positive And Negative Regulatory Pathways Controlling Rat Hemochorial Placental Development.
Khursheed Iqbal, Jovana Rajovic, Ayesha Hasan, Jackson Nteeba, Masanaga Muto, Stephen Pierce, Keisuke Kozai, Michael Soares

**P605 -** Interleukin 17F: A Placental Cytokine Expressed At The Uterine Interface.
Stephen H. Pierce, Khursheed Iqbal, Masanaga Muto, Keisuke Kozai, Michael J. Soares

**P608 -** Deactivation Of Interferon-Treated Macrophages By Gestational Cytokine Leukemia Inhibitory Factor Can Promote Trophoblast Migration And Invasion In Vitro.
Laurie Fortin, Jovane Hamelin Morrissette, Céline Van Themsche, Cathy Vaillancourt, Carlos Reyes-Moreno

## TRANSLATIONAL

**P612 -** Administration Of Exogenous Gonadotropins Does Not Alter Ovine Endometrial Estrogen Receptor Concentration During Early Diestrus.
Hayder M.H. Habeeb, Timothy Hazzard, Cecily Bishop, Fredrick Stormshak, Michelle Kutzler

**P618 -** Detection And Functional Analysis Of Hoxc8 As An Upstream Regulatory Gene In Ovarian Endometrioma.
Ryo Maekawa

**P621 -** An Oocyte-Derived Biomaterial Provides A "Sperm Safe" To Preserve Mammalian Spermatozoa.
Francesca E. Duncan, Sergio Vaccari, Nam Tram, Hoi Chang Lee

**P625 -** The Effect of Di (2-ethylhexyl) Phthalate (DEHP) on Incidence and Progression of Endometriosis.
Rachel Braz Arcanjo, Catherine Lawrence, Kailiang Li, Quanxi Li, Romana A. Nowak

## CONTRACEPTION

**P628 -** Waltheria indica root exhibits male contraceptive effect through inhibition of androgensis in male Wistar rats.
Afisu Basiru, Jimoh Ganiu Akorede, Funsho Olayemi, Kehinde Olugbenga Soetan

**P629 -** Potential Use of 17BIPHE2 As A Vaginal Contraceptive/Microbicide.
Seung Gee Lee, Wongsakorn Kiattiburut, Mark Baker, Deborah J. Anderson, Guangshun Wang, Jonathan B. Angel, Nongnuj Tanphaichitr

**P630 -** High-Throughput Screen Identifies New Hormone Alternative Contraceptive.
Alaknanda Alaknanda, Rebecca L. Robker, Krzysztof Mrozik, Andrew Zannettino, Darryl L. Russell

**P633 -** The Synaptonemal Complex Protein 3 (SCP3) Is A Potential Biomarker Of CDK2 As Target For Male Contraceptive Drug Development.
Lesya Holets-Bondar, Sudhakar

## EDUCATION/ COMMUNICATION/ RESEARCH RESOURCES

**P634 -** Investigating Heritable Impacts Of Germ Cell Toxicant Exposures.
Jill Escher

**END SATURDAY POSTERS**

# POSTER SESSION C

**SUNDAY, JULY 21, 2019**
**8:00 – 10:00 AM**

## DEVELOPMENT/EVOLUTION

**P3 -** Alternative Expression of PZP in Human and A2ML1 in Common Marmoset as a Pregnancy-Related Proteins.
Hirofumi Kashiwagi, Yoshie Kametani, Sunichiro Izumi, Hitoshi Ishimoto

**P5 -** Identification And Characterization Of Primordial Germ Cells In A Vocal Learning Species, The Zebra Finch.
Young Min Kim, Anna L. Keyte, Matthew T. Biegler, Deivendran Rengaraj, Erich D. Jarvis, Jae Yong Han

**P7 -** LATS1 And LATS2 Maintain The Fate Of Somatic Cells In The Developing Gonad.
Nour Abou Nader, Amélie Ménard, Guillaume St-Jean, Adrien Levasseur, Marie Le Gad-Le Roy, Derek Boerboom, Alexandre Boyer

**P9 -** DNA Damage Responses in Mouse Primordial Germ Cells.
Jordana C. Bloom, John C. Schimenti

**P12 -** Biochemical Characterization of Follicular Fluid in Buffalo (Bubalus bubalis).
Ram Lakhan Singh, Sukanta Mondal, V P Varshney

**P14 -** The New Biocompatible Material For Mouse Ovarian Follicle Development In Three-Dimensional In Vitro Culture Systems.
Hye Won Youm, Eun Jung Kim, Jung Ryeol Lee, Chang Suk Suh

**P18 -** Associations Between Plasma Estradiol Concentration, Ovarian Expression Of KI67, P53 And PTGFR Mrnas, And Fetal Size In The Pig.
Claire Stenhouse, Yennifer Cortes, Charis O. Hogg, Cheryl J. Ashworth

**P21 -** Computerized Evaluation Of Jaguar (Panthera onca) Frozen-Thawed Semen Using Tris And ACP-117C Extenders.
Herlon Victor Rodrigues Silva, Thalles Gothardo Pereira Nunes, Lívia Batista Campos, Andréia Maria da Silva, Alexandre Rodrigues Silva, Lúcia Daniel Machado da Silva

**P24 -** Differential Expression Of LH Receptor, LHR Mrna Binding Protein, Bta-Mir-222 And Steroidogenic Enzymes In The Developing Bovine Ovary.
Leonardo O. Mendes, Marina P. Chaves, Alan B. Giroto, Priscila H. Santos, Patricia K. Fontes, Anthony César S. Castilho

**P34 -** The Window Of Masculinization: Connecting Genetics, Testosterone Concentration, And Male Reproductive Tract Development.
Joan S. Jorgensen, Anbarasi Kothandapani, Kyle Krellwitz, Abbey Zacharski, Kyle Wegner, Chad M. Vezina, Elena M. Kaftanovskaya, Alexander I. Agoulnik, Emily M. Merton, Martin J. Cohn, Samantha R. Lewis, Jessica J. Muszynski

## ENDOCRINOLOGY

**P38 -** Effects Of Dexamethasone On Calcium Channel And Mucin Gene Expression In A549 Cell Line.
Bo Hui Jeon, Dinh Nam Tran, Yeong-Min Yoo, Eui-Bae Jeung

**P41 -** Effects Of Steroid Hormone On The Calbindin-D9k (Cabp-9k) In The Immature Rat Brain.
Seon Mi Park, Seon Young Park, Dinh Nam Tran, Eui-Bae Jeung

**P43 -** Conditional Deletion Of Fgfr1 In Gnrh Neurons Directly Impacts The Hypothalamic-Pituitary-Gonadal Axis During Pubertal Transition Of Male Mice.
Cynthia Dela Cruz, Cassandra A. Horton, Pei-San Tsai

**P45 -** RFRP-3 Promotes Cell Death And Basal Lamina Degradation In Cultured Cat Ovarian Follicles.
Kathryn Wilsterman, George E. Bentley, Pierre Comizzoli

**P47 -** Identification Of The SLIT/ROBO Signaling Pathway As A New Regulator Of Leydig Cell Steroidogenesis.
Emmanuelle Martinot, Derek Boerboom

**P49 -** Elevated Oleic Acid Concentration Alter Gene Expression, Steroid Hormone Production And Ovulation In Bovine Preovulatory Follicles.
Arpna Sharma, Vijay Simha Baddela, Frank Becker, Dirk Dannenberger, Jens Vanselow

**P53 - Ovarian Superstimulation With eCG Increases Estradiol Levels in the Bovine Oviduct Driving the Transcription of Genes Related to Fertilization.**
Patricia Kubo Fontes, Eduardo Montanari Razza, Antônio Guilherme Roncada Pupulim, Anthony César de Souza Castilho.

