March 2020 Newsletter

FSU Biomed

Florida State University College of Medicine

www.med.fsu.edu/BioSci

Student News

Dr. Lataisia C. Jones formerly of the **Bhide Lab**, and the first African American woman to earn a Ph.D. in biomedical sciences from FSUs College of Medicine was recently featured on the CBS production *Mission Unstoppable,* an educational and informational series that airs every Saturday morning targeting young teens which celebrates the successes of women in STEM-related careers. Dr. Jones appeared on the Jan. 18, 2020 episode titled *Conservation, Crystals, and the Corpus Callosum.* She currently is a postdoctoral fellow in the Center for Neuroscience Research at the Children's National Hospital in Washington DC. For more information on Dr. Jones, and to view the episode, follow the links below.

https://twitter.com/HeyDrTay

https://innovationdistrict.childrensnational.org/getting-to-know-the-unstoppable-lataisia-c-jones/

https://www.cbs.com/shows/mission-unstoppable/video/GaqeGsf6z1X_r_Pz4U_E8ACVXPXJ6WMQ/mission-unstoppable-conservation-crystals-and-the-corpus-callosum/

Upcoming Events

March 18

Seminar Series: Colleen Palmateer

March 20

Match Day

March 25

Seminar Series: Habibeh Koshbouei

April 1

Seminar Series: Bill Sullivan

April 2

Seminar Series: David Williams

NOTICE:

In order to better inform University employees of new warnings related to the COVID-19 coronavirus or other threats to their safety based on their location, *effective immediately* all future faculty/staff air and train travel, both domestic and international, must be booked through the Concur travel system.

Travelers who have already booked their travel should email their itineraries to plans@concur.com

On Feb. 24th,**Karissa Dieseldorff-Jones** of the **Pinto Lab** successfully defended her dissertation entitled “A murine study on troponin mutations to understand disease mechanism and treatment of cardiomyopathy”. Congratulations, Dr. Dieseldorff-Jones!

BMS In the Community

On Friday, Feb. 14th, the annual Capital Regional Science and Engineering Fair took place at the Donald L. Tucker Civic Center. The fair played host to winners from high school and middle school science fairs in the local counties of Jefferson, Leon, and Wakulla. Volunteer judges evaluated the projects to determine who may proceed to the state level competition. Pictured above are 7 of the 9 individuals from Biomed who volunteered their time to assist in the judging process; **Caitlyn Blake-Hedges, Chris Hagemeyer, Delaney Sherwin, Marisa Tillery, Grace Hammel, Jenny Warnock**, and **Trace (Reddick) Walker**. *Not Pictured:* ***Gloria Lee*** *and* ***Ayla Scholma.***

Faculty News

Trefoil Therapeutics Inc. is an early-stage biopharmaceutical company, cofounded by **Michael Blaber**, and is developing novel pharmacotherapies based upon engineered forms of FGF-1 (eFGF; designed in the Blaber laboratory and patented by FSU) to treat corneal dystrophy. Trefoil recently announced selection of AGC Biologics in Germany as the commercial manufacturer of recombinant eFGF protein. This production will be GMP for use in human clinical studies. Trefoil also announced the appointment of Thomas Tremblay as Vice President of Clinical Development. These advancements should enable the first-in-human clinical trials of eFGF later this year. Mike Blaber and FSU hold the patents on the engineered FGF-1.

Read more at: https://www.prnewswire.com/news-releases/trefoil-therapeutics-selects-agc-biologics-as-lead-manufacturer-of-tthx1114-for-treatment-of-corneal-diseases-300994867.html

FSU has appointed **Emily Pritchard** to be the director of the FSU-Mayo Collaboration to bring together various colleges at FSU that will benefit from new collaborative initiatives with the Mayo Clinic. In addition to the opportunities for existing FSU students, Mayo staff will be able to access training and educational opportunities through FSU's Office of Distance Learning.

The agreement creates new opportunities for FSU students to participate in internships at the Mayo Clinic campus in Jacksonville working with physician mentors in clinical research and healthcare startups in the Life Sciences Incubator. As part of the collaboration, FSU will create an interdisciplinary biomedical entrepreneurship certificate program, combining the expertise of FSU's Jim Moran College of Entrepreneurship and the College of Medicine. The graduate certificate will be open to FSU students and Mayo employees.

Read more at: https://med.fsu.edu/spotlight/home/medical-innovation-cultivating-biomedical-talent-part-mayo-collaboration/tue

Covid-19

FSU is suspending travel to all of China, South Korea, Japan, Iran and Italy.

