

Face of Molecular Biology

Kyle MacLea joins biology faculty at UNH Manchester

Tuesday, April 14, 2015

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[Kyle MacLea](#) knew he wanted a career in the sciences when he was a student at Londonderry High School. The University of New Hampshire at Manchester's newest Assistant Professor of Biological Sciences graduated from the local school in 1993 and headed off to Cornell University, where he majored in biology. Although he wasn't sure which direction to take his career at first, MacLea said an undergraduate internship in his hometown one summer led him to his interest in pharmacology and, ultimately,

biotechnology. MacLea joined the UNH Manchester faculty in 2014 to teach microbiology courses and help the school develop a [new degree program in biotechnology](#).

“When interviewing for the position, they wanted someone with a molecular focus and who was interested in actual lab work and research with students. That was an interest of mine from the beginning,” said MacLea. “[Professor] [Steve Pugh](#) has also had the percolating desire to offer a degree

in biotechnology, to harness our place in Manchester in which there are biotech and small pharmaceutical companies nearby.”

Before coming to UNH Manchester, MacLea had a diverse and impressive academic career. While attending Cornell, he interned at the Londonderry-based Diatide Research Laboratories, where he studied short peptide agents used to screen for human diseases. That sparked his interest in biotechnology and led him to a research position at the Cornell pharmacology lab. From there MacLea went on to the pharmacology and toxicology department at Dartmouth College, where he later earned a PhD. During that time he also developed a love for working with students in the lab.

“I didn’t intend to have a focus on teaching, but I enjoyed it and enjoyed laboratory work and teaching people lab experiments,” said MacLea. “I didn’t see myself being an academic researcher or an industrial researcher supervising people, and I didn’t want to be writing grants all the time.”

MacLea taught at a number of schools across the country after earning his PhD, most recently at Linfield College in Oregon, where he taught a molecular biology course for two years. MacLea and his family decided that they wanted to make New England their home, which ultimately brought him to UNH Manchester.

Students have already had MacLea as a professor for classes like Principle in Biology and General Microbiology, which were offered in the fall. This spring MacLea is teaching courses including Advanced Biology and Molecular Genetics. In his Microbial Genomics class, students get hands-on research experience looking at and sequencing the genome of an unsequenced bacterium—a rare opportunity for undergraduates at any school.

MacLea will also be highly involved in developing courses for the new [Bachelor of Sciences in Biotechnology](#) degree program. While there is some overlap with the existing Biology major, students need to take additional classes in advanced biology, lab techniques and advanced microbiology. This can include new courses like Nucleic Acid Techniques and Protein Immunological Techniques, both of which MacLea said are “foundational techniques for a person in the biotechnology industry.”

As he looks towards the semesters ahead, MacLea said he hopes to form relationships with biotechnology firms in the Manchester area and beyond. He wants to use their knowledge of the industry to add aspects to the program that will better prepare students for careers in the field. MacLea would also like to oversee independent research projects with students and has already provided advice to a few students working on projects relating to microbial genomics and the emerging field of

metagenomics, which includes the genomic study of the organisms present in a particular environment.

“My main thing is to just try to get students involved in real bench science, either with me or someone else, and getting them the chance to make a real scientific discovery,” said MacLea.

[Request more information about the new biotechnology program at UNH Manchester.](#)

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