

## OCTOBER 2018

### UF's Innovator of the Year 2018 Dr. Mavis Agbandje-McKenna



[UF Innovate](#), the umbrella organization covering Tech Licensing, Sid Martin Biotech and The Hub, honored innovators at an event on Thursday evening, 9/20, called *Standing InnOvation*. This event was created around a play on the phrase "standing ovation," because that, in truth, was what UF Innovate wanted to do for their premier innovators.

[Dr. Mavis Agbandje-McKenna](#), Professor, [Department of Biochemistry & Molecular Biology](#), was selected to receive this distinguished Innovator of the Year award because of the breadth and depth of her work with [AAV \(adeno-associated virus\) gene therapy](#) and the impact her work has had, and will have, on the global good. AAV gene therapy has made amazing strides this year; for instance, the FDA approved the first gene therapy

for a genetic disease in December 2017, and that gene therapy is based in part on UF research. Because Mavis helped lead the way in using AAV for therapy, she was an obvious choice for this award!

Mavis, your department - your faculty colleagues, staff and students - congratulates you in this esteemed award!



Pictured above, center picture, standing left to right: Dr. Arun Srivastava, Dr. Bert Flanagan, Dr. Nicholas Muzyzcka, Dr. Robert McKenna, Dr. Ken Berns, and Dr. David Norton.

Dr. Agbandje-McKenna's colleagues and mentors share their accolades in this video which was shown at *Standing InnOvation* event.



## Dr. Mingyi Xie's Lab Publication in RNA Society Journal

***Near-infrared  
fluorescent Northern  
blot***



## October 2018 Issue

Bret R. Miller, Tianqi Wei, Christopher J. Fields,  
Peike Sheng, Mingyi Xie

Of particular interest and excitement is that Bret Miller and Tianqi (Jimmy) Wei are undergraduate students working with Dr. Xie and his lab members.

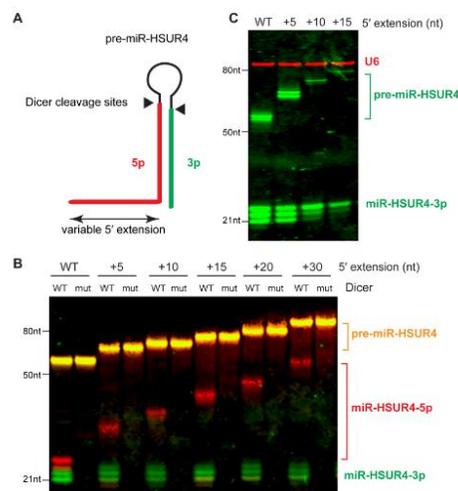
Congratulations Bret and Jimmy on this great accomplishment!

[FULL ARTICLE \(PDF\)](#)

### ABSTRACT

Northern blot analysis detects RNA molecules immobilized on nylon membranes through hybridization with radioactive  $^{32}\text{P}$ -labeled DNA or RNA oligonucleotide probes. Alternatively, nonradioactive Northern blot relies on chemiluminescent reactions triggered by horseradish peroxidase (HRP) conjugated probes. The use of regulated radioactive material and the complexity of chemiluminescent reactions and detection have hampered the adoption of Northern blot techniques by the wider biomedical research community. Here, we describe a sensitive and straightforward nonradioactive Northern blot method, which utilizes near-infrared (IR) fluorescent dye-labeled probes (irNorthern). We found that irNorthern has a detection limit of  $\sim 0.05$  femtomoles (fmole), which is slightly less sensitive than  $^{32}\text{P}$ -Northern. However, we found that the IR dye-labeled probe maintains the sensitivity after multiple usages as well as long-term storage. We also present alternative irNorthern methods using a biotinylated DNA probe, a DNA probe labeled by terminal transferase, or an RNA probe labeled during *in vitro* transcription. Furthermore, utilization of different IR dyes allows multiplex detection of different RNA species. Therefore, irNorthern represents a more convenient and versatile tool for RNA detection compared to traditional Northern blot analysis.

Figure 5





For more than a decade, the UF Genetics Institute has hosted the Florida Genetics Symposium. This event attracts genetics and genomics researchers, students and industries from across the world. Speakers will present and discuss genetics and genomics topics. Approximately 100 students and independent researchers will present their research and findings during two poster presentation sessions. Poster session winners will be awarded certificates and monetary awards. Our keynote speaker this year is Peter Palese, Ph.D., Horace W. Goldsmith Professor of Medicine and Department Chair of Microbiology at Icahn School of Medicine at Mount Sinai. The University of Florida Genetics Institute looks forward to welcoming you to the Florida Genetics Symposium 2018 this week.

Learn more about this year's Florida Genetics Symposium [here](#).

## ALUMNI SPOTLIGHT



Dr. Farzaneh Tondnevis is a 2015 UF Department of Biochemistry and Molecular Biology graduate of Dr. Linda Bloom and Dr. Rob McKenna's labs where her primary research focused on the structural, biochemical and biophysical analysis of replication proteins.

