

School of Mathematics and Sciences Newsletter

Spring 2019

Updates on Faculty

Welcome to Dr. Danielle Braxton

The Health Promotion Department is excited to welcome Dr. Danielle Braxton to the faculty in the fall.



Danielle Braxton graduated Magna Cum Laude with a Bachelor of Science (BS) from North Carolina State University in 2004. She received a Master of Public Health (MPH) and a Doctorate in Philosophy in Public Health Nutrition (2016) from the University of North Carolina at Chapel Hill (UNC-CH). Before beginning her career in higher education, she worked as a Project Manager at the Center for Health Promotion and Disease Prevention at UNC-CH where she was responsible for overseeing the implementation of two grant projects funded by the John Rex Endowment and the Robert Wood Johnson Foundation. She also worked part-time as a registered dietitian for a weight-loss clinic in Apex, North Carolina where she counseled clients individually and in group settings on healthy eating

strategies and other techniques to achieve and maintain a healthy weight. Her research interests, broadly speaking, center around understanding the psychosocial determinants of healthy lifestyle behaviors related to diet and exercise with a focus on individuals who are severely obese and African American women. Her teaching specializations are in public health nutrition and research methods with additional expertise in public health intervention design and community nutrition.

Departure of Dr. Dan Stovall



Dr. Daniel Stovall will be leaving our school to head to Winthrop University in the fall. He was instrumental in revising the biomedical sciences program and curriculum, and worked diligently with students over the years in his lab on cancer biology research. He directed and served as a member of several honors projects, some of which resulted in presentations at the North Carolina Academy of Sciences annual conference. In addition, Dr. Stovall served as the Advisor for the Science Club and won the Advisor of the Year this past year (2018-2019). Daniel also served in leadership roles outside of NCWC, specifically with the Collegiate Academy of the NC Academy of Sciences. Dr. Stovall is known for his dedication, intelligence, and humor. He will be greatly missed, but we look forward to collaborating with him in the

future and wish him well with his new adventure.

Sabbaticals

Dr. Bill Yankosky spent the spring 2019 sabbatical semester doing a variety of things. He authored two articles based on mathematics honors projects he directed in the past and submitted them to journals for consideration for publication. He also spent a fair amount of time exploring connections between mathematics and music. He watched a 12 lecture series on the subject and has read several books and articles. He hopes to incorporate ideas into his future classes. He also spent time doing recreational mathematics by solving practice problems and contributing articles to a website dedicated to the Star Wars Destiny dice and card game which focused on some data analysis of the game.

Tenure and Promotion

Congratulations to Dr. Heather Louch and Dr. John Temple for being promoted to the rank of a Full Professor.



Faculty Development Awards

Dr. Shannon Crowley was a recipient of the 2018-2019 Mauldin Faculty and Staff Professional Development Fund Award, a 2018-2019 Leslie H. and Evelyn G. Garner Faculty Leadership Award, and a 2018-2019 “Fritz” James Morrison Smith, Jr. Faculty Development Fund Award. Funding from these awards is being used to purchase equipment and supplies for the collection, measurement, and analysis of biological analytes in human saliva for the Exercise Science Laboratory of Applied Physiology, and also to support Dr. Crowley’s training in salivary bioscience methods.



Dr. Erica Kosal was a recipient of the 2018-2019 Wells Fargo Faculty/Student Research Grant and the 2018-2019 "Fritz" James Morrison Smith, Jr. Faculty Development Fund Awards. These funds will help Dr. Kosal collect data on plankton and macro invertebrates as well as key physical and chemical parameters such as nitrogen, dissolved oxygen, carbon dioxide levels, phosphate and ammonia from the river. Lastly, Dr. Kosal was recently awarded the 2018-2019 Exemplary Teacher Award. This award is made to recognize excellence in teaching and promotion of student learning, civility and concern for students and colleagues, commitment to value-centered education, service to students beyond the classroom, and service to the larger community beyond the campus.



Fourth Monday Colloquia

The faculty Fourth Monday Colloquium has been in existence at North Carolina Wesleyan College for over 30 years. During that time, the event has served as a valuable way for faculty to share their scholarship with colleagues from a variety of disciplines.

