Undergraduate Education Research

Dr. Molly Perry,
Co-Investigator

Dr. Michele Guannel,
Research Lead

Community exposure to local resilience-themed activities will develop greater STEM affinity, which will translate into measurable gains in retention and persistence, at the university level.

First-year students are developing STEM findings through leading active learning projects in Science 100 and Social Science 100 … supported by upper-level undergraduate mentors, leaders, researchers.

How do we transform undergraduate education?

First-year student Ariel Paul, Youth Ocean Explorers graduate and mentor, conducts coral microfragmentation with the Brandt Lab (Spring 2023).

UVI graduate George Francis II, a 2018 service learning alum, graduated *summa cum laude* with a B.A. in Communication (May 2022).

First-year Jordan Wilson, current sophomore, UVI Sea Turtle Club President and Jobsis Lab volunteer, caught her first sea turtle for her Science 100 project (Fall 2022).

Meet The Team

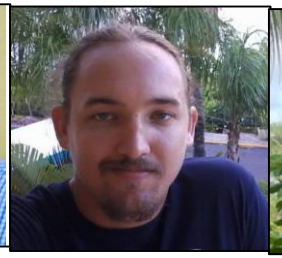
Dr. Michele Guannel,
Assistant Professor
of Biology

Dr. Molly Perry,
Assistant Professor
of History & Geography

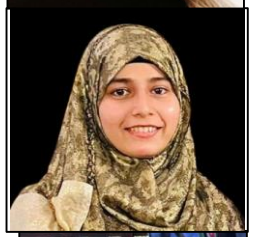
Dr. Lyz Jaeger
Associate Professor
of Social Science

Dr. Michelle Peterson,
Associate Professor
of Biology

Lab Instructors
Vernon Callwood,
Antonio Farchette,
Dr. Marianne Moore,
Dr. Kayla Blincow,
LeeAnn Sheets

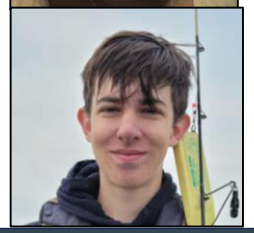




Tara Thompson,
SCI 100 Peer Instructor



Waniya Baig,
SCI 100 Peer Instructor

Darnilla Samuel,
SCI 100 Peer Instructor



Nathan Kohler,
SCI 100 Peer Instructor

Nikita Beck,
Community Engagement Fellow

Megan Anthony,
Service Learning Coordinator

Shani Richardson,
Service Learning Coordinator

Kaidrian Ottley,
Service Learning Coordinator

Research Goals and Objectives

Year 1	Analysis of 2018-2020 experiential learning data
Year 2	Pilot experiential learning option across Science 100 and Social Science 100, to obtain 20% participation by Year 5
Year 3	Institutional Review Board approval – new study design Publications Development of Resilience Leaders pathways

Research Goals and Objectives Highlights: A Cohesive First-Year Experience & Resilience Leader Pathways

First-Year Experience (during / after a global pandemic)

Science 100 and Social Science 100 curricula and instruments developed and aligned

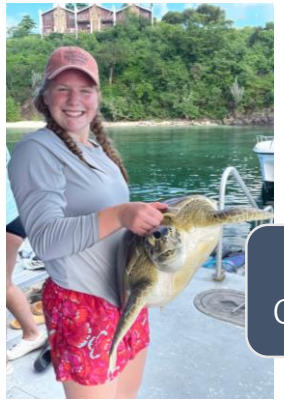
Up to 29% of class chose project over paper, exceeding Year 5 goal

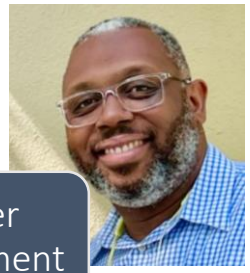
Resilience Leader Pathways

Nine undergraduates / graduates are co-authors on 11 publications and presentations

