

SUMMER 2020

# Science Buzz

E-NEWSLETTER FROM THE SCHOOL OF SCIENCE

MONMOUTH  
UNIVERSITY

SCHOOL of SCIENCE

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## A Message from Dean Bachrach,

I hope that this issue of the Monmouth University School of Science Science Buzz finds you and your loved ones safe and healthy! Like all of you, we have been adapting to the covid-19 pandemic by adopting distance learning in our classes and spending our days on Zoom. Let me begin with a brief summary of how we have adapted and what the plans are for the fall semester.

A week before spring break was to begin, we closed campus and spent the next 10 days preparing for a remote remainder of the semester. We taught all of our classes remotely for the remainder of the semester, adopted a pass/fail policy that any student could opt to apply, and, unfortunately, had to cancel our 2020 commencement but still did graduate 126 undergraduate and 22 graduate students within the School. As the pandemic continued throughout New Jersey, we decided to teach all our summer classes remotely. To prepare for a possible remote fall semester, the School of Science Fall Taskforce initiated a set of voluntary workshops to address a variety of topics related to distance education, and our biology and chemistry faculty developed methods for teaching laboratory experiments in a remote setting. I am pleased to let everyone know that Monmouth University held a series of outdoor, socially distant graduation ceremonies at the end of August. The School of Science 2020 commencement ceremony was celebrated on Friday August 28 at 11:30am in Kessler Stadium.

Just last week, Governor Murphy announced that universities may re-open for in-person classes. Monmouth University will be back on campus the fall semester. Our residence halls will re-open, and we will all practice safety measures to minimize infections, including mandatory facemask wearing and social distancing in our classrooms. We are creating some new computer classrooms and utilizing non-traditional space for teaching, including the Varsity Club in the OceanFirst Bank Center and Pollak and Woods Theaters. Our faculty will be choosing the mode of delivery, be it traditional on-campus setting, hybrid, or remote learning using synchronous and/or asynchronous delivery. Clearly, this will certainly be another unusual semester!

## Featured Alumni



### Gillian Ratto '11

*Vice President for Product Development and Research and Development at HATCHBEAUTY Brands.*

#### Gillian, in her own words.

Gillian's life motto is 'Don't give up. Life is beautiful and what you make of it'.

Gillian lives the truth of her motto.

After graduating from Monmouth with a degree in Biology, and with an internship in the field on her resume, Gillian began a career in the cosmetic industry. That path eventually led her to California, and her job at HATCHBEAUTY Brands, where she currently serves as Vice President for Product Development and Research and Development. It was a crooked path she took, and she shares her story, which you can read on the [School of Science Featured Alumni and Graduates page](#).

Due to the closure of campus, we began the 2020 Summer Research Program (SRP) with remote science activities and re-opened on-campus research on July 20. We held a virtual SRP symposium on Thursday August 6 to great acclaim. We had 26 student presentations via zoom and over 50 attendees.

It is unlikely that we will be able to see most of you in-person in the near future, but when we do move past the pandemic, we welcome you to return to campus, catch up with your favorite faculty, and see the great things happening at Monmouth University. As always, we are grateful for your continued support of the School of Science.

Stay safe,  
Steven Bachrach, Dean



**Darnell Leslie '17**  
*BS Software Engineering, minor  
in Computer Science  
Professional Football Player –  
Retired*

Darnell graduated in 2017 with a bachelor's degree in Software Engineering and a minor in Computer Science. He recently retired from a professional football career and is currently studying to take his Software Security + Certification. He attributes his drive to his time at Monmouth. He recently took some time to share his experience at Monmouth and how it has impacted him to date.

You can read about Gillian and Darnell and their personal journeys on the Monmouth University School of Science [Featured Alumni and Graduates](#) page.

## Faculty Spotlight

**Please join us in congratulating our School of Science Faculty on their Promotions**



**Tsanangurayi Tongesayi, Ph.D.**  
Professor

Dr. Tongesayi joined Monmouth University in 2006 and has been promoted to full Professor. Among his research interests are Environmental Toxicology and Analytical Method Development. He holds patents in "Removal of Arsenic From Drinking Water Using Thiol-Modified Beverage and Water Plastic Pet Bottles" and "Method For Removing Contaminants From Water Using Thiol-Modified Surfaces Containing Ester Linkages".



**Jonathan Ouellet, Ph.D.**  
Associate Professor

Dr. Ouellet joined Monmouth University in the fall of 2013 and has been promoted to Associate Professor and tenured. Among his achievements at Monmouth is the development of Biochemistry I and II, a year-long Biochemistry course designed for Chemistry majors. His main research interest is in Nucleic Acid Folding and the development of aptamers.

**The Following Faculty are among the University's first cohort of Senior Specialist Professors and Senior Lecturers**

## Tell Us About You

We take pride in our science, engineering, and mathematics alumni, so please contact us. Update your profile via our [alumni survey](#) to tell us about your successes and help us serve you better as an alumnus. If you are interested in helping our current students via on- or off- campus interactions, we want to know!

