

School of Mathematics and Sciences Newsletter

Spring 2020

Updates on Faculty

Welcome to Dr. Brittany Bass



The School of Mathematics and Sciences is excited to have Dr. Brittany Bass, the Director of RN to BSN Program and Assistant Professor of Nursing join our School. Brittany, who is a registered nurse (RN), graduated with a Bachelor of Science of Nursing (BSN) degree from Barton College. She received a Master of Science in Nursing (MSN) and a Doctor of Nursing Practice (DNP) degrees from Grand Canyon University in 2019. Brittany comes to us with more than 10 years' experience as a Registered Nurse (RN). Further, she is well versed in standards of practice, evidence-based research, as well as, coaching and mentoring. Prior to coming to NCWC, Brittany worked at Nash Health Care Systems, Wilson Dermatology, Sound Physicians, UNC Physicians Network and as a Nursing Instructor at Nash Community College.

Welcome to Dr. Ami Thompson



Dr. Ami Thompson joined the Biology Department this past spring semester after recently being awarded her doctorate in Conservation Biology from the University of Minnesota. The focus of her dissertation was on development of citizen science investigations and related curricula on the green darner dragonfly. This interest in citizen science came naturally out of the career interests she had prior to embarking on a Ph.D.; from environmental education to curriculum development to service as a park ranger, Dr. Thompson has had a colorful career path in science outreach. We are especially thankful that this life-long Minnesotan has chosen to bring her knowledge of conservation and scientific communication to North Carolina Wesleyan College! The lucky students who have taken classes with Dr. Thompson this spring experienced a professor that is eager to share her passion for science.

Welcome to Dr. Mandy Tolson



Dr. Mandy Tolson earned her degrees from North Carolina State University: a B.S. in Zoology, an M.S. in Nutrition, and a Doctorate in Veterinary Medicine. She has used her professional expertise helping to develop response plans for events such as natural disasters, hurricanes, and disease outbreaks. Her work in this regard has emphasized veterinary support for animal care. Being part of these response teams puts Dr. Tolson in line as a first responder for agricultural and companion animals in these situations.

Dr. Tolson has recently been working to train students in a Veterinary Tech Program while also teaching biological sciences at Barton College. Dr. Tolson will be joining the North Carolina Wesleyan College Biology Department this fall, and we are excited to welcome her!

Departure of Dr. Erica Kosal



The Biology Department and School of Science and Math said a sad goodbye to Dr. Erica Kosal just before the start of the 2019-2020 academic year. Dr. Kosal was fortunate to find a position closer to her Raleigh home where she began directing the first-year program for life science majors at North Carolina State University last fall. Dr. Kosal had an impact on the lives of countless students during her 21-years at North Carolina Wesleyan College, where she taught a dizzying array of subjects for biology majors, including ecology, invertebrate biology, conservation biology, botany, global waters, evolution, methods in biology, and certainly others. Dr. Kosal was always eager and willing to direct honors projects or engage students in unique independent study experiences. She even took students to the Florida Keys as part of a course! As a colleague, she always had intriguing ideas and a forward momentum that pushed many of her biology colleagues outside their usual thought processes or comfort zones in her quest to help the biology department to be the best that it can possibly be. Her strong mentoring skills, exuberance for biology, and positive energy have been missed, but we know that she is happy closer to home. We look forward to continuing to connect with her and we wish her continued success at her new position.

Jefferson-Pilot Professorship Lecture

Dr. Jeffrey Kuglitsch was supposed to be giving his Jefferson-Pilot Professorship Lecture on March 24, 2020. Unfortunately, the event was postpone due to the Covid-19 Pandemic and will be rescheduled for the 2020-2021 academic year. The title of Dr. Kuglitch lecture is: "The Ancestor of Dragons: a Riddle Wrapped in a Mystery Inside an Enigma"

The Jefferson-Pilot Professorship is considered the College's highest honor for a member of the Faculty and is given in recognition of scholarship, teaching, and community service.

