Dear Colleagues & Friends,

What a vibrant academic year it has been! The lifecycle of students, faculty, learning, discovery, and funding is the foundation of the Center for Reproductive Science, and we continue to embody our mantra of being visible, viable, and valuable! We invite you to peruse this Year in Review to share in the 2017-2018 highlights. We hosted an intellectually rich academic programming portfolio, including the Annual Reproductive Science and Medicine Summit, the launching of two named lectureships, and the inauguration of a new career and professional developmental series (Career Catalysts). We graduated our first class of Master of Science in Reproductive Science and Medicine students, and we recently welcomed 10 new matriculants who will continue to enrich reproductive science through their research and scholarly activities. Multiple students have successfully completed their doctoral degrees after concentrating in reproductive science labs, and we continue to transition our postdoctoral fellows into a multitude of positions within academia and beyond. We are thrilled that graduate level reproductive science coursework developed through CRS is now available for our first year students! We are grateful to our exceptional CRS faculty who are active participants in our programming and teach reproductive science to the next generation of leaders in our field. Our faculty have been successful in securing research grants from NIH and other foundations, which keeps our research community at the forefront. Our labs are open to high school students and undergraduates, ensuring that the pipeline for reproductive science is filled with ambitious students who stay at NU and populate schools around the nation and globe. Our goals for next year are ambitious with new programing highlighted on the last page of this document. We look forward to hearing from you with ideas that will increase the reach and impact of reproductive science and medicine.

Reproduction Matters!

TERESA K. WOODRUFF, PHD
Director, CRS
Dean, The Graduate School
Thomas J. Watkins Professor of Obstetrics & Gynecology

FRANCESCA E. DUNCAN, PHD
Executive Director, CRS
Assistant Professor of Obstetrics & Gynecology
We dedicate this "Year in Review" in memoriam of our dear friend, mentor, and founder,

Professor Neena B. Schwartz
1926 - 2018

In celebration of Dr. Schwartz, please join us on Thursday, October 18th, 2018 for the Neena B. Schwartz Memorial Lectureship
4:00pm - 6:00pm, Pancoe Auditorium, Evanston Campus
6:00pm - 7:00pm, Reception, Pancoe Café

Speakers:
Dr. Teresa Woodruff - "Welcome and Thank you"
Dr. Catherine Woolley - "The Schwartz Effect: Teacher, Scientist, Leader, Friend"
Dr. Joanne McAndrews - "Dr. Neena Schwartz: Scientist, Mentor, and Role Model"
Dr. Kelly Mayo - "Notorious NBS: Neena, Science, Inhibin & Northwestern"

Donations continue to be accepted for the Neena B. Schwartz Memorial Fund.
REPRODUCTIVE RESEARCH UPDATES
Each week for over 30 years, the CRS has hosted Reproductive Research Updates – a forum in which CRS members present their research to Northwestern scientists across the Evanston and Chicago campuses as well as the Stanley Manne Children’s Research Institute. Refreshments are sponsored by the Robert H. Lurie Comprehensive Cancer Center. Visit Planit–Purple for the 2018-2019 schedule!

VIRTUAL CONNECTIONS
The Master of Science in Reproductive Science and Medicine students made global connections by participating in a trans-Atlantic virtual journal club with the Masters in Biology and Technology of Reproduction in Mammals students at the University of Murcia in Spain! A manuscript describing this virtual journal club was recently accepted into the Journal of Assisted Reproduction and Genetics!

During the journal club, the students reviewed a manuscript, “ZP2 peptide beads select human sperm in vitro, decoy mouse sperm in vivo, and provide reversible contraception”, by Avella et al, published in Science Translational Medicine in April 2016, which describes exciting research that involves the use of microscopic beads coated with a component of the outer shell of human eggs (the zona pellucida). These beads can sequester sperm to prevent fertilization and therefore represents a potential new form of contraception. This technology could also be used to improve sperm selection methods for use in in vitro fertilization.

The students at the University of Murcia presented figures and prompted topics for discussion via videoconference. The meeting was a great success, and the Center for Reproductive Science hopes to continue these cross-institution collaborations in the future.

CAREER CATALYST SERIES
The Center for Reproductive Science Career Catalysts are a seminar series aimed at preparing students for success in all career paths. Launched in Fall 2017, the series includes a mix of professional development workshops and outreach activities!