**P55 - A Novel Role for Hippo Signaling in Gonadotropin Synthesis.**
Ariane Lalonde-Larue, Alexandre Boyer, Esdras Correa Dos Santos, Guillaume St-Jean, Xiang Zhou, Daniel Bernard, Derek Boerboom, Gustavo Zamberlam

**P58 - Bisphenol-A Affects Cell Death And Immune Cell Recruitment In The Epididymis.**
Yoo-Jin Park, Won-Ki Pang, Do-Yeal Ryu, Md Saidur Rahman, Won-Hee Song, Yoon-Jae Park, Bongki Kim, Myung-Geol Pang

**P61 - Regulation Of Steroidogenic Enzymes In The Fetal Testis: A Role For Activin A.**
Kate L. Loveland, Penny Whiley, Liza O'Donnell, Elizabeth Richards

**P65 - The Calcium Binding Protein Secretagogin Is Highly Expressed In Gnrh Cells And Required For The Preovulatory Surge.**
Chad D. Foradori, Laci O. Mackay, Arthur D. Zimmerman, Casey C. Read, B Douglas White, Robert J. Kemppainen

**P67 - Sex Differences In Obesity-Mediated Impairment Of Reproductive Function.**
Djurdjica Coss, Nancy M. Lainez

## OVARIAN BIOLOGY

**P74 - Long-Term Hyperandrogenemia And/Or Western-Style Diet Impairs Rhesus Macaque Oocyte Maturation, Fertilization, And Preimplantation Embryo Development.**
Sweta Ravisankar, Melinda M. Murphy, Nash Redmayne-Titley, Richard L. Stouffer, Shawn L. Chavez, Jon D. Hennebold

**P77 - Ovarian Impacts Of Atm Haploinsufficiency In Response To Phosphoramide Mustard.**
Kendra L. Clark, Shanthi Ganesan, Aileen F. Keating

**P80 - Effect Of Mitochondrial Dynamin Like Gtpase On Steroidogenesis In The Corpus Luteum.**
Michele R. Plewes, Emilia Przygrodzka, Pan Zhang, Xiaoying Hou, John S. Davis

**P83 - Signaling Pathways Regulating Autophagy In Luteal Cells.**
Emilia Przygrodzka, Michele Plewes, Xiaoying Hou, Pan Zhang, John S. Davis

**P86 - Transcriptome Profile In Pregnant Mares Corpus Luteum (CL).**
Karolina Lukasik, Beenu Moza Jalali, Agnieszka Baclawska, Artur Gurgul, Tomasz Szmatoła, Monika Bugno-Poniewierska, Dariusz Jan Skarzynski

**P88 - Investigating The Impact Of Manganese Supplementation On Corpus Luteum Function.**
Jamie M. Studer, Zoe E. Kiefer, Aileen F. Keating, Lance H. Baumgard, Kristin M. Olsen, Zachary Rambo, Mark E. Wilson, Christof Rapp, Jason W. Ross

**P91 - Dysregulated Androgen-Induced Exosomal Mir-379-5p Release Determines Granulosa Cell Fate.**
Reza Salehi, Brandon A. Wyse, Yunping Xue, Yoko Urata, Jose L. Vinas, Sahar Jahangiri, Kai Xue, Kevin D. Burns, Dylan Burger, Clifford L. Librach, Benjamin K.Tsang

**P93 - Steroidogenic Factor 1 Is Essential For Reproductive Function In Mature Female Mice.**
Olivia Eilers Smith, Marie-Charlotte Meinsohn, Fanny Morin, Bruce D. Murphy

**P95 - Molecular Profiling Demonstrates Active Luteal Rescue In The Cow And Implicates Calcium Signaling, Immune Pathways, And Retinoic Acid Biosynthesis.**
Camilla K. Hughes, E. Keith Inskeep, Joy L. Pate

**P97 - Effect Of Heat Stress On The Corpus Luteum Proteome During Early Pregnancy Establishment In Pigs.**
R Blythe Schultz, Katie L. Bidne, Matthew R. Romoser, Malavika K. Adur, Lance H. Baumgard, Aileen F. Keating, Jason W. Ross

**P98 - Core Binding Factors Are Essential For Ovulation, Luteinization, And Female Fertility In Mice.**
Somang Lee-Thacker, Yohan Choi, Hayce Jeon, Ichiro Taniuchi, Takeshi Takarada, Yukio Yoneda, Chemyong Ko, Misung Jo

**P101 - Developmental Programming: Prenatal Testosterone-Induced Epigenetic Modulation And Its Effect On Gene Expression In Sheep Ovary.**
Niharika Sinha, Muraly Puttabyatappa, Vasantha Padmanabhan, Aritro Sen

**P104 - RHOA Is Associated With Ovarian Follicular Dynamics And Regulated By Activation Of PKC-Btea1.**
Vaibhave Ubba, Swati Rajput, Rajesh Kumar Jha

**P108 - Transcriptome Of The Corpus Luteum Of Pregnant Dairy Cows During Secretion Of Interferon-Tau: Implications For Luteal Maintenance.**
Megan A. Mezera, Wenli Li, Rina Meidan, Caio A. Gamarra, Rodrigo S. Gennari, Andrea Edwards, Alexandre Prata, Milo C. Wiltbank

**P112 - Implications Of Season On Proliferative, Angiogenic, And LH Receptors In The Follicle Wall In Mares.**
Ghassan M. Ishak, Gabriel A. Dutra, Gustavo D. Gastal, Megan E. Elcombe, Melba O. Gastal, Seong B. Park, Jean M. Feugang, Eduardo L. Gastal

**P113 - Lipopolysaccharide Differentially Affects Pro-Inflammatory Responses In Theca Cells From Androgen Excess Compared To Control Beef Cows.**
Kerri A. Bochantin, Alexandria P. Snider, Shelby A. Springman, Scott G. Kurz, Jessica A. Keane, Sarah Nafzinger, Jeffery W. Bergman, Renee M. Mcfee, Andrea S. Cupp, Jennifer R. Wood

**P116 - Timing Of Luteolysis And Conceptus Expulsion After Induced Embryonic Demise During The Second Month Of Gestation In Beef Cows.**
Benjamin J. Duran, Sarah E. Battista, Martin L. Mussard, Alvaro Garcia-Guerra

**P123 -** The Role Of Anti-Müllerian Hormone (AMH) In Ovarian Steroidogenesis.
Alexandra S.E. Fontaine, Maxwell E. Edmonds, Sarah R. Wagner, Margrit Urbanek

**P126 -** A Modified Form Of Human GDF9 With Cumulin-Like Smad-2/3 Activity.
William A. Stocker, Kelly L. Walton, Karen L. Chan, Georgia M. Goodchild, Craig A. Harrison

## REPRODUCTIVE AGING

**P129 -** Metformin Abrogates Age-Associated Ovarian Fibrosis In Women.
Barbara C. Vanderhyden, Curtis W. Mccloskey, David P. Cook, Brendan S. Kelly, Jeremy Upham, Dominique Trudel, Mary K. Senterman

**P132 -** Age-Specific Fully- And Hypo-Glycosylated Follicle Stimulating Hormone Glycoforms Are Bioactive In Isolated Murine Secondary Follicles.
Leah E. Simon, T. Rajendra Kumar, Francesca E. Duncan

**P134 -** Dehydroepiandrosterone On Follicular Fluid IGF-I Level And IVF Outcomes In Diminished Ovarian Reserve Women.
Xiaokui Yang, Yonglian Lan, Feiyan Zhao, Qin Wang, Shuyu Wang