Student Instructor roles are powerful for upper-level undergraduates

Research Interdependencies: the First-Year Experience





R2R-connected team members facilitated an increase in resilience-themed experiential learning with R2R researchers, in SCI 100:

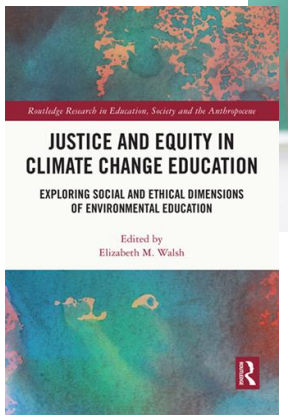
Year 1: 1 of 17 projects (6%)
- Climate Change

Year 2: 9 of 20 projects (45%)
- Corals, Mangroves, Marine Debris

Year 3: 24 of 44 projects (55%)
- Corals, Mangroves, Marine Debris, Sea Turtles, Resilient Infrastructure, *Sargassum*, Water Quality, Climate Change, Recycling

Upper-Level Resilience Leaders: Undergraduate (& graduate) students are education researchers.

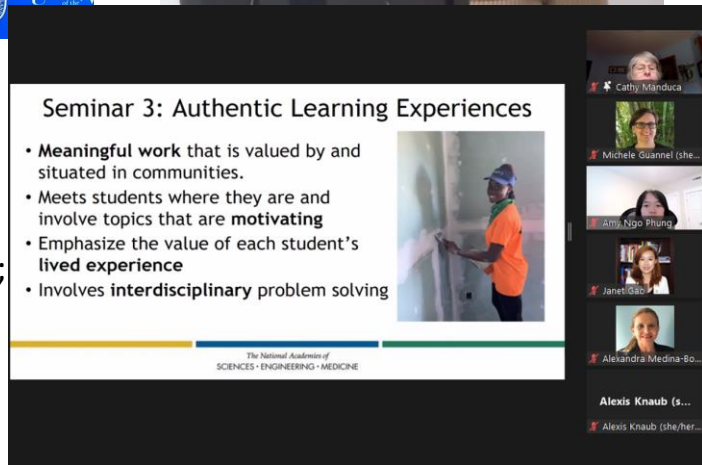
Nailah Copemann, first qualitative research on lived experiences of IrMaria



Angelisa Freeman, BS 2022 Three publications, one conference!!

Liv Diana, MMES Student "Teaching SCI 100 made me want to become a teacher." [Now she is!!]

George Francis II and Deanna Hunt, invited speakers – 3 NASEM webinars; PKAL workshop (Hunt); both co-authors on manuscript in prep



Bethany Good, preparedness research now integrated into SCI 100

AERA AMERICAN EDUCATIONAL RESEARCH ASSOCIATION FOUNDED 1916

American Anthropological Association

NARST A global organization for improving science education through research

www.aacu.org Project Kaleidoscope (PKAL) | Association of American Colleges & Universities

The National Academies of SCIENCES ENGINEERING MEDICINE

Results, Outcomes & Accomplishments: Our team nurtures our undergraduates - testimonials.

"My project is actually my reason for joining your team such that I can be of guidance to others who may doubt themselves or shy away from such projects."

"From your continuous guidance, I was not only able to develop as an employee, but also as an individual because of you looking for opportunities for me".

"Science 100 will always be in my heart. I appreciate you giving me the opportunity to work with the team and the students … You worked hard with me over the years and helped build me as a future communication professional. … You turned me into an outstanding individual."

