

March for Science in Washington DC, April 22, 2017

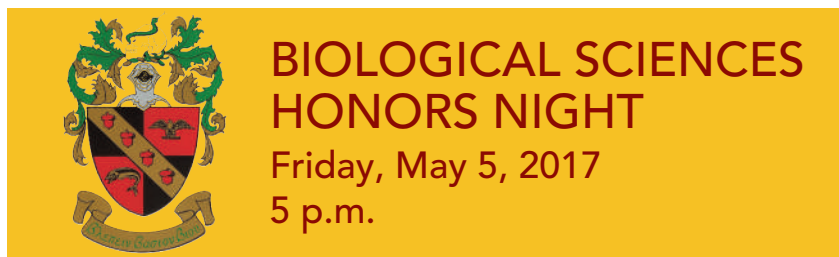


Graduate students and faculty take a stand!

From left, Andrew Cronin, Jordan Roose, Dr. Ryan Taylor, Marissa Moran & Kelsey Flowers.



Dr. Jennifer Nyland (Left) and Stephanie Lamb (Right).



HONORS PROGRAM

WELCOME

*Dr. Philip Anderson, Advisor
Beta Beta Beta*

GRADUATE AND PROFESSIONAL ADMISSIONS

Dr. Stephen Gehrich, Chair

RECOGNITION OF ACHIEVEMENT AND PRESENTATION OF BIOLOGICAL SCIENCES FACULTY AWARD

Dr. Jessica Clark, Research Mentor

RECIPIENT

Hannah Ennerfelt

BETA BETA BETA BIOLOGICAL HONOR SOCIETY INITIATION

*Presentation of Candidates
and Initiation Ceremony*

President – Callista Brown

Vice President – Graham King

Treasurer – Brenna Noone

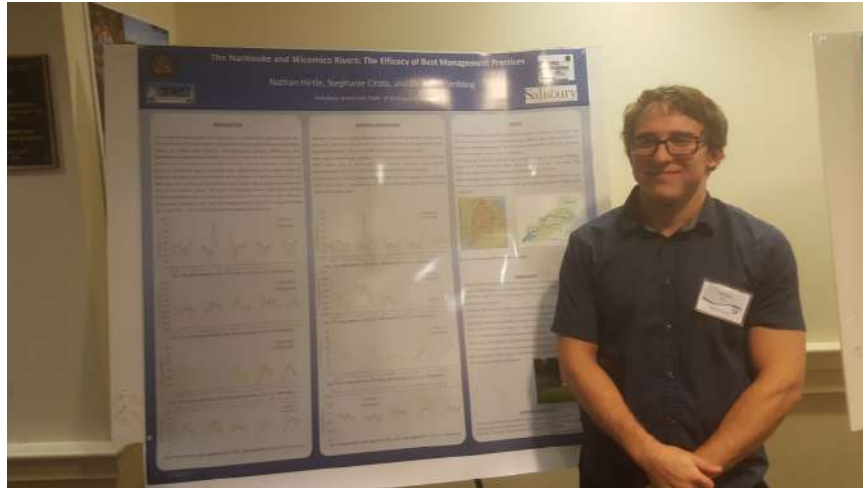
*Refreshments will be served after the ceremony. We will be
happy to give tours of our teaching and research facilities.*

BETA BETA BETA LAMBDA PSI CHAPTER INITIATES, 2017:

Chelsea Acheampong	Michael Markman
Maame Agyapong	Kendrick McCabe
Christian Bandy	Ryan Mihaly
Tiffany Benton	Kelly Morsey
Connor Burton	Mariah Passwaters-Stamper
Judith Catron	Rebecca Paulis
Karyne Da Silva	Allison Regier
Lauren Delong	Justin Robey
Myra Dickey	Amanda Rocker
Fiona Halloran	Hayley Schindler
Matthew Hudgins	Victoria Stubbs
Brady Huttinger	George Taylor
Brittany Knight	Jacob Terry
Michael Kramer	Jessie Todd
Justin Maniatty	

SU is an Equal Opportunity/AA/Title IX university and provides reasonable accommodation given sufficient notice to the University office or staff sponsoring the event or program.

