



**UNCP-RISE PRESENTS**

# **END OF SUMMER RESEARCH SYMPOSIUM**

Friday,  
August 27, 2021

2 PM to 5 PM  
UC Annex

# Event Program

WELCOME

2PM - 2:05PM

Dr. Robert Poage,  
*RISE Program Co-Director*

ORAL PRESENTATIONS

2:05PM - 2:35PM

KEYNOTE ADDRESS

2:35PM - 3:30PM

Dr. Armando Corona, PhD  
*RISE Alumni*

POSTER PRESENTATIONS

3:30 PM - 4:30PM

# Keynote Speaker

Armando received his B.S. in Chemistry from The University of North Carolina at Pembroke. After completing his B. S. Degree, before starting graduate school, Armando spent one year at The University of North Carolina at Chapel Hill in Dr. Kimryn Rathmell's lab testing anti-Notch signaling antibodies to target aggressive kidney cancer.

Armando received his Ph.D. from the Department of Pharmacology

and Cancer Biology from Duke University. Here, he focused his thesis work in Dr. Gerard Blobel's lab identifying regulators of the TGF- $\beta$  signaling pathway in metastatic breast cancer cells. Through proteomics screening, Armando and colleagues identified the extracellular protein bIGH3 to be promoting TGF- $\beta$  signaling in breast cancer cells and through this signaling activation, bIGH3 is responsible for increasing breast cancer metastasis and tumor growth.

Mechanistically, Armando identified that bIGH3 can activate the TGF- $\beta$ 1 ligand that is responsible to activate carcinogenic signaling in breast cancer.



# Oral Presentations

1. Davis, Kathryn. Environmental Correlates of Occupancy of an Introduced Terrestrial Salamander Species

Mentor: Dr. David A. Beamer, Nash Community College

2. Edwards, Ashley. A phylogenetic study of the genus *Grateloupia* (Rhodophyta, Halymeniaceae) in the Hawaiian archipelago

Mentor: Dr. Alison Sherwood, University of Hawai'i at Manoa

3. Tuton, Jared. Evidence  $\beta$ 1 integrin responses are involved in Seizure Vulnerability that Compromises Hippocampal Synapses.

Mentor: Dr. Ben Bahr, UNC Pembroke

# Poster Presentations

1. Adams, Kinsley. Ant Interference and its Effects on Pollinator Visits.

Mentor: Dr. Kaitlin Campbell, UNC Pembroke

2. Ajala, Rebecca. Ecosystem metabolism in a campus retention pond.

Mentor: Dr. Amber Rock, UNC Pembroke

3. Applewhite, Leanne. Using CRISPR to Edit the Human CCR5 Gene in vitro.

Mentor: Dr. Maria Santisteban, UNC Pembroke

4. Chavez, Terry and Shaun Schrubbe. Faraday Rotation in Air: Combining Brute Force and Finesse.

Mentor: Dr. William Brandon, UNC Pembroke

5. Childers, Andrew. Weather Affects on Groundwater.

Mentor: Dr. Madan Maharjan, UNC Pembroke

6. Cranford, Samantha. Composted Biochar Increases Yield of “June Bearing” Strawberry (*Fragaria ananassa*) in Sandy Loam Soil.

Mentor: Dr. Bryan Sales

7. Foster, Corey and Lachu Adhikari , Alexis Thompson. In-vitro Mass Production of *Bacillus thuringiensis* (Bt) and *Xenorhabdus nematophila* (Xn) using Various Sized Bioreactors and Comparison of their Growth Kinetics under Various Environmental Factors.

Mentor: Mr. Devang Upadhyay , UNC Pembroke

8. Frazier, Leah. Targeting TrkA and JAK2-STAT3 Pathways in Breast Cancer Cells.

Mentor: Dr. Angelina Regua, Wake Forest School of Medicine

# Poster Presentations

9. Gless, Cody. The Process of the RockWorks Application.

Mentor: Dr. Madan Maharjan, UNC Pembroke

10. Gordon, Imani. Butterfly Floral Use, Diversity, Longevity, and Persistence.

Mentor: Dr. Kaitlin Campbell, UNC Pembroke

11. Grijalva, Irayssa. Natural extract activates Lysosomal pathway in mature brain tissue.

Mentor: Dr. Karen Farizatto and Dr. Ben Bahr, UNC Pembroke

12. Harrison, Emily and Mic Schulte, Lauren Holmes. Using Camera Traps to Assess Predation Pressure on Eastern Box Turtle (*Terrapene carolina carolina*) Populations.

Mentor: Dr. John Roe, UNC Pembroke

13. Hosking, David. Bag Production Improves Growth & Yield of Indeterminate Tomatoes in High Tunnel.

Mentor: Dr. Bryan Sales, UNC Pembroke

14. Locklear, Caleb. ECDL (External Cavity Diode Laser).

Mentor: Dr. William Brandon, UNC Pembroke

15. Locklear, James and Brianna Martin. Recycling Plastic Materials by solvent-targeted recovery and precipitation.

Mentor: Dr. Cornelia Tirla, UNC Pembroke

16. Locklear, James P.\*. Using Selected Guides from CCR5 Gene and Using CRISPER-Cas9 for Target-Sequencing.

Mentor: Dr. Maria Santisteban, UNC Pembroke

# Poster Presentations

17. Locklear, Kaleigh. and Melissa Creech-Sutton. Molecular Determinants for Disease Detection.

Mentor: Dr. Crystal Walline, UNC Pembroke

18. Locklear, Macaela and Abigail Canela, Imani Gordon. Habitat and Flower Usage of Hoverflies in UNCP's Campus Garden and Apiary.

Mentor: Dr. Kaitlin Campbell, UNC Pembroke

19. Maringer, Kaytlyn. Water quality monitoring of the Lumbee River.

Mentor: Dr. Amber Rock, UNC Pembroke

20. Michels, Christopher. Blockchain Technology for Internet of Vehicles.

Mentor: Dr. Joong-Lyul Lee, UNC Pembroke

21. Oxendine, Johnathan. Growth Media Type has a Profound Effect on Plant Propagation.

Mentor: Dr. Bryan Sales, UNC Pembroke

22. Oxendine, Katina. Comparison of Weed Communities in Organic and Best Management Practices Systems.

Mentor: Dr. Sandra Ramsey, North Carolina Central University

23. Schrubbe, Shaun and Terry Chavez. Magneto-Optical Characterization of ZnSe Bandgap.

Mentor: Dr. William Brandon, UNC Pembroke

24. Schulte, Mic and Emily Harrison, Lauren Holmes. Nesting Ecology and Home Range Fidelity of Female Eastern Box Turtles (*Terrapene carolina carolina*).

Mentor: Dr. John Roe, UNC Pembroke

# Poster Presentations

25. Schwarz, Eric. The Effects of Irrigation Type on the Growth and Yield of Okra (*Abelmoschus esculentus*) Grown in a No-Till Cropping System.

Mentor: Dr. Bryan Sales, UNC Pembroke

26. Teale, Bailey. Ecosystem Metabolism Study of A Managed Campus Retention Pond.

Mentor: Dr. Amber Rock, UNC Pembroke

27. Tillett, Ashton. The Effect of Rabbit Tobacco on Memory in *Caenorhabditis elegans*.

Mentor: Dr. Courtney Alexander, UNC Pembroke

29. Villa, Joshua. Pollinator Effects on Okra Production.

Mentor: Dr. Kaitlin Campbell, UNC Pembroke

*\*indicates a graduate student*





## THANK YOU!

The RISE Staff would like to thank and congratulate all of the students who participated in the 2021 summer research presentations.

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