- Dr. Shannon Crowley was the presenter for the October 2018 Fourth Monday Colloquium. The title of her talk was "Cardiovascular Fitness, Sleep, & Physiological Responses to Psychosocial Stress in Women: Findings from the NCWC FITwise Study."
 - Description: Epidemiological studies suggest that cardiorespiratory fitness (CRF) is associated with reduced risk of depression and anxiety, however, the mechanisms by which CRF may be protective against the development of these disorders are less clear. Considering that depression and anxiety share a common stress etiology, the supposition that regular exercise may help to prevent psychiatric disease via positive effects on the physiological response to stress is promising. However, evidence in support of this hypothesis is mixed. Because sleep problems are associated with both a higher risk for mental illness and altered physiological responses to stress, this study investigated whether sleep quality might influence the relationship between CRF and physiological stress responses in women.
- Dr. Erica Kosal was the presenter for the November 2018 Fourth Monday Colloquium. The title of her talk was "The Benefits of Using Mindfulness Practices in Our Classrooms."
 - Description: After more than a year of researching the topic of mindfulness and discussing its validity and potential with the Faculty Learning Community on campus, Dr. Erica Kosal decided to more formally study if mindfulness activities benefit students taking BIO 222: Evolution. Although she has used mindfulness practices casually in the classroom in the past, she undertook a formal study of its use during the fall 2018 semester with one section of BIO 222 using mindfulness practices and another section serving as the control group. Erica will share some of the practices used, lessons learned, and results gained from her study.
- Dr. Meir Magal was the presenter for the March 2019 Fourth Monday Colloquium. The title of his talk was "Overweight+: a HUGE problem and some potential solutions."



- Description: This short talk revolved around the obesity epidemic, trends in the population, causes, risk factors and some potential dietary solutions.

Feature Faculty Member Publication

Kosal, E. 2019. Mindfulness in the Classroom. Faculty Focus Daily: Higher Ed Teaching Strategies.

<https://www.facultyfocus.com/articles/effective-classroom-management/mindfulness-in-the-classroom/>

Other Faculty Accomplishment including Scholarly and Professional Activities

Dr. Stovall published an article in the International Journal of Molecular Sciences titled “SOX7 target genes and their contribution to its tumor suppressive function” during the summer of 2018. He also delivered an invited lecture on tumor immunotherapy at Gardner-Webb University in May 2019.

Dr. Magal, with colleagues from the American College of Sports Medicine and Stephens College, presented a tutorial titled: “Designing the Future of the Exercise and Fitness Professions: A Systems Approach to Advancing Health and Healthcare” at the American College of Sports Medicine 2018 Annual Meeting in Minneapolis, MN in June.

Dr. George Whitwell attended the Tinker Molecular Modeling Software Developers Meeting in Austin, TX June 1-4. It was over 100 °F every day. He discussed his use of Tinker molecular dynamics with condensed phase systems and learned about significant advances being made with the code.

In July, Dr. Crowley attended a Salivary Bioscience Workshop at the Institute for Interdisciplinary Salivary Bioscience Research at the University of California-Irvine, where she learned current techniques and best practices for collecting and analyzing biological markers in saliva.

Dr. Magal was a co-author on the following honor thesis derived manuscript: K. S. Thomas, M. Hammond and M. Magal. The Impact of Graded Forward and Backward Walking, at a Matched Intensity on Metabolic Measures and Postural Control. **Gait and Posture**. 65 (9): 20-25, 2018.

On October 18th, Dr. Magal presented at the 2018 Annual Meeting of the Israel Society of Sports Medicine in Haifa, Israel. At the meeting Dr. Magal delivered a keynote address and a scientific lecture. The keynote address title was: "From ACSM Scientific Roundtable to Guidelines: Updating the Preparticipation Exercise Screen Process" and the scientific lecture title was: "Physical Activity Impact on Postural Stability".

