2001 C.D. Nelson Award

Daphne Goring

The C. D. Nelson Award Committee is pleased to recommend Dr. Daphne Goring for the 2001 C. D. Nelson Award. Dr. Goring is an outstanding young plant biologist who obtained her Ph.D. from the University of Toronto in 1990. After undertaking post-doctoral studies at the University of Guelph, Dr. Goring was hired as an assistant professor at York University in 1993. Since joining York, she has established an independent, internationally recognized research program focusing on the signaling pathway involved in the self-incompatibility response in flowering plants. Many plants are self-sterile, which means they can only set seed by outcrossing. This presents a significant challenge to plant breeders in their efforts to generate new hybrid cultivars. Until fairly recently, little was known about the processes that prevent plants from fertilizing themselves. Dr. Goring has identified two key components of the stigma-based signal cascade that regulates the self-incompatibility response in Brassica, the mechanism used by these plants to promote out-crossing and prevent self-fertilization. The first of these is the "S receptor kinase" located at the plasma membrane nearest the stigma surface. In the case of plants receiving self-pollen, this receptor recognizes a component of the pollen cell wall, then binds a protein known as ARC1, which then acts in a signaling pathway leading to rejection of the pollen. This work has made an important contribution to our understanding of fundamental plant genetics and reproduction, as well as our ability to manipulate plant germplasm used in crop production.Dr. Goring's success in the laboratory has been reflected in many ways throughout her career. She has been the recipient of NSERC scholarships and awards at the post-graduate and graduate level. She has been successful in attracting significant funding for her research. She has published her work in the form of more than 25 papers and review articles in some of the most prestigious journals in our field, including Science, PNAS, The Plant Cell, Planta, and PlantJournal. She has been invited to present

her work at some of the most prestigious meetings in her discipline. Most recently she was awarded a Premier's Research Excellence Award in Ontario. In the words of her peers, Dr. Goring "represents many of the ideals to which Canadian scientists should aspire. She has high scholarly standards, a strong record of research accomplishments, good international visibility, and a very thoughtful disposition that makes for an outstanding collaborator." She "shows a strong appreciation for whole plant physiology that is not always evident among molecular biologists." On top of all her activities, Daphne has taken the time to share her knowledge and experience with students that span the full range of the lifelong learning spectrum-literally from school children to the Living and Learning in Retirement Series at Glendon College in Toronto. Very simply, she has made outstanding contributions to plant physiology.