The **CDC recommends that travelers avoid all nonessential travel to China**, **Iran**, **Italy** and **South Korea** while outbreaks of respiratory illness are ongoing. Travel to China, Iran, Italy or South Korea must be deemed essential and approved by the traveler's university vice president in order to be processed. Travelers may not submit travel requests to China, Iran, Italy or South Korea and are not authorized to travel to these countries until further notice.

The CDC has also heightened its level of alert for **Japan**, which is currently at a Level 2 travel alert. FSU has suspended university-related faculty and staff travel to Level 2 countries, as well, without the approval of the traveler's university vice president.

If you do visit any countries with the above warning levels — or any affected area — FSU strongly encourages you to self-quarantine for a period of 14 days when you return.

No cases of the virus have been reported at FSU, and the risk is considered low for the general public, but the university is being proactive. FSU is coordinating with the Leon County Health Department and the Florida Department of Health to review protocols in preparation for the possibility of a case here.

Contact university administrators with questions

For faculty or staff matters related to this issue, please contact Tracey Pearson (staff) at 850-644-3694 or Rebecca Peterson (faculty) at 850-645-2202, both in the Office of Human Resources.

Students at our Florida campuses can contact the University Health Services (UHS) Administrative Office at 850-645-0620.

What can travelers do to protect themselves and others?

If you were in any countries with the above warning levels in the last 14 days and feel sick with fever, cough, or difficulty breathing, do the following:

- Seek medical advice - Call ahead before you go to a doctor's office or emergency room. Tell them about your recent travel and your symptoms.
- Avoid contact with others.
- Do not travel while sick.
- Cover your mouth and nose with a tissue or your sleeve (not your hands) when coughing or sneezing.
- Wash your hands with soap and water immediately after coughing, sneezing or blowing your nose. If soap and water are not readily available, you can use an alcohol-based hand sanitizer that contains at least 60% alcohol. Always wash hands with soap and water if hands are visibly dirty.

Notice to the Research Community

All faculty and staff engaged with or planning research initiatives need to familiarize themselves with the newly updated website of the Office of Research Compliance Programs (ORCP) https://www.research.fsu.edu/research-compliance/.

The ORCP works to ensure University compliance with federal, state, and local regulations regarding research. Given newly heightened attention on security and privacy issues, including recent cases in many US universities and research centers of sharing information with other countries through illegal means, it is critical that you visit this website. Review materials under each area of the site and make sure you are following FSU policies. Contact the ORCP office with any questions or concerns.

FSU is transitioning to an electronic system to process contracts and grants. The Research Administration Management Portal (RAMP) Grants module will go live July 1, 2020. This new system will incorporate proposal development, approvals and submission.

To assist in the transition, FSU Sponsored Research will be presenting town hall meetings over the next few months. These meetings will be held to brief the FSU research community on the functionality offered within the RAMP Grants module and allow a connection with researchers and administrators to address any questions or concerns.

Questions regarding RAMP and the upcoming Town Hall meeting can be directed to FSU Sponsored Research contacts Kerry Peluso kpeluso@fsu.edu, Angie Rowe arrowe@fsu.edu, or Pam Ray pray2@fsu.edu.

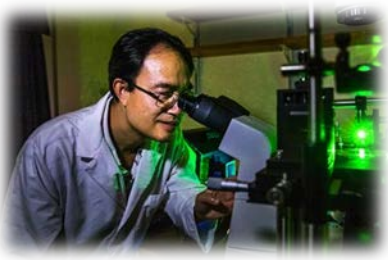
For more info: https://www.research.fsu.edu/research-offices/

Publications

Dr. Yiming Zheng, a recent graduate from the **Megraw Lab** recently published a landmark paper in Nature Cell Biology with current and former colleagues of the same lab (**Rebecca Buchwalter, Chunfeng Zheng, Elise Wight**, and **Jieyan Chen**) entitled: "A perinuclear microtubule-organizing centre controls nuclear positioning and basement membrane secretion". The abstract and link are below.

