



Ohio State HCS News

HORTICULTURE & CROP SCIENCE IN VIRTUAL PERSPECTIVE - THE OHIO STATE UNIVERSITY

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Dr. Michelle Jones Promoted to Associate Professor

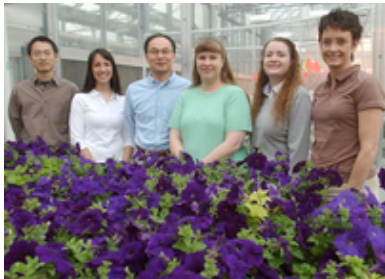


Floriculture molecular biology researcher Dr. Michelle Jones has been promoted to Associate Professor in the Horticulture & Crop Science Department at Ohio State.

Barbara Snyder, Provost at The Ohio State University, has announced that floriculture molecular biologist Dr. Michelle Jones has been promoted to Associate Professor in the Horticulture & Crop Science Department effective October 1, 2006.

Based on the Wooster campus of the university's [Ohio Agricultural Research and Development Center](#) (OARDC), Dr. Jones has made exceptional progress in developing an nationally recognized research and extension program in floriculture molecular biology and postproduction physiology. Utilizing a petunia genomics model, her program investigates the molecular and genetic regulation of flower senescence.

"Senescence is the last stage of development that leads to the programmed death of the flower. We use *Petunia x hybrida* as a model system for studies of flower senescence because the petals are sensitive to ethylene and the plants are easy to transform," explains Jones, who is also a member of the Plant Molecular Biology and Biotechnology (PMBB) Program at Ohio State. "Resources and techniques developed in other Solanaceae, including tobacco and tomato, are readily transferable to petunia. Our goal is to increase the postproduction quality of flowering horticultural crops by delaying senescence. Creating plants with delayed senescence will produce cut flowers with longer vase lives and potted and garden plants with enhanced bloom displays."



Michelle Jones provides leadership for the research performed in the Floriculture Molecular Biology Lab.

Jones' research builds important bridges from basic to applied science in the area of ethylene regulation of senescence, genetic engineering for ethylene and other stress resistance in plants. Dr. Jones has successfully stuck to her goal of moving from the traditional *Arabidopsis* model system to developing the petunia genomics model which has more relevance with crops of commercial and industry importance.

"The senescence program is regulated by highly coordinated changes in gene expression, and the later stages of senescence share many characteristics of programmed cell death. We are currently using DNA microarrays to identify genes that are differentially regulated during senescence," notes Jones. "We are also conducting comparative studies of the molecular and biochemical changes accompanying petal senescence in wild type and ethylene insensitive transgenic petunias to determine ethylene's role in the initiation and execution of the senescence program in petals."

compatible pollination and to determine ethylene's role in inter-organ communication within the flower."

"Comparative studies of the molecular and biochemical changes occurring following pollination of Wild type and mutated ethylene receptor petunia flowers are being conducted to identify components of the pollination signaling pathways and to determine how they are regulated by ethylene. The specific goals of this research are to gain a broader understanding of the metabolic changes that accompany a



An active member of the American Society for Horticultural Science (ASHS), Jones serves as a consulting editor for the Molecular Biology - Biotechnology section of the Journal of the American Society for Horticultural Science. She has been honored by OFA with the 2000 Alex Laurie Award for authoring the best floriculture research paper in the Journal of the American Society for Horticultural Science or HortScience.

More details about Jones' research is available online at the [Floriculture Molecular Biology Lab](#). Dr. Jones received her Ph.D. from Purdue University and joined the Department of Horticulture and Crop Science at The Ohio State University as an Assistant Professor in April 2001.

Story and web publishing by [Victor van Buchem](#). Jones photo by Ken Chamberlain. Team photo courtesy Michelle Jones. Petunia photo by Jodi Miller.

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