

Postdoc Position in Inter-organelle and Inter-cellular Plant Immune Signaling

We invite a highly qualified and motivated post-doctoral scholar to join a multidisciplinary research team led by Professors Jung-Youn Lee and Jeff Caplan at the Delaware Biotechnology Institute (<https://www.dbi.udel.edu>), located in newly opened Ammon Pinizzotto Biopharmaceutical Innovation Center on STAR campus of the University of Delaware, Newark, Delaware, U. S. A.

This position comes with a highly competitive salary with full benefits commensurate with experience.

About the Research Team

The Lee laboratory is considered one of the frontier labs in the biology of plasmodesmata, membrane-lined cell-to-cell communication channels that are vital for the development and physiology and survival of plants. The research in Lee lab focuses on understanding various aspects of plasmodesmal structure and function, including the role of plasmodesmata in whole plant responses. The Caplan laboratory focuses on elucidating how chloroplasts form stroma-filled tubules called stromules, and the role of stromules and chloroplast positioning in plant innate immunity. Both laboratories leverage Dr. Caplan's world-class Bio-Imaging Center for advanced cell biology approaches.

We take a multidisciplinary approach using molecular, cellular, genetics, biochemical, and computational tools. Our findings have been published in high impact journals, including the Nature Communications, Nature Plants, Cell Host Microbes, eLife, and Plant Cell, etc.

About the Project

The successful candidate will join the research team to lead an exciting research project aiming at understanding how infected cells in plants might deliver chloroplastic immune signals to plasmodesmata and communicate with their surrounding cells to differentially relay death and health signals at the right time and right place. We are focusing on elucidating how ROS plays a critical role as an inter-organelle and inter cellular signal. These investigations will be performed using state-of-the-art live-cell imaging techniques and genetically encoded fluorescent ROS sensors introduced into mutant plants that are altered in chloroplasts mobility or plasmodesmal function. The research team takes the integrative approach combining molecular biology, genetics, cell biology, biochemistry and machine learning.

The successful postdoc candidate is expected to work closely with the lead principle investigators and other team members.

About the qualification

The successful candidate holds a Ph.D. in cell and molecular biology or plant biology/pathology discipline and is expected to lead the molecular and cellular investigation using microscopic techniques and analyses, spanning from ratio-metric live cell imaging using confocal microscopy to transmission electron microscopy. Expertise and experience in basic molecular techniques such as DNA cloning, transcript analysis, etc., and live-cell imaging using point scanning or preferably spinning-disk confocal microscopy are required. Skills in transient/stable gene and protein expression using *Nicotiana benthamiana*/*Arabidopsis*, or plant-pathogen interactions are not necessary but a plus. Mastery of written and spoken communication in English is essential. Those who are highly motivated to conduct cutting-edge research and work well in a team-oriented environment are encouraged to apply.

About Delaware Biotechnology Institute

The Delaware Biotechnology Institute (<https://www.dbi.udel.edu/>) is a magnet for life science research and development at the University of Delaware and the state. The institute supports multidisciplinary, collaborative academic research at all of Delaware's research organizations. It is the physical home to a number of research laboratories with scientists, students, and faculty working on problems related to agriculture, human health, and energy and the environment. The DBI facility provides access to six core instrumentation centers and specialized facilities, including the Bioimaging Center (<https://bioimaging.dbi.udel.edu/>) equipped with state-of-the-art instruments and professional and collegial staffs. Home to the University, the city of Newark is a college town located conveniently between major metropolitan areas of the northeast urban seaboard corridor.

About application

Interested candidates are asked to apply online. Please send in an email to gferry@udel.edu a single document including a cover letter, a CV, and statements of research interests, experiences, and career goals and names of three referees with their detailed contact information.