NC STATE

COLLEGE OF SCIENCES
BIOLOGICAL SCIENCES

Biological Sciences

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Announcements

BioSci's Fred Wright and team win GRIP Award

Kathleen Wilson

Please join us in congratulating BioSci's Fred Wright along with his team for being one of only four groups selected for NCSU's GRIP Awards. Their project, *The NCSU/RTI Program In Genetic Discovery and Prediction (PGDP),* gets even more impressive when considering a total of 59 pre-proposals were submitted for the award across all 10 colleges at NC State. GRIP (The Game-changing Research Incentive program) was announced by Dr. Alan Rebar, Vice Chancellor for Research, Innovation and Economic Development, to encourage interdisciplinary collaboration between researchers regardless of institutional boundaries, for truly ground-breaking investigation. The program will award $1,500,000 between the 4 winning teams over the course of three years. Fred's team members include NCSU's Yi-Hui Zhou (Biological Sciences), Alison Motsinger (Statistics), Jung-Ying Tzeng (Statistics), Zhao-Bang Zeng (Bioinformatics Research Center/Biological Sciences), Marie Davidian (Statistics), Spencer Muse (Statistics), Siddhartha Thakur (Population Health & Pathobiology), and RTI International's Carol Hamilton, Wayne Huggins, Rebecca Boyles, James Balhoff, Stephen Hwang, and Michelle Krzyzanowski.

Project Synopsis: *This proposal seeks to create a multi-faceted three-year Program in Genetic Discovery and Prediction (PGDP), initially organized around a demonstration and feasibility pilot for a highly ambitious effort the team calls the "1000 GWAS Project." The Project will compile an unprecedented number of publicly available genome-wide association studies (GWAS, representing hundreds of thousands of patients). These studies have been used to identify genetic variants that predispose humans to disease and can be used to predict patient outcomes. The Project will re-analyze the combined data using the latest methods for genetic analysis and quality control, combined with new linkages to standard measures for phenotypes, as well as data on clinical covariates and exposures. Finally, the Project will feed back into public repositories, providing an open-source analysis pipeline and community resource for ongoing research. The unprecedented data compilation and comprehensive analysis will reveal subtle and more complex interactions between genes, environmental exposures and resulting disease and treatment outcomes*.

As Dr. Wright explains, the NCSU/RTI Program In Genetic Discovery and Prediction aims to compile an unprecedented amount of publicly available data on genetic association with disease, to make new genetic discoveries, and to improve methods for precision medicine. The strengths of the NCSU team include novel methods for analysis and computation, while the strengths of the RTI investigators include improved classification of disease types.

"A large amount of genetic data is available, but not fully used," according to Wright. "One of the main challenges is harnessing and combining information, which may be somewhat inconsistent and in need of data cleaning, followed by huge efforts in data mining and computation." Co-PI Dr. Carol Hamilton of RTI agrees, adding, "The next frontier in genetic discovery is to harmonize clinical information and to find connections among related traits, so we can maximize our ability to discover the common genetic underpinnings of numerous diseases."

Click here for more information about the GRIP awards and the other recipients. Way to go, guys!

Congratulations to Joy Little and Claire Gordy on receiving a STEM initiative grant for $20,456.40 to fund the purchase of equipment and supplies for the GN 312 redesign effort. Below is a description of the project.

Integrating Yeast Genetics into Undergraduate Genetics Labs

This STEM Initiative Grant will be used for the redesign of GN 312 (Elementary Genetics Laboratory), a one-credit hour course that enrolls approximately 120 students/semester in fall and spring. In the first half of the semester, students cross Drosophila melanogaster to evaluate concepts in meiosis, linkage, sex-linkage, and population genetics. In the second half of the course, students perform a series of molecular techniques that are meant to demonstrate PCR, molecular cloning, restriction enzyme digestion, and DNA fingerprinting. The funds provided through

this grant will be used to purchase the equipment and supplies necessary to replace the current molecular genetics experiments with an inquiry-based yeast genetics module that moves beyond just teaching students techniques by allowing them to design their own experiments. This module will introduce students to a second model organism – the budding yeast Saccharomyces cerevisiae – and allow them to design their own hypothesis-driven research projects.

The Microbiology Teaching Faculty also received awards totaling $43,300. Titles of their projects are below:

Use of Tablets and Instructional Videos in Undergraduate Microbiology Laboratories - Michael Taveirne

Engaging students in discovery-based microbiology labs - Michael Taveirne and Alice Lee

Creation & Integration of Tactile Teaching Tools To Enhance Inclusivity in Microbiology - Melissa Ramirez

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Below is a short clip showcasing one of this year's **Chancellor's Innovation Funds**. The project is titled *Light-activated Anti-infective Coatings: Photosensitizer Embedded Nanofibrillated Cellulose*. The research has the potential to kill antibiotic-resistant germs. Our own **Frank Scholle** is involved with the effort to fight the norovirus in places like hospitals or on naval vessels.

http://wncn.com/category/news-raleigh-durham-fayetteville-north-carolina/whats-next/

The College of Sciences hosted a reception to showcase and celebrate the innovative design work by students in ARC 503: Advanced Architecture Design Studio. Students presented their final drawings and models for an Imagination Lab, a small pop-up building that would bring real-world research out of walled indoor labs and into the public eye. These labs would be located across the Imagination Corridor, a stretch of science buildings and the open space where Harrelson Hall used to be.

