Society for Reproductive Biology

April 2023 edition

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PRESIDENT REPORT

Society for Reproductive Biology

Dear SRB colleagues,

While it was a long time in the making, I am delighted to have finally had the privilege of attending our annual scientific meeting in Christchurch, New Zealand. I think you will all agree that it was an exceptional meeting with excellent science, a relaxed and beautiful venue and lots of opportunity to socialise with our colleagues. I would like to extend my heartfelt appreciation to everyone that has made this possible. I would especially like to thank our Program Organising Committee Co-chairs, Tu'uhevaha Kaitu'u-Lino, Andrew Pask and Geoffry De Iuliis, and our Local Organising Committee representative, Michael Pankhurst, for all of their efforts in assembling the outstanding scientific program, and to our Awards and Sponsorship Secretary Fiona Brownfoot for her tireless efforts in coordination of these awards.

Among the many important opportunities to arise from this meeting, we have recently submitted an invited expression of interest to Merck Healthcare for the sponsorship of merit awards for SRB early career researchers (ECRs) at our upcoming annual scientific meeting. This request follows unsolicited feedback from Merck representatives regarding the outstanding science they witnessed being presented by our talented ECR finalists in the SRB David Healy New Investigator Award session. Specifically, our formal request was for sponsorship ($500) of all finalists in this session. I will keep you updated on the outcome of this submission.

Together with the Presidents of the Society for the Study of Reproduction (USA) and the Society for Reproduction and Fertility (UK), SRB Council have been working toward the establishment of a joint Medal and Oration in commemoration of the career of that late Professor Roger Short; a summary of which is provided on the next page. I am delighted to now be able to announce that applications have opened for this highly prestigious award and I strongly encourage all eligible young researchers to consider applying.

The RV Short Medal and Lecture will be awarded annually to an innovative young researcher who has made outstanding discoveries in the field of reproductive science within a period up to 10 years of establishing their independence. The intent of the award is to recognize those who possess the spirit of discovery, creativity and imagination epitomized by the career of Roger Short.

This prestigious international award is a joint initiative of the Society for Reproductive Biology (SRB, Australasia), the Society for Reproduction and Fertility (SRF, UK) and the Society for the Study of Reproduction (SSR, North America) to support outstanding young researchers in the reproductive sciences.

The following guidelines for nominations apply:

Any financial member of the SSR, SRB or SRF may nominate a candidate, irrespective of the candidate's country of origin or whether or not the candidate has been nominated for or received a society award.

PRESIDENT REPORT

continued

Society for Reproductive Biology

- Nominations are to be submitted online to the award website on each society's web page by the closing date, normally at least 6 months before the time of the lecture.
- The award committee will select the medalist from the nominations received, irrespective of the candidate's country of origin.
- It is expected that the candidate is, or will become, a member of one of the Societies.
- A previous RV Short medalist is not eligible for nomination.
- To avoid any conflict of interest, a member of the award committee must declare any personal relationship with a nominated candidate and cannot nominate a person for the Award.
- The candidate must agree to be nominated and to any audio-visual requirements in conjunction with the award

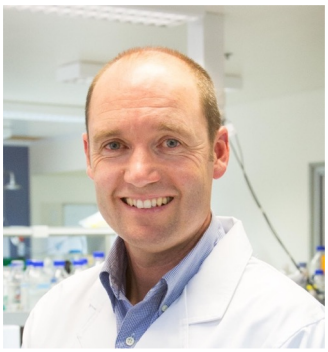
Additional details and the application portal are available at: https://form.jotform.com/230735282891057

On behalf of all SRB members, I would like to welcome the new and returning members of Council, each of whom have kindly agreed to take on the following portfolios:

- **Cassy Spiller** SRB Secretary
- **Dagmar Wilhelm** POC Co-Chair
- **David Sharkey** SRB Membership Secretary
- **Fiona Brownfoot** Awards and Sponsorship Secretary
- **Tessa Lord** Fellows & Life Members and Plenary Lectures Secretary
- **Janet Pitman** Communications Team – PR representative
- **Katie Ayers** SRB Newsletter Secretary

All best wishes,

Brett



Brett Nixon

SECRETARY REPORT

Society for Reproductive Biology

This year saw the positions of Secretary and four ordinary Council members up for election. We are delighted to welcome Dr Cassy Spiller as the Society's new Secretary and thank Dr David Sharkey for his dedication to this portfolio over the last 3 years. We also extend a very warm welcome to Dr Tessa Lord and Dr Janet Pitman who both join Council after their successful election nominations. Tessa has taken up the role of Fellows & Life Members/ Plenary Lecturers Secretary, while Janet has taken on the role of Communications Secretary. Dr Fiona Brownfoot and Dr David Sharkey were also successful in being re-elected to Council. Fiona will continue in her role as Awards and Sponsorship Secretary, while David has transitioned over to Membership Secretary. We are also excited to also have Dr Katie Ayers join us as a co-opted member. Katie will take on the role of Newsletter Secretary. On behalf of the Society, we extend a very warm welcome to you all and we look forward to working with you over the coming years.

We also extend a big congratulations to Dr Brendan Houston (University of Melbourne) who has joined Dr Ella Green as our ECR representatives as well as Bianca Fato (University of Melbourne) who has joined Azelle Hawdon as our Student Representatives.

Welcoming new members to Council also means we have people who will be completing their terms following the AGM. Firstly, we wish to thank Dr Kylie Dunning, Dr Shaun Roman, Dr Lisa Akison and Professor Andy Pask for their outstanding service during their time on Council. We also wish to thank Dr Jessica Dunleavy and Shenae Cafe for their wonderful contribution to Council in their respective roles as ECR and Student Representative. Finally, we extend a special thank you to Professor Jeremy Thompson who has retired from the position of being the Society's Public Officer after many years of generous service.

2022 – 2023 Council

EXECUTIVE MEMBERS

President Brett Nixon
Secretary Cassy Spiller
Treasurer Kelly Walton

SECRETARY REPORT

Society for Reproductive Biology

ORDINARY MEMBERS

Geoffry De Iuliis	POC co-chair
Dagmar Wilhelm	POC co-chair
Fiona Brownfoot	Awards and Sponsorship Secretary
Tessa Lord	Fellows & Life Members/ Plenary Lecturers Secretary
Janet Pitman	Communications Secretary
Kelsey Pool	Equity and Diversity / Exotic Species
Caitlin Wyrwoll	Conference Secretary / RFD Liaison
David Sharkey	Membership Secretary
Ella Green	ECR Representative
Brendan Houston	ECR Representative
Azelle Hawdon	Student Representative
Bianca Fato	Student Representative

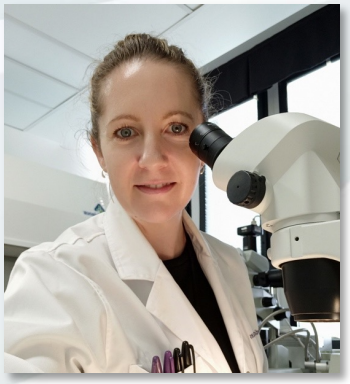
CO-OPTED MEMBERS

Katie Ayers	Newsletter Secretary
Tu'Uhe Kaiu'u-Lino	POC co-chair
Taylor Pini	Public Relations and Website Secretary
David Sharkey	Public Officer

It was fantastic to be able to finally catch up with many of our colleagues at our first in-person scientific meeting for some time. Christchurch provided the perfect back drop for the meeting and the quality of science shared by our members was exceptional. We are really looking forward to doing it all again this year and hope to see as many of you as possible in sunny Brisbane, Queensland on 26th – 29th November!

Best wishes,

Cassy and David



Cassy Spiller

David Sharkey

Science meets Parliament

Society for Reproductive Biology

Through our membership with Science and Technology Australia, our Secretary Dr Cassy Spiller recently represented SRB at Science meets Parliament (SmP; March 2023). Other SRB members, though representing other organisations, included Dr Kylie Dunning, Dr Tiffany Cheow Yuen Tan, Dr Nicola Rivers and Dr Jarrod McKenna – a Repro tour de force!

This year was the 23rd year of SmP, an event designed to connect STEM professionals with parliamentarians to promote the importance of science. Over three days, interactive online workshops were held to develop skills in science communication particularly for engaging with non-specialist audiences such as the media, industry and, of course, politicians.
This training was followed by a day at Parliament House in Canberra where each delegate also met with a matched MP, attended, or watched the National Press Club Address, observed question time and attended a Gala Dinner with MPs in the evening.

Cassy met with MP Sally Sitou, Member for Reid, and promoted awareness into the importance of investment into our reproductive biology research. Cassy was extremely impressed with Sally's enthusiasm for our science and her concern and consideration for our increasingly difficult research funding climate.