Sabbaticals

The primary goal of Mrs. Stafford's sabbatical professional development was to learn more about games and the related mathematics. Most of the game research focused on the common themes for many games: logical thinking, developing game winning strategies, and probability and statistics. She also researched some of the benefits of using games in teaching in the elementary schools to develop and assess mathematical skills. She spent a little time on campus introducing the game of bridge to a group of math majors. The majority of her time was spent taking the online class, Counting and Probability, offered by the Art of Problem Solving. Sabbaticals allow one time to



take a break from the normal academic routines to pursue areas of interest. In addition to academic work, Mrs. Stafford used her sabbatical to do a lot of reading and needlework.

Tenure and Promotion



Congratulations to Dr. Brent Dozier for achieving tenure and being promoted to the rank of an Associate Professor.

Faculty Development Awards



Dr. Shannon Crowley was a recipient of the 2020 Frank Smith Wilkinson Lectureship Award. The award will be used to fund travel and participation in the Structural Equation Modeling (SEM) workshop at the University of California-Irvine Institute for Interdisciplinary Salivary Bioscience Research (IISBR). This training will allow Dr. Crowley to learn advanced statistical methods for investigation of the influence of sex/gender, race/ethnicity, SES, and geographic region on salivary analytes of stress regulation. Shannon's Lunch n' Learn series for Health, which launched this year, was awarded "Program of the Year" by NCWC Student Affairs. Lastly, Dr. Crowley attended training, and was awarded the Exercise is Medicine Ambassador Recognition by the American College of Sports Medicine last July (2019).

Dr. Meir Magal was a recipient of the 2019-2020 Mauldin Faculty and Staff Professional Development Fund Award.





Dr. Ami Thompson was a recipient of the 2019-2020 The Fritz Smith Faculty Development Fund Award

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. Daniel Elias was the presenter for the January 2020 Fourth Monday Colloquium. The title of his talk was “Fish with headaches – The Sequel.”



Description: Pharmaceuticals and personal care products (PPCP) are increasingly detected in freshwater ecosystems and may have adverse effects on aquatic biota. Acetaminophen is a widely used analgesic and antipyretic drug that might be discharged directly (e.g., sewage) into rivers and lakes. Thus, organisms inhabiting streams or manmade impoundments receiving wastewater effluent might be affected by this drug.

- Dr. Danielle Braxton was supposed to be the presenter for the March 2020. The title of her talk was “Designing, Implementing & Evaluating A Behavioral Weight Loss Program For African American Women Who Are Severely Obese.” Unfortunately, the event was cancelled due to the Covid-19 Pandemic and will be rescheduled for the 2020-2021 academic year.



NCWC Lunch n Learn Series for Health!

This new "brown bag" seminar series was launched this year and is sponsored by the Departments of Health Promotion and Exercise Science, in partnership with the Exercise is Medicine on Campus Initiative and Wesleyan Wellness. It is open to all faculty, staff, students, and community members. These seminars are brief (~ 30min) informal talks designed to provide quick and easy to understand information about relevant health topics.

- Dr. Meir Magal, Professor of Exercise Science was the presenter for October NCWC Lunch n Learn Series for Health. The title of his talk was "Starting an Exercise Program 101".
- Ms. Kelly Bly, Associate Athletic Trainer at NCWC was the presenter for November NCWC Lunch n Learn Series for Health. The title of her talk was "Prevention & Care of Injuries 101".
- Dr. Shannon Crowley, Assistant Professor of Exercise Science was the presenter for December NCWC Lunch n Learn Series for Health. The title of her talk was "Exercise for Stress Relief".
- Dr. Danielle Braxton, Assistant Professor of Health Promotion was the presenter for January NCWC Lunch n Learn Series for Health. The title of her talk was "Dear Diet – It's not You, it's Me: What You Need to Know to Avoid Self- Sabotage".

Faculty Members Publications

Magal, M., Liette, N. C., **Crowley, S. K.**, Hoffman, J. R. and Thomas, K. S. (In Press, 2020). Sex-Based Performance Responses to an Acute Sprint Interval Cycling Training Session in Collegiate Athletes. *Research Quarterly for Exercise and Sport*.

Curry Jr, K. W., Spencer, D., Pesout, O., & **Pigford, K.** Utility value interventions in a college biology lab: The impact on motivation. *Journal of Research in Science Teaching*, 57(2), 232-252, 2020.

