

COLLEGE OF NATURAL SCIENCE and MATHEMATICS

Minutes of Council of Chairs Meeting - August 13, 2018

A meeting of the Council of Chairs of the College of Natural Sciences and Mathematics was held on Monday, August 13, 2018. Stephen Addison presided, members present: Ginny Adams, Emre Celebi, Pat Desrochers, Carl Frederickson, Ramesh Garimella, Uma Garimella, Brent Hill, and Steve O'Connell. Guests: Aimee Poynter, CNSM Development Officer

Agenda Items:

1. Recruiting staff met with Chairs to discuss recruiting plans and to get updates on new programs and opportunities for students in the college. Each Chair presented a one page document with program highlights and answered questions from the recruiting staff.
2. Minutes from May 29, 2018 meeting were approved.
3. Dean Addison announced that Aimee Poynter has been assigned to the College of Liberal Arts in addition to representing the College of Natural Sciences and Mathematics.
4. The CNSM Advisory Board will hold their first meeting this Friday, August 17, 2018. This will be an introductory meeting to review where we are and what we've accomplished. Dean Addison asked for items that Chairs would like to be highlighted. Discussion followed on the role of the Advisory Board and the need for more members.
5. Dean Addison led a discussion on strategic planning for the college. We will be working within the focus of the new capital campaign that will be launching soon and continue to make equipment purchases that will bring focus to UCA like the Cyber Range and new confocal microscope. The Dean reminded chairs that it is important to follow up quickly on opportunities that come our way as companies begin to seek help locally instead of outsourcing their requests. Discussion followed.
6. A few reminders were made for the new academic year:
 - Thesis students must submit a copy of their thesis to the Dean prior to getting his signature. It can be the version that goes to their committee for review.
 - PAF's need to be done by the department office so they are completed correctly. Faculty should not be doing PAF's.
 - Syllabi must be ready on 1st day of class and included updated information found on Provost web page. Chairs should review for completeness. A copy of all syllabi must be submitted to the Dean's Office.
 - With John Black's increasing workload, please ask faculty to use the online IT Work Order Form when requesting work. This helps with scheduling, prioritizing, and supports the need to get extra help to assist with our IT needs. The link to the form is here: <http://uca.edu/cnsm/cnsm-it-work-order>.
 - Remind faculty that poster print requests must follow the guidelines found at <http://uca.edu/cnsm/poster>. Even if you don't know exact numbers presenting at conferences, go ahead and submit the request for scheduling and planning purposes.

7. Dean Addison asked Chairs to let Berdie know which recruiting events they are able to attend soon so we can make arrangements for any areas that need coverage.
8. New academic department brochures were distributed for review. Discussion followed on the need to better target the information to highlight our departments. The Dean asked that Chairs get revisions to Dayna next week so we can get brochures ready for recruiting season.

Other Items/Announcements

- We as a college need to take an active role in promoting and advertising our college.
 - Let the Dean's office know of upcoming events so we can coordinate with marketing to get photographs for promotional materials.
 - Hold CNSM focused events targeted to students interested in STEM fields. Our pilot program will be Physics Day in early November. Would like to hold an event for at least one other department this semester and look at doing a college-wide event next year.
 - Work with the STEM Institute to gain access to schools to share information with principals and counselors.
- The Student Convocation is next Monday, August 20, at 9am in the Farris Center. Faculty should wear academic regalia.
- The Faculty Convocation is next Wednesday, August 22, at 9:30. Please encourage your faculty to attend. The college address will be at 1pm in LSC 100.
- The Student Minority STEM AP report has been ordered and will be distributed to the Chairs soon. Please reach out to these students and let them know what UCA has to offer and invite them to events on campus.
- Ramesh Garimella asked for support to update software licenses. Discussion followed on need to develop standardized software packages that will keep us up to date and save money.
- Ginny Adams and Aimee Poynter are leading up our CNSM Ambassador program. They are working to provide training and set up regulations to keep the program running. Students will be available to help with Welcome Week, Bear Facts Days, Physics Day, etc. Let Ginny or Aimee know of any other events where we can engage these students or if you know of any students who would like to apply to become an ambassador.
- Our new STEM Resident Master, Ashley Hicks, will be reaching out to the Chairs to discuss the role of the STEM College in your departments. Please watch for her emails.

Chair Reports:

Biology

Dr. Hill reported:

- No report

Chemistry

Dr. Pat Desrochers reported:

- Greg Naumiec, Faith Yarberry, and our student ACS chapter are hosting a broadcast site for the national ACS Program in a Box event entitled, "Voyage to Mars: Red Planet Chemistry". October 23 from 6-7pm. This event is part of the chapter's National Chemistry Week activities. This year's theme is "Chemistry is Out of This World." Scott Austin is working to have the program broadcast in Griffin Planetarium and follow it with a regular planetarium show highlighting the red planet.
- Kristin Dooley submitted a 3-year NASA Exobiology collaborative proposal with biophysics faculty member at University of Fayetteville. July 2018.
- Makenzie Long earned a SEED grant from NSF EPSCoR. It will fund her work over the next academic year and including Summer 2019.
- Bill Taylor and his students had a manuscript accepted for publication J. Phys. Chem A. in July 2018. This paper includes contributions from two undergraduate UCA co-authors.
- Jamie Freeman and Mason Hart presented a chemistry demonstration activity for junior high students participating in Upward Bound, June 2018.
- The department completed its 6-year report to the American Chemical Society, June 1, 2018.
- Tori Dunlap, Greg Naumiec, and two of their students submitted a manuscript to Organic Letters describing an improved production method for a molecule, TAPP, used to purify the protein Calmodulin. Calmodulin is a protein involved in signaling in every cell of the body and purification of calmodulin is essential to Dr. Dunlap's research and the experiments her students perform in biochemistry laboratory. The new production of TAPP for calmodulin purification is faster, higher yield, and much safer than previous methods. August 2018.
- Greg Naumiec is establishing an Open Innovation Drug Discovery Program Agreement with Eli Lilly Corp. This agreement allows Lilly to screen compounds synthesized in his lab for their potential efficacy against tropical diseases. August 2018.