Wicomico Creekwatchers



WICOMICO CREEKWATCHERS ARE UP AND RUNNING FOR 2017

The Wicomico Creekwatchers Program is underway for its 15th season, with a record number of citizen volunteers, new coordination by the Wicomico Environmental Trust, and also a record number of SU student volunteers doing water analysis. The program is generously funded by the Chesapeake Bay Trust, the City of Salisbury, WET, and Salisbury University. Student volunteers this year include Andrew Jones, Brian Will, Carson Scharf, Cheyenne Young, Emily Zumstein, Erin McNally, Erin Post, Gabriel Pierce, Garrett Hansen, Justin Robey, Karly Lohan, Madison Warfield, Meleine Yao, Nathan Hirtle, and Zachary Vincent.

The Creekwatchers' student volunteer leader and analysis coordinator, Nathan Hirtle, presented a comparison of the data for 5 years of sampling in the Wicomico and Nanticoke Creekwatchers programs at the March 2017 Atlantic Estuarine Research Society conference in St Mary's City, MD. Nathan received a travel award from AERS for his attendance as well.

For more information on Creekwatchers, see: <http://www.salisbury.edu/wicomicocreekwatchers/>

American Society for Biochemistry and Molecular Biology (ASBMB) Student Chapter



It's been a busy time for the American Society for Biochemistry and Molecular Biology (ASBMB) student chapter. With the help of five faculty members and more than 30 undergraduate and graduate students, we hosted more than 150 elementary school students and their teachers during the "Genetics Field Trip" for the Wicomico County Thinking and Doing program on March 31 and April 7th. Activities included making necklaces with DNA the students isolated from their cheek cells, analyzing DNA using agarose electrophoresis, exploring genetic disease screening for phenylketonuria, and discovering how genetically engineered organisms, like bacteria, plants, fish and worms, can express a gene from another organism to make the same protein, green fluorescent protein (GFP). A great time was had by all!

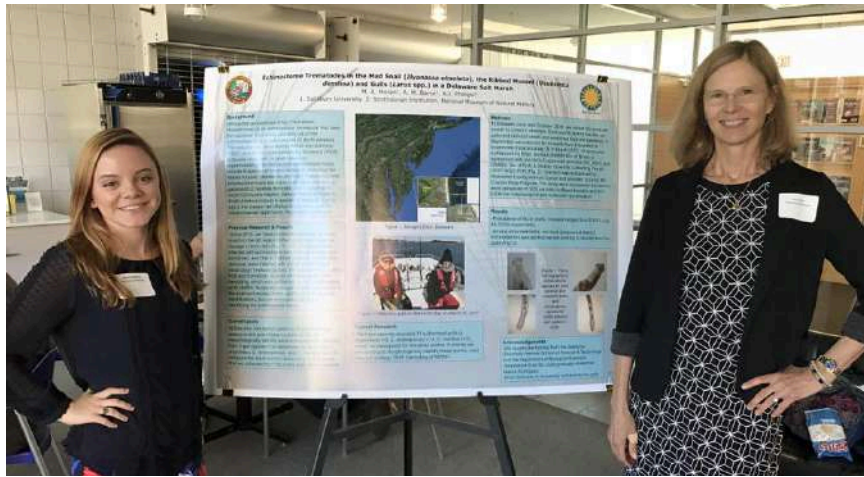
The ASBMB chapter offered a follow-up, DNA modeling outreach activity for TAD students and the public through the Wicomico Country Library's "Build Explore Think" program on May 6th. Participants isolated and saved their DNA, and they also made foam and candy models of DNA, while decoding a mysterious message written in the 'language' of DNA. Thanks to everyone who helped make this possible, including ASBMB members and the national chapter, which provided funding support.

Biology Alumni



Biology alumnus Mercedes Harris, a MS student at UMass Amherst, recently received the Donald L. Mader Scholarship for academic excellence in the Environmental Conservation Department. This summer, along with another graduate student in her lab, she will be co-mentoring an undergrad in Harvard Forest's undergraduate research experience program. Mercedes is also making preparations to teach a class on New England tree & shrub identification at UMass in the fall. Mercedes wrote "I helped out with the course last year. It was fun. It was my adviser's idea for me to teach it this year." Congratulations to Mercedes!