**P141 -** Ovarian Somatic Cells And Their Influence On Post-Menopausal Health.
Tracy L. Habermehl, Mckenna R. Walters, Kyleigh A. Tyler, Steven T. Gawrys, Jeffrey B. Mason

## ENVIRONMENT

**P142 -** Mitochondria DNA Methylation Programming In Oocytes And Embryos.
Marc-André Sirard

**P149 -** Low-Does Bisphenols Exposure Affecting Follicle Development In Next Generation In Mice.
Luhan Jiang, Hongjie Fan, Ernest Hy Ng, William Sb Yeung, Kai-Fai Lee

**P151 -** Prenatal and Ancestral Di(2-ethylhexyl) Phthalate Exposure Decrease Expression of Hormone Receptor, DNA Methyltransferase, and Ten-eleven Translocation in Mouse Ovaries.
Saniya Rattan, Hannah K. Beers, Athilakshmi Kannan, Anujaianthi Ramakrishnan, Emily Brehm, Joseph M.K. Irudayaraj, Indrani Bagchi, Jodi A. Flaws

**P154 -** Perturbed Tryptophan-Serotonin Pathway Induced By Vitamin B6 Deficiency Is Linked To Gestational Glucose Intolerance In Mice.
Ashley M. Fields, Philip Spinelli, Martha Susiarjo

**P156 -** Alterations In Expression Of Transcription Factors In Bovine Granulosa Cells Exposed To Oxidative Stress.
Mohamed Omar Taqi, Samuel Gebremedhn, Mohammed Saeed-Zidane, Dessie Salilew-Wondim, Michael Hoelker, Karl Schellander, Dawit Tesfaye

**P158 -** Transglutaminase Activity In Mammalian Gametes After Heat Stress.
Muhammad Mustafizur Rahman Chowdhury, Yeoung-Gyu Ko, Sung Soo Lee, Sung Woo Kim

**P160 -** A Critical Role For Estrogen Signaling In Penis Development: Implications For The Role Of Endocrine Disrupting Chemicals In Hypospadias.
Luke Govers, Deidre Mattiske, Tiffany Phillips, Andrew Pask

**P163 -** BPA and BPS affect microRNA Expression During Bovine Oocyte Maturation And Early Embryo Development.
Reem Sabry, Leanne Stalker, Jonathan Lamarre, Laura A. Favetta

**P168 -** Exposure To Di (2-Ethylhexyl) Phthalate (DEHP) And High Fat Diet During Early Pregnancy Disrupts Placental Development And Affects Fetal Growth In Mice.
Athilakshmi Kannan, Liying Gao, Juanmahel Davila, Jodi A. Flaws, Milan K. Bagchi, Indrani C. Bagchi

**P171 -** Impact Of High Fat Diet-Induced Obesity On Ovarian Chemical Metabolism Proteins In Rats.
María E. González Alvarez, Bailey C.Mcguire, Karl Kerns, Peter Sutovsky, Aileen F.Keating

**P173 -** DNA Methylation Dynamics During BPA Induced Transgenerational Inheritance Of Reproductive Phenotypes In Medaka.
Ramji K. Bhandari, Xuegeng Wang, Frederick S. Vom Saal, Donald E. Tillitt

**P176 -** Blood Serum Extracellular Vesicle Coupled Micrornas Expression Analysis In Metabolically Divergent Lactating Cows.
Tsige Hailay, Mikhael Poirier, Michael Hoelker, Samuel Gebremedhn, Franca Rings, Dessie Salilew-Wondim, Karl Schellander, Dawit Tesfaye

**P181 -** The Detrimental Impact Of Phthalates And Plasticizers On Fertilization And Early Embryo Development.
Liliya Gabelev Khasin, John Dela-Rosa, Polina Lishko

**P185 -** Environmentally Relevant Exposure To Dibutyl Phthalate And Ovarian Gene Expression: Effects Of Terminal Estrous Cycle Stage.
Jazmin G. Beltran-Gastelum, Estela Jauregui, Zelieann Craig

## GENOMICS/EPIGENETICS AND OTHER GENE REGULATION

**P187 -** Karyopherin Alpha 7 Imports BRD7 To The Nucleus In Early Porcine Embryo Development.
Jennifer S. Crodian, Yu-Chun Tseng, Jillian Bouck, Birgit Cabot, Ryan Cabot

**P190 -** Highly Efficient Genome Editing Using CRISPR/Mb3Cpf1 In Mice.
Zhuqing Wang, Yue Wang, Hayden Mcswiggin, Shawn Wang, Kimberly Castaneda-Garcia, Huili Zheng, Wei Yan

**P192 -** Withdrawn

**P195 -** Withdrawn

**P196 - Drosha Expression And Localization During Bovine Oocyte Maturation In Vitro.**
Deirdre A.H. Stuart, Allison Tscherner, Meritxell Vendrell Flotats, Leanne Stalker, Jonathan Lamarre

**P198 - Genomic Insights Into IVF Failure; Dysregulated Inflammation In Stimulated Follicles.**
Marc-André Sirard, Chloé Fortin

**P201 - ERα-Binding Super Enhancers Drive Key Mediators That Convey Uterine Responses.**
Sylvia C. Hewitt, Sara A. Grimm, Kenneth S. Korach

**P203 - Bovine Imprinted Gene Analysis In Assisted Reproduction Technology.**
Simon Lafontaine, Rémi Labrecque, Patrick Blondin, Marc-André Sirard

**P206 - Bloodborne mRNA and miRNA Profiles Discriminate Beef Heifers of Differing Reproductive Success in the First Breeding Season.**
Sarah E. Dickinson, Bailey N. Walker, Michelle F. Elmore, Joshua B. Elmore, Paul W. Dyce, Soren P. Rodning, Fernando H. Biase

**P210 - Optimization Of Spermatozoal mRNA Processing For Screening Male Fertility.**
Won-Ki Pang, Saehan Kang, Do-Yeal Ryu, Won-Hee Song, Md Saidur Rahman, Yoo-Jin Park, Myung-Geol Pang

**P213 - Adenosine Deaminase Acting On RNA (ADAR1) Deletion In Granulosa Cells Causes Dyssynchronous Ovulation And Infertility.**
Rikki N. Nelson, Xiaoman Hong, Pavla Brachova, Lane K. Christenson

**P217 - Developmental Genome-Wide DNA Methylation Asymmetry Between Mouse Placenta And Embryo.**
Karine Doiron, Lisa-Marie Legault, Anthony Lemieux, Maxime Caron, Donovan Chan, Natale David R, Flavia Lopes, Daniel Sinnett, Serge McGraw

**P218 - Progesterone Stimulates Histone Citrullination To Increase Insulin Like Growth Factor Binding Protein 1 (IGFBP1) Expression In Ovine Luminal Epithelial Cells.**
Coleman H. Young, Amanda O. Christensen, Brian D. Cherrington

**P221 - A-To-I RNA Modifications Are Enriched In Oocyte Ribosome Associated RNA.**
Pavla Brachova, Nehemiah S. Alvarez, Lane K. Christenson

**P226 - Reproduction In Space: Does Prenatal Exposure To Altered Gravity Program Sex-Biased Placental Expression Of Stress-Related Genes And Adult Outcomes?**
Simranjit Kalotia, Molly D. Heit, Moniece Lowe, Sophie Benson, Yuli Talyansky, Linda Guttman, Candice Tahimic, April Ronca

**P231 - Single-Blastocyst Genome-Wide Bisulfite Sequencing For Assessing The Impact Of In Vitro Follicle Culture, Superovulation And Age On Mouse Embryo Development.**
Laura Saucedo-Cuevas, Elena Ivanova, Anamaria C. Herta, Katy Billooye, Johan Smitz, Gavin Kelsey, Ellen Anckaert