Crowley, S. K. , Rebellon, J.R., Huber, C., Leonard, A., L., **Henderson, D., and Magal, M.** Cardiorespiratory Fitness, Sleep, and Physiological Responses to Stress in Women. *European Journal of Sports Science*. Epub ahead of print, 25 January, 2020.

Magal, M. and Neric, F. B. ACSM Certifications: defining an exercise profession. From concept to assessment and everything in between. *ACSM's Health and Fitness Journal*. 24 (1): 12-18, 2020.

Cobb Kornegay, E. and **Yankosky, B.** Exploring the cosmic wimpout dice game: probabilities and a Markov Chain Model. *Ball State Undergraduate Mathematics Exchange*. 13 (1): 1-19, 2019.

Other Faculty Accomplishments including Scholarly and Professional Activities

Dr. Magal, with colleagues from the American College of Sports Medicine and Metropolitan State University of Denver, presented a tutorial titled: "Designing the Future of the Exercise and Fitness Professions: Collaborative Work between Certification and Accreditation" at the American College of Sports Medicine 2019 Annual Meeting in Orlando, FL in May.

As an ongoing piece of the FITness, Women's Inflammation, Stress, and SLEep (FITwise) study, Dr. Crowley presented a scientific abstract titled: "Relationships Among BMI, Estradiol, And Sleep-wake

Behavior In Women” at the American College of Sports Medicine 2019 Annual Meeting in Orlando, FL in May.

Also this past year, Dr. Crowley was also highly involved in several scholarly activities: 1) she served as the Chair for the Psychology, Psychiatry, and Behavior session at the SEACSM Annual Meeting in Jacksonville, FL, in February; 2) on the Southeast Chapter of the American College of Sports Medicine (SEACSM) Social Media sub-committee; 3) served as a reviewer for scientific abstracts for the 2020 Annual meeting of the SEACSM; 4) served on the UNC Charlotte Kinesiology Research Symposium Steering Committee and 5) served as a reviewer for 2 manuscripts for *Medicine and Science in Sports and Exercise (MSSE)*, and one manuscript for *Sleep Science*

Coronavirus (COVID-19) Initiatives

Dr. Crowley, with Psychology and Healthcare Administration Honor's student, Ms. Madison Gill, have developed a research study to investigate physical activity behavior during and after the COVID-19 restrictions in North Carolina. This study will measure physical activity behavior, mental health, and barriers to physical activity during the COVID-19 stay at home order in NC and 6 months later after restrictions have been lifted.



Dr. Brittany Bass, in collaboration with Dr. Jackie Lewis, spearheaded the NCWC Operation Face Mask Protection Initiative. The objective of the initiative was to protect the frontline staff in the healthcare arena. Over the 6 week initiative, 528 masks have been donated, as well as, 1 box of gloves, 1 N95 mask and over \$200 in monetary donations to help buy supplies for those community partners willing to sew fabric face masks. Deliveries were made to a number of Eastern NC communities including Scranton, Newbern, Rocky Mount, Wilson and the Raleigh-area.