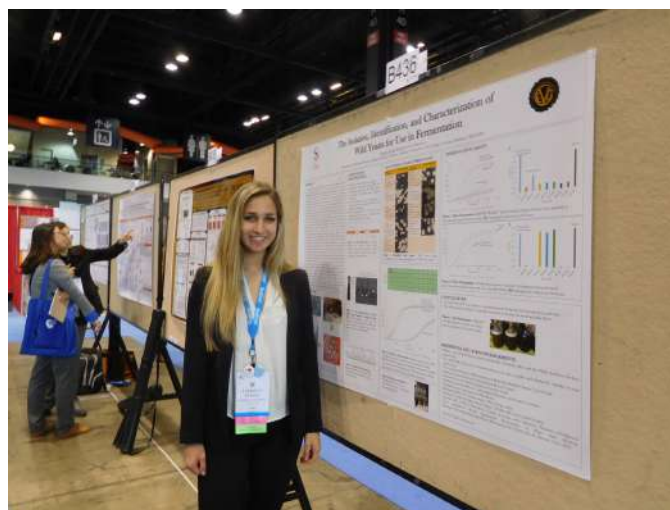
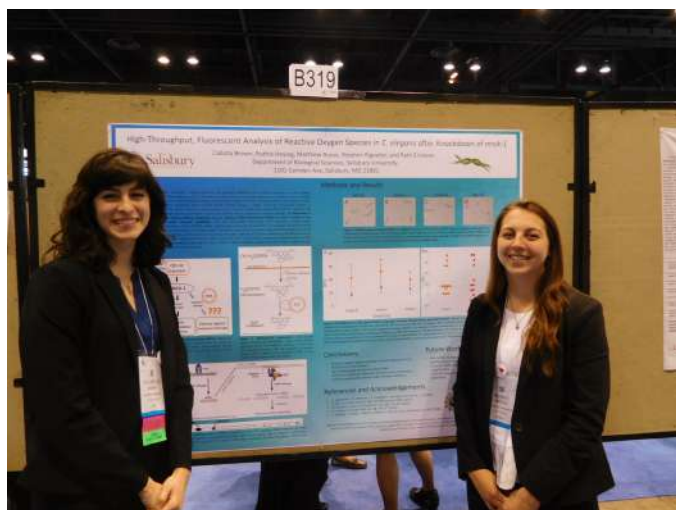
Students Present their Research



On April 8, Marissa Moran was awarded the Judith H. Shaw Award for best student poster presentation at the 717th meeting of the Helminthological Society of Washington. This meeting was held at Salisbury University on Saturday, April 8th and scientists from the western shore of Maryland, Washington, DC, and beyond, came to present their research on parasites. Marissa’s competition included posters from Rutgers University and Penn State York. Marissa is a first-year Master's student in Biology as well as a Teaching Assistant, working under the supervision of Dr. Ann Barse. Currently, she is working to elucidate the life cycle of a parasite by combining morphological and molecular techniques in collaboration with Dr. Anna Phillips of the Smithsonian Institution National Museum of Natural History.



Jordan Roose, MS student of Dr. Judith Stribling, presented his work at the March conference of the Atlantic Estuarine Research Society (AERS) in St Mary’s City, MD titled “Denitrification rates, potential, and limitations in a newly-constructed wetland.” He received a travel award from AERS to attend this meeting. Jordan also gave a presentation of his research to the Maryland Coastal Bays Program’s Scientific and Technical Advisory Committee meeting on January 18th at Horn Point Laboratory in Cambridge, MD.