Science meets Parliament

Society for Reproductive Biology

During the National Press Club Address, The Hon Ed Husic MP, (Minister for Industry and Science) noted the record-breaking number of MPs, Senators and advisers from all political parties meeting with scientists on the day - amounting to 40% of parliamentarians. He also discussed the importance of recognising our First Nation's scientists and engineers. He affirmed "Science isn't a 'nice to have' only when times are good. It is essential to the prosperity of this country. To our national wellbeing. To being a modern economy".

A sit-down chat with Australian Chief Scientist, Dr Cathy Foley and ANU Vice Chancellor Prof Brian Schmidt led to great discussion of where we currently sit in the history of STEM and how Australian R&D can power our prosperity and future.

The Gala Dinner had warm and enthusiastic addresses from all sides of parliament: Science Minister Ed Husic, Shadow Science Minister Paul Fletcher, Deputy Prime Minister Richard Marles and Shadow Home Affairs Minister Karen Andrews. Richard Marles was passionate about Australian Science: "Science stirs the imagination of human beings, and we need to value science and see it more front and centre in the way we see and live our lives".

Please have a look at further highlights from the meeting that can be found here: https://www.industry.gov.au/news/its-wrap-science-meets-parliament-2023

Cassy Spiller

Program Organising Committee Report – Feb 2023
Tu'uhevaha Kaitu'u-Lino, Andrew Pask and Geoffry De Iuliis

We expected it was going to be great to see one another in person after the forced hiatus, and indeed our suspicions were correct. Thank you to everyone for travelling to Christchurch and supporting the meeting in 2022. It was extremely well attended, and for many aspects, all participants rated the SRB portions of the meeting as very good or excellent with 95% ranking the program content highly. While the excitement around being in NZ and catching up face-to-face once more, I'm sure supported these results, the POC would like to pass on our sincere thank you!

We would like also to give a big thanks to our outgoing POC co-chair, Andy Pask for his steadying influence and invaluable contributions over the past 3 years and welcome our newest member to the fold, A/Prof Dagmar Wilhelm. We are excited to have already started planning for SRB2023 – which will be held in Brisbane, from Sunday Nov 26th – 29th 2023. If you have any symposium or speaker suggestions, now is the time to get in touch – you can email us via (t.klino@unimelb.edu.au, dagmar.wilhelm@unimelb.edu.au or geoffry.deiuliis@newcastle.edu.au). Otherwise, we look forward to getting on with planning another exciting program for 2023. We can't wait to see you all once again in Brisbane!

POC: Andrew Pask, Geoff de Iuliis and Tu'uhevaha Kaitu'u-Lino

Society for Reproductive Biology

Plenary Lecturers Secretary

Founders' Medal and Oration

This is given by an international researcher and the 2022 recipient was Professor Amander Clark from the Department of Molecular, Cell and Developmental Biology, UCLA. Congratulations!

Professor Clark is Professor and Chair of the Molecular Cell and Developmental Biology Department at UCLA where her research program is focused on deciphering the cell and molecular regulation of primordial germ cell (PGC) development and differentiation in mammals, including non-human primates and humans. Her laboratory's overall goal is to use the fundamental knowledge gained from PGC studies to understand and treat the disease of infertility, and provide answers to help women and their partners understand early pregnancy loss.

President's Lecturer

In 2022 this was given by Prof Claire Roberts from the College of Medicine and Public Health at Flinders University.

Professor Roberts is a Matthew Flinders Professor at Flinders University where she directs the Pregnancy Health and Beyond Laboratory. Prof Roberts has broad expertise spanning basic cellular and molecular mechanisms in placental development and function, cohort and population level analyses to identify mechanisms that underlie prevalence and trends in pregnancy outcomes affecting the short- and long-term health of women and children. She has a particular interest in modifiable risk factors and exposures, including maternal diet, micronutrient status, lifestyle factors, and workplace exposures, for health in pregnancy and beyond.

We thank the members who nominated them and council members for their assistance with selection.

Society for Reproductive Biology

Fellows & Life Members

Fellows of the Society for Reproductive Biology (FSRB)

No applications for Fellow were received this year. I encourage all worthy members to review the requirements and consider applying. Please encourage your colleagues to apply.

Life Members

No applications for Life Members were received this year. I encourage council members to encourage applications from worthy candidates.

This is my last report as Tessa Lord will be taking over this portfolio in 2023. Since 2017 the society has recognised ten Fellows and four Life members. We have also had exciting Plenary lecturers at each meeting. I would to like to thank all council members who I have worked with over my terms, including the three Presidents: ChrisO'Neill, Moira O'Bryan and Brett Nixon and Secretaries Kirsty Pringle, Mark Green and David Sharkey. I have received extensive support from them. I also had excellent assistance at promoting the various nominations from ASN and the various PR portfolios: Kelly Walton, Lisa Atkinson, Taylor Pini, and Mark Baker. Nominations for fellows and life members are examined by a committee of six including at various time the Presidents listed previously, the Secretaries David Sharkey, Mark Green and our esteemed colleagues: Sarah Robertson, Rob Gilchrist, Eileen McLaughlin, Kate Loveland and Caroline Gargett.

Shaun Roman

CONFERENCE SECRETARY / RFD LIAISON REPORT

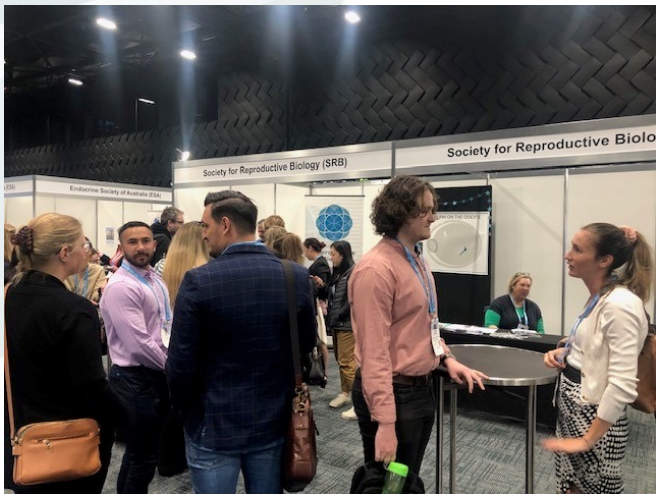
Society for Reproductive Biology

SRB Conference Secretary and RFD Liaison Report

Caitlin Wyrwoll

It was fantastic to reignite the SRB conference booth and meet so many of you this year. Bingo and “pin the sperm on the oocyte” were a big hit and much fun was had. Congratulations to all the winners and thanks to all the helpers.

We shared our booth with Jenny Foster from Reproduction, Fertility, and Development. The new MoU between SRB and RFD has recently been formally signed. It’s fantastic to continue this relationship, RFD is an important supporter of SRB and we are grateful for their important role in SRB. We are in discussions with RFD over a dedicated issue for SRB “Rising Stars”. Stay tuned for more information in the New Year.



A message from RFD Editors-in-Chief

Society for Reproductive Biology

Why should you publish in *Reproduction, Fertility and Development*?

- It supports your society and your science;
- It publishes local and international discoveries, reviews and technical reports;
- It is indexed in MEDLINE and PubMed;
- High-quality … rigorous peer review, top-level copy editing and high-quality production;
- Open Access (OA) is **free** for corresponding authors from universities and research institutions that have signed a 'Read and Publish' (RAP)* agreement with CSIRO publishing. Such agreements have been signed by most R&D organisations in Australia and New Zealand. See the list at https://www.publish.csiro.au/rd/forauthors/ReadandPublish.
- For more detail of author benefits, go to RFD.pdf (csiro.au).

Why OA? Three reasons:

Worldwide ... now 35% of papers, will be 50% by end of 2023.

Movement to OA is guaranteed by government (already announced in USA, UK, India)

Research integrity goes hand-in-hand with OA and integrity is advancing rapidly, aided by software for plagiarism that will allow the Publisher to assess papers before they get to Associate Editors and thus reviewers. And image plagiarism detection is just around the corner.

***RAP agreements**

RAPs provide a viable business model because Open Access is free for authors, with minimal budget impact for libraries that have a subscription.

The Publisher needs more international universities and research institutions to sign up. Of course, SRB *Reproduction, Fertility and Development* is an international society so, progress in this endeavour will bring more international papers, helping to raise the impact of RFD.

Does your library subscribe? Should it? We can help make a case to your library for a RAP.

Jenny Juengel and Graeme Martin

Co-Editors-in-Chief
Reproduction, Fertility and Development

Society for Reproductive Biology

Workshops on the Ovarian Follicle in Sheep and Cattle

SRB members and *Reproduction, Fertility and Development* have been essential contributors to a series of three workshops that aimed to form a consensus of our understanding of ovarian follicle function and the control of ovulation rate. The first two workshops were coordinated by Rex Scaramuzzi, in 1991 in Australia and in 2008 in France. The consensus papers were subsequently published:
https://doi.org/10.1071/RD9930459 (357 citations; Google Scholar)
https://doi.org/10.1071/RD09161 (330 citations; Google Scholar)

We held the third workshop in 2020 in New Zealand, just before international lockdown.