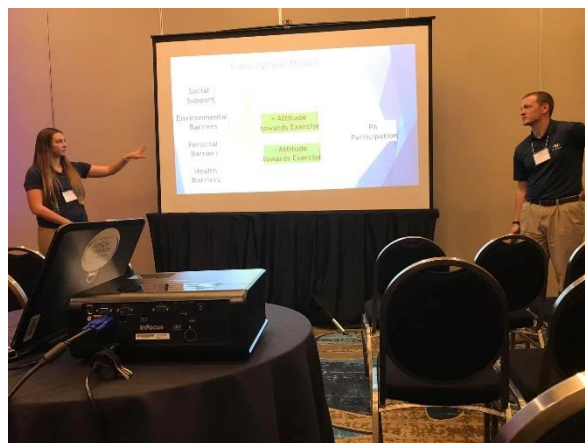


Drs. Crowley and Magal were invited to speak at the 1st Annual Health and Fitness Summit at Wake Tech Community College in Raleigh, NC on October 26, 2018. The title of Dr. Crowley's talk was, "Exercise is Medicine: A hard pill to swallow?" Dr. Magal's title was, "CAAHEP Accreditation; ACSM and Wesleyan College".

Dr. Kosal presented "The Use of Mindfulness Practices to Aid with Student Attitude and Subject Comprehension" at the 7th Annual Bridging the Gap conference held at NCSU in October 2018. The conference's goal is to strengthen K-16 STEM education throughout North Carolina by bringing together educators, business leaders, government officials and others who play a role in STEM education to share ideas and resources.

Students/Faculty Collaboration

On February 14th and 15th, Drs. Crowley, Henderson and Magal, and four students have attended the



regional conference of the American College of Sports Medicine in Greenville, SC. In the conference and under the direction of Dr. Crowley, Mehli Marcellus and Tyler Ricks have presented a research project titled: “Factors Influencing Attitude Towards, and Participation in, Physical Activity in Eastern North Carolina”. Also at the conference, Dr. Magal together with the Director of Certifications at the American College of Sports Medicine, Mr. Francis Neric, has co-presented a tutorial titled: “Graduated Now What? Succeeding in the Exercise Profession”.

Biomedical Science seniors, Beverly Anaele and Jawuanna McAllister, presented their research at the NC



Academy of Science (NCAS) at UNC Wilmington on March 23rd. At the conference, Beverly (mentored by Dr. Kosal) won the 3rd Place Derieux Award for her oral presentation in the Ecology, Botany, & Zoology category! Her talk was titled “Can a natural plant product, such as the American beautyberry, repel and alter mosquito behavior?” Jawuanna (mentored by Dr. Stovall) won the 1st Place Derieux Award for her oral talk in the Cell & Molecular Biology and Physiology category. Jawuanna’s talk was titled “Effect of Caffeine on *PALLD* Expression and GBM Cell

Invasion.”



Under the guidance of Dr. Elias, Kayla Lavan received a travel grant for \$500 to present at the 2019 annual meeting for the Society for Freshwater Science in Salt Lake City, Utah. Kayla has been working with Dr. Elias on the effects of pharmaceuticals and personal care products on aquatic organisms. Her presentation is titled: "The effects of acetaminophen on *Carassius auratus*

feeding and movement".

Dr. Kosal in collaboration with Beverly Anaele, received a word that a manuscript they authored, "Testing Mosquitoes for Student Inquiry: Husbandry Lessons in the Lab," has been accepted for publication in the American Biology Teacher Journal. Also, Dr. Kosal has served as the keynote speaker at the Leadership Wesleyan Celebration Dinner in April where she spoke about resilience and leadership.

Around Campus

The Collegiate Academy of the NC Academy of Science (CANCAS)



NC Wesleyan College hosted the Undergraduate Research Workshop of the Collegiate Academy of the NC Academy of Science (CANCAS) on Saturday, November 3rd. CANCAS is an organization of undergraduate students and faculty advisors from across the state who are interested in scientific progress. At the

Workshop, students interacted with peers from diverse backgrounds, scientific disciplines, and institutions. In addition to our own Wesleyan students, attendees came from NC State University, Campbell University, Wake Technical Community College, and Nash Community College.