Dr. Tondnevis is currently employed as an automation scientist at Advanced Cell Diagnostics-Biotechne and is working on the development of RNAscope ISH assays as well as other novel assays based on RNAscope technology on various automated platforms traditionally designed for running IHC for a fully online, walk-away assay.

With regards to the impact of the Department's contribution to preparing Farzaneh for her career path, she states, "The Department of Biochemistry and Molecular Biology did a terrific job at training students to become effective communicators and critical thinkers. In addition to these skills, the Department encourages students to think outside of the box and actively learn about new skills and techniques that might be thought or practiced at any of the labs in the Department. Although my current position has nothing to do with my area of research while being a graduate research assistant, I was still able to learn the new techniques quickly and capitalize on the newly gained knowledge." While she was at UF, doing her Ph.D. work, she learned about a biophysical technique (SAXS) which she was able to utilize it in her project. She comments that "this promotion of learning about new techniques even without availability of a formal course and relying on yourself and being open to learning about techniques and skills enabled and empowered me to a great extent. This experience solidified a kind of confidence in me that will be useful to me in all aspects of life not just professionally but also personally, and this confidence was greatly on display and prepared me for my current position where I had to learn about a brand new technique to do my job and excel at it."

Farzaneh is originally from Iran and migrated to the USA in March of 2004. She obtained her Bachelor of Science degree in Biochemistry from UCSC (University of California at Santa Cruz) and then began her graduate studies at UF a year after graduation.

She is now back in California which she considers her second home since moving to the states. "I truly love science and bench work and trying my best to live a consequential life with the opportunity I have been given with the big move to the United States and now being a scientist. It has been a wild ride, and I can't wait to see what the future holds."



The UF GatorPerks discount program provides exclusive discounts for UF faculty and staff. UF employees have the opportunity to save at various businesses and retailers. Most vendors want to see your UF Gator 1 card, others may want you to print out a coupon or enter a discount code on their website. The discount will be applied at the time of purchase.

Other discount opportunities may be found on the [UF Procurement Services site](#), which lists vendors having specific contracts with the University of Florida.

We encourage you to sign up for the [GatorPerks Listserv](#) for notifications regarding new discounts and limited-time offers!

## GatorPerks Vendor Directory\*

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## Fall 2018 Graduate Professional Development Series



The Office of Graduate Professional Development (OGPD) is pleased to announce their Fall 2018

Professional Development Series for graduate students.

## Upcoming Professional Development Events

**October 3rd - 4pm-5pm**

***Writing Personal Statements***

Matt Mitterko, Graduate International Outreach  
McKnight Brain Institute DeWeese Auditorium (LG-101A)

**October 10th - 3:30pm-4:30pm**

***Finding Funding Opportunities, Proposal Preparation, and Submission for Graduate Students***

Kelly Jacoby, Office of Research  
McKnight Brain Institute DeWeese Auditorium (LG-101A)

**October 16th - 3:30pm-4:30pm**

***Finding a Good Dissertation or Thesis Topic***

Dr. David Schwieder, Library West  
McKnight Brain Institute DeWeese Auditorium (LG-101A)

**October 24th - 3:30pm-4:30pm**

***Excellent Scholarly Information Search: Finding the Sources You Need  
in the Library and on the Web***

Dr. David Schwieder, Library West  
McKnight Brain Institute DeWeese Auditorium (LG-101A)

For a full list of events click on the link [here](#).

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## SEMINAR ANNOUNCEMENTS

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### **CENTER FOR STRUCTURAL BIOLOGY** **SEMINAR SERIES**

**[Dr. Mark Wilson](#)**

Assistant Professor, University of Nebraska  
Monday, 10/15 - 4:00pm  
DeWeese Auditorium/McKnight Brain Institute

### **CENTER FOR EPIGENETICS** **SEMINAR SERIES**

TBA

## **FACULTY RESEARCH DISCUSSIONS**

**Wednesdays 4:00pm ARB R3-265**

[Dr. Bert Flanegan](#)

Wed., 10/3

Professor & Chair, Department of Biochemistry & Molecular Biology

[Dr. Clayton Mathews](#)

Wed., 10/10

Professor, Department of Pathology, Immunology & Laboratory  
Medicine

[Dr. Michelle Gumz](#)

Wed., 10/17

Associate Professor, Department of Medicine, Division of Nephrology,  
Hypertension & Renal Transplantation

[Dr. Joanna Long](#)

Wed., 10/24

Professor, Department of Biochemistry & Molecular Biology

[Genetics Institute Research Symposium](#)

Wed., 10/31

## **DEPARTMENTAL JOURNAL CLUBS**

### **Biochemistry & Molecular Biology**

**Tuesdays 4:00pm ARB R3-265**

Oct. 2 Dr. Jörg Bungert

Oct. 9 Rotation Talks

Oct. 16 Casey Chamberlain

Oct. 23 Justin Kurian

Oct. 30 Jacob Andring

### **Structural Biology**

**Mondays 3:00pm ARB R3-265**

Oct. 1 Carrie Lomelino

Oct. 8 Mam Mboge

Oct. 15 X-FEL  
Oct. 22 Shanan Emmanuel  
Oct. 29 Renuk Lakshmanan

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