The evolution of the field over those thirty years is fascinating, as we moved from a traditional morphological description of follicle development towards a functional model (Workshop 1), then to recognition of the oocyte controlling its own destiny (Workshop 2). The most recent workshop highlighted the follicle reserve and AMH, and the re-emergence of theca as a major player in follicle function. Over the three workshops, a continuous theme has been the evolution of our understanding of nutritional and metabolic inputs, with the 'adipokinome' coming to the fore in 2020.

The consensus review from this workshop paper is Open Access: https://doi.org/10.1071/RD21086
Feel free to distribute the link to those who you think might be interested.

Juengel et al (2021). The ovarian follicle of ruminants: the path from conceptus to adult. *Reproduction, Fertility and Development* **33**, 621–642.

This review resulted from an international workshop and presents a consensus view of critical advances over the past decade in our understanding of follicle function in ruminants. The major concepts covered include: (1) the value of major genes; (2) the dynamics of fetal ovarian development and its sensitivity to nutritional and environmental influences; (3) the concept of an ovarian follicle reserve, aligned with the rise of anti-Müllerian hormone as a controller of ovarian processes; (4) renewed recognition of the diverse and important roles of theca cells; (5) the importance of follicular fluid as a microenvironment that determines oocyte quality; (6) the 'adipokinome' as a key concept linking metabolic inputs

ts with follicle development; and (7) the contribution of follicle development to the success of conception. These concepts are important because, in sheep and cattle, ovulation rate is tightly regulated and, as the primary determinant of litter size, it is a major component of reproductive efficiency and therefore productivity. Nowadays, reproductive efficiency is also a target for improving the 'methane efficiency' of livestock enterprises, increasing the need to understand the processes of ovarian development and folliculogenesis, while avoiding detrimental trade-offs as greater performance is sought.

Jenny Juengel and Graeme Martin
Co-Editors-in-Chief
Reproduction, Fertility and Development

EXOTIC SPECIES LIAISON REPORT

Society for Reproductive Biology

(RFD) Social media engagement from the 2022 Conference

In 4 days, SRB conference content (from the RFD account) was seen by nearly 15,000 people!

Period	No. of tweets	Impressions	Engagement rate
November (13-16)	12	14.9k	13.6%

It would be great to do more cross-posting between RFD/SRB, particularly when SRB members publish in the Journal and to advertise upcoming events etc to a broader audience (ie non-members).

Exotic species session/attendance

•Some feedback on exotic species session: speakers a bit unsure about being grouped under a broad umbrella of "exotic species" whilst the majority of other sessions were grouped under more specific research areas

•However, non "exotic-species" attendee feedback was that it was an interesting session and preferred that it was a standalone session rather than integrated into other topics.

It would be useful, if possible, to quantify disciplines of SRB attendees/members by career level, talk vs poster vs attendee etc, to see who is attending from non-human/rodent groups and whether we should be focusing on engaging certain groups, eg in the ECR/MCR space.

Kelsey Pool

SRB MEETING REPORT 2022

Society for Reproductive Biology

It was a magnificent time reconvening in person for the 2022 SRB meeting in Christchurch since the pandemic started, including a warm traditional Maori welcome held at the opening reception. The meeting was held in association with our longstanding society partner Endocrine Society of Australia as well as new collaborating societies ANZSPED (Australia and New Zealand Society for Paediatric Endocrinology and Diabetes) and NZSE (New Zealand Society of Endocrinology). We began with a fascinating President's Lecture by Prof. Claire Roberts, who engaged all through a brief summary of her work on placenta in various species. Claire's continued research excellence and mentoring of numerous academics across her career was appreciated. In addition to Prof. Claire Roberts' prestigious President's Lecture award, Prof. Tu'uhevaha Kaitu'u-Lino was awarded the Mercy Perinatal mid-career Women's Health Medal, Prof. Amander Clark was awarded the Founder's Lecture Medal and Prof. Pradeep Tanwar was awarded the Robinson Research Institute Award for Research Excellence. The SRF-SRB exchange award winning lecture was delivered by Dr. Jorge Lopez-Tello, who highlighted models of altered placental function and the impacts on offspring lifelong health.

Society for Reproductive Biology

Across the conference several symposia were dedicated to important topics, including developmental biology, applied and fundamental reproductive engineering, and exotic species. The exotic species symposium reminded all that other species including amphibians, reptiles and birds are under significant threat of extinction. Dr. Simon Clulow additionally shone light upon the chytrid fungus pandemic that frogs are experiencing and the challenges that come with the conservation of these species. Dr. Isabel Castro informed us of the various reproductive strategies of different kiwi species that have helped increase genetic diversity. On the other hand, Dr. Stephen Frankenberg discussed the development of gene drive which may aid in the control of invasive species populations, while Dr. Donna Bond discussed the unique genome of New Zealand brushtail possum. Additionally, the conference this year included a forum on indigenous reproductive health, which shed light upon social aspects of infertility, sexuality and reproduction among indigenous people and communities. Cam Young reflected upon the use of Pacific research methods and methodologies for researching socially tapu (forbidden, sacred) health topics like sexuality and reproduction. He found these methods fostered comfortable environments for Pacific research participants, but also warned their development needs to be continuous to reflect the dynamic nature of Pacific cultures.

SRB MEETING REPORT 2022

continued

A take home message from many of the talks across the conference was that fertility and pregnancy are vulnerable to a variety of stresses and environmental influences, as discussed in the developmental biology symposium. Dr. Cassy Spiller spoke about how chemicals used in antifungals could unwittingly act via non-hormonal pathways to affect foetal development. An interesting presentation by Dr. John Schjenken discussed the importance of the understudied seminal vesicles, and how their content can be altered by diet and environmental toxin exposure. Similarly, Prof. Andrew Pask delivered an eye-opening talk in the prestigious ESA/SRB/ANZSPED/NZSE plenary session about the impact of endocrine disrupting chemicals on differences in sexual development in both sexes. Moreover, endocrine disrupting chemicals show transgenerational effects as evidenced by data from generations that had not been exposed to these chemicals, highlighting that our exposure to environmental agents likely has long-term impact on our fertility and offspring. These findings demonstrate that as a society, we are continuing to improve the understanding of the mechanisms by which the ever-changing environmental factors may impact both male and female fertility, and the health of our future generations.

As evidence of the excellent reproductive biology research being produced in Australia, the oral sessions for: gametes to embryos; producing quality sperm; pregnancy and the placenta; uterus, endometrium and implantation; assisted reproductive technologies; factors affecting pregnancy outcomes; male and female reproductive tract; and oocyte specification to maturation showcased the cutting-edge science being undertaken across the country. Additionally, the use of various omics technologies, such as lipidomics in the germline (Dr. Elizabeth Bromfield) and for the diagnosis of preeclampsia (Dr. Lucy Bartho), and a significant amount of proteomics, is driving exciting paradigms to explain mechanisms of diseases across various reproductive organs. Prof. Ken Beagley revealed concerning data surrounding the persistence of chlamydia in the male reproductive tract, with 43% of testis biopsies from infertile, azoospermic men testing positive for chlamydia infection. Additionally, data suggest chlamydia is not fully cleared from the male reproductive tract post-infection in mice and koalas. Such findings may inform important outreach and educational material on sexual health and its influence on fertility.

The future of the society is in good hands as highlighted by excellent talks across all early/mid career research award sessions. As always, the Newcastle Award session was full of exceptional talent. We heard from Dr. Jessie Sutherland, Dr. Tessa Lord, Dr. Lana McClements and Dr. Nicole McPherson on various aspects of male and female fertility from education through to diagnostics and treatments. The Hudson early and mid career poster session tested the ability of speakers to present their research in a rapid-fire 3 minute time slot, followed by a longer face to face poster discussion. During the hotly contested ART Lab Solutions and David Healy New Investigator award sessions, excellent talks were delivered, comprising epigenetics, oocyte and embryo development, immune regulation, meiosis, spermatid remodelling, sperm maturation and motility. Congratulations to Dr. Lana McClements (Newcastle award), Dr. Jacinta Martin (MCR Hudson poster award), Sam Cheers (ECR Hudson poster award), Ellen Jarred (ART Lab Solutions award) and Azelle Hawdon (David Healy award) for their wins.

In addition to all the hard work, there were ample moments to celebrate, reconnect, and network. Many enjoyed the chance to chat over poster viewings and the time for group discussions about science. This was evident during the Meeting of the Minds event, which provided an informal opportunity for students and academics to meet and discuss various aspects of academia and life in general. As usual, the conference dinner was a blast and the live band convinced many to let it out on the dance floor.

