

MEMORANDUM

To: ANS Faculty, ANS Graduate Students, and ANS Undergraduate Students
From: Dr. Bill Campbell
Associate Dean for Research
Date: February 20, 2018
Subject: *ANS Research Symposium 2018: Call for Abstracts*

The College of Applied and Natural Sciences is preparing for the annual ANS Research Symposium, scheduled for Thursday, April 12, 2018, in the Student Center. This memo serves as a **Call for Abstracts** for presentations at the Research Symposium. *We request that faculty help publicize this opportunity by making this announcement known to undergraduate and graduate students.* The Research Symposium will be combined with ANS Day, and all events will take place April 12th. **Faculty and students who have received ANS Research Mini-Grant funding are expected to report on the progress of their funded project at this symposium.**

Presentations describing current research projects as well as ongoing research programs are appropriate. The Research Symposium will include both poster and oral presentations. Each oral presentation (PowerPoint) will be scheduled for a total of 15 minutes; this includes time for the presentation plus a question/answer period. A limited number of oral presentation time slots will be available. If requests for oral time slots exceed time slot availability those requesting, but not receiving, oral presentation time slots will be offered poster display space instead. Poster presentations should be set up before the beginning of the poster session on April 12th. Tripod easels will be provided, but presentation boards to support posters are the responsibility of the presenters. Because of space limitations **posters will be restricted to a maximum width of four feet.** During the poster session presenters are requested to be available for discussing their work. Additional details for oral and poster presenters will be provided at a future date. Be sure to provide contact information (email) when submitting your abstract.

The College of Applied and Natural Sciences requests the submission of abstracts from Applied and Natural Sciences faculty and students. The **deadline for abstract submission is 4:00 PM, Friday, March 23, 2018.** To submit an abstract, please follow the guidelines on the attached pages.

*ANS Research Symposium - April 12, 2018
Deadline for submission of abstracts - 4:00 PM, March 23, 2018*

ANS Research Symposium – April 12, 2018

Call for Abstracts

Abstracts are required for both poster and oral presentations at the Research Symposium. The following guidelines should be followed when preparing abstracts.

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- Abstracts may be submitted by faculty, graduate students, and undergraduate students from the College of Applied and Natural Sciences. Collaborators from other units are welcome, but cannot be listed as first author on an abstract or presentation.
 - Abstracts should provide an overview/summary of the research to be presented. Keep in mind, Symposium attendees will likely not be an expert in your area of research. Abstracts are limited to one page (single-spaced, 12-point font, 1-inch top, bottom, and right margins, 1.25-inch left side margin). Abstracts will be assembled into a Research Symposium booklet and abstracts not conforming to format guidelines will be edited.
 - Use the format of the attached example abstract when preparing abstracts. (Be sure to include title, author(s) name and ANS unit.)
 - Abstracts should be submitted electronically, as well as by hard copy.
 - electronic submission should be sent by email to: jhollis@latech.edu
(Include **ANS abstract** in email subject line. Indicate poster or oral presentation.)
 - hard copy should be one page, single-spaced, 12-point font, 1-inch top, bottom, and right margins, 1.25 inch left side margin
 - In addition to the abstract, complete and submit the attached **Application for Presentation** form (form also available on ANS web page).
 - Submit hard copies of abstracts to Jennifer Hollis, PML Room 913.
 - To be accepted, a complete abstract submission must include:
 - 1) an electronic version of the abstract, indicating oral or poster presentation
(email to jhollis@latech.edu)
 - 2) a hard copy of the abstract
 - 3) a completed *Application for Presentation* form
 - The deadline for abstract submission is **4:00 PM, Friday, March 23, 2018**.
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*College of Applied and Natural Sciences
Louisiana Tech University*

Research Symposium 2018 - Application for Presentation

Abstract submission deadline - 4:00 PM, March 23, 2018

**Title of
Presentation:**

Authors & Unit:

*(If more than one
author, clearly indicate
academic unit affiliation
of each author and
clearly indicate author
making presentation.)*

Contact Information:

(email of presenting author)

Format: *(Check one)*

presentation*

_____ poster presentation*

_____ oral

Note: For oral presentations, computer and projector equipment will be provided for PowerPoint.

* Details for oral and poster presentations will be provided at a future date.

ANS Research Symposium 2018

Example abstract

Analysis of network based co-expression modules for Alzheimer's Disease

Prerna Dua¹, Sonali Bais², Kankana Shukla³

¹*Associate Professor, Health Informatics and Information Management, Louisiana Tech University*

²*Computer Science, Louisiana Tech University*

³*Biomedical Engineering, Louisiana Tech University*

There has been an intensive research going on for Alzheimer's disease (AD) to understand its cause and progression through the past decade. However, the pathogenic factors that are responsible for these processes are still unclear. In this research we utilize the hippocampal gene expression data of 22 AD patients and present a framework for a comparative study to evaluate the two similarity measures, Mutual Information and Pearson Correlation Coefficient in developing gene co-expression networks. We hypothesize that Mutual Information based co-expression networks can capture more biologically significant dependencies as compared to Pearson Correlation Coefficient due to its ability to capture non-linear relationships. We utilize a parameter free module discovery algorithm to detect functional modules discovered by the two approaches. Further, to validate our approach, we compared the identified functional modules resulted by our experiments to the existing biological modules by computing the Jaccard index between them. Finally, we evaluated the discovered modules for their biological significance by performing biomedical literature search. We also investigated into the drug interdiction pathways, which suggest potential targets for intervention.

*Use the above abstract from last year
as a guide when formatting your abstract.*