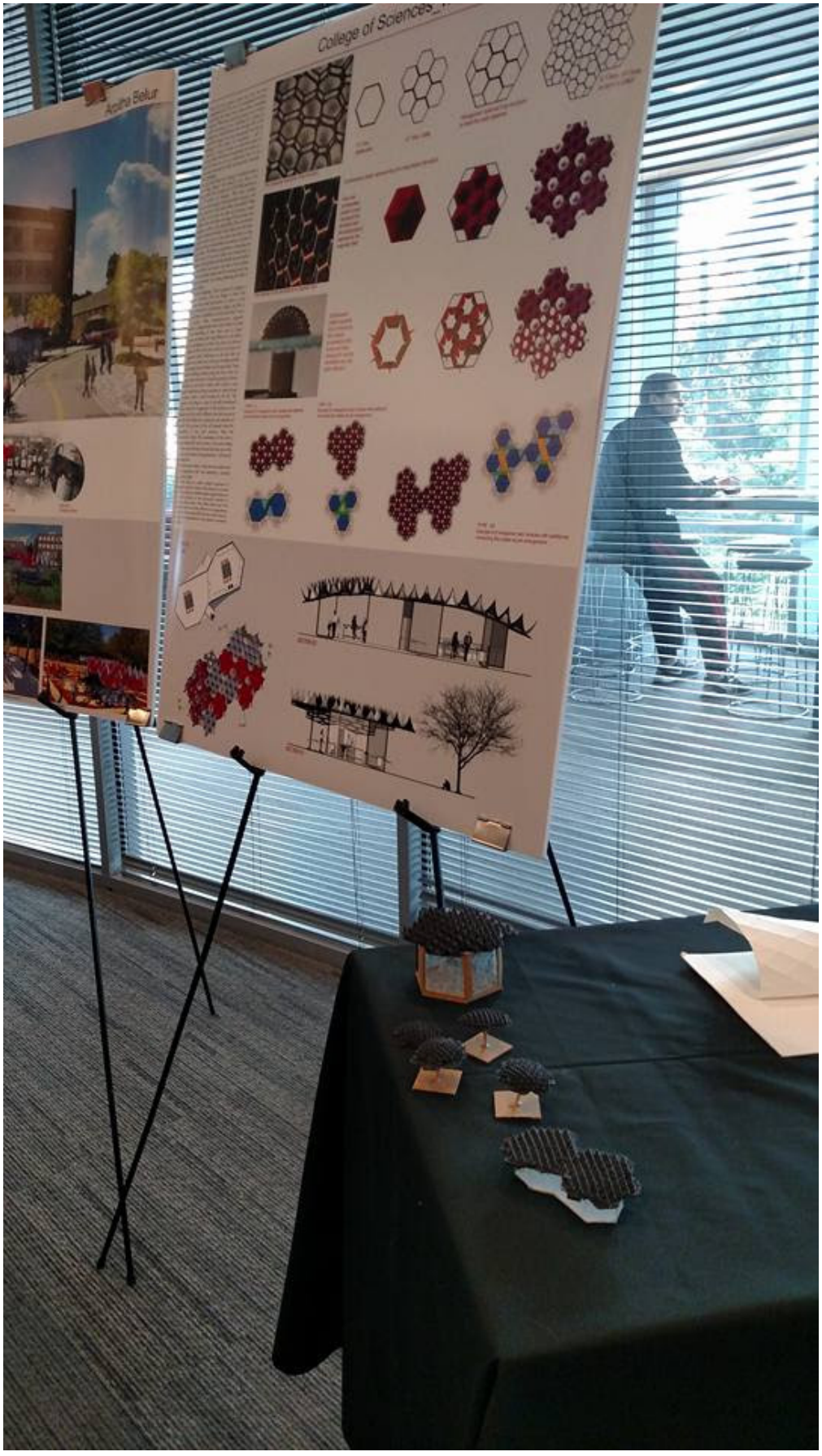
A student design to have pop up labs attach to the facades of buildings.

A pop up lab potentially located on the brickyard.

A design inspired by cicada wings.

The Imagination Corridor!

A design that could possible be located in front of SAS Hall.