The Workshop featured a panel discussion and breakout sessions. Panelists included Ph.D. students from various disciplines, including Wesleyan alumna Carolyn Davern (2018, B.S. Chemistry). Dr. Greg Burhman, the coordinator for the Interdisciplinary Biochemistry Master's Program at NC State University, also joined the panel, along with Erin Helbling, the Director of Admissions of the Edward Via College of Osteopathic Medicine. In the breakout sessions, undergraduates explored various relevant topics. For

example, Dr. Jason Emory (Pfeiffer University and in the picture above) led a workshop for students on how to develop their resume/CV and interviewing skills. Dr. Karen Guzman (Campbell University) taught students how to design and deliver effective scientific oral and poster presentations. Dr. Meredith Rowe (Gardner-Webb University) facilitated her attendees' scientific writing skills. And, Drs. Heather Louch and Daniel Elias (NCWC) helped students explore the role and value of diversity and inclusion in science.

Class Dedication



Following an extensive renovation, class dedication for both the Pfizer Biology Classroom and the Laboratory of Applied Physiology took place on November 5th, 2018.

Student Organizations, Group Accomplishments, and School Events

Exercise Science Club

In October, the Presidential Proclamation was signed by Dr. Clark, declaring October to be the official Exercise Is Medicine Month On Campus (EIM-OC) Month at Wesleyan. As part of EIM-OC events, flyers have been posted around campus listing some of the numerous medical benefits of exercise, a 1 mile walk with the president around the Wesleyan Campus was held on October 19th and the 5K Costume Run on the new fitness trail was held on October 27th.



On MLK Day, January 21st 2019, some of the EXS Club members worked at two different Habitat for Humanity sties.



The EXS Club, under the directorship of Dr. Henderson, achieved bronze level status as an official



Exercise is Medicine campus institution in 2018. Two critical components in achieving this recognition were the Walk With the President this past October, as well as the Presidential Proclamation which declared this past October to be the official Exercise is Medicine On Campus month at Wesleyan.

On April 6th, representatives of the EXS Club attended the Rise Against Hunger event.



Congratulations to the EXS Club and its officers and to Mat Skyner, the Former President of the EXS Club



for being awarded the 2018-2019 Student Organization of the Year Award and the Senior Class Leadership Award, respectively.

Science Club

The NC Wesleyan Science Club has had a great year! In the Fall semester, the Club organized a kayaking



trip at Rollingview Marina, a sci-fi movie night, and a club dinner that included a panel discussion on undergraduate research opportunities. In the spring semester, the Club held its Annual Science Fair, at which students could make lava lamps, play science jeopardy, and participate in various additional activities. The Club would like to express thanks to its outgoing leadership and welcome the incoming officers! Meet the newest Science Club Executive Board Members: Julia Trimmer (President), Mitch Layton (Vice President), Dan Locey (Treasurer), and Juri Kim (Secretary).



Congratulation to Dr. Stovall for being awarded 2018-2019 Club Advisor of the year. The Science Club also welcomes Drs. John Temple and Daniel Elias as its new co-advisors!

16th Annual Student Symposium

The 16th Annual Student Symposium Day was held on April 10th where students participated in presenting their research in poster format. Students taking courses in Methods in Biology, General Chemistry II, and Invertebrate Zoology presented 33 posters.

The keynote speaker this year was Dr. Melanie Shadoan who presented **“Drug Discovery: An Unexpected Journey”**. Dr. Shadoan is the Research Scientific Director for the South Atlantic Region of the Cardiovascular Metabolic Team of Merck and GlaxoSmithKline.

Student’s presentations followed. The winners this year’s were:

First Place Poster:

Angela Bird and Juri Kim

Simulated stomach acid and its effects on dissolving Acetaminophen

Second Place Posters (tie):

Jackson Doyle

An examination of the effects of a hydrogen peroxide presoak on the germination of soybean seeds
and

Ericca Lenhardt and Sully Reece

Liver and egg yolk diet effects on Planaria regeneration

Omicron Delta Kappa Induction

Omicron Delta Kappa is a national leadership honor society which recognizes leadership in the areas of scholarship, athletics, campus or community service, social and religious activities, and campus government, journalism, speech and the mass media, and creative and performing arts. This year the only inductees were Hannah Ivester, Jawuanna McAllister, Dakota Casey and Savannah Flanagan.