## STEM CELLS

**P236 -** Gestational Exposure To Bisphenol A Affects Testicular Tissues And Functions Of Spermatogonial Stem Cells In Male Offspring.
Polash Chandra Karmakar, Jin Seop Ahn, Yong-Hee Kim, Sang-Eun Jung, Seok-Man Kim, Bang-Jin Kim, Hee-Seok Lee, Young-Hyun Kim, Myung-Geol Pang, Buom-Yong Ryu

**P238 -** Unique Epigenetic Programming Distinguishes Functional Spermatogonial Stem Cells In The Immature Mouse Testis.
Keren Cheng, I-Chung Chen, Christopher B. Geyer, Jon M. Oatley, John R. Mccarrey

**P239 -** Comparative Characterization Of Mesenchymal Stem Cells Derived From Synovial Fluid Depending On Rheumatoid Arthritis.
Hyeon-Jeong Lee, Si-Jung Jang, Ji-Sung Park, Yong-Ho Choe, Sang-Il Lee, Sung-Lim Lee

**P241 -** Regulation Of Spermatogenic Gene Network By 8-Oxoguanine (8-Oxog) In Korean Native Striped Cattle (Bos Namadicus Falconer, Chikso).
Sung Woo Kim, Young In Han, Jongsoo Mok, Eun Seo Kim, Joonghoon Park

**P243 -** Effective And Robust Protocols For Generation Of Clinically-Relevant Numbers Of Porcine Mesenchymal Stem Cells From Bone Marrow And Subcutaneous Fat.
Maria Sady, Maciej B. Olszewski, Magdalena Gajewska, Zdzislaw Gajewski.

**P247 -** Regulation Of Spermatogonial Stem Cells By H3K27 Demethylases.
Sakurako Shima, Tokuko Iwamori, Hiroshi Iida, Naoki Iwamori

**P251 -** An Optimal Condition For Synthetic Mrna Transfection Of Canine Fetal Fibroblasts.
Taehee Cho, Mirae Kim, Seon-Ung Hwang, Sang-Hwan Hyun

## TESTIS/MALE GAMETOGENESIS

**P255 -** C-Terminal Mutation In DRC1 Causes Male Infertility With Multiple Morphological Abnormalities Of Sperm Flagella.
Jintao Zhang, Xiaojin He, Rong Hua, Xin Zhang, Huan Wu, Yunxia Cao, Mingxi Liu

**P257 -** Co-Expression Of Sperm Membrane Proteins CMTM2A And CMTM2B Is Essential For ADAM3 Localization And Male Fertility In Mice.
Yoshitaka Fujihara, Asami Oji, Kanako Kita, Tamara Larasati, Masahito Ikawa

**P266 -** Simplified Pipelines For Genetic Engineering Of Mammalian Embryos By CRISPR-Cas9 Electroporation.
Deqiang Miao, Mariana Ianello Giassetti, Michela Ciccarelli, Blanca Lopez-Biladeau, Jon Oatley

**P269 -** Spontaneous Calcium Signaling Within The Mouse Seminiferous Epithelium.
Justine Fischoeder, Naofumi Uesaka, David Fleck, Jennifer Spehr, Marc Spehr

**P273 - Effect Of Recombinant Albumin As Serum Replacement On The Cryopreservation Of Spermatogonial Stem Cells.**
Ju-Hee Jin, Sang-Eun Jung, Jin Seop Ahn, Seok-Man Kim, Buom-Yong Ryu

**P275 - RNA Binding Protein TRIM71 Is A Novel Regulator For Murine Spermatogonial Stem/ Progenitor Cell Development.**
Xin Wu, Guihua Du, Xinrui Wang, Lufan Li, Weiya Xu

**P280 - Loss of hnRNP F In Sertoli Cell Impairs Blood-Testes Barrier And Leads To Male Infertility In Mice.**
Hui Wen, Mengneng Xiong, Shuiqiao Yuan

**P285 - Mechanistic insights into testicular granulosa cell tumor development.**
Xin Fang, Nan Ni, Ivan Ivanov, Qinglei Li

**P289 - Changes In Epigenetic Chromatin Modification Enzymes, Chromatin Remodelling Factors And Ubiquitination Enzymes Caused Due To Dcaf17 Mutation In Mouse Testis.**
Thuraya Alharbi, Bhavesh Mistry, Maha Alanazi, Mohamed Rajab, Junaid Kashir, Fowzan Alkuraya, Abdullah Assiri

**P293 - Protective Effect Of Alpha-Tocopherol Against Arsenic Induced-Toxicity In Testes.**
Manuel Sanchez-Gutiérrez, Pedro Becerra-Fajardo, Jeannett Alejandra Izquierdo-Vega, Eduardo Osiris Madrigal-Santillán, Luz María Del Razo-Jiménez, Valeria Lagunas-Ortiz, Kevin Flores-Elizalde

**P296 - Acute Effects Of Estradiol On Sertoli Cell Numbers In Intact And Hemicastrated Boars.**
Jennifer Jankovitz, Barbara Jean Nitta - Oda, Trish Berger

**P299 - Impact Of Maintenance Intake In Testis Parameters And Sperm Volume In Young Bucks.**
Ciro A. A. Torres, Marco A. S. Novaes, Palloma P. Almeida, Domingos L. S. Netto, Victor H. R. Carvalho, João V. R. Lovatti, Mariana M. Neves

**P301 - Rapid Response To Oestrogen Blocks SOX9 In Human Testis Cells.**
Melanie K. Stewart, Deidre M. Mattiske, Andrew J. Pask

**P306 - The Molecular Mechanism Mediating The Formation Of Atypical Distal Centriole (DC) In Mammalian Spermatozoa.**
Sushil Khanal, Katerina Turner, Emily Fishman, Kebron Assefa, Mohamad Baker Nawras, Matthew Robert Stojsavljevic, Tomer Avidor-Reiss

**P309 - Comparative Computer Assisted Semen Analysis In Nonhuman Primates.**
Katherine Mean, Thaddeus G. Golos, Jenna Kropp Schmidt

**P312 - Testis-Specific MAGE Genes Evolved To Protect Mammalian Male Germ Cells Against Genotoxic And Metabolic Stress.**
Klementina Fon Tacer, Melissa J. Oatley, Tessa Lord, Jonathon Klein, Heather Tillman, P Ryan. Potts

## MALE REPRODUCTIVE TRACT

**P316 -** Nuclear DNA Damage is Clearly Reflected by Changes in the Human Sperm Proteome.
Taylor Pini, Monika Dzieciatkowska, Jason Parks, Kirk C. Hansen, William B. Schoolcraft, Mandy Katz-Jaffe

**P321 -** Testicular Macrophages: Local Control Of Phenotype, Function And Turnover.
Sudhanshu Bhushan, Ming Wang, Britta Klein, Monika Fijak, Andreas Meinhardt

**P330 -** Subcellular Localization Of PRAMEY During Bovine Sperm Maturation.
Chandlar H. Kern, Weber B. Feitosa, Wan-Sheng Liu

**P333 -** Free Fatty Acid Release From Cauda-Isolated Mouse Sperm.
Theodore R.Chauvin, Kenneth P. Roberts

## FEMALE GAMETOGENESIS

**P335 -** Female Reproductive Life Span Is Determined By Cytoplasmic Enrichment During Oocyte Differentiation In Mice.
Nafisa Nuzhat, Kanoko Ikami, Haley Abbot, Allan Spradling, Lei Lei