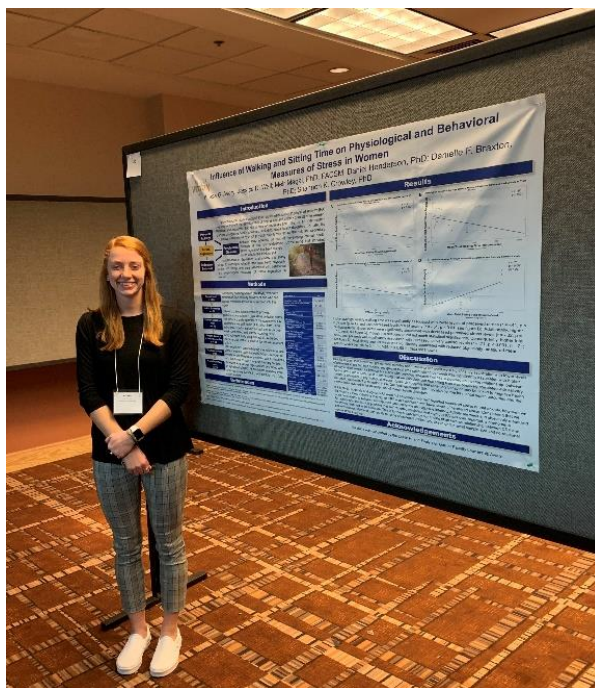


Students/Faculty Collaboration

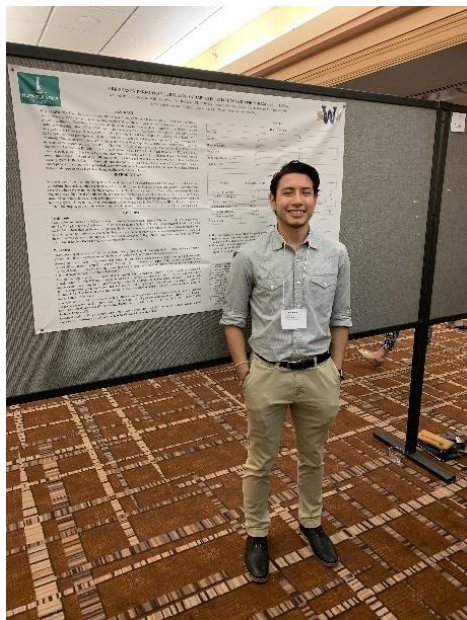
On February 13th, 14th and 15th, Drs. Crowley, Henderson and Magal, and four students attended the regional conference of the American College of Sports Medicine in Jacksonville, FL. In the picture below, from left to right, Drs. Crowley, Magal and Henderson, Rolando Valladarez, Jessica Wall, Connor Stratton and Alyssa Avery.



Alissa Avery (Exercise Science) and Jessica Wall (Psychology) were selected as student travel award finalists for the 2020 Annual Meeting of the Southeast Chapter of the American College of Sports



Medicine (SEACSM). They were invited to present their scientific abstract titled, "The Influence of Walking and Sitting Time on Physiological and Behavioral Measures of Stress in Women," in poster format at the SEACSM annual meeting in Jacksonville, FL on February 13, 2020.. Dr. Shannon Crowley served as the faculty mentor for Ms. Avery and Ms. Wall's research project and Drs. Meir Magal, Danielle Braxton, and Danny Henderson served as collaborators on the project.



Also at the same conference, Rolando Valladarez presented the first part of his honors thesis as a poster titled: "Pre-Season Performance Related Variables in Female NCAA Division III Soccer Players."

Around Campus

RN to BSN Online Program

On May 14 2020, North Carolina Wesleyan College announced that its new RN to BSN program has

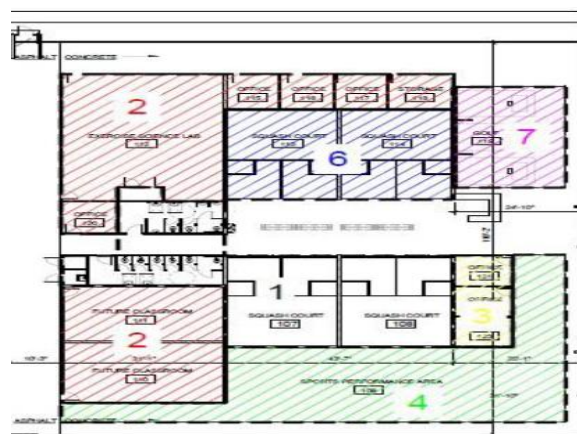


received accreditation approval from its regional accreditor, the Commission on Colleges of the Southern Association of Colleges and Schools (SACSCOC). Under the leadership of Dr. Britany Bass, the College began promoting the program and will be accepting applications this spring with the program set to start in fall 2020. The program

will also seek professional accreditation from Nursing's top collegiate academic accreditor, Commission on Collegiate Nursing Education (CCNE).

Indoor Sports & Education Facility

In August 2019, the college received a commitment from an anonymous donor for the building of an



indoor sports and education facility that will completely cover the cost of construction, along with a grant from the Nash County Tourism Development Authority. In April 2020, another donor has reallocated a previously restricted gift of \$724,000 to outfit the Exercise Science and Health Promotion facilities within the Indoor Sports and Education Facility currently being constructed on campus. This will provide the EXS and HLP faculty members with new laboratory and office space as well as a new equipment to offer state of the art learning and research opportunities to our students.

