Two University of Iowa Honors’ students have earned 2016 National Science Foundation Graduate Research Fellowships (NSF GRFP). Kathryn Langenfeld and Ian Nessler - both residents of Iowa City and students in the College of Engineering - are among the 2000 recipients chosen from close to 17,000 applicants from a diverse spectrum of scientific disciplines. The new Fellows come from 488 baccalaureate institutions -- 104 more institutions than in 2010, when GRFP began awarding 2,000 fellowships each year.

“The Graduate Research Fellowship Program is a vital part of our efforts to foster and promote excellence in U.S. science, technology, engineering and mathematics by recognizing talent broadly from across the Nation,” said Joan Ferrini-Mundy, NSF assistant director for Education and Human Resources. "These awards are provided to individuals who have demonstrated their potential for significant research achievements, and they are investments that will help propel this country’s future innovations and economic growth."

The GRFP provides three years of financial support within a five-year fellowship period ($34,000 annual stipend and $12,000 cost-of-education allowance to the graduate institution). That support is for graduate study that leads to a research-based master’s or doctoral degree in science or engineering.

“Katie just “won” the GRFP, but she earned it a long time ago with hard work and dedication that dates back to her sophomore year when she joined my group. I’ll never forget the look on her face when I told her she could do research on organisms isolated from plants for use in degrading explosives. That’s when I think she first caught the research bug.”

Dr. Craig Just, Professor, Civil and Environmental Engineering
Fellows can also access support for international research collaborations through the Graduate Research Opportunities Worldwide (GROW) initiative and professional career development with federal internships provided through the Graduate Research Internship Program (GRIP). GRFP also supports NSF’s Career-Life Balance (CLB) Initiative (NSF 13-099). Former NSF Fellows include numerous individuals who have made transformative breakthroughs in science and engineering, have become leaders in their chosen careers, and been honored as Nobel laureates. Applicants must be U.S. citizens, nationals, or permanent residents and are selected through the NSF peer review process.

Langenfeld will graduate from the University of Iowa this May with degrees in environmental engineering and mathematics. While at the University of Iowa, she has worked with Dr. Craig Just’s research group in environmental engineering, investigating the bioremediation of insensitive munitions explosives using endophytic bacteria from willow trees. In addition to her research, Kathryn has served three consecutive years as president of Continental Crossings, a student organization that supports the construction of pedestrian bridges to ensure that isolated communities have year round access to health care, educational institutions, and economic opportunities. Langenfeld will begin her doctoral work in environmental engineering with Dr. Krista Wigginton at the University of Michigan this fall.

A student of chemical engineering, Nessler joined Dr. Michael Schnieders’ group in 2013, eventually contributing to the authorship of two published articles on improving the computational efficiency and accuracy of thermodynamic calculations associated with crystal deposition. With proper implementation, these approaches may serve as a complement to experimental methods improving the drug discovery process. Other experiences, which influenced his decision to pursue graduate work and the GRFP, include an internship at Genentech and work with Continental Crossings. Ian will begin his graduate studies at the University of Michigan in the fall of 2016, where he will continue his research on pharmaceutical formulation and application.

“Ian has focused on powerful new algorithms to accelerate computer simulations of how therapeutics interact with their protein targets and how they crystallize into drug tablets. This kind of molecular simulation approach is sometimes referred to as a computational microscope, which is ironic because microscopy expertise runs in Ian’s family. What could only be studied in the past using microscopy experiments, can now be complemented by atomic resolution computer simulations.”

Dr. Michael Schnieders, Assistant Professor, Biomedical Engineering

“Interested in applying for the NSF GRFP in Fall 2016? Rising UI seniors who intend to apply for the 2016-17 NSF GRFP competition are encouraged to contact Kelly Thornburg at 319-335-1874 or kelly-thornburg@uiowa.edu before the close of spring semester to ensure access to application support in the summer and fall of 2016.

Applicant support for UI undergraduates:

Kelly Thornburg, Director of Scholar Development, UI Undergraduate Fellowships
kelly-thornburg@uiowa.edu | honors.uiowa.edu/uihpfellowships

Lindsay Marshall, Associate Director, Iowa Center for Research by Undergraduates
lindsay-marshall@uiowa.edu | http://www.uiowa.edu/icru/
APPLICANT SUPPORT FOR UI GRADUATE STUDENTS:

Jennifer Teitle, Associate Director, Office of Graduate Student Success, Graduate College

jennifer-teitle@uiowa.edu | http://www.grad.uiowa.edu/career-success