**P338 -** Dynamic TAF Expression And Function In Establishing The Ovarian Reserve.
Megan A. Gura, Kimberly A. Seymour, Richard N. Freiman

**P340 -** Cumulus Oocyte Complexes Can Be Recovered From Small Antral Follicles Following Processing Of Pediatric Ovarian Tissue For Cryopreservation.
Luhan T. Zhou, Jordan H. Machlin, Farners Amargant, Courtney J. Harris, Erin E. Rowell, Monica M. Laronda, Francesca E. Duncan

**P343 -** The Peculiar Translational Machinery Of The Bovine Oocyte.
Mallorie Trottier-Lavoie, Isabelle Gilbert, Alexandre Bastien, Frédéric Guénard, Claude Robert

**P350 -** Withdrawn

**P354 -** Pharmacological Inhibition Of CHK2 Signaling To Protect Ovarian Reserve From Genotoxic Cancer Treatments.
Chihiro Emori, Ryan Kurtz, Ewelina Bolcun-Filas

**P357 -** Investigating The Effect Of Allelic Diversity On The Establishment Of The Ovarian Reserve.
Ruby Boateng, Ewelina Bolcun-Filas

**P360 -** Oocyte Competence Acquisition During Folliculogenesis In The Domestic Cat Model: A Role For The Cholesterol Trafficking Protein SCP2 And The Transcriptional Regulator BRD2.
Daniela R. Chavez, Pierre Comizzoli

**P363 -** Cell Signaling Mediated By The KIT Receptor Is Important For The Formation Of The Ovarian Reserve.
Joshua Burton, Melissa Pepling

**P368 - Effects Of Vitrification Of Bovine Oocytes On Mitochondrial Number And Function.**
Hayley M. Benham, Rolando Pasquariello, Jennifer P. Barfield, Rebecca L. Krisher, James K. Graham

**P369 - Zinc Biology In Early Mammalian Ovarian Follicle Development.**
Yu-Ying Chen, Thomas V. O'Halloran, Teresa K. Woodruff

## MEIOSIS/FERTILIZATION

**P378 - Zinc Exocytosis During Egg Activation Is Dependent On Myosin Light Chain Activity In The Mouse And Human.**
Hoi Chang Lee, Maxwell E. Edmonds, Francesca E. Duncan, Thomas V. O'Halloran, Teresa K. Woodruff

**P382 - Sestrin2 Plays Important Roles In Porcine Oocyte Maturation And Embryonic Development In Vitro As A Stress Regulator Protein Against Endoplasmic Reticulum Stress.**
In-Su Kim, Hyo-Jin Park, Jin-Woo Kim, Seul-Gi Yang, Ho-Guen Jegal, Min-Ji Kim, Deog-Bon Koo

**P384 - A Shotgun Proteomic Approach To Study Mitochondrial Inheritance.**
Dalen M. Zuidema, Peter Sutovsky, Michal Zigo, Won-Hee Song

**P386 - Sycp2 Is Essential For The Synaptonemal Complex Assembly And Early Meiotic Recombination In Zebrafish Spermatocytes.**
Noriyoshi Sakai, Yukiko Imai

**P389 - Melatonin Rescues The Aneuploidy In Mice Vitrified Oocytes By Decreasing Mitochondrial Heat Product.**
Lei Gao, Shenming Zeng, Yunpeng Hou, Shien Zhu, Xiangwei Fu

**P396 - Microtubule-Dependent Cytoplasmic Mtocs Are Necessary For Spindle Anchoring And Positioning During Oocyte Meiosis.**
Ahmed Z. Balboula

**P394 - Identification Of A Rare, Fertility Affecting Mutation In Bovine Eml5.**
Michal Zigo, Eriklis Nogueira, Karl Kerns, Miriam Sutovsky, Jaewoo Kim, Filip Tirpak, Thomas E. Spencer, Jeremy F. Taylor, Robert D. Schnabel, Peter Sutovsky

**P398 - MIR21 Inhibition Influences Porcine Oocyte Maturation Through Regulation Of Metabolic Pathways.**
Yunsheng Lli, Malavika Adur, Steven M. Lonergan, Aileen F. Keating, Jason W. Ross

**P400 - Sperm Decondensation Following ICSI In Bovine: Effect Of Activation Protocols And Interspecies ICSI.**
Mariana P. De Macedo, Karina Gutierrez, Werner G. Glanzner, Vitor B. Rissi, Luke Currin, Naomi Dicks, Hernan Baldassarre, Vilceu Bordignon

**P403 - Cumulus Oocyte Complex Secretions Can Induce Porcine Sperm Release From Oviduct Epithelial Cell Aggregates.**
Lantana Grub, David J. Miller

**P405 - Manipulation Of An Inactive Form Of Cofilin As Proof-Of-Principle For Auxin-Inducible Protein Degradation In Oocytes.**
Nicole J. Camlin, Janice P. Evans

**P407 - SUMOylation is essential for proper meiotic maturation and progression in mouse oocytes.**
Amanda Rodriguez, Alexandra Andrieux, Anne Dejean, Sean M. Hartig, Stephanie A. Pangas.

**P410 - Control of Meiotic Prophase One Progression in the Perinatal Mouse Ovary.**
Margaret R. McCoy, Melissa Pepling

**P412 - Cyclin N-Terminal Domain-Containing 1 (CNTD1) Coordinates Meiotic Crossover Formation With Cell Cycle Progression In A Cyclin-Independent Manner.**
Paula E. Cohen, Emerson R. Santiago, Joshua S. Chappie, Stephen Gray

## PREIMPLANTATION DEVELOPMENT

**P415 - Paternal Genome Rescues Mouse Preimplantation Embryo Development In The Absence Of Maternally-Recruited EZH2 Activity.**
Erika E. Paulson, Huili Wang, Libing Ma, Pablo J. Ross, Richard M. Schultz

**P423 - Histone Lysine Methyltransferase SETD8 Controls Cell Cycle In Mouse Preimplantation Development.**
Takuto Yamamoto, Daiki Shikata, Naojiro Minami

**P425 - Heat Stress Negatively Affects Embryo Development, Oxidative Stress And IFNT Production In Vitro.**
Carolina S. Amaral, Julia Koch, Eduardo E. Corrêa Junior, Gabrielle E. Corrêa, Fábio V. Comim, Paulo B.D. Gonçalves, Alfredo Q. Antoniazzi

**P428 - Biochemical Changes In Uterine Fluid Composition At The Initiation Of Conceptus Elongation In Cattle.**
Constantine A. Simintiras, José M. Sánchez, Michael Mcdonald, Pat Lonergan

**P429 - Abundance Of Transcript For Bovine Interferon Tau Is Decreased In Blastocysts Produced From Ovaries With Increased Numbers Of Antral Follicles.**
Robert A. Cushman, Emmalee J. Northrop, Jerica J. J. Rich, George A. Perry, Jeremy R. Miles, Chadwick C. Chase Jr

**P431 - INK128 Prevents Degeneration And Maintains High Quality In Porcine Blastocysts Developed In Vitro.**
Huili Wang, Shaoxian Cao, Guangdong Xing, Jifeng Zhong

**P433 - Dysregulated Expression Of XIST And Imprinted Genes Of The KCNQ1 Locus In Bovine Haploid Androgenetic Embryos.**
Luis Aguila, Jacinthe Therrien, Monica Garcia, Karine Mattos, Lawrence Smith

**P435 - Newly Synthesized Lipid Droplets Are Essential For Preimplantation Embryonic Development In Mouse.**
Ryutaro Aizawa

**P438 -** Functional Role Of L-Arginine In The Transport Of Water By Porcine Trophectoderm (pTr2) Cells.
Mohammed Ahmed Elmetwally, Cassendra Herring, Erin Posey, Fuller W. Bazer, Gregory A. Johnson, Guoyao Wu