2017-2018 Career Catalysts

Careers:
- Industry Careers and Perspectives from AbbVie
- Careers for Scientists at the Food and Drug Administration
- Careers in Secondary Education
- Academic Career Panel

Workshops:
- Preparing Manuscripts for Publication
- PubMed and Endnote
- Finding and Securing Funding Opportunities
CELEBRATING
DANIELLE MAATOUK

Danielle Marie Maatouk, PhD, was an Assistant Professor in the Department of Obstetrics and Gynecology at Northwestern University. Danielle passed away on November 13th, 2016. An innovator, a teacher, a colleague, a friend, science will miss Danielle Maatouk – but her legacy lives on in all of us in the department, her students, and in the next generation of learners who will reveal the fundamentals of sex.

In celebration of Danielle, the CRS held the Danielle Maatouk Memorial Lectureship on April 23rd, 2018. We welcomed Robin Lovell-Badge, PhD, from the Stem Cell Biology and Developmental Genetics Laboratory at The Francis Crick Institute, London. Danielle and Robin’s collaboration was recently published in Science, and included Danielle’s graduate students, Alexandra García-Moreno and Isabella Salamone, as co-authors.

Donations continue to be accepted for this Memorial Lectureship. To make a donation, please contact the CRS Executive Director at crs@northwestern.edu

“"The goal of my lab is to investigate how changes in the epigenome regulate gene expression and cell fate determination during fetal development." - Danielle Maatouk, PhD (1977-2016)

TRANSITIONAL LECTURES IN REPRODUCTIVE SCIENCE

The CRS sponsors the Translational Lectures in Reproductive Science (LRS) seminar series. This seminar series includes lectures by luminaries in the field of reproductive science and medicine. These seminars are open to the broader Northwestern community and interested members of the public.

We kicked off the year with the Inaugural Erwin Goldberg Lecture in Male Reproduction, given by Dr. Kelly E. Mayo, the Walter and Jennie Bayne Professor of Molecular Biosciences. A reproductive biologist, Dr. Goldberg has sought to extend basic observations from the lab to the bedside throughout his career. The CRS will celebrate Dr. Goldberg each year with this lectureship.

For our Annual Neena B. Schwartz Lecture and CRS Holiday Party, we were excited to host Janice Evans, PhD, from the Johns Hopkins Bloomberg School of Public Health.

The CRS hosted many other translational speakers during the 2017-2018 academic year, including:

- William A. Grobman, MD, MBA, Northwestern Feinberg School of Medicine
- Jennifer Gorton, PhD, Stowers Institute for Medical Research, and The University of Kansas School of Medicine
- Thomas Hope, PhD, Northwestern McCormick School of Engineering and Feinberg School of Medicine
- Mariana Wolfner, PhD, Cornell University
- Serdar Bulun, MD, Northwestern Feinberg School of Medicine

Thank you to all who participated in this lecture series! View the upcoming schedule on Planit Purple. To participate in the program or to suggest a speaker, please contact the Executive CRS Director.
2018 Reproductive Science and Medicine Summit

The annual event took place on June 1st, 2018, in Prentice Women’s Hospital, Downtown Chicago.

The Reproductive Science and Medicine Summit (formerly called CRS Mini-symposium) is an annual event showcasing reproductive science and medicine research conducted at Northwestern and surrounding Chicago area institutions including University of Illinois-Chicago and De Paul University. With over 100 attendees, this year’s event included 42 poster presentations and a special panel lunch on “Communicating Science to the Public”, led by CRS graduate students.

We welcomed distinguished speakers from across the nation, including Martin M. Matzuk, MD, PhD (Baylor College of Medicine), Paula Cohen, PhD (Cornell University), Christopher Geyer, PhD (East Carolina University), and our 2018 CRS Alumni Lecturer Ulrike Luderer, MD, PhD, MPH (University of California Irvine). Distinguished speakers from Northwestern also gave presentations, including Evan Scott, PhD, Assistant Professor of Biomedical Engineering, Shohreh Shahabi, MD, Chief of Gynecologic Oncology, and Carole LaBonne, PhD, Professor, of Molecular Biosciences.

An organizing committee composed of CRS trainees is central to the success of this event. The 2018 Planning Committee was led by Co-Chairs Shimeng Liu and Christia Sison; two graduate students from the Bulun Lab, along with 11 other committee members. Big thank you to our entire committee!
Constance Campbell Awards

Congratulations to our newest recipients of a Constance Campbell Award! Professor Constance Campbell, an Assistant Professor in the Department of Biological Sciences at Northwestern, researched the relationship between the environment and sexual and other behaviors, administered the undergraduate honors program, and served as a preceptor in the Program for Reproductive Biology that Professor Neena B. Schwartz organized. Shel was promoted to Associate Professor and granted tenure in 1980, however, lost her battle with cancer only a year later.