Finally, a massive thank you to our SRB president, Prof. Brett Nixon, the SRB council, the organising committee - including Prof. Andrew Pask, Prof. Tu'uhevaha Kaitu'u-Lino, Dr. Geoffry De Iullis and Dr. Michael Pankhurst, and ASN events, for delivering a fantastic return to in person conference.

Until next year.

- Brendan Houston and Dexter Chan

AWARDS / SPONSORSHIP REPORT

Society for Reproductive Biology

Congratulations to the 2022 Award Winners

A huge congratulations to all of our SRB finalists and award winners for 2022. It was fantastic to have all our award sessions back in person after a number of years of virtual talks. In collaboration with our generous sponsors, we held the awards sessions in Christchurch, New Zealand. We had an extremely competitive array of talks from gametes through to placenta and pregnancy, showcasing the breadth and depth of science in our society.

The awards were hotly contested with all of our finalists giving fabulous presentations. The sessions were really well attended. We would like to congratulate all of our finalists. In particular, we would like to congratulate the winners of the awards for 2022:

Robinson Award for Excellence in Reproductive Biology Research
Professor Pradeep Tanwar, University of Newcastle

Pradeep is an NHMRC RD Wright Biomedical Fellow and heads an internationally competitive research program in gynaecological disease. His work focuses on understanding vulvovaginal disease and the uterine endometrium. His findings have had direct implications on clinical trials. Pradeep joins an elite group of SRB researchers who have won this award. We sincerely congratulate him for his outstanding contribution to reproductive science.

Mercy Perinatal Mid-Career Women's Health Medal
Professor Tu'uhevaha Kaitu'u-Lino, University of Melbourne

Tu'uhevaha heads the Biomarker Discovery and Reverse Translation Group and is a co-Deputy Head of the Department for Obstetrics and Gynaecology at the University of Melbourne. Her work focuses on ectopic pregnancy therapies, preeclampsia therapies and developing novel predictive tests for the most serious pregnancy complications. We congratulate Tu'uhe for winning this prestigious award and for her outstanding contribution.

Newcastle Reproduction Emerging Research Leader Award

Associate Professor Lana McClements, University of Technology Sydney

Lana's research focuses on understanding preeclampsia and developing diagnostics and therapies to treat this disease. Lana joins an elite group of SRB researchers who have received the Newcastle Award in recognition for their excellent work in reproductive biology. We congratulate her on this prestigious award.

The David Healy New Investigator Award

Azelle Hawdon, Monash University

Azelle won this award for her talk tilted 'Spatial real-time RNA asymmetries differentiate translation capacity of inner and outer cells in the preimplantation mouse embryo'.

ANZPRA New Investigator Award

Joint winners:

Evangeline Lovell, University of Adelaide

Clare Richards, University of Technology Sydney

ART Lab Solutions Gamete and Embryo Award

Ellen Jarred, Monash University

Ellen won this award for her talk tilted 'PRC2 subunits, EZH2 and EED, have differential contributions to epigenetic programming in oocytes'

Society for Reproductive Biology

Centre for Reproductive Health, Hudson Institute of Medical Research Award for best ECR and MCR poster

Samual Cheers won the ECR award and
Jacinta Martin won the MCR award for their posters.

Male Contraception Initiative Travel Award

David Skerrett-Byrne, Brendan Houston, Gemma Stathatos and Amy Luan won the Male Contraceptive Initiative Travel Award.

SRB Male Contraceptive Initiative Abstract Award winner

This was awarded to **Dr Tessa Lord**.

Congratulations to all!

Awards Sponsorship and Judging

Without sponsorship and the generous support from the SRB community, awards would not be possible. SRB would like to thank all individuals who gave up their time to form judging committees and come to difficult decisions to arrive at a winner.

The SRB would also like to sincerely thank the following sponsors for their generous support of the SRB Awards

- *The Robinson Research Institute*
- *Mercy Perinatal, Mercy Hospital for Women*
- *Newcastle Research Centre for Reproductive Science, Newcastle University*
- *The Richie Centre, Hudson Institute of Medical Research and the Department of Obstetrics and Gynaecology, Monash University*
- *Australia and New Zealand Placental Research Association (ANZPRA)*
- *ART Lab Solutions*
- *Male Contraceptive Initiative*

Fiona Brownfoot

ECR REPORT

Society for Reproductive Biology

Hello ECRs of the SRB-verse,

For those that could make it, we trust you enjoyed the return to in-person conference in Christchurch. Thank you to ASN Events, all organising committees and our President, Prof. Brett Nixon!

After a very successful term as ECR representative, Dr. Jess Dunleavy steps down in 2023. We thank Jess for her outstanding service within the SRB ECR network over the last two years. Replacing Jess is Dr. Brendan Houston, from the The University of Melbourne. Brendan undertook his PhD with Prof. John Aitken, Prof. Brett Nixon and Dr. Geoffry De Iuliis at The University of Newcastle before undertaking his postdoc with Prof. Moira O'Bryan at Monash University and The University of Melbourne. His research focuses on the genetic causes of male infertility and everything sperm related, from flies to men.

In addition to the fascinating science on show at our annual conference, we were fortunate to hold another ECR Career Development Workshop, this year on "Meeting the demands of being a modern day early career researcher/clinician". The topics of discussion were broad and involved a speaker from three of the four societies; Dr. Yassmin Musthaffa (ESA) spoke about managing time for success, Prof. Natalie Hannan (SRB) spoke on Diversity and inclusion in research and Dr. Izzy Smith (ANZSPED) presented on Science communication. The workshop was well attended with good engagement from ECRs of all societies!

To have your say on what you think we should include for next year's workshop keep an eye out for the 'ECR Challenges and Opportunities Survey' that will be circulated soon or feel free to email either Ella or Brendan. Any feedback is also welcome regarding how we can best support you as ECRs.

SRB-RFD review

Get involved to help summarise the emerging and timely topics of research in the reproductive biology sphere. Our society's journal partner, *Reproduction, Fertility and Development (RFD)*, publishes a review of the conference's key themes each year. The review is led by ECRs (up to 8 years post-PhD) attending the conference – this year in Brisbane. Alongside Ella and Brendan, around 6-8 authors will contribute to individual sections of the review. Anyone keen to participate can email both of us. If there is significant interest, priority will be given to those who have not participated previously.

drellagreen12@gmail.com brendan.houston@unimelb.edu.au

We hope everyone is feeling refreshed and ready to tackle 2023.
Your ECR representatives,
Brendan Houston, Ella Green and we bid adieu to Jess Dunleavy



Ella Green, Brendan Houston and Jess Dunleavy

STUDENT REPORT

Society for Reproductive Biology

Hi SRB students!

We hope you all enjoyed the amazing science at SRB 2022. Congratulations to all presenters, finalists and award winners! It was wonderful to finally catch up in person in beautiful Christchurch and to see our SRB students thriving!

What's new?

•Introducing our newly elected student representative – Bianca Fato! We are very excited to be working together over the next 12 months.

•A huge thank you to our outgoing student representative, Shenae Cafe. Thank you for your commitment, work and enthusiasm on council over the past two years! It has been amazing to work with you.

SRB 2023

- SRB Meeting will be held in Brisbane next year.
- A survey has been sent out to all student members requesting feedback on the format for the 2023 Student Meeting.
- The Student representative election process will be held online again.

Student members: Have your say in what you'd like to see at the next SRB conference for your chance to win 1 year free membership! https://www.surveymonkey.com/r/R23LDKS

As always, if you have any suggestions on how we can improve our student meeting and functions, please contact us!

Your student reps,

Azelle & Bianca

Contact:

azelle.hawdon@monash.edu

bfato@student.unimelb.edu.au

Bianca Fato

Azelle Hawdon

SRB Education Special Interest Group (SRB EdSIG)

Lisa Akison

The Executive Council has recently approved the establishment of an Education Special Interest Group within SRB in 2023. Watch out for an email early in the new year if you are interested in becoming a member of this group, which is open to all SRB members with interests in teaching and learning. A draft aims, mission, scope and focus areas are detailed below and would be finalised after discussions at the first SRB EdSIG meeting.

Please have a read through to see if this is of interest to you! I am working with the incoming Secretary to determine how this group can be formalised while satisfying any requirements of the Society's constitution.

Aims & mission

The SRB Education Special Interest Group (SRBEdSIG) is focused on advancing and supporting educators in the discipline of reproduction and scholarship of teaching and learning in reproduction.

rafichowdhury.com

The main aims of the SRB EdSIG are to:

- Foster networks, collaborations and professional development opportunities for educators at various stages in their career, in reproduction and related sciences.
- Create a community of practice for educators teaching reproduction.
- Promote reproduction education in Australia and enhance fundamental knowledge of reproduction in the wider community.

Scope

SRB EdSIG provides a forum for educators to discuss education strategies in effective teaching of reproduction, across both secondary and tertiary contexts. It would provide a means for sharing teaching resources and collaborate on scholarship of teaching and learning research projects. This group would also provide access to mentors for early career academics, or more senior researchers new to teaching, and opportunities for educators at various stages of their careers.

