FSU Biomed

Florida State University College of Medicine

www.med.fsu.edu/BioSci

Student News

On April 21st, **Caroline Strong** of the **Kabbaj Lab** successfully defended her dissertation entitled "*Selective manipulation of nucleus accumbens medium spiny neurons bidirectionally controls alcohol intake in rats*". Congratulations, Caroline!

Upcoming Events

May 11

Summer Semester Begins

May 21

Dissertation Defense: Dingani Nkosi

NOTICE:

Annual Steam outage

When: 5/2 – 5/17

Please note that during the outage there will be no steam available on campus while required maintenance is performed.

As FSU and the College of Medicine initiate Phase 1 of the Governor's plan to reopen Florida, please check regularly for updated policies and procedures regarding access and usage of the facilities.

Welcome Baby Jojo!!!!

On April 18th, **Julia Wang** and **Jerome Irianto** welcomed their daughter Joanna into the world. Congratulations, and we wish you nothing but the best on this new adventure!

Funding News

In March, the National Institute of Health awarded **Dr. Zucai Suo** the subaward amount of $ 252,571 in connection with Dr. Hashim Al-Hashimi of Duke University's School of Medicine. The grant is to assist Dr. Suo's research regarding the role of DNA structural dynamics in mutagenesis and oncogenesis.

Notice to the Research Community

NIH will be transitioning to new application forms (Forms F) effective May 25. Any proposals submitted after May 25 must use these new forms. You can read about specific changes here: https://grants.nih.gov/grants/electronicreceipt/files/high-level-form-change-summary-FORMS-F.pdf

Considering the learning curve with Forms F, and that grants staff are currently working remotely, it's critical that you allow enough time in your grant preparation process to accommodate these changes. Please notify the Med-RA team as soon as you decide to prepare a proposal so that we can offer you updated guidance and deadline management assistance. You can email them at: research@med.fsu.edu.

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

Connie Tenorio of the **Blaber Lab**, recently had her manuscript entitled "*Oligomerization of a Symmetric beta-trefoil Protein in Response to Folding Nucleus Perturbation* " accepted by Protein Science. **Joseph Parker** (former undergrad researcher in the **Blaber Lab**, and current FSU medical student) is also credited with contributions to the manuscript. This report describes how targeted destabilization of a region of the folding nucleus of the de novo designed and purely-symmetrical beta-trefoil protein "Symfoil" leads to oligomeric (trimeric) assembly. Over 250 beta-trefoil protein mutants have been reported by the **Blaber Lab** and none have previously shown such oligomeric behavior. This report suggests that destabilization of the folding nucleus diminishes intramolecular interactions required for monomeric folding, and promotes intermolecular interactions that can salvage foldability. The results confirm the unique robustness of pure symmetry in foldable protein evolution and design. The abstract is below.

Gene duplication and fusion events in protein evolution are postulated to be responsible for the common protein folds exhibiting internal rotational symmetry. Such evolutionary processes can also potentially yield regions of repetitive primary structure. Repetitive primary structure offers the potential for alternative definitions of critical regions, such as the folding nucleus (FN). In principle, more than one instance of the FN potentially enables an alternative folding pathway in the face of a subsequent deleterious mutation. We describe the targeted mutation of the carboxyl-terminal region of the (internally located) FN of the de novo designed purely-symmetric β-trefoil protein Symfoil-4P. This mutation involves wholesale replacement of a repeating trefoil-fold motif with a "blade" motif from a β-propeller protein, and postulated to trap that region of the Symfoil-4P FN in a non-productive folding intermediate. The resulting protein (termed "Bladefoil") is shown to be cooperatively folding, but as a trimeric oligomer. The results illustrate how symmetric protein architectures have potentially diverse folding alternatives available to them, including oligomerization, when preferred pathways are perturbed.

Save the Date

Wednesday, June 10th	Seminar Series: Jamie Johnston
Wednesday, June 17th	Seminar Series: Jenny Warnock
Wednesday, June 24th	Seminar Series: Yuan Wang
Wednesday, July 1st	Seminar Series: Robert Tomko
Wednesday, July 15th	Seminar Series: Gregg Stanwood
Wednesday, July 22nd	Seminar Series: Tim Megraw

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

The deadline for submissions: Wednesday, May 27th at 12pm