New programs at USCB

Besides a B.S. in Biology or Computational Science, we have been working over the last two years to add:

- a Bachelor of Science in Mathematics
- a Bachelor of Science in Secondary Education—Mathematics
- a Bachelor of Science in Secondary Education—Biology

Our three newest programs are under way and looking to grow! Both the B.S. in Math and Secondary Math Education came on line a year or so ago, but the B.S. in Secondary Ed in Biology was just approved by the Council of Higher Education (the S.C. governing board). It took work and dedication by Dr. Bud Sanders, Math; and Dr. Gordon Sproul, Science; to shepherd the degree proposals through. We hope the addition of these Secondary Ed degrees will positively impact the staggering numbers of vacancies that have proven so difficult to fill in STEM education, both regionally and nationally. The need is so great that there are means now to have student loans forgiven if you serve in a critical need area. If you are interested in these programs, contact Dr. Bruce Marlowe, the head of our Education Department, at BMARLOWE@USCB.EDU. Look for updates in future newsletters from the School of Science and Mathematics.

USCB is among the fastest growing undergrad institutions in the U.S.!

The Chronicle of Higher Education certified USCB recently as one of America’s top five public undergraduate institutions over the 10-year period ending in 2015. Fortunately, the sciences have kept pace with the university’s rapid growth. In fact, Biology is now the second largest degree program based on enrollment. It has grown by nearly 100 percent since the fall of 2013. In the same time period, the number of Computational Science degree-seeking students has grown by 82 percent. We are actively working to create more and better internship opportunities for Biology and Computation Science students alike. Two of our Computational Science students worked at Fidelity Investments in the summer of 2017. They created an app for which the company is seeking a patent. Both interns were offered jobs when they graduate in the spring of 2018. Our first intern in Biology at Nemours Plantation was asked to continue working with them into the fall. He’s now back at USCB taking a couple of extra classes this spring. He plans to apply to vet school next year.

NEW HONORS PROGRAM

The Biology Program and the Nursing Program will introduce Beaufort College Scholars, an honors program at the Beaufort campus, this fall. The Beaufort Campus is getting a makeover right now, which includes new student accommodations for 96 students along the east end of Boundary Street. The new housing facilities will be within walking/biking distance to classes. They will be located near the Boundary Street bend beyond which the historic Beaufort College campus has stood since 1795. That was the historic location where higher education actually started in South Carolina. Students in both programs will participate in smaller classes with an honors seminar and group activities/field trips. They will live on the Beaufort Campus for the first two years and then transition to the Bluffton Campus to complete their junior and senior coursework. Our first cohort of Beaufort Scholars will be limited to 20 of our top applicants this fall. Look for details on the program at www.uscb.edu/biology.

Large-scale renovations are already under way. Site preparation has been completed and construction on the residence halls has begun. For more information on the new honors program for Biology majors, contact us at biology@USCB.EDU. Those interested in the Nursing honors program can contact nursing@USCB.EDU.
Meet our newest faculty

In the past few years, we have attracted some stellar permanent and visiting faculty members to our growing pool of teacher scholars:

**Teresa Carroll** (Ph.D., Ecology & Evolutionary Biology, University of Kansas 2009). Teresa stepped down as Director of Environmental Programs at Drury University in Springfield, Mo., to enjoy her family’s Low-country residence on Hilton Head Island and to pursue research opportunities here and in the southeastern U.S. As a side benefit, she reached out to us to teach and mentor students in research here at USCB. Her arrival could not have been timed better with our record-breaking enrollments over the past few years.

**Jena Chojnowski** (Ph.D., Zoology, University of Florida 2010). Jena joins us from her last position, postdoctoral researcher at the University of Georgia, where she studied the effects of the Pax-6 gene on human aniridia, a congenital iris defect. She is currently working with several undergraduates in her lab to develop a comparative atlas of eye anatomy across multiple species of vertebrates.

**Ron Erdei** (Ph.D., Computer and Information Technology, Purdue 2016). Ron is an experienced database administrator and application developer. As a nontraditional student in these areas, he realized the need to create novel ways of teaching to make complex technical concepts more accessible for today’s students to master. These concepts include those commonly found in Computational Science and Math. He employs innovative teaching techniques, often in nontraditional classroom environments, to make challenging course content relatable to, and meaningful for, all students.

**Xiaomei Zhang** (Ph.D., Computer Science and Engineering, Penn State 2016). Xiaomei (“J[e]ow-mae”) is a specialist in mobile computing, wireless communication, social networks/network science, data science, data-centric computing, and machine learning (more than 10 papers published in IEEE transactions and conferences in the last four years). She is also working with several undergraduates in her research to discover the evolution in social trends in our local community based on online social networks.