Student Organizations, Group Accomplishments, and School Events

Health and Movement Science Club

Some notable events sponsored by the Health and Movement Science Club (directed by Drs. Danny Henderson and Danielle Braxton) include: the Presidential Proclamation was signed by Dr. Duff, declaring October to be the official Exercise Is Medicine Month On Campus (EIM-OC). 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 4th and the 5K Costume Run on the new fitness trail was held on October 25th.



President's Proclamation

WHEREAS, October 2019 is Exercise is Medicine® On Campus Month; and WHEREAS, all students, employees and faculty are encouraged to speak with their physicians about how physical activity and exercise may help treat or prevent numerous chronic conditions, such as hypertension, cardiac disease and diabetes; and

WHEREAS, all physicians and other health care providers are encouraged to talk to their patients about the health benefits of exercise and to strongly recommend that their patients engage in appropriate exercise; and

WHEREAS, regular, moderate-intensity exercise has curative and protective health benefits; and WHEREAS, the health benefits of physical activity and exercise can do so much to improve the quality of life for everyone; and

WHEREAS, a healthier populace means cost savings, greater participation in the workforce and other benefits to society at large; and

WHEREAS, regular physical activity and exercise is indeed a powerful prescription, with great potential to improve the health of all Americans; and

WHEREAS, the American College of Sports Medicine and North Carolina Wesleyan College call on health care organizations, physicians and other professionals, regardless of specialty, to assess, to advocate for, and to review every patient's physical activity program during every comprehensive visit;

NOW, THEREFORE, Edward D. Duff, President of North Carolina Wesleyan College, hereby proclaims October 2019 as

EXERCISE IS MEDICINE® ON CAMPUS MONTH

at North Carolina Wesleyan College, and encourage all students, employees and faculty to participate in activities and observances relating to Exercise is Medicine® On Campus Month in the interests of better health and quality of life for all.

Edward D. Duff, President

DATED THIS 30 DAY OF September, 2019

©2019 Exercise is Medicine®. All rights reserved.



On MLK Day, January 20th 2020, Dr. Henderson and some of the Health and Movement Science Club members volunteered to help clean up Battle Park in Rocky Mount.



Under the directorship of Drs. Crowley and Henderson, and in collaboration with the Health and Movement Science Club, NCWC achieved silver level status as an official Exercise is Medicine campus in 2020. Notable initiatives that helped NCWC reach Silver status included the Lunch n' Learn Series for Health, sponsored by the Departments of Health Promotion and Exercise Science, in partnership with

Wesleyan Wellness; the annual Costume Run/Walk, sponsored by the NCWC Health and Movement Science Club; the Walk with the President; the Exercise Science personal training program; and others.

**Exercise
is Medicine[®]
Silver Campus**

Science Club

Under the leadership of Drs. Temple and Elias, the club decided to only make minor changes to the leadership for the upcoming year due to the pandemic. Julia Trimmer will remain as President, Juri Kim will be moving into the position of Vice President, Dan Locey will continue as Treasurer, and we have asked Sarai Bartolo Fabian to join us as Secretary. Special thanks to Mitch Layton, who served as the Vice President for the past year.

Kappa Mu Epsilon (KME)

This year the Kappa Mu Epsilon National Mathematics Honors Society inductees were: Alyssa Nicole Brookhart, Dion Cox Jr., Cody Fogleman, Jovan Damani Pope, Jadejah Robinson, Michelle Sackey-Ansha, Rajan Shah.

The 2nd Annual Interdisciplinary Writing Competition

The Second Annual Interdisciplinary Writing Competition was completed during the spring semester. The judges for the School of Mathematics and Sciences were Dr. Daniel Elias, Dr. John Temple, Dr. Ami Thompson and Dr. George Whitwell.