Abstract: Non-centrosomal microtubule-organizing centres (ncMTOCs) have a variety of roles that are presumed to serve the diverse functions of the range of cell types in which they are found. ncMTOCs are diverse in their composition, subcellular localization and function. Here we report a perinuclear MTOC in *Drosophila* fat body cells that is anchored by the Nesprin homologue Msp300 at the cytoplasmic surface of the nucleus. Msp300 recruits the microtubule minus-end protein Patronin, a calmodulin-regulated spectrin-associated protein (CAMSAP) homologue, which functions redundantly with Ninein to further recruit the microtubule polymerase Msps—a member of the XMAP215 family—to assemble non-centrosomal microtubules and does so independently of the widespread microtubule nucleation factor γ-Tubulin. Functionally, the fat body ncMTOC and the radial microtubule arrays that it organizes are essential for nuclear positioning and for secretion of basement membrane components via retrograde dynein-dependent endosomal trafficking that restricts plasma membrane growth. Together, this study identifies a perinuclear ncMTOC with unique architecture that regulates microtubules, serving vital functions.

https://www.nature.com/articles/s41556-020-0470-7



Dr. Zucai Suo, along with Magdeleine Hung, E. John Tokarsky, Leanna Lagpacan, Lijun Zhang, and Eric. B Lansdon, recently published a paper through Communications Biology, an open-access journal from Nature Publishing Group. The discoveries through their research are expected to increase the treatment options for the 36 million plus infected with the HIV virus worldwide, and additionally others chronically ill with hepatitis B.

For more information visit the links below.

https://med.fsu.edu/spotlight/home/major-discovery-will-aid-fight-against-hiv-and-hepatitis-b/tue-01072020-0831

https://www.nature.com/articles/s42003-019-0706-x

Maicon Landim-Vieira, along with **Dr. Jose Renato Pinto**, and in collaboration with Dr. Saquib Lakhani's team (Department of Pediatrics, Yale School of Medicine, Yale University) recently had their manuscript accepted and published by Frontiers in Physiology titled *"Familial Dilated Cardiomyopathy Associated With a Novel Combination of Compound Heterozygous TNNC1 Variants"*.The abstract and links are below.

https://www.frontiersin.org/articles/10.3389/fphys.2019.01612/full

https://doi.org/10.3389/fphys.2019.01612

Abstract: Familial dilated cardiomyopathy (DCM), clinically characterized by enlargement and dysfunction of one or both ventricles of the heart, can be caused by variants in sarcomeric genes including *TNNC1* (encoding cardiac troponin C, cTnC). Here, we report the case of two siblings with severe, early onset DCM who were found to have compound heterozygous variants in *TNNC1*: p.Asp145Glu (D145E) and p.Asp132Asn (D132N), which were inherited from the parents. We began our investigation with CRISPR/Cas9 knockout of *TNNC1* in *Xenopus tropicalis*, which resulted in a cardiac phenotype in tadpoles consistent with DCM. Despite multiple maneuvers, we were unable to rescue the tadpole hearts with either human cTnC wild-type or patient variants to investigate the cardiomyopathy phenotype *in vivo*. We therefore utilized porcine permeabilized cardiac muscle preparations (CMPs) reconstituted with either wild-type or patient variant forms of cTnC to examine effects of the patient variants on contractile function. Incorporation of 50% WT/50% D145E into CMPs increased Ca^{2+} sensitivity of isometric force, consistent with prior studies. In contrast, incorporation of 50% WT/50% D132N, which had not been previously reported, decreased Ca^{2+} sensitivity of isometric force. CMPs reconstituted 50–50% with both variants mirrored WT in regard to myofilament Ca^{2+} responsiveness. Sinusoidal stiffness (SS) (0.2% peak-to-peak) and the kinetics of tension redevelopment (k_{TR}) at saturating Ca^{2+} were similar to WT for all preparations. Modeling of Ca^{2+}-dependence of k_{TR} support the observation from Ca^{2+} responsiveness of steady-state isometric force, that the effects on each mutant (50% WT/50% mutant) were greater than the combination of the two mutants (50% D132N/50% D145E). Further studies are needed to ascertain the mechanism(s) of these variants.

Save the Date

Wednesday, April 8th	Seminar Series: Henk Granzier
Thursday, April 9th	Seminar Series: Ernest Phillips
Wednesday, April 15th	Seminar Series: Julie Pendergast
Wednesday, April 22nd	Seminar Series: Micah Luftig
Friday, April 24th	Last day of spring classes
Wednesday, April 29th	Seminar Series: Sara Jones
Wednesday, May 6th	Seminar Series: Donna Fekete

Do you have news you wish to share in the April Biomed Newsletter? If so, please contact Ryan Teston at: ryan.teston@med.fsu.edu

The deadline for submissions: Friday, March 27th at 12pm