

The Virgin Islands Consortium

UVI Announces Winners Of 18 Fall Student Research Symposium

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The University of the Virgin Islands Emerging Caribbean Scientist Committee (ECS) announced on Wednesday the students and faculty winners of the 19th annual Fall Student Research Symposium held on Saturday, September 22, 2018.

Of the 46 undergraduate student entries, 37 represented the St. Thomas Campus and the other nine represented the Albert A. Sheen Campus on St. Croix. Poster presentations were evaluated by a panel of judges based on presentation, content, visual materials, and ability to answer questions. The judges' scores were tabulated and the results are reflected below:

The students who emerged first were:

- Danielle Olive – St. Thomas Campus
- Christopher Murphy – St. Thomas Campus
- Nina Scott – St. Thomas Campus

The students who earned the second place position were:

- Josette John – St. Thomas Campus
- Deidre Lee – St. Thomas Campus
- Carlan Romney – St. Thomas Campus

Olive's poster was titled "Hematological Impacts of Hypoxia on the Clearnose Skate." Climate change is increasing the intensity of hypoxic events and pH variation in coastal estuaries. Hypoxic events can cause metabolic acidosis, or a decrease in blood pH, which may be exacerbated by ocean acidification. Acidosis affects numerous bodily processes including blood oxygen-affinity, which may decrease an individual's metabolic scope and thus their fitness. Understanding the physiological processes coastal and estuarine species use to overcome these environmental challenges is critical for predicting resilience to climate change. Olive was advised by Chris Chambers, Gail Schwieterman, Richard Brill and Peter Bushnell of the Virginia Institute of Marine Science Eastern Shore Laboratory.

Murphy's research poster titled "Characterization and Mitigation of Satellite Radio Frequency Interference" sought to differentiate between signals from human technology (RFI) and signals emitted from a distant world. Steve Croft and Dave DeBoer of Berkeley Search for Extra Terrestrial Intelligence (SETI) Research Center advised Murphy during his research.

Scott's poster was titled "Characteristics of Mantis Shrimp Telson Armor." Mantis shrimp are extremely aggressive crustaceans armored with powerful weapons. Spearers mantis shrimp have appendages that work like spears to capture fast moving prey, whereas smasher mantis shrimp have appendages that smash hard-shelled prey into pieces with high impact forces. Scott was advised by Dr. Jennifer Taylor of University of California San Diego (UCSD) - Scripps Institution of Oceanography.

John's research poster titled "Population Dynamics and Differences Between Deep (Mesophotic) and MidShallow Orbicella spp corals in the U.S.V.I." analyzes the population size dynamics of the different coral habitats which will better show how these stressors affect coral reefs. John was advised by Dr. Robert Stolz and Dr. Marilyn Brandt of the University of the Virgin Islands.

Lee's poster was titled "Bile duct-on-a-chip Device to study Cholangiocyte and Fibroblast Interactions in the Peribiliary Extracellular Matrix." Lee's research studied the interactions between cholangiocytes and peribiliary fibroblasts under the pathological conditions associated with BA, she designed a bile duct on-a-chip with microfluidic techniques to recreate a bile duct. Dr. Yu Du and Dr. Rebecca G. Wells of the Center for Engineering MechanoBiology at the University of Pennsylvania advised Lee during her research.

Romney's research poster entitled "Using CRISPR-mediated Mutagenesis to Analyze Protein Phosphatase Regulatory Subunit Functions in Arabidopsis thaliana." Romney's

study revealed that DNA sequence analysis confirmed that the CRISPR constructs were correct, and she introduced them into Arabidopsis via Agrobacterium-mediated plant transformation. Dr. Alison DeLong of Brown University advised Romney during his research.

The winners will receive a travel award to present at a national research conference and will also be recognized at the Spring 2019 Academic Awards Ceremony.

“Considering the aftermath of the 2017 hurricane season, the participation was very good. Typically, its 50 plus students participating in the symposium. This shows the level of commitment of faculty and students who continue to pursue and advance science here at the University,” said Aimee Sanchez, grants manager.

This year's Research Day featured poster board demonstrations related to Science, Technology, Engineering, and Mathematics. Members of the general public had the opportunity view the student researcher's poster boards and engage in one-on-one interactions with them. The participating students represented the College of Science and Mathematics and the College of Liberal Arts and Social Sciences.