College of Sciences
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From University Transportation:

As part of the University's energy savings efforts, all University parking decks will be closed during the Winter Holiday **EXCEPT the first two levels of the Centennial Biomedical Deck (CVM), the first two levels of the West Deck and the Centennial Campus Poulton Deck. (Coliseum Deck will also be open on December 29 for an event).**

Parking decks (except those mentioned above) will close late Friday afternoon December 23 (beginning around 3 p.m.), and will reopen prior to the start of business on Tuesday, January 3. Entrances and exits of the closed decks will be barricaded and signs posted.

Additionally, lighting in four surface parking lots will be turned off and signs posted. Affected lots are Main Campus Drive (RS) - except for December 31 City of Raleigh event , Oval Drive Storage Lots (RS), Varsity Lot and Centennial Biomedical Campus North Lot (near Ramada In).

If you plan to be on campus during the Winter Holiday, please park in available surface parking lots.

From Lara Mekeel:

Dear faculty, staff, and postdocs,

This is a reminder of the **Leave System Calendar Year End (December) Closeout**. Please note, if you are a leave-earning employee or supervise leave-earning employees, you have a few actions to take prior to the end of the calendar year:

- If you are a leave-earning employee, please print your monthly breakdown report for December 2016. The report must be signed by the employee and supervisor. Please turn the form in to Margaret Huffman, who will ensure the leave administrator signs off.
- It is imperative that you record (enter and approve) all leave for calendar year 2016 by December 31, 2016. Any leave transactions for 2016 that are logged in 2017 may not be recorded properly. Please alert Lara Mekeel if you forget to log leave for 2016 so your leave balance can be corrected.
- Any leave requests for 2017 should be recorded in 2017 - please do not submit these requests until after the start of the new year. If you have already submitted and/or approved a request for 2016, please alert Lara Mekeel.
- All negative annual and sick leave balances must be cleared for SHRA employees. If you or one of your employees are carrying a negative balance, please work with Lara Mekeel to zero it out before Wednesday December 14, 2016. If the negative balance is not resolved, your paycheck may be adjusted to reflect the overdrawn leave.

Thanks! Please let me know if you have any questions about the Leave Calendar Year End Close.

Attention Masters Students:

Please see the attached job announcement regarding an opening for a full-time Andrologist with Carolina Conceptions.

All resumes or inquiries can be sent to:

Sung Tae Kim, PhD.
skim@carolinaconceptions.com
Embryologist
Carolina Conceptions
Tel: (919) 782-5911

Save-the-Date

The Biological Sciences Department
Final Seminar
Stephens Room, 3503 Thomas Hall

December 15th, 3:30-5:00 pm: Charlotte Boettiger, UNC
"Dopamine and intertemporal choice"

Please join us for the Applied Ecology & BioSci Holiday Potluck!

Before the break, let's break for lunch!

Thursday, December 15th
David Clark Labs Atrium
11:30-1 p.m.
Lunch will begin at 12 p.m.*

Please bring your favorite dish to share.
Ham or Turkey & Beverages will be provided.

Don't forget your science-themed ornament to decorate the DCL Lobby Christmas Tree! Prizes will be awarded to the 1st, 2nd and 3rd place winners.

The Bioinformatics Research Center

&

The Center for Human Health and the Environment

Welcome:

Sudin Bhattacharya

Michigan State University

Assistant Professor, Institute for Integrative Toxicology

Michigan State University

"Assembling transcriptional regulatory networks: a case study with the Aryl Hydrocarbon Receptor"

Friday, December 16th at 10 am

BRC Conference Room

Ricks Hall, room 336

NC STATE UNIVERSITY

Nominations are now being accepted for the **2017 Equity for Women Awards.** Nominations will close on **Monday, January 23, 2017 at 5pm.**

The NC State University Council on the Status of Women invites you to nominate NC State faculty, staff and students for the Equity for Women Award. This award is made annually to recognize faculty, staff and students for their outstanding leadership in establishing equity for women at NC State University. Nominations are solicited from all members of the campus community, including faculty, staff, students, alumni and partners. This year, we will be awarding up to three individuals.

Not sure whom to recommend? Think about faculty, staff and students of any gender who are passionate, ambitious, inspired, courageous, and strong leaders with a commitment to advocacy o

gender equity in everyday life at NC State University. Nominees should demonstrate excellence in one or more of the following areas over the past 12 months:

- Leadership: Taking action to promote gender equity on and beyond campus through leadership roles
- Service: Supporting equity for women through job-related or voluntary roles
- Scholarship: Contributing new knowledge and informing policy and practice related to women's well-being and equality

Criteria for rating these areas will be based on commitment to leadership, service, and/or scholarship as well as the impact of the nominee's efforts. Please note: Current members of the Council of the Status of Women are not eligible for the award and should not be nominated. Please check the current roster if you aren't sure who is on the council.

Please nominate worthy candidates for any category by completing the nomination form which can be found here.

Attached please find an informational flyer for distribution.

Please contact Lisa LaBarbera-Mascote at 919-515-2012 with any questions.

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