



W n RS

## Women in Reproductive Sciences Bulletin Vol. 4



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Despite the current political climate in the US (and perhaps because of it), women are becoming more empowered and engaged in 2018. Both men and women are doing a better job recognizing both conscious and unconscious bias and, more importantly, taking steps to eliminate it within their organizations. Although there are many battles still to be fought, we are making great strides with our self-advocacy as well as our sponsorship for our peers.

Overall, this persistence is paying off. Although it can be difficult to consistently see the impact of our work on a wide scale, we can clearly see localized victories such as women being awarded four out of five major SSR Awards in 2018. As such, we would like to take a moment to recognize these talented women for their contributions to both our society and to science itself. Please also consider taking a moment to visit the SSR awards page to learn more about these women and their accomplishments at [www.ssr.org/awards](http://www.ssr.org/awards). We encourage you to keep learning, keep fighting and to keep doing everything which makes you great.

Please also consider sharing empowering articles, or even just things which make you think, on our Women in Reproduction Facebook page. We look forward to seeing you there.

### ***Drs. Shavahn Loux and Nikki Camlin, 2018 SSR WinRS Co-Chairs***



**Dr. Patricia Hunt**  
*School of Molecular Biosciences  
Washington State University*  
**Carl G. Hartman Award**



**Dr. Karen Schindler**  
*Department of Genetics  
Rutgers School of  
Arts and Sciences*  
**SSR Mahesh  
New Investigator**



**Dr. Teresa Woodruff**  
*Department of Obstetrics &  
Gynecology  
Northwestern Medicine*  
**SSR Trainee Mentoring  
Award**



**Dr. Mary Ann Handel**  
*The JAX Center For Genetics of  
Fertility and Reproduction*  
**SSR Jansen Distinguished  
Service Award**

## Wisdom From a Successful Woman in Academia

*Polina Lishko, PhD*



"What does it take to be a woman in science? Likely the same as being a woman in politics, in the business world, or in life in general- the challenges are still the same. We have to work twice as hard, we have to deliver better results, and we still receive much less in return. It takes being brave, innovative, resilient and even badass at a certain point. And yet, according to the recent survey by the L'oreal Foundation, the prejudice against women is still prevalent around the world. They found that 67% of Europeans and 93% of Chinese don't believe women have the right skills to be scientists\*! So, as Dr. Elizabeth Blackburn says, it is time to change the numbers. Well, now that the problem is widely recognized, **what are the right steps to take?**

It takes a village to raise a successful scientist. The right mentorship and guidance are ultimately important tools that are required to nurture a new generation of female researchers. During my own career, I was really fortunate and honored to be supported by many amazing female and male scientists who not only set an excellent personal example of what a successful faculty should be, but always helped me along the career track. My postdoctoral mentor, Professor Rachelle Gaudet, proved that it is possible to be a high-profile researcher, an excellent mentor, and also have a vibrant and rich life outside of the lab. My faculty mentor, Professor Rebecca Heald, to whom I am indebted for her assistance during my rise through the junior faculty ranks, is the one who always sees a bright side in every person, and always finds the words of support and encouragement. My scientific hero, and a reproductive biology star, Professor Susan Suarez, taught me how important it is to deliver a clear, outstanding scientific presentation while leaving the auditorium in awe by the quality of the presented research.

I am also fortunate to be part of a department and campus where equality, diversity, and inclusions are the norm, and not just some pretty words. Unfortunately, this is not the case in many other places. This only means, as women scientists, we have an obligation to work harder to create a fertile ground for the new generation of female researchers. We have to be more outspoken, more vocal and we must eliminate the main obstacles that prevent women from advancing in science at the same pace as men. We have to make ourselves available to train, nurture and support female students, and to provide them with a healthy working environment where they can grow. That means that we also have to change the logistics and the infrastructure of our working environment. For example, for many women, one of the main obstacles in balancing family and science is, of course, childcare. One rarely sees on-campus childcare, and if they are available, it is nearly impossible to secure a space. And yet, this is not an entirely impossible option. If Google and Cisco can offer their own on-campus childcare centers, why can't universities? I can only imagine the productivity, happiness and the calm of a scientist-mother who knows that her child is in good hands nearby in the daycare center. Isn't it strange that it is common to have gyms, pubs, various recreation centers on campus, even a mall? But not childcare. Maybe it is time to start providing local, quality, affordable child care for all of our students and faculty. This is especially crucial if we want to have a balanced, productive, creative and a happy scientific society where both women and men are truly equal.