The winners this year's were:

1st place: "A Review on the Effects of BPA and Phthalates on Breast Cancer with a Mechanistic Approach" by Gordon Layton

2nd place: "Parkinson's Disease and Exercise" by Nathyn Frantz

3rd place: "A Brief Review of PFAS Analysis" by Jackson Doyle

Individual Student Accomplishments

Honor Student Projects from our School

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

- Jessica Winslow (Psychology major and Biology minor, directed by John Temple) – *"The Relationship Between Traumatic Brain Injury and Aggression in College Football Players"*

Honors Convocation Recognitions

This year's Honors Convocation was scheduled to be held on March 31, 2020. Unfortunately, the event was cancelled due to the Covid-19 pandemic. Nevertheless, biology, exercise science, environmental science and mathematics awardees were announced. The purpose of this event was to recognize students for their academic excellence and academic service.

Biology Award

Mitch Layton is an exceptional Biomedical Science major who has consistently performed at the top of his class in this rigorous major. Throughout his academic career at NC Wesleyan, Mitch has performed extremely well in his courses ranging from math, chemistry, and biology to various courses in the general education curriculum. In addition to his strong academic performance, Mitch has demonstrated a great

attitude towards learning and a pleasant personality. The Biology faculty have had multiple opportunities to interact with Mitch in class, laboratories, and through casual conversations in the hallway. Mitch is always interested, motivated to learn, and pleasant to talk with. His genuine interest in science and his curious nature will serve him well as he pursues his career as a physician's assistant.

Exercise Science Award

This year's Exercise Science Awards went to Alissa Avery and Jessica Wall:

Ms. Avery is a hard-working and conscientious student who maintains a high level of academic rigor in her coursework. Alissa is always proactive and diligent in her work, whether it be academics, student research, or volunteer work. In addition to excelling academically, Ms. Avery, along with psychology student, Ms. Jessica Wall, completed a research project titled, "The Influence of Walking and Sitting Time on Physiological and Behavioral Measures of Stress in Women," which was selected as a finalist for the student travel award for the Southeast Regional American College of Sports Medicine annual meeting, where Alissa presented their research findings. It is particularly remarkable that, in addition to maintaining a high GPA, conducting independent scientific research, and volunteering with the NCWC athletic training program, Alissa is also a NCAA Division III Lacrosse athlete at NCWC.

The Exercise Science faculty find Alissa to be a bright and genuine student, who is well-liked by peers, and an outstanding representative of the department, the school, and the college.

Ms. Wall is a hard-working and proactive student who is always respectful to both peers and faculty. Jessica consistently demonstrates strong analytical and problem solving skills, both in the classroom, and when conducting her undergraduate research work. In addition to excelling academically, Ms. Wall, along with Exercise Science student, Ms. Alissa Avery, completed a research project titled, "The Influence of Walking and Sitting Time on Physiological and Behavioral Measures of Stress in Women," which was selected as a finalist for the student travel award for the Southeast Regional American College of Sports Medicine annual meeting, where the study was presented. It is particularly remarkable that Jessica has received such accolades in Exercise Science, as a Psychology major, and this speaks highly of Jessica's ability to conduct and produce high quality interdisciplinary work at NCWC.

The Exercise Science faculty find Jessica to be a bright and adaptable student, who is able to excel in both Psychology and Exercise Science arenas.

Environmental Science Award

This year's Environmental Science Award went to Jackson Doyle. Jackson has been a pro-active, responsible, thorough, and diligent student in the Environmental Science program. Jackson is not only a stellar student but also a strong independent researcher. Jackson has a genuine interest in the scientific process and communicating science. He does not blindly follow methodologies but wants to understand

the reasons behind them. Jackson is enthusiastic, easy going, and builds rapport with his classmates and faculty. Jackson will also find the smallest typos in your lab manuals.

Mathematics Award

This year's Mathematics Award went to Abigail Wooten. Abigail has excelled inside and outside the classroom during her time at North Carolina Wesleyan. She has maintained a high cumulative GPA as well as an outstanding GPA in her major classes. Last year, Abigail was inducted into the college's chapter of the mathematics honor society, Kappa Mu Epsilon. In class, Abigail is able to see connections quickly and has a knack for understanding advanced mathematical material. Next fall, Abigail plans to attend graduate school for mathematics at East Carolina University. She is a very deserving recipient of this award.

Alumni Accomplishments

Luke Mills (2020) was accepted to the M.S. in Athletic Training Program at UNCW.

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