**P443 -** Phosphorylation of Mechanistic Target of Rapamycin (MTOR) in Porcine Blastocysts is Dependent on the Concentration of Glutamine in the Medium.
Paula R. Chen, Lee D. Spate, Raissa F. Cecil, Joshua A. Benne, Taylor K. Hord, Randall S. Prather

**P445 -** The Influence Of Preovulatory Estradiol On Trophectoderm And Uterine Gene Transcript Abundance Around Maternal Recognition Of Pregnancy In Beef Cattle.
Emmalee J. Northrop, Jerica JJ. Rich, Robert A. Cushman, Jeremy R. Miles, Amanda K. Lindholm-Perry, Brittney N. Keel, Runan Yao, Xijin Ge, George A. Perry

**P450 -** NRF2 Is Required For Normal Development Of Porcine Embryos.
Werner Giehl Glanzner, Letícia Rabello Da Silva Sousa, Karina Gutierrez, Vitor Braga Rissi, Mariana Priotto De Macedo, Luke Currin, Naomi Dicks, Felipe Perecin, Vilceu Bordignon

**P453 -** Glycine Receptor A4 Subunit Supports The Early Development Of Mouse Embryos.
Hirofumi Nishizono, Mohamed Darwish, Takaho A. Endo, Hiroyuki Abe

**P455 -** Imaging Oocytes: Optical Clearing And Mathematical Modeling.
Alexandre Bastien, Claude Robert

**P460 -** Glyceraldehyde-3 Phosphate Dehydrogenase (GAPDH) Levels As A Possible Marker Of Embryonic Metabolism And Health.
Xiaowei Liu, Rhodel Simbulan, Sky Feuer, Annemarie Donjacour, Paolo Rinaudo

**P462 -** Utilization Of Glucose And Fructose By The Ovine Conceptus During The Peri-Implantation Period Of Pregnancy.
Robyn M. Moses, Katherine M. Halloran, Claire Stenhouse, Heewon Seo, Gregory A. Johnson, Guoyao Wu, Fuller W. Bazer

**P464 -** IFNT Does Not Affect Extracellular Vesicle Release Into The Uterine Lumen Of Sheep.
Eleanore V. O'Neil, Gregory W. Burns, Thomas E. Spencer

**P466 -** Maintenance Of Developmental Competence In Feline Oocytes Following 24 H Of Meiotic Arrest With Physiological Agents.
Shelley E.S. Sandmaier, Jason R. Herrick

**P469 -** Histone H3 Lysine 23 Acetylation And Methylation Are Drastically Changing During Oocyte Maturation And Embryos Cultured In Vitro In Pig.
Dong IL Jin, Tao Lin, Reza K Oqani, Jae Eun Lee, Hyeong Yeong Shin, Joo Bin Lee

**P471 -** Overlapping Roles And Requirement Of Histone Deacetylase 1 And 2 In Lineage Development And Genome-Wide DNA Methylation During Mouse Preimplantation.
Kun Zhang, Panpan Zhao, Huanan Wang, Han Wang, Yanna Dang, Lei Luo, Shuang Li, Yan Shi, Lefeng Wang, Shaohu Wang, Jesse Mager

**P475 -** Neurogenin 3 Disruption By CRISPR/Cas9 Electroporation Of Porcine Zygotes.
Insung Park, Seung K. Kim, Pablo J. Ross

## FEMALE REPRODUCTIVE TRACT/IMPLANTATION

**P477 -** Folate Deficiency Induces To Impaired Embryo Implantation And Decidualization Via Estrogen And Progesterone Signaling During Pregnancy In Mice.
Junya Ito, Yui Nambu, Takafumi Namiki, Yui Kawata, Atsuko Kageyama, Naomi Kashiwazaki

**P479 -** Conceptus-Derived Proteins, CAPG & P4HB, Alter The Transcriptome Of Bovine Endometrial Cells Cultured In Vitro To Enhance The Pregnancy Recognition Process.
Haidee Tinning, Anna Pullinger, Ruth Sutton, Georgios Oikonomou, Miguel A. Velazquez, Achim Treumann, Niamh Forde

**P483 -** Effect Of Exogenous Estradiol On Long-Term Culture Of Equine Endometrial Organoids In Vitro.
Riley E. Thompson, Aime K. Johnson, Margherita Y. Turco, Tulio M. Prado, Christopher Premanandan, Graham Burton, Brian K. Whitlock, Budhan S. Pukazhenthi

**P489 -** Diversity Of The Endometrial Microbiota Is Enhanced In Women With Endometriosis.
Jocelyn M. Wessels, Miguel A. Dominguez, Nicholas A. Leyland, Sanjay K. Agarwal, Warren G. Foster

**P490 -** Uterine Extracellular Vesicles- Meaningful Component Of Developing Conceptuses' Milieu.
Joanna Najmula, Yael Heifetz, Monika Marzena Kaczmarek

**P493 -** Global Transcriptomics Of The Mouse Uterus And Oviduct.
Elle C. Roberson, John B. Wallingford

**P497 -** Uterine Toxicity Of Chemotherapeutic Agent Doxorubicin.
Christian L. Andersen, Shuo Xiao, Mingjun Liu, Zidao Wang, Xiaoqin Ye

**P500 -** Lysosomes And Early Pregnancy.
Xiaoqin Ye, Zidao Wang, Christian Lee Andersen, Yuehuan Li

**P503 -** Identification Of Putative Factors Associated With Pelvic Organ Prolapse In Sows During Late Gestation.
Zoe E. Kiefer, Amanda L. Chipman, Jamie M. Studer, Lucas R. Koester, Lucas Showman, Aileen F. Keating, Stephan Schmitz-Esser, Jason W. Ross

**P506 -** The Role of COUP-TFII in the Uterus During the Pre-implantation Period.
Yeong Seok Oh, San-Pin Wu, Francesco J. DeMayo

**P510 -** Let-7 Derived From Endometrial Extracellular Vesicles Is A Main Factor Inducing Embryo Diapause In Mice.
Weimin Liu, Ziru Niu, Ranran Cheng, WSB Yeung

**P512 - Induced Uterine Disease Reduces Oocyte Quality And Embryo Development In The Cow.**
Mackenzie J. Dickson, Jeremy C. Block, Jose E. P. Santos, I. Martin Sheldon, John J. Bromfield

**P513 - Lysophosphatidic Acid As A Regulator Of Prostaglandin Secretion In Equine Endometrium During The Estrous Cycle: Different Effects In The Course Of Endometrosis.**
Dariusz Jan Skarzynski, Natalia Leciejewska, Beata Zelmańska, Joanna Staszkiewicz-Chodor, Graca Maria Ferreira-Dias, Anna Zuzanna Szóstek-Mioduchowska

**P516 - Expression of EphA1/ephrin A1 and EphB4/ephrin B2 In The Regulation Of Embryo Implantation In Pigs.**
Shaoping He, Xiaomin Fang, Yanfeng Fu

**P518 - Function Of TRPML1 In Uterine Fluid Resorption Prior To Embryo Implantation.**
Zidao Wang, Ahmed E El Zowalaty, Yuehuan Li, Christian Lee Anderson, Xiaoqin Ye

**P520 - Overexpression of Progesterone Receptor A or B Isoform in Uterine Epithelium Disrupts Embryo Implantation by Altering Leukemia Inhibitory Factor-Forkhead Box Protein O1 signaling.**
Rong Li, Ripla Arora, Tianyuan Wang, San-pin Wu, Francesco DeMayo