\*<http://www.loreal.com/media/press-releases/2015/sep/the-loreal-foundation-unveils-the-results-of-its-exclusive-international-study>

Dr. Polina V. Lishko is an Assistant Professor of Molecular and Cell Biology at the University of California, Berkeley. She received a Ph.D. in Biophysics from the Bogomoletz Institute of Physiology of the National Academy of Sciences of Ukraine in 2000, where she worked on the regulation of ion channels in neurons. She did her postdoctoral fellowship at Harvard Medical School, and later at Harvard University. From 2006 to 2011, Dr. Lishko was an instructor at the University of California, San Francisco, where she studied the regulation of sperm physiology by ion channels. In 2012, she joined the faculty of the University of California, Berkeley, where her team is exploring the pathways of steroid signaling by focusing on how various bioactive lipids regulate sperm physiology and human fertility. By combining the advanced methods of biophysics, biochemistry and cell biology, her team also works on the development of nonhormonal unisex contraceptives. Dr. Lishko research is currently funded by NIH and has also been funded by March of Dimes and various private foundations. In addition to being a Pew Scholar and a Sloan Fellow, Dr. Lishko has received Margaret Oakley Dayhoff Award in Biophysics and Matthew P. Hardy Young Andrologist award from American Society of Andrology.



[https://www.researchgate.net/profile/Polina\\_Lishko](https://www.researchgate.net/profile/Polina_Lishko)



<https://www.linkedin.com/in/polina-lishko-b0464611/>

## Wisdom From a Successful Woman in Industry

### Po-TAY-to Po-TAH-to: How Management Consulting is Really Just Science Using Different Words

*Mel McDowall, PhD*

A component of my Honours course was to perform a presentation on an “unrelated topic”. That is, I had 10 days to learn about a new area of reproductive biology unrelated to my Honours subject. In front of the whole department. It was designed to be a crazy course in rapidly learning and to essentially “fake it till you make it”.

Welcome to the world of management consultancy.....

After 3 degrees, including a PhD, almost 1.5 thousand citations and over a decade of post-doc experience, last year I decided to swap my lab coat and enclosed lab shoes for smart casual business attire.

So why the career change?

In the last few years of my science career, I was spending less time at the bench and more time attending conferences, participating in committees, interacting with industry representatives and occasionally rubbing shoulders with politicians.

I found that I was really good at translating science into everyday language and vice versa. I was a really good communicator. I also saw the evolution of science away from traditional grant fund and a larger focus on industry-lead or funded research or increase emphasis on commercialization of our wonderful ideas and potential products.

I had this crazy idea to return to University to study some more and enrolled in Masters in Business Administration (MBA). This is when I discovered the alternative world of business, where balance sheets reign supreme and forecasted Net Present Values decide your worth, rather than your H-Index and grant success. A lot of it was lost on me, but I further discovered that the skills I had developed as a scientist were highly translatable and transferrable to business. Whilst working on group assignments, I was usually the project manager, the person that could edit and bring together sections written by 4-5 people with different voices into one cohesive document. Literature reviews were performed using business databases (and a little bit of Google). I also enjoyed changing study areas every 3 months and learning new concepts and theories.



So, I started looking into different careers where I could use these hybrid business/science skills. I bought a lot of coffees in exchange for picking the brains of ex-scientists. I quickly learnt that people are really happy to share their journeys and experiences, kind of a way of paying it forward.

Part luck but also following a lot of research, I was lucky to get an interview for a consulting job in a small, but growing management consulting firm and was offered the job soon afterwards. It was my ability to think outside the square, to investigate and research methods. To work in a team to create a single outcome.

In the 5 months I have worked within the firm, I have worked with 6 different clients and written a lot of tenders (“grants”). Clients can be from the government, not-for-profit, private enterprise, health, defense. A lot of what I do as a consultant is the work the client doesn’t have time to do, or would prefer a fresh set of eyes. Or need “specialist interpreters”. It’s been a journey of “faking it till you make it” on the current job, only to start again when the old job finishes and a new job starts.

I have written business cases, developed governance frame works, data crunched survey outcomes, interpreted government policy and legislation to translate into language for staff handbooks.

And performed a lot of Google searches.

And worked with ex-engineers, ex-lawyers, ex-accountants.

And I love the challenge and the team work.

Yes, I do miss science, conferences, the rush of publishing papers. My future career pathway will probably return to science in some form, but more in a management role. Who knows?

For anyone out there thinking of alternative career pathways, network, reach out to people, buy a lot of coffees and ask a lot of questions. You never know what kind of jobs are out there.

## Wisdom From a Successful Woman in Industry cont.

*Mel McDowall, PhD*

### Science / Business Translations

Science	Business
Grant	Tender or proposal
Funding bodies	Clients or stakeholders
Project cycle	Engagement cycle
Literature review	Desktop research
Brief analysis	High level analysis
Academic dialogue	Networking or “introductions”
Information searches using databases such Pubmed	Search tools include Google, IBISWorld
Lead researcher/scientist/group head	Engagement lead
Individual brand is very important	Your firm’s brand, or even that of your clients is important

### Tips for Transitioning into a Career Outside Research

1. Talk to a lot of people working in different fields. This can be something simple like talking to your friends or attending networking events, both broad or in an area you “might” be interested in.
2. Talk to people who have transitioned from science to alternative careers. Invite them out for a coffee and pick their brains about how they made the transition. Most people love to share their own experiences and are willing to then introduce you to people within their own networks. A lot of jobs are offered via word of mouth.
3. There is always an opportunity to undertake professional development. Whilst I was still a researcher, I gravitated towards conferences and workshops geared at the business and commercialization side of science. This led me to eventually deciding to start my Masters in Business Administration (MBA).
4. Get comfortable being uncomfortable. As scientists, we specialize in a very narrow field of knowledge. I’m a generalist business consultant, I generally work on projects that require me to very quickly become enough of an “expert” to produce and deliver a product that suits the client. Think of us as ducks. On the surface we are calm and collected but below, our feet are paddling fast. But when you receive positive feedback, it is all worth it.