In her memory, her husband Dr. Jack Davis, family, friends, and colleagues, established the Constance Campbell Memorial Fund. Since 1989, this fund has been used for the Constance Campbell Memorial Research Awards and Travel Awards. Funds from these awards can be used by its’ recipients to help defray travel costs to scientific meetings and conferences.

Donations continue to be accepted for this scholarship fund. To make a donation, please contact the CRS Executive Director.

Travel Awards

- **Anne Dude, MD, PhD**, Clinical Fellow, Grobman and Miller Group, Society for Maternal Fetal Medicine, in Dallas TX.
- **Arangassery Rosemary Bastian, PhD**, Hope Lab, HIV Research for Prevention (HIVR4P) meeting in Madrid, Spain.
- **Amanda Roca**, Wignall Lab, American Society for Cell Biology meeting in Philadelphia, PA.
- **Dana Kimelman, MD, MS**.
- **Julia Geysman-Tan, MD**, Fellow, Kenton and Lewicky-Gaupp Group, International Continence Society meeting in Philadelphia, PA.
- **Nathaniel Henning**, Laronda Lab, Society for the Study of Reproduction (SSR) 2018 Annual Meeting in New Orleans, LA.
- **Yi Luan, MS**, Woodruff Lab, SSR 2018 Annual Meeting in New Orleans, LA.
- **Reksxi Prasasya, PhD**, Mayo Lab, SSR 2018 Annual Meeting in New Orleans, LA.
- **Jeff Schneider, PhD**, Hope Lab, HVTN meeting in Washington, D.C.
- **Yinu Wang, PhD**, Matei Lab, AACR, Targeting DNA Methylation and Chromatin for Cancer Therapy meeting in Atlanta, GA.
- **Ian Wolff**, Wignall Lab, EMBO|EMBL Symposium Microtubules meeting in Heidelberg, Germany.
- **Jiyang Zhang**, Woodruff Lab, SSR 2018 Annual Meeting in New Orleans, LA.
- **Luhun Tracy Zhou, MS**, Duncan Lab, SSR 2018 Annual Meeting in New Orleans, LA.

Research Awards

- **Jacqueline Lee, MD**, Resident Physician, Department of Ob/Gyn - REI
- **Batzaya Davaadagree, PhD**, Postdoctoral Fellow, Kim Lab
- **Ian Wolff**, Graduate Student, Wignall Lab
- **Hunter Rogers**, Graduate Student, Woodruff Lab
- **Christia Sison**, Graduate Student, Bulun Lab
- **Patrick Madden**, Graduate Student, Hope Lab
Launched in 2016, the Master of Science in Reproductive Science and Medicine (MS-RSM) program celebrated its first graduating class in June! The 2018 class included 7 thesis track and 2 non-thesis track students. This group culminated their tenure in the program with research presentations to colleagues, friends, and family, followed by a celebratory reception. As part of the graduation festivities, Dr. T. Rajendra Kumar (University of Colorado Medical School) conferred the first Makowski Award for the most outstanding MS-RSM student. The Makowski Award recognizes a single exemplary MS-RSM student based on their academic performance, engagement in the Center for Reproductive Science, overall contributions to reproductive science and medicine, and future plans to continue training or stay involved in the field. The inaugural winner of this award was Luhan Tracy Zhou who studied the role of post-translational protein modifications during meiosis in bovine and human eggs in the laboratory of Dr. Francesca Duncan.

"This program really allowed me to flourish, introduced me to many brilliant people, and I am thrilled to be able to continue being a scientist in this field."
- Luhan Tracy Zhou, MS
UPCOMING PROGRAMMING
FALL 2018

CRS OPEN HOUSE/ MS-RSM FACULTY POSTER SESSION 10/11/18
NEENA B. SCHWARTZ MEMORIAL LECTURESHP & RECEPTION 10/18/18
CAREER CATALYST: CRS COMMUNITY SPEED NETWORKING 11/1/18
CRS HOLIDAY LECTURE 12/13/18
ERWIN GOLDBERG LECTURE IN MALE REPRODUCTION 1/17/19
WHAT WE DO

The Center’s mission is to enhance and coordinate research in the reproductive sciences at Northwestern, to promote the application of this research toward human welfare, and to optimize the training of future researchers, educators and clinicians in the reproductive sciences.

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