Kappa Mu Epsilon (KME)

This year the Kappa Mu Epsilon National Mathematics Honors Society inductees were: Angela Nicole Bird, Payton Coleman, David Austin Mooney, Chinwe Cynthia Obi, Julia Anne Trimmer, Samantha G. Valeros, Jackie N. Webb and Abigail Wooten.

Individual Student Accomplishments

The Algernon Sydney Sullivan Award honors the qualities exhibited by the life of Algernon Sydney



Sullivan, lawyer, scholar, and orator, who was prominent in New York City social and civic activities from 1857 until the time of his death in 1888. This award is presented to the North Carolina Wesleyan student who best exemplifies academic achievement as well as excellence in character, leadership, service to the community, and a commitment to spiritual values. This humanitarian award is meant to recognize those who have selflessly given to others or served others in some way. This year's award recipient was Beverly Anaele, a Biomedical Science major.

Honor Student Projects from our School

The following division majors or minors worked on year-long research projects with faculty serving as their directors.

- Beverly Anaele (Biomedical Science major, directed by Erica Kosal) – *“Can a Natural Plant product, Such as the American Beauty Berry, Repel and Alter Mosquito Behavior?”*
- Ivan Cockman (Chemistry and Mathematics double major, directed by Brent Dozier) – *“Markov Chains and Mathematical Simulations in Python”*
- Hannah Ivester (Biomedical Science and Mathematics double major, directed by Heather Louch) – *“Vampires and Viruses - an Exploration of the Science used in Guillermo del Toro’s ‘The Strain’”*
- Joseph Lloyd (Mathematics and Psychology double major, directed by Fred Sanborn) – *“Mass Media and Memory Manipulation”*
- Jawuanna McAllister (Biomedical Science major, directed by Dan Stovall) – *“The Effect of Caffeine on Palladin Regulation and Glioblastoma Cell Invasion”*

Honors Convocation Recognitions

This year's Honors Convocation was held on March 19, 2019. The purpose of the convocation is to recognize students for their academic excellence and academic service.

Biology Award

This year's Biology Award went to Beverly Anaele. Beverly is an outstanding student, both in academic ability and attitude. Miss Anaele has served as a supplemental instructor for Dr. Kosal for the past two years and as a peer tutor for three years. She has excelled in both areas, with students consistently singing her praises. Beverly has a nice way of explaining difficult concepts and she has a nice presence as well. Students feel welcomed and comfortable and learn from Beverly.

As a student in the classroom, Beverly excels as well. She has thoughtful answers to questions, thinks critically about problems and can synthesize various topics to understand a broader problem. Supplementing her classroom training, Miss Anaele has built on her base through summer research opportunities and programs and bringing those experiences back to campus, enriching campus through

her contributions in the Science Club as well as GenUN. She has held leadership roles in both these campus organizations, continuing to grow her leadership skills.

Beverly has conducted research on mosquitoes and their behavior in response to plant extracts as a potential natural repellent for two years with Dr. Kosal. Initially she engaged in the research out of her own interest and then continued as part of her requirements for the Honor's Program.

Beverly is an excellent role model for all our students, a joy to have in the classroom, and a student who will be truly missed as she moves on to graduate or medical school.

Chemistry Award

This year's Chemistry Award goes to Kayla Lavan. The recipient of this award has been an exemplary student throughout her career at Wesleyan. She commits fully to her coursework and shares her mastery with fellow students as a tutor and SI leader. She is able to take a critical and informed evaluation of chemical systems, which is central to her achievements. Her initial cautious concern about the potential for catastrophe in the laboratory was overcome and she found a passion for laboratory research, which she plans to continue to pursue.

American Institute of Chemists/North Carolina Institute of Chemists Foundation Award

This year's American Institute of Chemists/North Carolina Institute of Chemists Foundation Award goes to Ivan Cockman. The recipient of this award transferred to Wesleyan as a junior and we are very pleased that he did. He has been an outstanding student in all of his chemistry courses. He is a steady contributor in his classes and well-known for assisting other students, especially in organic chemistry. He has had a first successful participation in summer research and will be pursuing his Ph.D. next fall.