**P522 - The Autophagy Protein FIP200 (RB1CC1) Mediates Progesterone Responses Governing Uterine Receptivity And Decidualization.**
Arin K. Oestreich, Sangappa B. Chadchan, Alexandra Medvedeva, John P. Lydon, Emily S. Jungheim, Kelle H. Moley, Ramakrishna Kommagani

**P526 - Antiphospholipid Autoantibodies Accelerate Human Endometrial Stromal Cell Decidualization And Induce Senescence And Senescence-Associated Inflammation.**
Mancy Tong, Teimur Kayani, Lawrence W. Chamley, Vikki M. Abrahams

**P527 - Hypoxia-Induced Vesicular Trafficking Between Uterine Cells Is Critical For Embryo Implantation And Establishment Of Pregnancy.**
Arpita S. Bhurke, Athilakshmi Kannan, Qiuyan Ma, Alison Hantak, Milan K. Bagchi, Indrani C. Bagchi

**P529 - Expression And Regulation Of Metallopeptidases In Equine Endometrium In The Course Of Endometrosis.**
Anna Z. Szóstek-Mioduchowska, Mariola Słowińska, Joanna Pacewicz, Dariusz J. Skarzynski, Kiyoshi Okuda

**P531 - Beta2-Adrenergic Receptor Dependent And Independent Mechanisms Of Pre-Implantation Embryo Movement.**
Ripla Arora, Diana Flores Diaz

**P539 - Expressions And Functions Of Microrna Lethal-7b In Mouse Pre- And Peri-Implantation Embryo.**
Jihyun Kim, Jaewang Lee, Sooseong You, Wontae Kim, Jung Won Choi, Jin Hyun Jun

**P542 - Insulin Signaling Is Crucial For Successful Decidualization And Implantation In Mice.**
Nikola Sekulovski, Allison E. Whorton, Mingxin Shi, Kanako Hayashi, James A. Maclean II

**P545 - Relationship Between Anogenital Distance And Fertility In Beef Cows Submitted To Timed Artificial Insemination.**
Sarah E. Battista, Shaun R. Wellert, Justin D. Kieffer, Kaitlin E. Brown, Luis E. Moraes, Alvaro Garcia-Guerra

**P550 - The Development of a Uterine Gland 3D Culture Model To Understand Pregnancy Establishment In Women.**
Harriet C. Fitzgerald, Pramod Dhakal, Susanta K. Behura, Daniel J. Schust, Thomas E. Spencer

**P551 - Sperm Capacitation-induced Zinc Efflux is Necessary for Increased Proteasomal Activity and Release from Oviduct Glycans of the Sperm Reservoir.**
Karl Kerns, Momal Sharif, Michal Zigo, David Miller, Peter Sutovsky

**P553 - Spatially Mapping Matrisome Protein Abundance Across Ovarian Compartments Identification Of Glycoproteins That May Affect Folliculogenesis.**
Nathaniel FC. Henning, Kelly A. Even, Sofia P. Petukhova, Monica M. Laronda

**P556 - Seminal Plasma or TGF Increases Expression of IL6 and TNF in Bovine Endometrial Cells.**
Jason A. Rizo, John J. Bromfield

**P560 - Understanding The Role Of Hemoglobin During Oocyte Maturation.**
Megan Lim, Hannah M. Brown, Jeremy G. Thompson, Kylie R. Dunning

**P563 -** Withdrawn

**P566 - Designing In Vitro Gelatin Hydrogel Platforms For Monitoring Endometrial Function And Trophoblast Invasion.**
Samantha G. Zambuto, Kathryn B.H. Clancy, Brendan A.C. Harley

**P568 - Hyaluronan-NK Cell Interaction Controls The Primary Vascular Barrier During Early Pregnancy.**
Ron Hadas, Eran Gershon, Aviad Cohen, Sima Stroganov, Ofir Atrakchi, Shlomi Lazar, Ofra Golani, Bareket Dassa, Michal Elbaz, Gadi Cohen, Elena Kartvelishvily, Raya Eilam, Nava Dekel, Michal Neeman

## PREGNANCY/MYOMETRIUM

**P573 - Circulating CD31+ Exosomes are Significantly Elevated with a Proliferative and Angiogenic but Anti-apoptotic mRNA Signature in Pregnant Women with Placenta Accreta Spectrum.**
QR Qi, J Makhoul, YH Yang, QY Zhang, TL Lechuga, A Al-Khan, NP Illsley, L Liu, J Song, WB Tan, S Zamudio, DB Chen

**P578 -** Progesterone Receptor Membrane Component-1 (PGRMC1) Is Upregulated By Progesterone In The Highly Dynamic Uterine Junctional Zone Of The Macaque Myometrium.
Christopher S. Keator, Ov D. Slayden

**P580 -** Fetal T Cells Secrete Cytokines Elevated During Labor In Response To Antigen At The Fetal-Maternal Interface.
Jessica M. Toothaker, Collin C. Mccourt, Stephanie F. Stras, Oluwabunmi Olaloye, Liza Konnikova

**P581 -** Wnt-/Cadherin- Signaling Relating Genes Cause Madibular Dyplasia In Cloned Dogs.
Sun-A Ock, Dajeong Lim, Seunghoon Lee, Yong-Ho Choe, Hyeon-Jeong Lee, Sung-Lim Lee

**P582 -** FGL2-Associated Transcriptional And Histopathological Features Of Immunological Preeclampsia.
Pascale Robineau-Charette, Shannon A. Bainbridge, Barbara C. Vanderhyden

**P584 -** Uterine Gland Influence On Development Of The Placenta And Fetus.
Pramod Dhakal, Susanta Behura, Harriet Fitzgerald, Andrew Kelleher, Thomas E. Spencer

**P586 -** Embryonic Deletion Of Atypical Chemokine Receptor 3 (Ackr3) Stimulates Immune Cell Recruitment And Spiral Artery Remodeling In The Decidua.
Kelsey E. Quinn, Kathleen M. Caron

**P587 -** Bisphenol A And Bisphenol S Disruptions Of The Mouse Placenta And Potential Effects On The Placenta-Brain Axis.
Jiude Mao, Ashish Jain, Nancy D. Denslow, Mohammadzaman Nouri, Sixue Chen, Tingting Wang, Ning Zhu, Jin Koh, Saurav J. Sarma, Barbara W. Sumner, Zhentian Lei, Lloyd W. Sumner, Nathan J. Bivens, R. Michael. Roberts, Geetu Tuteja, Cheryl S. Rosenfeld

**P590 -** Estrogen Stimulates Human Uterine Artery Endothelial Cell H2S Biosynthesis Via Estrogen Receptor- And Pregnancy-Dependent Cystathionine B-Synthase Upregulation In Vitro.
Thomas J. Lechuga, Qian-Rong Qi, Dong-Bao Chen

**P593 -** Transcriptome Analysis Reveals The Key Regulators And Molecular Mechanisms Underlying Myometrial Activation During Equine Placentitis.
Shavahn Loux, Yatta Boakari, Pouya Dini, Kirsten Scoggin, Ted Kalbfleisch, Alejandro Esteller-Vico, Barry Ball

**P596 -** Placental Extracellular Vesicles In Murine Pregnancy.
Sean L. Nguyen, Soo Hyun Ahn, Benjamin W. Collaer, Magaret G. Petroff

**P598 -** Preeclampsia Differentially Dysregulates Female And Male Fetal Endothelial Function: Roles Of Mir29a/C.
Chi Zhou, Qin Yan, Xin-Wen Chang, Ronald R. Magness, Ian M. Bird, Jing Zheng

**P600 -** LIN28-Let-7 Axis Regulates Gene Expression In Ovine Placenta In Vivo.
Asghar Ali, Russell V. Anthony, Gerrit J. Bouma, Quinton A. Winger