**Kimberly Ritchie** (Ph.D., Genetics, University of North Carolina, Chapel Hill 2000). Kim joins us after a 12-year stint as a research scientist in Marine Microbiology and Coral Reef Ecology at Mote Marine Lab in Sarasota, Fla. A native of Walterboro, S.C., Kim is active with undergraduate interns in her research on discovering new marine sources of microbes for drug discovery. Several students accompanied Kim on her OCEARCH cruises last year.

**Morgin Jones Williams** (Ph.D., Teaching and Learning, Mathematics Education, Georgia State 2016). Morgin joins us from her position as a Clinical Assistant Professor of Math Education at Georgia State University. She is passionate about mathematics teaching, learning and using unique methods to help students develop a mastery of mathematics in the classroom. Morgin’s research is focused on the experiences of black women who earned a bachelor’s degree in mathematics and teaching and learning in mathematics at the secondary and higher education levels.
Dr. Bud Sanders becomes first USCB professor named Fulbright Scholar

USCB professor and chair of mathematics Manuel J. (Bud) Sanders, Ph.D., was selected for a Fulbright U.S. Scholar Program to conduct research in Finland for the 2017-2018 academic year.

The Fulbright Program is an international educational exchange program designed to “increase mutual understanding between the people of the United States and the people of other countries.” Dr. Sanders will be using his Teaching Research Award to study mathematical competency at Tampere University of Technology in Finland.

Dr. Sanders’s goal, through his research program entitled “Mathematical Competency in STEM: Preparing the Researchers of Tomorrow,” is to improve the undergraduate learning process for students in scientific disciplines at USCB.

“I want our students to be prepared as they continue into graduate school or go directly into industry,” he said.

Highlights in recent research

Eric Montie and his research group (Agnieszka Monczak, Andrea Berry and Chris Kehrer [USCB class of 2015]) published a groundbreaking article on the acoustic landscape of the May River ecosystem, entitled “Long-term acoustic monitoring of fish calling provides baseline estimates of reproductive timelines in the May River estuary, southeastern USA” in the Oct. 13, 2017, issue of Marine Ecology Progress Series (MEPS). MEPS is a major international journal in marine ecology. The article caught the eye of the editorial board and became the featured article for the issue. It was highlighted on the issue’s cover. Dr. Montie’s research is focused on the seasonal changes in local estuaries as impacted by the changing seasonal temperature patterns.


Dr. Gordon Sproul to retire

The spring of 2018 will be the last semester that Dr. Gordon Sproul (Ph.D., Inorganic Chemistry, University of Illinois 1971) will be teaching chemistry at USCB. Gordon joined the university in 1975. He has been the core of the chemistry faculty; he served as Natural Sciences Chair and the Division Coordinator for Science and Mathematics during his distinguished tenure here. When he started at USCB, it was still a two-year teaching college with scant emphasis on research. Undeterred, Gordon continued to pursue his interests in the chemical processes involved with pre-biotic compounds that set the stage for the amazing diversity that is the biosphere of our present Earth. Gordon has served as a mentor, a boss and a colleague. He was the second faculty member I met when I arrived at USCB in 2003. We’ve agreed, disagreed, celebrated victories, and even been in “cahoots” to get things expedited over my time here, but as Gordon said to me not long ago, “The science faculty at USCB is incredibly collegial: agree or disagree, we work together well.” With his 43 years of service, Gordon will step down from teaching in the classroom as the longest serving faculty member in our history. He plans to continue his research, while taking time to travel and spend more time with his wife, his children and his grandchildren. His years of service have made USCB what it is today: an excellent four-year school from which to launch your future.

– Joe Staton, Founding Dean, Science and Mathematics
In the fall of 2017, Yiming Ji was a co-author on a statewide grant that was successfully funded by the National Science Foundation. The initiative, called “Materials Assembly and Design Excellence in South Carolina” (or MADE in SC), totaled $20 million in NSF funding, of which nearly $900,000 was awarded directly to USCB. Dr. Ji, the senior professor and program director for USCB’s Computational Science program, co-wrote the proposal to fund three new faculty lines in Computational Science and Engineering, as part of a program to begin graduate training in STEM at USCB.

Dr. Ji was also honored in January by the University of South Carolina system with a 2018 Breakthrough Leadership in Research Award. He was the only faculty member recognized in 2018 from a USC senior campus (Beaufort, Aiken and Upstate). Previously recognized as a Breakthrough Rising Star in Research in 2010 and presented with the South Carolina Governor’s Award for Excellence in Scientific Research at a Predominately Undergraduate Institution in 2016, Dr. Ji continues to grow the STEM disciplines at USCB. He has successfully garnered state-level recognition as a STEM leader.