Exercise Science Award

This year's Exercise Science Award went to Mehli Marcellus. Mehli is a very dedicated and mindful student. Both in and out of the classroom Mehli demonstrated outstanding leadership and analytical and problem-solving skills. In addition to her classwork and more recently, Mehli was involved in data collection and analysis for a study that examined barriers for participating in regular physical activity in Nash and Edgecombe Counties, under the direct supervision of Dr. Shannon Crawley. On February 15th, Mehli had co-presented the data in the annual meeting of the Southeast Chapter of the American College of Sports Medicine in Greenville, SC. In addition to her outstanding, academic and scholarly performances, Mehli also plays on the NCWC women soccer team, serves as an officer for the EXS Club and serves as the student representative on the NCWC EXS Advisory Board.

Mehli is well liked by her peers and exercise science professors, always ready to help and a fine representative of the department and the college. She is mature, responsible and committed to a career in the field of health and human performance.

Environmental Science Award

This year's Environmental Science Award went to Ericca Lenhardt. Ericca shines in the enthusiasm portion of this award. Always with a smile on her face and a good attitude in class or lab, it is a pleasure to have Miss Lenhardt in a course. She is fast to ask and answer questions, is always curious and has a good work ethic. She has completed an internship at the Sylvan Heights Water Fowl Park and engaged in turtle research with Dr. Temple on campus.

Ericca does well in her environmental science courses and is consistently striving to grow in her knowledge of the field. She stays with problems that are difficult until she understands, she seeks out professors for guidance when appropriate and she goes the extra distance when studying for lab practicals (by photographing and labelling slides and dissections) and exams..

Mathematics Award

This year's Mathematics Award went to Ivan Cockman and Joseph Lloyd. This year the Mathematics department is recognizing two exceptional students to receive the Math Award. Both of these students show excellence in coursework, exhibited by their high overall GPAs and math major GPAs. They both share their knowledge with their fellow Bishops through our tutoring services. They are both members of the Taylor-Crocker Honor's Program and will be presenting their projects in April. On top of these accomplishments, they are both double majors--- one as Math and Chemistry, and the other as Math and Psychology. These two young men are valuable assets to our Mathematics department and the broader campus community, and we are privileged to honor them both with the 2019 Mathematics Award.

Alumni Accomplishments



Beverly Anaele (2019) was accepted to the MPH Program at UNC-Chapel Hill. In addition to being the Biology Award Winner, Beverly was also awarded the 2018-2019 John Paul Jones History Award and the 2018-2019 Peer Tutor of the Year Award. Lastly, she also served as the 2018-2019 Secretary of the Collegiate Academy of NCAS.

Ivan Cockman (2019) was accepted to the Ph.D. in Chemistry Program at NCSU.

Hannah Ivester (2019) was accepted to the Ph.D. in Transitional Biology, Medicine and Health Program at Virginia Tech University.

Ericca Lenhardt, in addition to being the 2018-2019 Environmental Science Award Winner, Ericca also served as the 2019 Student Speaker for Arbor Day Celebration.



Joseph Lloyd was accepted for the M.S. in Mathematics program at ECU.

Mehli Marcellus (2019) was accepted to M.A. in Medical Science Program at Liberty University.

Jawuanna McAllister (2019) was accepted to the Ph.D. in Biochemistry, Molecular and Cell Biology Program at Cornell. In addition, Jawuanna served as the 2018-2019 President of the Collegiate Academy of NCAS also served as the 2018-2019 Secretary of the Collegiate Academy of NCAS.



Sullivan Reece was the recipient of 2019 NASA North Carolina Space Grant for STEM Pre-Service Teacher Education. The grant includes completing a series of three NASA STEM digital badges, professional seminars, and a field trip to the NASA Research Center in Langley, Virginia.



Tyler Ricks (2019) was accepted to the DPT Program at East Carolina University.

Mat Skyner (2019) was accepted to the M.S. in Exercise Physiology Program at Florida Atlantic University.

Justice Tomchesson (2018) has been accepted to the M.S. in Exercise Physiology Program at East Carolina University.

* If you know an alumnus who isn't getting our newsletter, please email Atyah Spells with those email addresses to be added to our list serve (aspells@ncwc.edu)