Background

Many SRB members are increasingly becoming involved in education, primarily as T&R academics. This is often initially driven by necessity, as there is opportunity for more long-term funding in these roles. However, many members have become passionate and experienced educators, with some now moving into more teaching-focussed roles. Therefore, a need for developing a community of practice for educators teaching reproduction has been identified.

The role that members play in education has been recognised by other Australian professional societies, including the Australian Physiological Society (AuPS) and the Australian Society for Microbiology (ASM). AuPS Education has run a dedicated Education Stream at the annual conference for many years which is highly regarded and well attended by physiology educators. They also support education-based research projects, prizes and mentoring of EMCRs by more senior educators within the Society. The ASM Education Special Interest Group (EdSIG) has been actively engaged in promoting microbiology education in Australia for over 30 years. They also run a dedicated Education Symposium at their annual conference and offer awards for teaching.

Education at the annual conference (and beyond)

SRB EdSIG would like to hold a session at the annual conference each year. This would provide educators with an opportunity to learn about novel teaching approaches and share their teaching experiences and outcomes of education research projects with other educators in reproduction. It would also allow networking and collaborations to be established between those teaching similar topics within reproduction. The SRB EdSIG would then plan to meet an additional 2-3 times per year via Zoom and would establish an online repository for teaching resources, as well as a register of SRB members involved in teaching reproduction. This could also include expressions of interest from members, particularly ECRS, interested in acquiring teaching experience.

Specific areas of focus

- *Teaching resources*: Provide an online hub for members to share teaching resources for reproduction. This would include lecture material, exam questions, assignment ideas etc.
- *Mentoring*: Maintain a list of academics who have volunteered to serve as mentors to early career academics. This would also include a list of registered mentees.

- *Tertiary studies*: Provide information on opportunities for career development and further education (including teaching fellowships and the HEA program).
- *Outreach*: Organise events promoting reproduction education for school students and the wider community.
- *Community of Practice for reproduction educators*: Provide a platform for discussing specific topics relating to reproduction education, including benchmarking and curriculum development.
- *'Wednesday Webinar' Series*: Online lunch seminars, run regularly throughout the year, with recordings made available to members.
- *Collaboration*: Connect with other Education groups within professional societies related to reproduction (e.g. AuPS) to share expertise and resources.

COMMUNICATIONS REPORT

Society for Reproductive Biology

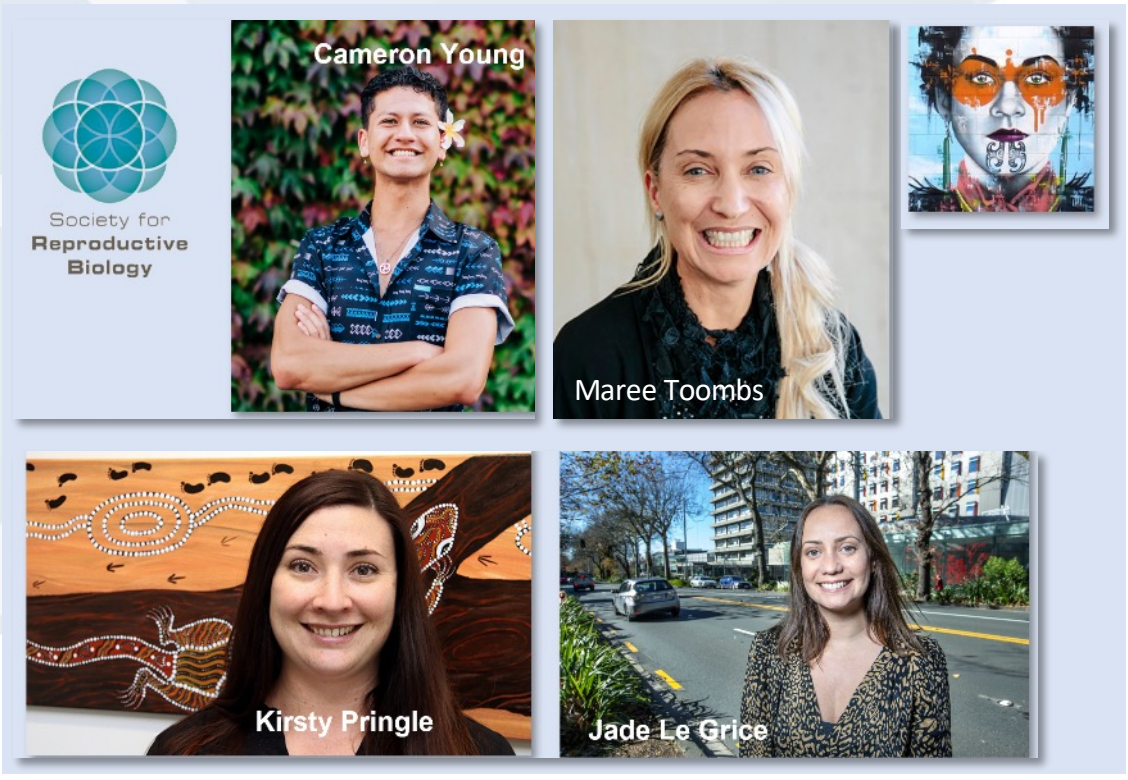
Lisa Akison, Taylor Pini, Dagmar Wilhelm, Janet Pitman & Katie Ayers

Changes in the Communications Team

We farewell Lisa Akison and Dagmar Wilhelm, who are leaving the communications portfolio in 2023. Warm welcome to Janet Pitman and Katie Ayers who are taking on the Communications Secretary (Janet) and Newsletter Secretary (Katie) roles.

SRB Forum on Indigenous Reproductive Health at the Annual Meeting in Christchurch, NZ

Lisa, Taylor and SRB member/POC, Tu'uhevaha Kaitu'u-Lino organised and co-chaired a session focused on indigenous reproductive health on the afternoon of the first day of the conference. This session show-cased some incredible researchers focussed on mental and reproductive health issues of Māori, Pasifika and Aboriginal peoples. A highlight was gaining a deeper understanding of the importance of country and family connections (whanaungatanga) in influencing how these researchers came to their research areas and further informs their methodology. We are grateful to Cameron, Maree, Kirsty and Jade for sharing their research and a piece of themselves in this exciting and refreshing session! Thanks also to LOC Michael Pankhurst for beginning the session with a traditional Māori welcome.



Society for Reproductive Biology

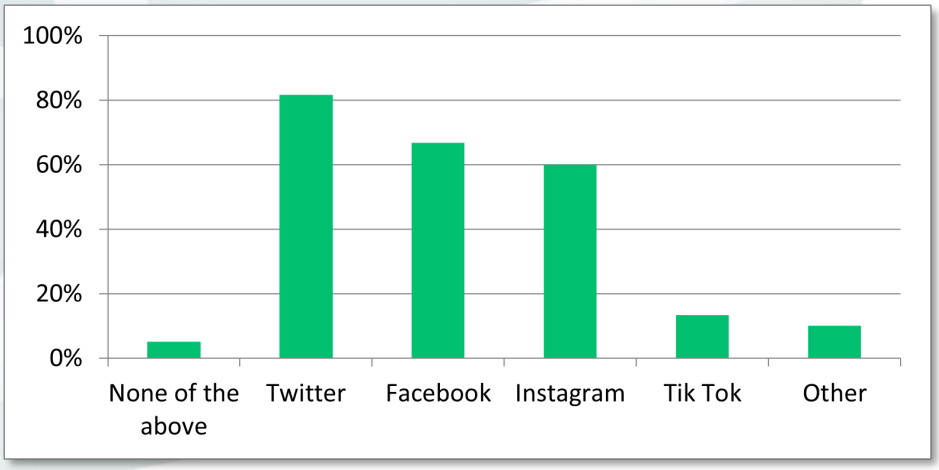
SRB on Twitter and Facebook

At the time of writing this report, SRB Twitter (@ReproductionSRB) had just topped **3850 followers** and we are hoping to crack 4K by the start of 2023! The SRB Facebook page also has 2K followers. Therefore, these are great platforms for disseminating your work or achievements. We have been continuing to showcase SRB member publications, grant successes, job/PhD/funding opportunities and awards. Over the month of November, during the annual scientific meeting, there were 4,917 visits to the Twitter profile and 55,200 *impressions* (i.e. how many times posts were viewed). Please continue to use @ReproductionSRB when you tweet your papers or events, or forward to Taylor (t.pini@uq.edu.au) or Janet (janet.pitman@vuw.ac.nz) to have them advertised on Twitter and Facebook.≈

Survey of Social Media use by SRB Members

This survey was completed in July and the lucky winner of the free registration for the annual meeting was **Michael Pankhurst (University of Otago)**. We had a great response, with 60 members completing the survey across a broad spectrum of career stages and types: 28% ECRs, 25% MCRs, 20% PhD students, 18% Senior Academics/Industry, 8% Industry/Support/Other. Results are shown below:

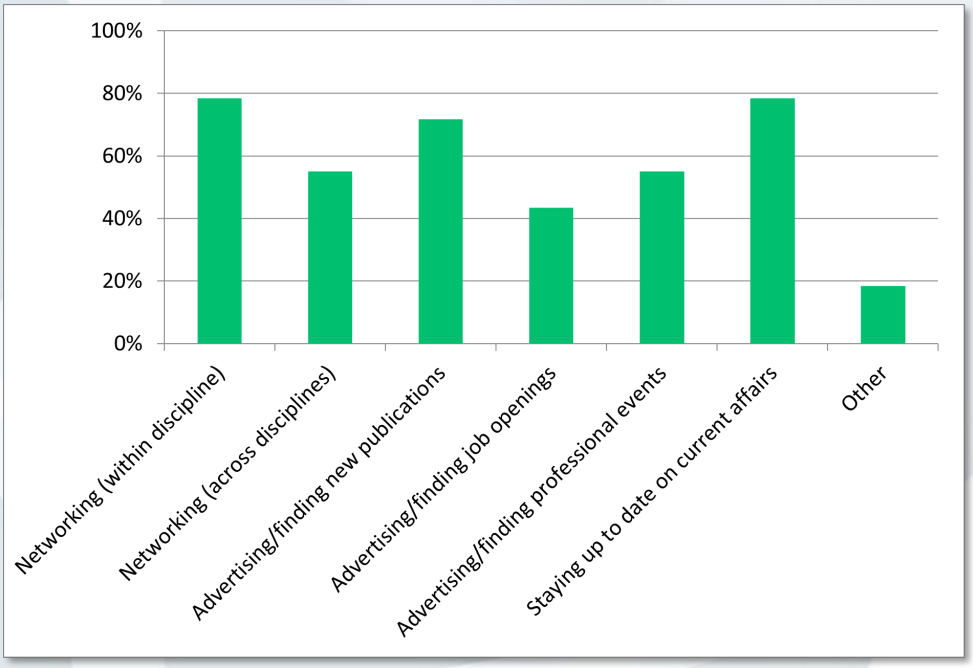
When asked: *"Which of these social media platforms do you use regularly – i.e. at least once per week (select all that apply)?*



'Other' was mainly LinkedIn, but also WeChat and Reddit.

For those that do use social media regularly, it was almost evenly split between those using for professional (80%) or personal (75%) posts, with a small % not posting but consuming content.
~48% used social media for professional purposes daily and about 22% weekly, with 8% only using during a conference/event.
When asked if they would use social media more in a professional capacity if they knew more about it and what it can offer, 32% said yes, 23% said no and 45% said they already used it quite a bit.
Take homes: Almost all surveyed use social media regularly. We will continue to focus on Twitter & FB, but will also consider cross-posting to Instagram. TikTok is not worth it at this stage. We will be considering running a workshop on using social media at the annual meeting in 2023.

The benefits of using social media professionally, as chosen by members, included:



Other benefits reported by members were:

- Advocacy for key issues and amplifying research or career development opportunities
- Keeping abreast of research funding news, opportunities, culture and politics
- Increasing awareness of science-related workforce issues
- Increased awareness of research and teaching products and services
- Identifying new opportunities for staff and students

One member expressed that they thought it was extra work for little benefit.

Take homes: We will continue promoting new publications, professional events, job openings, funding opportunities and networking initiatives (e.g. Follow Back Friday). There is scope to create further opportunities for member discussions/networking sessions.

SRB on Repro Radio

SRB members Taylor Pini, Simon de Graaf and Kelsey Pool are all involved in running an exciting podcast, Repro Radio, a monthly podcast all about reproduction (see Repro Radio Podcast for more info). This targets a broad audience including researchers, farmers, vets, students, clinicians, industry members and the general public. SRB has sponsored several episodes in season 2, including *Seminal plasma*, *Sperm transport in the female tract* and *Canine reproduction*. You'll also find other episodes this season featuring SRB members Moira O'Bryan (*Sperm and male fertility*), Natalie Hannan (*Pregnancy, the placenta and its complications*) and Kelly Walton (*The endocrinology of reproduction*). Follow the links, or check out Repro Radio on Spotify, Apple Podcasts and Google Podcasts.

SRB Website Updates

The website content is being refreshed to include the 2022 conference proceedings, award winners and new committee members. If you've got any great resources (e.g. infographics, videos) suitable for the general public or students, please send them through to Taylor (t.pini@uq.edu.au) to include on the resources page.

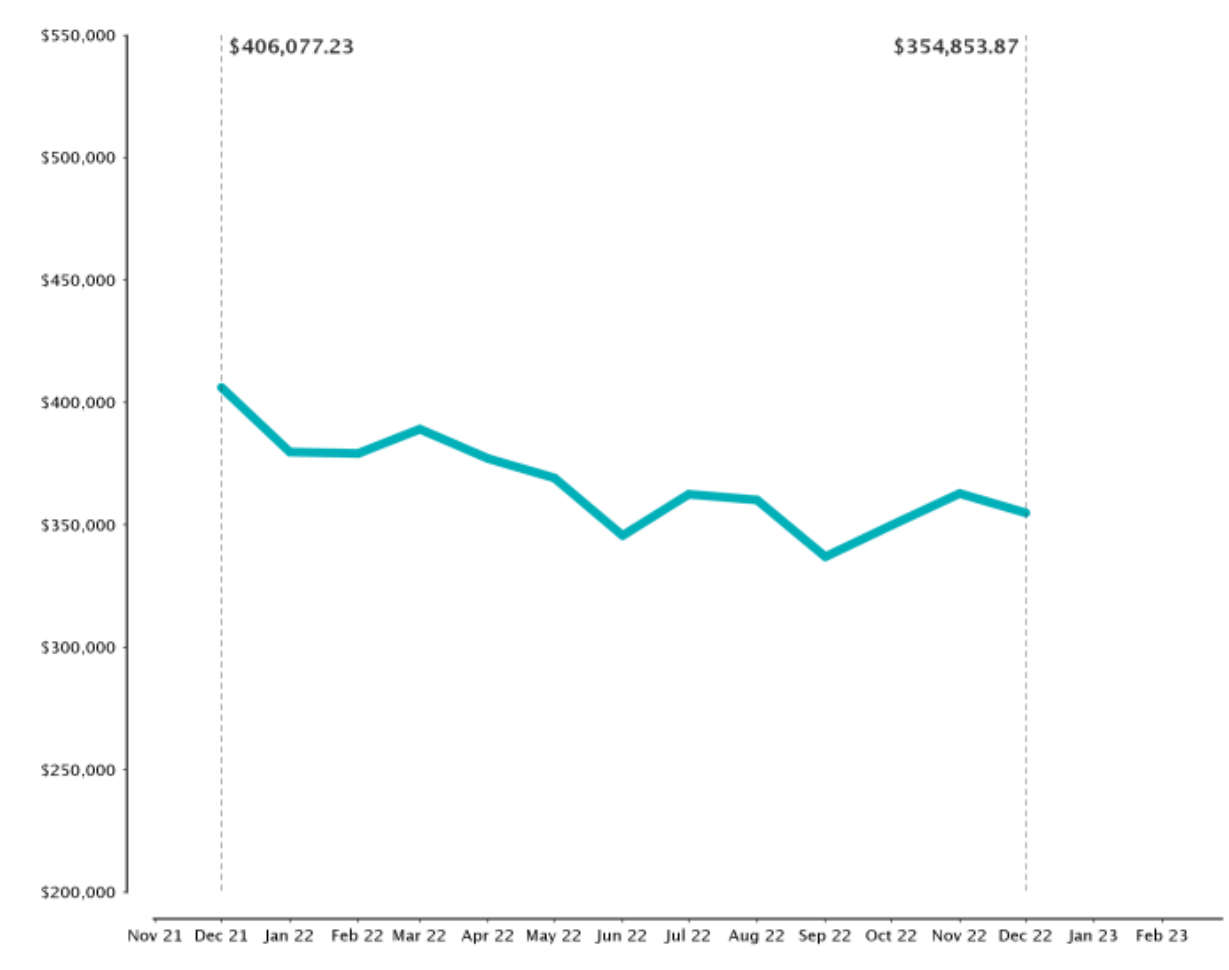
Lisa Akison, Taylor Pini, Janet Pitman, Katie Ayers and Dagmar Wilhelm

TRESURER REPORT

Society for Reproductive Biology

The society remains in a healthy financial position with total equity of $553,530 as of Dec 2022, relative to $588,365 in Dec 2021. The investment returns have fluctuated across this period owing to market volatility, resulting in a net loss of $51,224. To address, the SRB executive team requested a review of our current investment portfolio with GANT financial managers. In undertaking this review, considerations were made to allow for a dedicated portion of ethically and socially responsible investments, with priority also for Australian based investments.