**P602 -** Development Of Immunotolerance In Bovine Fetuses Infected With BVDV.
Hanah M. Georges, Katie J. Knapek, Helle Bielefeldt-Ohmann, Hana Van Campen, Thomas R. Hansen

**P604 -** Placental Nuclear And Membrane Progesterone Receptors (PGR) Expression From Early To Late Pregnancy In Sheep: Effects Of Restricted Nutrition And Realimentation.
Thanya Bunma, Kimberly A. Vonnahme, Manuel A. Vasquez-Hidalgo, Kendall C. Swanson, Sheri T. Dorsam, Chainarong Navanukrav, Anna T. Grazul-Bilska

**P607 -** Effects Of Bovine Pregnancy-Associated Glycoproteins On Gene Transcription In Bovine Endometrial Explants.
Amanda L. Schmelzle, Ky G. Pohler, Michael F. Smith, Jonathan A. Green

**P609 -** Comparison Of Developmental Capacity Of Bovine Parthenogenetic And Biparental IVF Embryos And Its Effects On Placental Products Secretion.
Gessica A. Franco, Gabriela D. Melo, Sydney T. Reese, Webb D. Fields, Veronica M. Negron-Perez, Claire L. Timlim, Kyungjun Uh, Kiho Lee, Vitor R G. Mercadante, Ky G. Pohler

**P611 -** Role Of The Human Placenta-Specific Transcription Co-Factor Vgll1 In The Specification And Maintenance Of The Trophoblast Lineage.
Francesca Soncin, Omar A. Farah, Mariko Horii, Donald Pizzo, Morgan Meads, Kathy Niakan, Louise C. Laurent, Mana M. Parast

## TRANSLATIONAL

**P614 -** Spheroids May Mediate Metastasis From The Fallopian Tube Epithelium To The Ovary In High-Grade Serous Ovarian Cancer.
Matthew Dean, Vivian Jin, Tova M. Bergsten, Julia R. Austin, Angela Russo, Joanna Burdette

**P616 -** RNA High Sequencing Analyses Reveal An Aberrant Phenotype Of Specific Immune Populations In Eutopic Endometrium Of Women With Endometriosis.
Júlia Vallvé Juanico, Sahar Houshdaran, Linda C. Giudice

**P620 -** Development Of A New Targeted Therapy Against Hormone-Dependent And Chemo-Resistant Breast Cancers Based On Estrogen-Platinum Hybrids And Anti-Inflammatory Agents.
Yassine Oufqir, Valerie Boulanger, Isabelle Plante, Gervais Bérubé, Carlos Reyes-Moreno

**P622 -** An Effect Of Platelet Rich Plasma (PRP) On Autologous Ovarian Tissue Transplantation On A Rat Model.
Anna Niwinska, Ricardo Faundez, Edyta Juszczuk-Kubiak, Zdzisław Gajewski, Jarosław Kaczyński, Ewa Kautz

**P624 -** Aggressive Clear Cell Endometrial Cancer With Uterine-Specific Deletion Of Pten And Dicer In A Preclinical Mouse Model.
Xiyin Wang, Robert Emerson, Chi Zhang, Douglas Rusch, Shikha Khatri, Russell Broaddus, Francesco Demayo, John Lydon, Shannon Hawkins

**P626 -** Role Of Enhancer Of Zeste Homolog 2 (EZH2) In Endometrial Cancer.
Ana M. Mesa, Ricky Y K. Leung, Manjunatha K. Nanjappa, Theresa I. Medrano, Jiude Mao, Shuk-Mei Ho, Cheryl S. Rosenfeld, Paul S. Cooke

**P627 -** Progesterone Receptor Is A Physiologically Relevant Metformin Target In Endometrial Cancer Cells.
Sofia Jade U. Saguyod, Rosalia C.M. Simmen, Michael C. Velarde

## CONTRACEPTION

**P631 -** Contraceptive Efficacy And Injection Safety Profile Of Porcine Zona Pellucida And Recombinant Zona Pellucida Vaccines Formulated With Pet Gel A And Poly (I:C) In Caribbean Donkeys.
Brittany Middlebrooks, Erik Peterson, Darryn Knobel, Martin Schulman, Henk Bertschinger, Hilari French, Michael Crampton, Robyn Roth, P. Van Zyl

**P637 -** NICHD's Chemical Screening and Optimization Facility (PAR-19-261): Opportunities for Contraceptive Product Development.
Christopher C. Lindsey, Daniel S. Johnston

## EDUCATION/ COMMUNICATION/ RESEARCH RESOURCES

**P636 -** Impact Of Tutor And Monitor-Assisted Model And Active Methodologies To Increase Performance Of Health Professional Students In Embryology And Physiology Of A Public University.
Danielle Kaiser De Souza, Rosangela Correa Rodrigues, Huryel Tarcio De Oliveira, Valerie Cristine Costa E Silva Sandes, Mariany Maria Pereira Vasques, Amanda Beatriz Dias Nunes, Andressa Maria Do Nascimento Neri, Julia Bernardes Dias, Karine Tatiana Martins Rosa Fernandes, Karoliny De Souza Matos, Lucas Lopes Vieira Da Silva, Vivian De Souza Oliveira

**END SUNDAY POSTERS**

# AUTHOR INDEX

Since the creation of this list, some of the authors listed below may have, regrettably, withdrawn their abstracts from the meeting. Also, authors who were not entered correctly in the submission system may not appear; please see the complete author list in the meeting app.

## A

## B

## C

## D

## E



## F

## G

## H

## L

## M

## N

## O



## P

# Q



# R

## S

## T

## U



## V



## W

## X

## Y



## Z

# MEETING NOTES

# MEETING NOTES

# MEETING NOTES

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# 53RD ANNUAL MEETING

*Shaw Centre | Ottawa, Ontario, Canada*

**KENT THORNBURG**
*Keynote Speaker*

**The Placenta as a Conduit for Offspring Health and Disease**

**NICOLAS RIVRON**
*State of the Art Speaker*

**Blastoids: Modelling the Mouse Conceptus and *In Utero* Implantation Using Stem Cells**

**EVELYN TELFER**
*Plenary Speaker*

**New Developments in Human in Vitro Folliculogenesis**

**ROBIN LOVELL-BADGE**
*Plenary Speaker*

**Chromatin Landscapes and Sex Determination, And the Storm of Genome Edited Babies**

**GIULIANO TESTA**
*Plenary Speaker*

**Uterus Transplantation As A Solution to Absolute Uterine Infertility**

**KATHRYN CLANCY**
*Plenary speaker*

**The Science of Gender Harassment**

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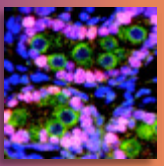
## Our Research Groups

**Testis Development and Male Germ Cell Biology**

Prof Kate Loveland

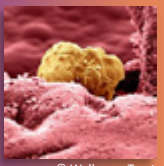


**Germ Cell Development and Epigenetics**

Dr Patrick Western

**Endometrial Remodelling**

Prof Lois Salamonsen
Dr Tracey Edgell
Dr Jemma Evans



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**Implantation and Placental Development**

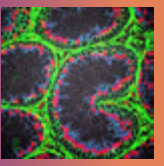
Prof Guiying Nie

**Ovarian Biology**

Prof Jock Findlay

**Male Fertility Regulation**

Dr Peter Stanton

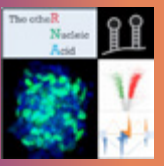


**Endocrinology and Immunophysiology**

Prof Mark Hedger

**RNA Biology in Health and Disease**

Dr Minni Änkö

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