



## Research Project:Utilizing vertical farms to produce plant-based biopharmaceuticalsFaculty Mentor:Dr. Rhuanito Ferrarezi, Department of Horticulture (ferrarezi@uga.edu)Area of Expertise:Precision irrigation, plant nutrition, lighting, biopharmaceuticals, biofortificants,crop physiology, and cropping systems for controlled environment agriculture (CEA).Student Background:Biochemistry, Horticulture, Agronomy, Ag Engineering, and other related fields.

Laboratory Website: https://ferrarezilab.uga.edu



Dr. Ferrarezi is looking for REEU students to work on a summer project that utilizes vertical farms to produce plant-based biopharmaceuticals such as anti-cancer alkaloids (vinblastine and vincristine). Students will work with a lab technician and graduate students in Dr. Ferrarezi's CEA Lab conducting experimental research. Students will receive interdisciplinary exposure to many crop physiology and production-related research areas and will have the opportunity for professional development on the UGA campus.

Research Project:Enhancing rose propagation using LED lighting & sensor-based irrigationFaculty Mentor:Dr. Rhuanito Ferrarezi, Department of Horticulture (ferrarezi@uga.edu)Area of Expertise:Precision irrigation, plant nutrition, lighting, biopharmaceuticals, biofortificants,crop physiology, and cropping systems for controlled environment agriculture.

Student Background: Horticulture, Agronomy, Agricultural Engineering, and other related fields.

Laboratory Website: <u>https://ferrarezilab.uga.edu</u>

Dr. Ferrarezi is looking for REEU students to work on a summer project focusing on enhancing rose propagation using LED lighting and sensor-based automated irrigation. Students will work with a lab technician in Dr. Ferrarezi's CEA Lab conducting experimental research in a glass covered greenhouse Students will receive interdisciplinary exposure to many crop physiology and productionrelated research areas and will have the opportunity for professional development on the UGA campus.



## Research Project: Designing & building a high-tech small-scale vertical farm for residences

Dr. Rhuanito Ferrarezi, Department of Horticulture (ferrarezi@uga.edu)

**Area of Expertise:** Precision irrigation, plant nutrition, lighting, biopharmaceuticals, biofortificants, crop physiology and cropping systems for controlled environment agriculture.

**Student Background:** Horticulture, Agronomy, Computer Science, Agricultural, Electrical or Mechanical Engineering, and other related fields.

Laboratory Website: https://ferrarezilab.uga.edu



**Faculty Mentor:** 

Dr. Ferrarezi is looking for REEU students to work on a summer project focusing on designing & building a small-scale vertical farm equipped with low-cost high-tech sensors to assist people producing their own nutritional food in a small footprint. Students will work with a lab technician in Dr. Ferrarezi's CEA Lab conducting experimental research. Students will receive interdisciplinary exposure to a multitude of Engineering, Horticulture, CEA and production-related research areas and will have the opportunity for professional development on the UGA campus.