Dr. Mel McDowall is a Management Consultant at ZED Management Consulting. She received a Ph.D in Health Sciences from the University of Adelaide in 2005 where she worked on glucose metabolism in cattle cumulus-oocyte-complexes under the supervision of Prof. Jeremy Thompson. She did her postdoctoral fellowship at the University of Adelaide investigating the role of the maternal environment on fetal wool development. She returned to the Thompson Group at Adelaide as a Research Associate from 2008-2016. During this time, she studied non-invasive ways for predicting oocyte and embryo quality. Dr. McDowall was also a member of the Executive Management Committee for the ARC Centre of Excellence for Nanoscale BioPhotonics (2014-2015) and Publicity Secretary for the Society of Reproductive Biology (2013-2016). In 2016 Dr. McDowall began her Masters of Business Administration at the University of Adelaide which she is still studying. Finally, in 2017 Dr. McDowall transitioned into consulting becoming a Management Consultant at ZED Management Consulting Australia.



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## Highlighting Women in Science

*Joan Jorgensen, PhD*

Dr. Jorgensen's laboratory investigates female and male gonad development, which is inspired by the quest to understand the fetal basis of sex-specific adult diseases in reproductive endocrinology. Her interest in female gonad development is focused on formation of the unique cellular niche, the follicle, which ensures survival and maturation of the female gamete. Her lab discovered that a cluster of Iroquois homeobox transcription factors are expressed in the ovary, but not the testis during development. Elimination of these factors results in follicle failure and oocyte death, classic components that can lead to a diminished ovarian reserve and premature ovarian insufficiency, a devastating disease in adult females. Her lab's interest in male gonad development is centered on *local* regulation and maintenance of androgen synthesis. Defective androgen synthesis or activity during fetal development is emerging as a component of adult male infertility and decreased virility. Historically, local control of androgenesis was thought to be unique to the developing testis; however, aggressive forms of prostate cancer are now also known to acquire this capacity. Since this discovery, Dr. Jorgensen and her lab have parlayed their tools and knowledge of fetal testis androgen synthesis to prostate cancer and demonstrated that prostate cancer cells use similar mechanisms to stimulate androgen production that fuels deadly castration resistant prostate cancer. Altogether, the major goals for the Jorgensen lab have been to discover local cell-cell interactions and molecular mechanisms that are used to establish the nascent ovarian follicle niche, control the onset and maintenance of fetal testosterone synthesis, and stimulate the acquisition of steroidogenic activity within rogue cancer cells.



Dr. Jorgensen considers SSR her home society because, "It holds the 'must attend' meeting every year, it houses Biology of Reproduction, the state of the art journal in our field, but most of all, because it has the best colleagues." As she begins her adventure as an SSR Board member, Dr. Jorgensen is excited to work with SSR leadership and the new management team to envision and implement new strategies that will increase the awareness of the "cool" factor inherent in reproductive biology along with how our members' cutting edge research impacts reproductive and overall health in people and animals.

[Jorgensen lab website—https://www.vetmed.wisc.edu/cbs/jorgensen/index.htm](https://www.vetmed.wisc.edu/cbs/jorgensen/index.htm)

## Books You Won't Want to Miss:

### Women in Science: 50 Fearless Pioneers who Changed the World

By *Rachel Ignatofsky*

*Part of our role as scientists is to educate the younger generation about the wide range of possibilities for girls in science and provide them with role models. A dear colleague of mine made me discover this gorgeous book by illustrator Rachel Ignatofsky presenting 50 portraits of female pioneers in the fields of science, technology, engineering, and mathematics from the ancient to the modern world. It is a beautiful way to celebrate women in science and spread the culture of the possible among younger girls and boys!*

- Océane Albert, PhD

### Blazing the Trail: Essays by Leading Women in Science

Collected by *Emma Ideal & Rhiannon Meharchand*

*In Blazing the Trail: Essays by Leading Women in Science, 35 highly successful physicists, engineers, and chemists share their personal histories, their passion for discovery, and their secrets for success with the next generation. Essayists candidly recount their experiences—both positive and negative—with an uplifting tone, focusing on lessons learned along the way. The combination of personal stories and advice sends a powerful message to all young women considering scientific careers: I did it, so can you. Here's how.*

