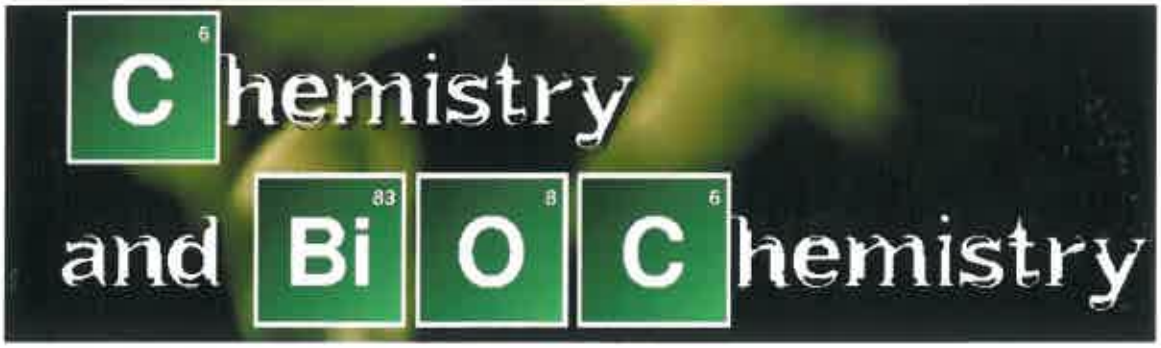

at the College of Charleston

Alumni Newsletter
2017

The faculty in the Department of Chemistry and Biochemistry at the College of Charleston wish you all a Happy New Year! The department continues to thrive in our new space at 202 Coming Street in the School of Science and Math Building (SSMB). At the moment, however, we are a little more cramped than usual, as we share space with the Biology Department during the renovation of the Rita Hollings Science Center. Nonetheless, the SSMB building has allowed our research programs to flourish and has helped attract many talented new faculty members to our program. Sadly, in recent years we have lost two beloved chemistry professors, Dr. Frank Kinard and Dr. Gary Asleson, both to cancer. We celebrated the retirements of Dr. Marion Doig, Dr. Charles Beam, and Dr. Henry Donato. We also said goodbye to Dr. Justin Wyatt, who left us to pursue a new career in academic publishing. To better acquaint you with the new faculty members we have added over the past five years, we are providing a brief biography below.

Dr. Jay Forsythe-Bioanalytical Chemistry (PhD Vanderbilt, Post-doc Georgia Tech) studies origins of life questions, such as the early emergence of polymers with structure and function (RNA, DNA, protein, etc.). This step is known as "chemical evolution," and would have taken place before Darwinian evolution. Although Darwin never addressed chemical evolution in his book *On the Origin of Species*, he did write the following in a letter to a friend some years later: "…if (and oh what a big if) we could conceive in some warm little pond with all sort of ammonia and phosphoric salts, –light (*sic*), heat, electricity present, that a protein compound was chemically formed, ready to undergo still more complex changes…" Dr. Forsythe's research focuses on precisely this: How did peptides (and, eventually, proteins) form on the prebiotic Earth, before the first living objects? Using simple chemistry and a "warm little pond" of water, Dr. Forsythe and his students look to make mixtures of peptide-like molecules and to characterize them using a combination of analytical techniques.

Dr. Michael Giuliano-Bioorganic Chemistry (PhD Wisconsin, Post-doc Yale) started in Fall 2015. He is teaching organic chemistry and initiating a research program in bioorganic chemistry. He hopes to determine the NMR structures of three families of neuropeptides: the endogenous opioids, the orexins, and the galanins. These are small, non-hormonal signaling peptides and little is known about how they interface with their biological targets in the synapses where these peptides function.