



MSc Position

University of Guelph

School of Environmental Science (SES)

Controlled Environment Systems/Controlled Environment Systems Research Facility (CESRF)

POSITION: MASTER OF SCIENCE STUDENT IN PLANT PHYSIOLOGY / HORTICULTURE

ADVISOR: DR. MICHAEL DIXON/DR. THOMAS GRAHAM

START: **SEPTEMBER 2017**

DURATION: TWO YEARS/6 SEMESTERS

STIPEND: PROVIDED

Project Description

A M.Sc. studentship is available involving research at The University of Guelph's Controlled Environment Systems Research Facility (CESRF) (www.ces.uoguelph.ca). Funding is provided by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) (www.omafra.gov.on.ca) and the Canadian Greenhouse Conference (www.canadiangreenhouseconference.com) with additional in-kind support from industry partners.

The CESRF is an essential part of Canada's contributions to plant research and technology development for human space exploration and closed environment related activities (e.g. greenhouse, vertical agriculture, controlled environment agriculture), and provides a comprehensive research venue for measurement of plant growth in precisely controlled environments. These facilities are unique in the world and offer prospective graduate students an opportunity to learn about, and contribute to, the development of leading edge controlled environment agriculture.

The current opportunity at the CESRF focuses on the manipulation of spectral quality (colour) and quantity to improve the adventitious rooting success in ornamental crops. The student will conduct scientifically rigorous experiments, in the CESRF's advanced lighting facility, to determine the spectral conditions that best promote rooting in vegetative cuttings. The student will consider lighting influence on auxin (plant hormones) dynamics and how that influence can be manipulated to develop more robust rooted cuttings. Finally, the student will work with senior research staff and OMAFRA extension specialist(s) to develop a vertically integrated propagation (VIP) system to improve volume utilization efficiency within the existing footprint of our commercial greenhouse partners.

Pre-requisites: B.Sc. in horticulture, plant agriculture, plant physiology/biology/botany, biochemistry, environmental science, or other appropriate field; eligible for graduate studies (see www.uoguelph.ca/graduatestudies/future/apply/requirements).

Graduate Student Role & Responsibilities

The graduate student will work closely with their advisor(s) to design and implement experiments that will address the goals and objectives of the project. Course work will be required; the nature of those courses will

be determined based upon experience and background. The graduate student is obligated to meet the codes of conduct set out by the university, the school, and the faculty advisor. All safety training will be provided.

Stipend & Awards:

The standard University of Guelph, SES stipend rate will apply. The successful candidate will be encouraged (and mentored) to apply for a range of scholarships. Please note that due to funding limitations, this position is **limited to eligible domestic candidates** only, unless international candidate holds an independent research award suitable to the program. Only successful applicants will be contacted for an interview. Position to remain open until a suitable candidate is found.

To Apply, please send cover letter, resume/CV, a sample of your written work (e.g., undergraduate written report) and a copy of your unofficial undergraduate transcript to:

Theresa Rondeau Vuk
CESRF Program Manager
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tel. (519) 824.4120 x52909