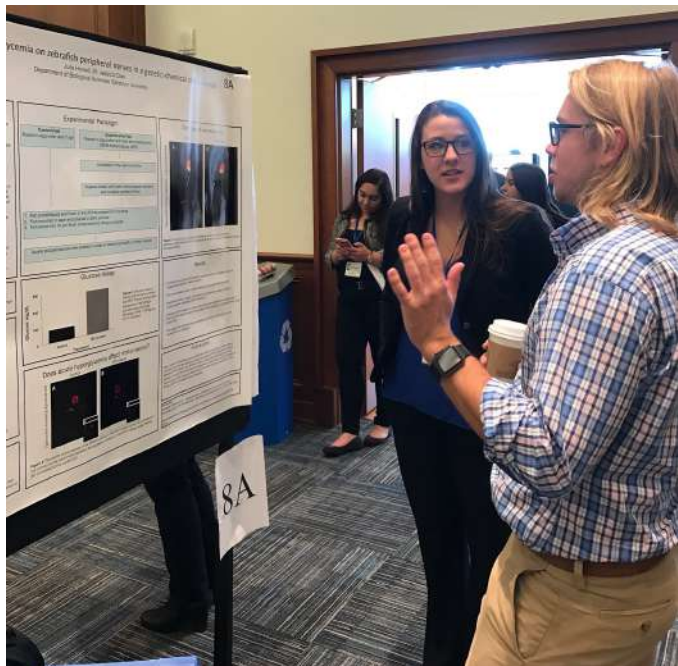


2017 EXPERIMENTAL BIOLOGY MEETING, CHICAGO

In April Drs. Gene Williams and Patti Erickson, graduate student Andrew Baskerville and undergraduates Callista Brown (Left), Ruth Heying (left) and Lauren DeLong (Right) attended the **2017 Experimental Biology Meeting** in Chicago. This week-long event is a joint meeting of several biological Societies includes the annual meeting of the American Society of Biochemistry and Molecular Biology. All the SU travelers are active members of the ASBMB. The students presented posters and all attendees were privileged to enjoy many interesting presentations, lectures, workshops and symposia on a wide variety of biological topics. Baskerville presented "Identification of an *Arabidopsis* WD-repeat protein that activates the deubiquitinase UBP3 and interacts with two E3 ubiquitin ligases". Brown and Heying's poster was titled "High-throughput fluorescent analysis of reactive oxygen species in *C. elegans* after Knockdown of *mrck-1*". DeLong presented "The isolation, identification, and characterization of local wild yeasts for use in fermentation".



From Left, Lauren DeLong, Ruth Heying, Dr. Patti Erikson, Callista Brown & Andrew Baskerville

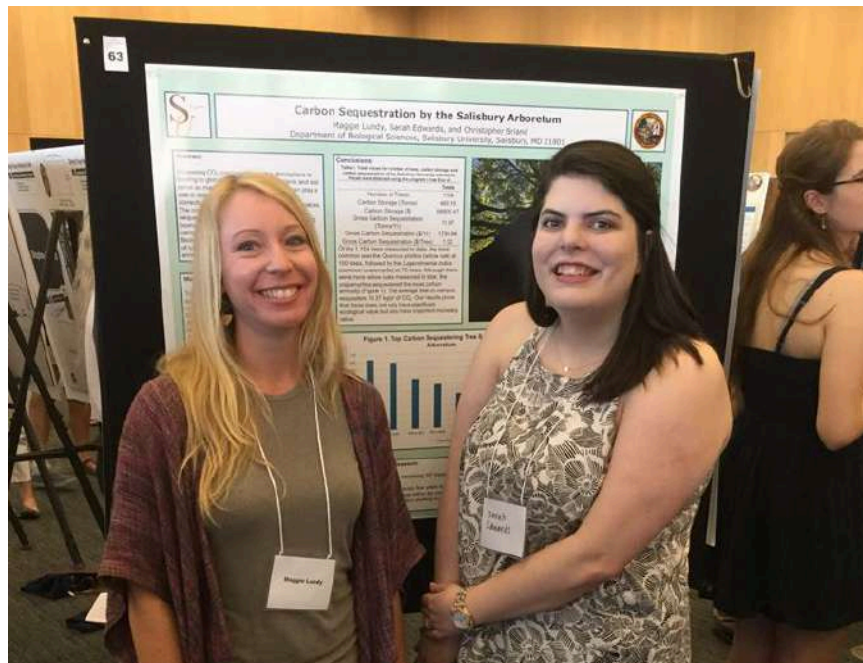


31ST ANNUAL NATIONAL CONFERENCE ON UNDERGRADUATE RESEARCH, MEMPHIS
Julia Howell. Acute effects of hyperglycemia on zebrafish peripheral nerves in a genetic-chemical ablation model. Mentor: Dr. Jessica Clark



NORTHEASTERN REGIONAL HONORS COUNCIL CONFERENCE, CAMBRIDGE MA
Amanda Rocker. A potential link between a connexin41.8 mutation and peripheral neuropathy. Mentor: Dr. Jessica Clark

Salisbury University Student Research Conference 2017



MANY BIOLOGY STUDENTS PRESENTED THEIR RESEARCH:

Erin Allar & O. Hamilton

Thermal imagery as a tool for studying bat drinking behavior. Mentor: Dr. Aaron Hogue

Samantha Allen

A knockout mutation in the yeast DUF1 gene increases oxidative stress survival. Mentor: Dr. Les Erickson

Sunny Choudhary, J. Shilling, L. Engleman & D. Pidhorodetska

Docosahexaenoic acid (DHA) inhibits metastasis in B16 cell lines by altering membrane molecular order and cell adhesion potentials. Mentor: Eugene Williams

Nathan Hirtle

The Nanticoke and Wicomico Rivers: The efficacy of best management practices. Mentor: Judith Stribling

Julia Howell

Acute effects of hyperglycemia in a chemical-genetic cell ablation model. Mentor: Dr. Jessica Clark

Matthew Houlihan, Kelly Morsey & Stephanie Lamb

Estimating Population Parameters of Eastern Mud Turtles (*Kinosternon subrubrum*) on the Delmarva Peninsula. Mentors: Dr. Tami Ransom & Dr. Eric Liebgold

Stephanie Lamb

Estimating the habitat and population parameters of spotted turtles (*Clemmys guttata*) on the Delmarva Peninsula. Mentors: Dr. Tami Ransom & Dr. Eric Liebgold

Maggie Lundy & Sarah Edwards

Carbon Sequestration by the Salisbury Arboretum. Mentor: Dr. Chris Briand

Justin Maniatty

Measurement of the microbial influence on soil carbon sequestration in four different landscapes on the Salisbury University campus. Mentor: Dr. Elizabeth Emmert

Patrick Miller

Neural specializations for audition in the spectacular tui. Mentor: Jeremy Corfield

Marissa Moran & Melina Rodriguez

Echinostome Trematodes in the Mud Snail (*Ilyanassa obsoleta*), the Ribbed Mussel (*Geukensia demissa*), and Gulls (*Larus* spp.) in a Delaware Salt Marsh. Mentor: Dr. Ann Barse

Jessica Novak, MJ Dickey & IS Ralph

What's killing the buzz? The effects of neonicotinoids on *Apis mellifera* mitochondrial metabolism. Mentor: Stephen Gehnrich

Nicole Hammond, Anthony LaBarck, Sarah Mahmoud & Erika Parhurst

Soil quality in the Salisbury University Arboretum linked to habitat type. Mentors: Dr. Samuel Geleta & Dr. Chris Briand

Robert Phillips

Identification of genes promoting resistance to enzalutamide. Mentor: Dr. Philip Anderson

Rebecca Paulis

Bdellovibrio bacteriovorus as a biocontrol agent against blackleg disease in potatoes. Mentor: Dr. Elizabeth Emmert

Logan Poore

Geographical Factors Influencing Movements and Population Size of Spotted Turtles (*Clemmys guttata*) a Species of Conservation Concern, on the Delmarva Peninsula. Mentors: Dr. Art Lembo, Dr. Eric Liebgold & Dr. Tami Ransom

Amanda Rocker

A Potential Link Between a Connexin41.8 Mutation and Peripheral Neuropathy. Mentor: Dr. Jessica Clark

Hayley Schindler

Analysis of soil bacterial and fungal biomass and determination of soil microbial activity in four different landscapes on the Salisbury University campus. Mentor: Dr. Elizabeth Emmert

Megan Short

Becoming a veterinarian: What students really need to know. Mentor: Dr. Kimberly Hunter

Jessica Tague & Anuradha Balaggan

Determining the Specificity and Sensitivity of the Human, Gull, Ruminant, and Poultry Genetic Markers Used to Track Fecal Contamination in Environmental Water. Mentor: Dr. Mark Frana

Samantha Utt, Danielle Ortmann, Nicole Schiffler & Stephanie Lamb

Estimating Population Parameters of Painted Turtles (*Chrysemys picta*) on the Delmarva Peninsula. Mentors: Dr. Eric Liebgold & Dr. Tami Ransom

Our Faculty

FACULTY PUBLICATIONS

Newsome SD, Wolf N, **Bradley CJ**, Fogel ML. 2017. Assimilation and isotopic discrimination of hydrogen in tilapia: implications for studying animal diet with $\delta^2\text{H}$. *Ecosphere* 8(1).

