NEW GRADUATE PROGRAM IN

Among the new graduate students welcomed into the Department of Plant Biology in Fall 2011 are three who are venturing into a new, 16-month degree program that aims to prepare them specifically for science careers outside of academia. For Grant Hansen, Brandon Jordan and Miranda Morgan, the Professional Science Master’s (PSM) in Plant Biology blends graduate studies in plant biotechnology with an accelerated introduction to business basics and a realistic look at needs and trends for jobs in biotechnology-based industries. At colleges and universities nationwide, PSM programs are emerging to offer fast-paced, innovative graduate training for scientists transitioning from the university to careers in industry, government, and non-profit organizations.

The vision for the PSM in plant biology began with SIB Director, Prof. Evan DeLucia, who recognized the growing trend of science graduates to follow career paths away from the university and in 2008 led brainstorming sessions to identify potential PSM program areas in the school. Plant biotechnology quickly emerged as an ideal area and led to the creation of the school’s first PSM in the Department of Plant Biology, which enrolled its first cohort in Fall 2011. The Department of Plant Biology recognized the value of adding a PSM degree to its graduate programs, which have long garnered recognition worldwide in the plant sciences. The non-thesis PSM program brings a distinctive curriculum and goals to the existing graduate programs in plant biology, and aims to perpetuate the department’s strong reputation for interdisciplinary science and diverse career outcomes for graduates of its programs. Committed to the success of the new program, the department moved quickly to invite PSM students into its graduate student organizations and integrate them into graduate science classes and research labs, embedding these students into the life of the department and the larger graduate community at Illinois.

The plant biology PSM curriculum centers on plant-based biotechnology studies, but also encourages students to tailor their science coursework to match their interests. Embedded within this technical foundation are business classes and opportunities for students to develop the professional skills sought by industries, which include communication, innovative thinking and an appreciation for productive workplace dynamics and management. The science and business elements build developmentally in the program and culminate in the real world experience of a summer internship. The role of industry partners is integral throughout the program, providing students with first-hand perspectives on the jobs and competencies key to today’s business world. These links forged between the PSM and industry partners, ensure that the program remains responsive and relevant to the needs of the biotechnology sector of medical, environmental and agricultural industries.

With his emerging interests in marketing research and consulting careers, Grant Hansen is identifying courses that offer theoretical and practical knowledge in the area of information technology, and is implementing these concepts through a student consulting organization that serves small businesses.

With interests in marketing research and consulting, Grant is following the emerging trends that reveal the “new era of how business decisions are made and new opportunities discovered… I am preparing myself for a long-lasting and much needed trade within the bio-based industry.”
Brandon Jordan is gaining research experience under the direction of Dr. Steven Huber, professor in plant biology, and Dr. Martin Williams, associate professor in crop sciences, by applying newly acquired bench skills to studies of a mutant protein synthesized in herbicide-sensitive sweet corn lines. The results may yield insights into basic underlying mechanisms as well as strategies for rapid detection of mutant lines of potential interest to industry. Importantly, his broad graduate scholarship, new skills in the scientific process and industry experience will help Brandon evaluate career options offering both research opportunities that offer the latitude to move into blended roles of science and business.

Citing exploratory motives for choosing a PSM degree, Brandon says, “I needed to answer some key questions for myself regarding what type of career was right for me.” He is discovering through the PSM industry partnerships that “while research seminars, graduate courses, and a graduate research project work to expand my scientific knowledge, there is a whole other side of science that deals with the practical application of this knowledge.”

Miranda Morgan is building a broad understanding of crop improvement using her coursework and her studies in the lab of Dr. Lisa Ainsworth, associate professor in plant biology, where she works to genetically characterize plant lines exhibiting enhanced growth under elevated ozone levels. With interests in public relations in a science-based company, Miranda will be interning with a high-tech agricultural company during summer 2012. Raised on a family farm in southern Illinois, she hopes someday to communicate technical concepts and product information to the public, providing the vital link between farmers and the industries upon which their businesses depend.

In order to decide whether a bench position or customer relations role is right for her, Miranda is exploring both research on the Illinois campus and a communications and marketing summer internship, using the PSM to “experience both sides first-hand and help make a decision.”