Conference returns were lower this period as expected (estimated at $5000), owing to the meeting being overseas in Christchurch, New Zealand. With the meeting returning to Australia in Brisbane 2023 we are expecting a larger return for 2023 (upwards of $20,000). Additionally, in consultation with ESA, we have decided to increase registration costs for non-members attending the annual meeting. It is hoped this initiative will encourage membership uptake also for SRB.



Society for Reproductive Biology

SRB E/MCR RESEARCH SEED GRANTS:

SRB is thrilled to announce our Early and Mid-career Research Seed Grant recipients. A total of 6x seed grants were awarded to very deserved SRB members with a total financial commitment by the society of $29,832. The assessment panel would like to commend all of those who applied for their outstanding applications.

Dr Cassy Spiller, The University of Queensland, Project title: Characterisation of a possible new mouse model of type II human germ cell cancer, Funds: $5000

Dr Jess Richard, The University of Sydney, Project title: Unravelling the sperm-cervix transcriptome in sheep, Funds: $5000

Dr Wei Zhou, The University of Melbourne, Project title: Elucidating the role of Dynamin 2 in the regulation of uterine environment for blastocyst implantation, Funds: $5000

Dr Ashley Meakin, University of South Australia, Project title: Impact of fetal and maternal factors on placental drug metabolism, Funds: $4912

Dr Taylor Pini, The University of Queensland, Project title: Hot and hormonal; The combined impacts of heat stress and endocrine disruption on fertility and sperm small RNAs in Drosophila, Funds: $5000

Dr Sam Dowland, The University of Sydney, Project title: Understanding the endometrial impacts of zinc-based intrauterine contraceptives, Funds: $4920

Kelly Walton

MEMBERSHIP REPORT

Society for Reproductive Biology

ECR Collaborative Research Travel Award

The Society recognises the importance of the early post-doctoral period in the training of reproductive biologists and acknowledges the importance of this period in attracting and retaining the best scientists to a career in reproductive biology. This award intends to encourage the retention of early career scientists in reproductive biology and loyalty to the Society. The proposed award will fund the travel of an Early Career Researcher to the institution of another Early Career Researcher for the purpose of planning joint research and/or the conduct of preliminary experiments or to allow the training of an Early Career Researcher by another. There were 5 applications for this award in 2022, all of which were of exceedingly high quality. A panel of senior and early career members of the SRB awarded the travel grant to Dr Meaghan Griffiths (University of Melbourne; travelling ECR) and Dr Claire Miller (University of Auckland; host ECR). We look forward to hearing the outcomes of their collaborative work on "A cross-disciplinary approach to understanding endometriosis establishment and progression". For those unsuccessful on this occasion, we strongly encourage you to apply again in the future – the future of the society is in good hands with such a brilliant ECR cohort.

Brian Setchell Visiting Lecturer Award

The aim of this award to is to allow the Society to promote the careers of our many loyal mid-career researchers and ensure their continued contributions to the Society and the field of reproductive biology. For Round 1 of 2023 (applications due late 2022) we are delighted to announce that Professor Mark Green from the University of Melbourne was the successful applicant. The Brian Setchell Award will enable Prof Green to present his research on bovine endometrial function at the 11th International Ruminant Reproduction Symposium in Galway, Ireland (28th May to 1st June), a conference that is held every four years, and present his research on the detrimental effects of exposure to endocrine disrupting chemicals (EDCs) on human reproduction at the 39th Annual European Society of Human Reproduction and Embryology conference in Copenhagen, Denmark (25th to 28th June). Congratulations Mark!

Breakdown of financial members as of December 2022

Type of membership	
Life	33
Regular	174
Professional	2
Retired	6
Student	110
Overseas (excl NZ)	11
SSR affiliate	3
	339

Kylie Dunning

Society for Reproductive Biology

James Michael Cummins (1943-2023)

Graeme Martin and Jeremy Thompson

Jim Cummins was born in India, but received his early education in Ireland and England in the 1960s. He gained a BSc in Zoology in 1965 (honours in mammalian embryology) and, in 1966, an MSc from the University of Bangor. His thesis was titled R*ecent Advances in Mammalian Sperm Morphology* and was examined by Professor Sir Alan Parkes FRS. In 1969, he completed his PhD at the University of Liverpool, with a thesis titled *On the Nature and Causes of Infertility in Rabbits following Artificial Cryptorchidism*. He was supervised by Professors TD Glover and CR Austin FRS.

He then proceeded on a scientific international grand tour, beginning in the USA, in the Vanderbilt University School of Medicine in Tennessee, followed by the University of Hawaii School of Medicine in 1971. Following a trend set during his training in the UK, Jim worked with many prominent scholars, none more so than the legendary Ryuzo Yanagimachi (Yana), whom he spoke of fondly and often revisited in subsequent years.

In 1974, he moved to the Victoria University of Wellington in New Zealand, and in 1978 he joined the University of Queensland, where he taught in the Department of Veterinary Anatomy in the School of Veterinary Science. The world's first IVF baby had been born in the same year and human reproductive technology was suddenly a hot topic. Jim became a Scientific Advisor to the Queensland Fertility Group and he was a Foundation Member the Fertility Society of Australia when it was established in 1982.

Over 1981-85, one of us (JT) was Jim's PhD student studying sperm capacitation and *in vitro* fertilization (IVF) in sheep. Jim's own work had shown that sperm motility changed during capacitation, from forward progressive motion ('tuning fork') to a hyperactivated motion ('whip-lash'). Jim proposed that the whip-lash assisted sperm penetration of the cumulus and zona pellucida {https://doi.org/10.1002/mrd.1120060107).

Many lessons flowed from Jim to his students, most especially the value of committing yourself to the research path and the importance of a 'never give up' attitude. He taught his students to be flexible with what you set out to achieve, especially when resources are thin on the ground.

Jim stayed in Queensland for 11 years, until 1988, when he received an offer to take up a post as the Scientific Director of PIVET Medical Centre in Western Australia. This was a big change, away from his more traditional role as an academic lecturer and researcher, to the rapidly developing human fertility industry.

After a few years in the commercial world, Jim was again drawn back to university life, taking up a position as Associate Professor in Veterinary Anatomy at Murdoch University, where he stayed for 24 years until he retired in 2016. At Murdoch University, he co-supervised a PhD student, Aris Junaidi, with one of us (GM) and Peter Williamson who recently succumbed to Parkinson's Disease. The project was aimed at curbing zoonotic diseases in indigenous townships by using Peptech Australia's Deslorelin^{R} for non-surgical castration of male dogs. Dr Junaidi went on to become a major figure in the university system in Indonesia.

Jim's fundamental knowledge on all aspects of reproduction was remarkable, reflecting his initial training in zoology and his development as a scientist under visionary reproductive biologists. With this background, he was destined to become an exceptional educator, with a passion for teaching and research across a variety of species, from rodents to marsupials to humans, and from pure spermatology to gamete mitochondria to clinical IVF. In the late 1990s, he became intrigued by mitochondrial DNA in gametes and published 22 full papers and chapters on the topic, among which perhaps the most intriguing his short letter in Nature in 1999 (https://doi.org/10.1038/17471) proposing that "humans have a strong hereditary predisposition to infertility."

Jim had long been a core member of the Editorial Board of R*eproduction, Fertility and Development*. He joined in 2004 and stepped down in mid-2022 when he decided that his medical condition was preventing him from doing the job properly. For a series of Editors-in-Chief, he was a font of wisdom for all things spermatology, human reproductive technology and general biology, as well as for editorial principles and ethics. Friends and colleagues always enjoyed his banter and wit, usually at meetings of the Society for Reproductive Biology. He was recognised for his contribution to SRB when he was made a Life Member in 2014.

Obituary: James Cummins

If Jim had made it to June 3 2023, he would have been 80 years old, and if he had survived until December, he would have celebrated his golden wedding anniversary. When he was first diagnosed with prostate cancer, 18 years ago, survival for such an extended period was not guaranteed and we feel sure that he would have happily accepted the option. His journey through the ensuing years has been an amazing tale of resilience and grace that we, among many others have admired deeply. We only hope that we can be as strong when our turn comes.

When his imminent fate became clear, about 8 months ago, Jim presented a calm, clear and analytical front, announcing on social media: “I’m gradually fusing with the universe. I hope it welcomes me”. We are sure it will Jim, so go forth.