Diversity of disciplines & life experiences = workforce power

Shani Richardson,
Psychology

Deanna Hunt,
Computer Science

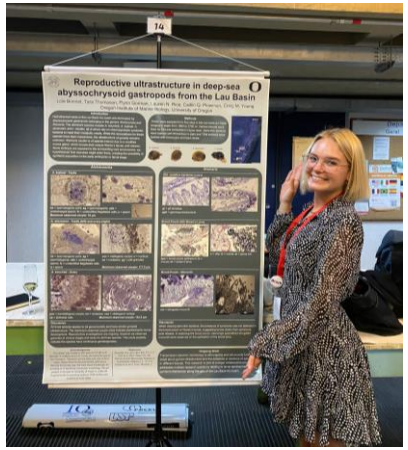
Jaresia Elliott-Hendrickson
Biology Major, Resident Assistant
PR Officer, PRISM LGBTQIA Club
Outstanding Student Organization;
M. Guannel faculty advisor

Keana Jacobs and George Francis,
Communication

Shamir Smith,
Applied Math BS &
Computer Science BS
in 5 years

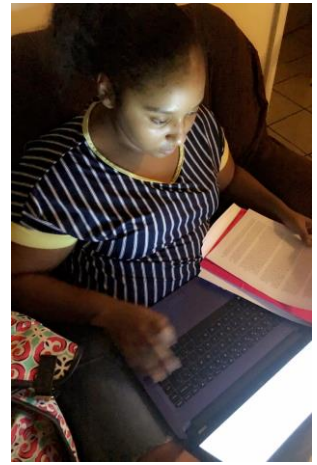
Angelisa Freeman,
Biology; Educator

Kahlifah Powell
Marine Biology
Past and Future
Brandt Lab



Tara Thompson
Marine Biology
Chemosynthesis
Researcher,
Past Grimes Lab

Cheilinett Espinosa,
Nursing



Impacts of this work

Multi-Year Training, Mentoring, and Cross-Training	Transdisciplinary Teaching and Assessment	Leveraged Funding
Educators: **18** undergraduates **12** graduate / post-bac students **Education researchers:** **8** undergraduates **3** graduate / post-bac students	**Synchronized structure in SCI 100 & SSC 100** **"Wicked problems“ –** natural and social science perspectives **Wide reach -** 192 students, Fall 2023	**Service learning and oral histories grants** awarded to SSC 100 Lead, Dr. Molly Perry, and English faculty (National Endowment for the Humanities; Community Foundation of the Virgin Islands

Present and Future Plans

Years 3-5	Assess STEM Affinity of first-year students and solicit feedback from focus groups
Years 3-5	Integrate findings into proposals
Years 4-5	Expand pathways for Resilience Leaders training and professional development
Year 5	Examine retention & persistence of UVI students engaged in projects / leadership

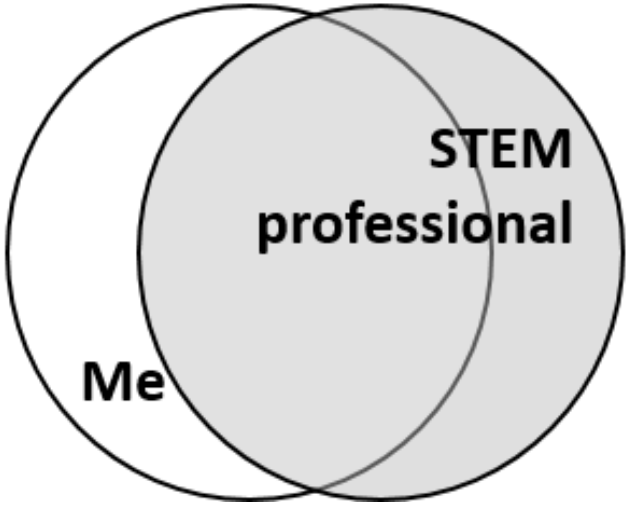


Image from pre- and post-surveys: how closely does student identify with being a STEM Professional?

Thank you!

Dr. Molly Perry

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Dr. Michele Guannel

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PHONE: 340-693-1284

Ms. Angelisa Freeman and Ms. Madyson Miller (also pictured!) are currently busy in their post-graduation education and marine policy work – please contact Dr. Perry or Dr. Guannel with questions!