Computer Science

Dr. Emre Celebi reported:

- No Report.

Geography

Dr. Stephen O'Connell reported:

- No Report.

Mathematics

Dr. Ramesh Garimella reported:

- Fifteen undergraduate students and seven graduate students received their degrees at the 2018 spring and summer Commencements.
- For AY 2018-19, the Department has 14 graduate students (10 MS and 4 MA) and 5 part-time students (3 MA and 2 MS). There are 9 graduate students teaching college algebra.
- Seven graduate student and two undergraduate students received support to conduct research over this summer.

- Three new statisticians (Sharif Mahmood, Yeil Kwon and Whitney Worley) will join the department this fall as tenure track faculty. Also, Kayla Waters and Crystal Spellmann will join the department as new visiting lecturers.
- Visiting Lecturer Dr. Garth Johnson received 2018 Brenda Graham Service Award. His contract has been extended for the AY 2018-19.
- Tenure-track Math Education faculty member Kansas Conrady resigned her position over the summer. A national search will be conducted this fall to find a replacement for her.
- Nineteen students from Conway and Little Rock middle and high schools attended 2018 Summer STEM Academy at UCA from June 25 through June 29, 2018. The academy was organized by the Department of Mathematics and the UCA STEM Institute. Students participated in three interconnected activities in biology, statistics and computer coding. The Data Analysis & Visualization activity, taught by Dr. Mark Doderer from the Computer Science Department, helped students develop computer programming skills and tools to analyze and visualize the data. Empirical Modeling Analysis, instructed by Dr. Todd Abel of the Mathematics Department, introduced students to statistical modeling and helped them utilize the tools to develop and carry out experiments. Biology faculty Dr. Krista Peppers taught Toxicology & Microscopy to help students develop microscopy skills and implement their own investigation into whether ethanol impacts the heart rate for *Daphnia magna*, the water flea. On the last day of research, the students divided up into groups and presented their findings to their peers, parents and faculty/staff.
- On July 24 and 25, the Department hosted the external reviewer Dr. James Alvarez of UT at Arlington to conduct the MA self-study. We are waiting on Dr. Alvarez's report.

Physics

Dr. Carl Frederickson reported:

- Dr. Carl Frederickson presented a workshop titled, "Projects Based Arduino Activities," at the 2018 ASEE Annual Conference & Exposition in Salt Lake City, Utah on June 24.
- Dr. Carl Frederickson presented a poster titled, "Summer Internships for Rising Sophomores and Juniors as a Recruitment Tool for Secondary Science and Math Education: Lessons from Four Years of Interns," at the 2018 Noyce Summit: Towards a 2026 STEM Education – Implications of Convergent Science for K-12 STEM Teacher Preparation in the Face of Changing Student Demographics, July 16-18 in Washington, D.C.
- Dr. Andrew Mason presented an invited paper titled, "Self Diagnosis: Writing to Assist Metacognition in Problem Solving," at the 2018 AAPT Summer Meeting, July 28-August 1, in Washington, D.C. He also presented a contributed paper titled, "Comparison of Introductory Physics Students' Attitudes and Approaches to Problem Solving with Those of Introductory Astronomy Students Using a Validated Survey."
- Sidney Freyaldenhoven presented, "Analysis of Leg Bones of Rats Exposed to Simulated Microgravity and Space Radiation," Rahul Mehta, Sidney G. Freyaldenhoven, Hayley N. Heacox, Brent Hill, Parimal Chowdhury, at the 25th Conference on Application of Accelerators in Research and Industry in Grapevine, Texas, from August 12-17, 2018.
- Dr. Daniel Bullock has turned down the engineering physics tenure-track position.

STEM Institute

Dr. Uma Garimella reported:

- Grant collaborations:

- Physics Department - DOE IES (Institute for Education Sciences) proposal due Aug 23. The ADE Commissioner and the Governor support this project.
- Computer Science -Computer Science for All (CSforAll:RPP) Researcher Practitioner Partnerships and NSF REU .
- College of Education: Working with Dr. Scott-Groove. Post induction support for UCA graduates; Instructional support, STEMteach.
- Publications / Presentations:
 - Jacob Sisson submitted an article for the 6-8 Math ACTM Newsletter: "*New Year, New Routine: Empowering Student Thinking*". Using the Purposeful Pedagogy and Discourse Model as an instructional routine throughout the year.
 - NSF - PAEMST August 9 - Chair of the National Committee. Reviewed 9 applications from Oklahoma, Ohio and Kentucky
- Remodelling all three rooms - 213, 214, and 215
- Hosting ACTM Zoom Conference: Updated information regarding conference planning. Conference can hold up to 175 people.
- Working with targeted schools based on the state student achievement data and requests.
- Special long-term project with Maumelle Middle School (8.09.2018). Nicole, Jacob, Dr. Fetterly, Dr. Abel, and Terry Johnson met with Principal and Asst. Principal of Curriculum to develop partnership. We have approval to begin support in working with teachers. Support will be in instructional support related to ACT Aspire, book studies, professional development, and instructional strategies on increasing improvement in STEM related scores. This will be for Math and Science Grades 6-8. We will coordinate with the school to do a Community Math Night.

Development Officer

Aimee Poynter reported:

- No Report