Buskey EJ, Stickler JR, **Bradley CJ**, Hartline DK, Lenz PH. 2017. Escapes in copepods: comparison between myelinate and amyelinate species. *Journal of Experimental Biology* 220:754-758.

Decimal M, Landry MR, **Bradley CJ**, Fogel ML. 2017. Alanine $\delta^{15}\text{N}$ trophic fractionation in heterotrophic protists. *Limnology and Oceanography*.

Dixon RL, ¹**Greca PA**, Targett TE. 2017 Responses of juvenile Atlantic silverside, striped killifish, mummichog, and striped bass to acute hypoxia and acidification: Aquatic surface respiration and survival, *Journal of Experimental Marine Biology and Ecology* 493: 20-30.

Lifavi DM, Targett TE, **Greca PG**. 2017. Effects of diel-cycling hypoxia and acidification on juvenile weakfish (*Cynoscion regalis*) growth, survival and activity. *Marine Ecology Progress Series* 564: 163-174.

Davidson MI, Targett TE, **Greca PA**. 2016. Evaluating the effects of diel-cycling hypoxia and pH on growth and survival of juvenile summer flounder *Paralichthys dentatus*. *Marine Ecology Progress Series* 556: 223-235.

Murphy MA & Schul J. 2017. Does leadership indicate male quality in *Neoconocephalus katydid*?. *Behavioral Ecology and Sociobiology*. 71:22.

Monastero RN, Karimi R, **Nyland JF**, Harrington J, Levine K, Meliker JR. 2017. Mercury exposure, serum antinuclear antibodies, and serum cytokine levels in the Long Island Study of Seafood Consumption: A cross-sectional study in NY, USA. *Environmental Research* 156: 334-340.


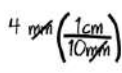




¹Professor Emeritus Paul Greca has been having a very productive retirement indeed!








EXCELLENCE IN ASSESSMENT AWARD

Dr. Sarah Winger of the office of University Analysis, Reporting, and Assessment gave the Department of Biological Sciences a Certificate of Appreciation for Excellence in Assessment. The certificate was awarded on May 19, the last day of the Biology Faculty Learning Community (FLC) for the 2016-2017 academic year. FLC participants include (from left to right) Drs. Elizabeth Emmert, Patti Erickson, Kim Quillin, Philip Anderson and Mark Holland.

Vision and Change

Core Competencies in Biology <small>(Vision and Change, 2011)</small>					
					
Process of Science	Quantitative Reasoning	Modeling and Simulation	Interdisciplinary Nature of Science	Communicate and Collaborate	Science and Society

Core Concepts in Biology <small>(Vision and Change, 2011)</small>				
				
Evolution	Structure and function	Information flow, exchange, and storage	Pathways and transformations of energy and matter	Systems

Like other biology departments across the country, the Department of Biological Sciences at SU has started a process that will align the biology curriculum to the **Core Concepts and Competencies** as outlined by Vision and Change (AAAS, 2011). This is a multi-year process that will enable us to demonstrate that all biology majors, whether premeds or ecologists, have a firm foundation in all the core concepts and skills needed for success as biologists. Many thanks to everyone who has contributed to this process so far, for example:

- Thanks to the faculty who have participated in the **Biology Faculty Learning Community** this year, working to align the Biology 210 curriculum to Vision and Change as a starting point for aligning other courses. (And thanks to the Provost for the funding!)
- Thanks to **Biology 210** students who have completed the Pre- and Post-surveys in Canvas to help with our data collection.
- Thanks to the **Biology 210** students last fall and the students in **Ecology, Cell Biology, Genetic Analysis, Molecular Genetics, and Evolution** this spring who have taken the **Bio-MAPS** assessment that measures mastery of the Vision and Change core concepts.

Stay tuned for the next steps! Meanwhile, contact Dr. Kim Quillin (kxquillin@salisbury.edu) if you have any questions.

Alumni Connection



SU BIOLOGY ALUMNI

Stay Connected

We want to hear from you! Please let us know where you are living and what you are doing! We would love to hear from you. In the future we plan to have an Alumni Connection section in our newsletter.

Send information to:

Sandra Ramses, Program Management Specialist

SHRAMSES@SALISBURY.EDU

Your Editorial Team

Dr. Chris Briand (editor) &
Dr. Philip Anderson (co-
editor). Send any
contributions to
chbriand@salisbury.edu

