



5th Annual

LIFE SCIENCES SOUTH FLORIDA

UNDERGRADUATE

RESEARCH SYMPOSIUM

SATURDAY, APRIL 1, 2017

9AM to 3PM

PALM BEACH STATE COLLEGE

EISSEY CAMPUS

3160 PGA BLVD, PALM BEACH GARDENS, FL 33410
BIOSCIENCE TECHNOLOGY COMPLEX, SC127



RSVP at <http://www.palmbeachstate.edu/forms/registration/Default.aspx?id=209>

juice. The other fruits exhibited antioxidant performances different to pure vitamin C. We ascribe these observations to the presence of other molecules, such as flavonoids and tannins, which also show antioxidant capacity.

Poster #68

Comparing the differential expression of selected genes in native Peruvian potatoes in response to early and late drought conditions

Laynet Cornelio¹, Indira Perez¹, Carlos Vazquez¹, Diana Martinez², Olga Patricia Ponce², Emi Murata², Yerisf Torres², Luz Noemi Zuñiga, Ph.D.³, Gisella Orjeda, Ph.D.², Dora Pilar Maul, Ph.D.¹, and Carlos Merino, Ph.D.²

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Abstract

Plant response to drought stress comprises growth inhibition, stomatal closure, an increase in abscisic acid (ABA) biosynthesis and increased antioxidant metabolism, among others. Drought tolerance in plants is linked to photosynthesis and carbohydrate metabolism. Drought-inducible functional proteins include those that protect cells from water deficit and oxidation as well as transcription factors and signaling molecules associated with the water-stress response. Native potatoes from the Andean regions of Peru, Ecuador and Bolivia grow at altitudes as high as 11483 ft. (3500m) above sea level. Because of their high genetic diversity, they are well adapted to the harsh environmental conditions that prevail in the high Andes, including drought. This makes them ideal candidates for gene expression studies associated with drought tolerance. St. Thomas University is collaborating with the Universidad Peruana Cayetano Heredia (UPCH, Lima, Peru), and the Instituto Nacional de Innovacion Agraria (INIA, Huancayo, Peru) in a gene expression study in native potatoes associated with early and late drought responses. Selected drought-associated candidate genes from RNA-seq analysis were used in primer design and quantitative RT-PCR analysis. Differential gene expression in tolerant vs. susceptible cultivars has been confirmed for two heat shock proteins, a dehydration-response element binding protein and for a major pollen allergen.

Poster #69

Characterizing potential anticancer properties of the medicinal plant *Tradescantia spathacea*

Marrisa Lee, Milagros Mulero, Leana Ramos, Dora Pilar Maul, Ph.D., Maria Pina, Ph.D., and Alexis Tapanes-Castillo, Ph.D.

St. Thomas University, Miami Gardens, FL

Abstract

Natural products, isolated from plants, have been developed into numerous chemotherapeutic drugs and used by millions of patients for cancer treatment. Nevertheless, novel cancer therapies