If you would like to speak at our 2020-2021 Career Choices panel, please fill out our survey or contact Associate Dean Duckett at [cduckett@monmouth.edu](mailto:cduckett@monmouth.edu).

The School of Science



[Richard P. Bastian](#), Ph.D.  
Senior Lecturer

Dr. Bastian has been promoted to Senior Lecturer. He joined Monmouth University in September of 2004. His research, which has brought him several awards from the scientific community, involves Applied Mathematics, Mathematics and Culture, and the Philosophy of Mathematics.



[Ellen W. Doss-Pepe](#), Ph.D.  
Senior Lecturer

Dr. Doss-Pepe received her Ph.D. at Rensselaer Polytechnic Institute, then went on to Robert Wood Johnson Medical School, where she completed her post-Doctoral Fellowship. She joined the School of Science in January of 2006 and has been promoted to Senior Lecturer. Her research interests include biochemistry, protein folding and misfolding and degradation as underlying causes of neurodegenerative diseases.



[Jamie M. Kretsch](#)  
Senior Specialist Professor

Professor Kretsch has been promoted to Senior Specialist Professor. An alumna of Monmouth College, Professor Kretsch began her career in research at Bell Labs. She joined Monmouth in 1988 teaching Computer Science, and served as Chair of the Computer Science and Software Engineering Department from 2015 – 2018. Her research interests include online and blended course development and delivery.



[Danuta Szwajkajzer](#), Ph.D.  
Senior Lecturer

Dr. Szwajkajzer has been promoted to Senior Lecturer. She joined the Chemistry Department in 2003 as an Adjunct. She was promoted to Lecturer in 2004. She holds a Ph.D. in Biophysical Chemistry from Rutgers University. In addition to her teaching responsibilities, Dr. "S." (as the students call her) is the co-advisor of the Chemistry Club. She regularly teaches General Chemistry and Gen Chem Lab.

## Proudly Presents The Class of 2020



Please enjoy our [Virtual Tribute](#) to the Class of 2020 as several students reflect upon their time at Monmouth.

The School of Science will hold its physical commencement on Friday, August 28 at 12:00pm.

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### Past Issues of the Science Buzz

[Fall 2019](#)  
[Summer 2019](#)  
[Fall 2018/Winter 2019](#)  
[Spring/Summer 2018](#)  
[Fall 2017/Winter 2018](#)  
[Spring 2017](#)  
[Winter 2016](#)  
[Fall 2016](#)  
[Summer 2015](#)  
[December 2014](#)  
[July 2014](#)  
[April 2014](#)  
[December 2013](#)  
[August 2013](#)  
[May 2013](#)  
[December 2012](#)  
[September 2012](#)  
[January 2012](#)

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### Support the School of Science

Make a tax-deductible donation to the School of Science today! Your gift will make a difference in the lives of current School of Science students. Your gift can be designated to the area of your

## Welcome New Faculty

### Samer Khamaiseh, Ph.D.



Dr. Samer Khamaiseh received his M.S. degree in Computer Science and his Ph.D. in Computing with an emphasis on Cybersecurity, from Boise State University. He came to Monmouth University from Midwestern State University, where he was an Assistant Professor in the Department of Computer Science. He was a Java Developer and Cybersecurity Specialist with EtQ Corporation. Dr. Khamaiseh is certified as a Java professional developer from Oracle University. His research interests are

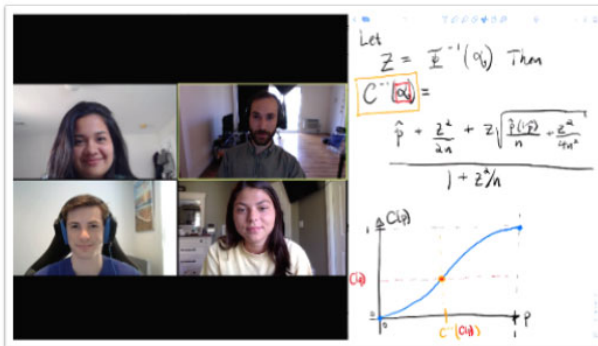
software-defined networking, software security, access control, adversarial machine learning, and network security. Khamaiseh has published several research publications in reputable international conferences and journals. He is an IEEE member and active reviewer in different journals and conferences. Khamaiseh will teach the introduction to computer science and cybersecurity.

choice, including student scholarships, the Summer Research Program, and facilities improvements. [Click here](#) to make your gift.

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## Summer Research Program

On June 1st, the School of Science launched its 12th Annual Summer Research Program. Fourteen faculty members and 31 students conducted research using various alternative methods while maintaining social distancing protocols. The SRP culminated on Thursday, August 6th with a virtual Symposium. Each research team presented an [abstract](#) describing their project, along with a brief PowerPoint presentation, which they were able to share via Zoom. "Anything by typical" is the way Assistant Dean John Tiedemann described this year's Summer Research Project in his opening remarks.



Dr. David Darmon with Sam Cavalli, Matt Lawson and Odalys Barrientos-Pantoja writing code via Zoom session