SRB MEMBER PUBLICATIONS

Society for Reproductive Biology

animals

MDPI

Article

Mating Conditions and Management Practices Influence Pregnancy Scanning Outcomes Differently between Ewe Breeds

Amy L. Bates [1,2,*], Shawn R. McGrath [1,2], Susan M. Robertson [1,2] and Gordon Refshauge [3]

1 School of Agricultural, Environmental and Veterinary Sciences, Charles Sturt University, Wagga Wagga, NSW 2678, Australia
2 Gulbali Institute, Charles Sturt University, Wagga Wagga, NSW 2678, Australia
3 New South Wales Department of Primary Industries, Cowra, NSW 2794, Australia
* Correspondence: abates@csu.edu.au

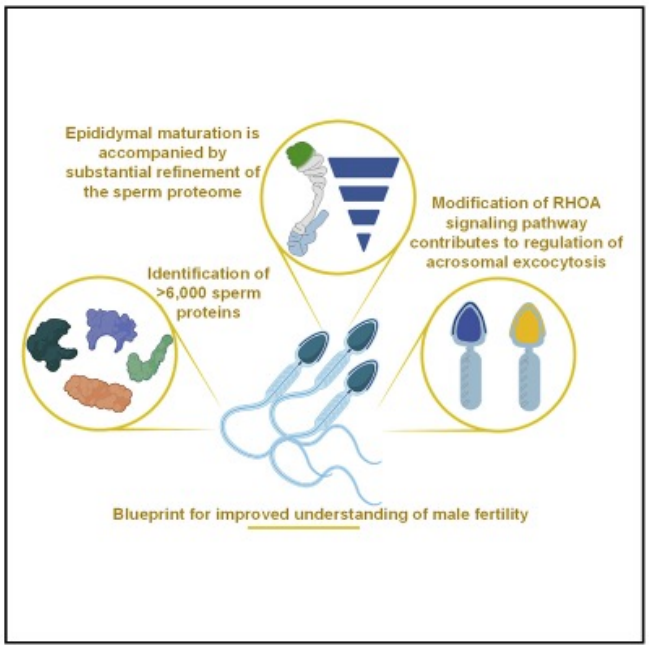
Simple Summary: The conditions and management practices imposed during mating can influence the success of a sheep production enterprise. However, the impact of mating practices across southern Australian sheep production systems are relatively unknown. Mating liveweight and body condition score data were collected at mating from four sheep breeds and during three seasons of mating across southern Australia. Further, the seasonal conditions during mating were ranked by the producers and ram percentage and region were also recorded. Bayesian Network analysis was used to explore the relationships between these variables and pregnancy and fetal number at scanning. The results of this survey study emphasize the interrelatedness of the explored mating conditions and practices and the importance of understanding their interactions for optimizing sheep reproduction and nutrition from mating.

Cell Reports

Resource

Global profiling of the proteomic changes associated with the post-testicular maturation of mouse spermatozoa

Graphical abstract



Authors

David A. Skerrett-Byrne, Amanda L. Anderson, Elizabeth G. Bromfield, ..., Matthew D. Dun, Sean J. Humphrey, Brett Nixon

Correspondence

david.skerrett-byrne@newcastle.edu.au (D.A.S.-B.), brett.nixon@newcastle.edu.au (B.N.)

In brief

Skerrett-Byrne et al. have characterized the epididymal sperm proteome undergoing functional maturation. Contrary to the long-held belief that epididymal maturation is primarily driven by the uptake/modification of additional proteins, this work demonstrates that spermatozoa shed over half their protein composition during this process.

frontiers in Veterinary Science

MINI REVIEW
published: 20 January 2022
doi: 10.3389/fvets.2021.819246

Perspective: Re-defining "Pheromone" in a Mammalian Context to Encompass Seminal Fluid

Sarah A. Robertson[1] *and Graeme B. Martin*[2*]

[1] *The Robinson Research Institute, Adelaide Medical School, University of Adelaide, Adelaide, SA, Australia,* [2] *UWA School of Agriculture and Environment, UWA Institute of Agriculture, University of Western Australia, Crawley, WA, Australia*

The classical view of "pheromone"—an air-borne chemical signal—is challenged by the camelids in which ovulation is triggered by ß-nerve growth factor carried in seminal plasma, effectively extending the pheromone concept to a new medium. We propose further extension of "pheromone" to include a separate class of seminal fluid molecules that acts on the female reproductive tract to enhance the prospect of pregnancy. These molecules include transforming growth factor-ß, 19-OH prostaglandins, various ligands of Toll-like receptor-4 (TLR4), and cyclic ADP ribose hydrolase (CD38). They modulate the immune response to "foreign" male-derived histocompatibility antigens on both sperm and the conceptus, determine pre-implantation embryo development, and then promote implantation by increasing uterine receptivity to the embryo. The relative abundance of these immunological molecules in seminal plasma determines the strength and quality of the immune tolerance that is generated in the female. This phenomenon has profound implications in reproductive biology because it provides a pathway, independent of the fertilizing sperm, by which paternal factors can influence the likelihood of reproductive success, as well as the phenotype and health status of offspring. Moreover, the female actively participates in this exchange—information in seminal fluid is subject to "cryptic female choice," a process by which females interrogate the reproductive fitness of prospective mates and invest reproductive resources accordingly. These processes participate in driving the evolution of male accessory glands, ensuring optimal female reproductive investment and maximal progeny fitness. An expanded pheromone concept will avoid a constraint in our understanding of mammalian reproductive biology.

Keywords: pheromone, gonadotrophins, seminal fluid, immune response, hypothalamic-pituitary axis, uterus, cryptic female choice

OPEN ACCESS

Edited by:
Mauricio Silva,
Temuco Catholic University, Chile

Reviewed by:
Luis Paiva,
Austral University of Chile, Chile
Rodrigo Carrasco,
University of Saskatchewan, Canada
Heriberto Rodriguez-Martinez,
Linköping University, Sweden
Rosa María García-García,
Complutense University of Madrid, Spain

Correspondence:
Graeme B. Martin
graeme.martin@uwa.edu.au

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Society for Reproductive Biology

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Australian Reproduction Update

Australian Reproduction Update 2023

Monday 7th & Tuesday 8th August 2023
Park Hyatt, Melbourne

www.mercyperinatal.com/event/australian-reproduction-update-2023

6th International Workshop on SOX transcription factors

23rd - 26th October 2023, Kurrawa Surf Club, Queensland, Australia

Enquiries:
Mat Francois (m.francois@centenenary.org.au)
Dagmar Wilhelm (dagmar.wilhelm@unimelb.edu.au)

The Fifth World Congress in Reproductive Biology is scheduled to be held in Beijing China from 13th to 15th September 2023. The conference information has been updated on the website (http://www.wcrb2023.org).

FUTURE NEWSLETTERS

Society for Reproductive Biology

To all SRB members,

We would like to continue to include the following sections in upcoming newsletters.

1. New publications by SRB members
2. Conferences that might be of interest to SRB members
3. Interviews with members of the SRB community

We need your help for these sections.

So please get in contact if you have a new publication or know of an interesting conference. Or if you would like to volunteer yourself or nominate another for an interview.

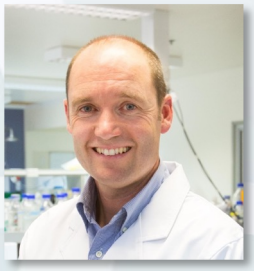
You are also very welcome to email if you want to write an article or have any other ideas for the newsletter.

katie.ayers@mcri.edu.au

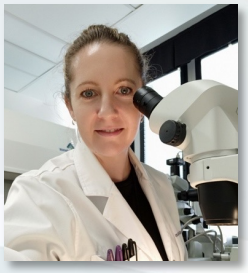
Katie Ayers

SRB Council 2023

Society for Reproductive Biology



Prof Brett Nixon
President



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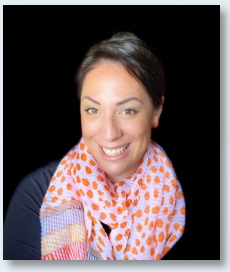
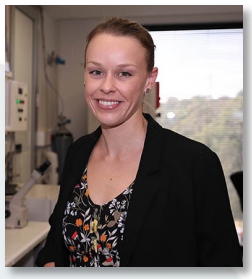


Dr Tu'uhevaha Kaitu'u-Lino
POC Co-Chair

Dr Geoff De Iuliis
POC Co-Chair



Dr Tessa Lord
Fellows/Life Member/
Plenary Lecturer

Dr Janet Pitman
Communications Secretary

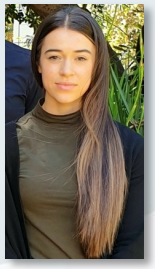
Dr Taylor Pini
Public Relations/Website

Dr Katie Ayers
Newsletter

Dr Fiona Brownfoot
Awards/Sponsorship

Dr Ella Green
ECR Rep

Dr Brendan Houston
ECR Rep



Azelle Hawdon
Student Rep

Bianca Fato
Student Rep

A/Prof Caitlin Wyrwoll
Conference Secretary/
RFD Liaison

Dr David Sharkey
Membership Secretary

Dr Kelsey Pool
Equity and Diversity