THE SCOPE

NEWSLETTER OF THE COLLEGE OF SCIENCE & MATHEMATICS AND THE SCHOOL OF HEALTH PROFESSIONS

Rowan University

WINTER/SPRING 2020

Message from the Dean

Dear Alumni, Colleagues, and Friends,

To say that this academic year was unusual is an understatement. Under the cloud of a global pandemic, it might be easy to overlook the truly outstanding achievements in our College of Science & Mathematics and School of Health Professions this past year. While I know we are facing a serious COVID-19 situation across the world, and especially in New Jersey, I hope that you can take a moment to read and reflect on the amazing accomplishments of our faculty, staff, and students.

To begin, THREE junior faculty from CSM were each awarded a highly prestigious NSF CAREER grant and a rising senior was awarded a national award for undergraduate research in chemistry.

Our faculty and students are contributing to the frontlines of healthcare during the pandemic and working towards narrowing the health disparity gap – a gap that COVID-19's impact has brought up for the nation to address. Many of our faculty, students, and staff responded by tracking the spread of the virus, providing emergency personal protective equipment, staying healthy during the quarantine, providing educational activities, and helpful advice for caregivers.

Our nation and community are also addressing the inequity of the criminal justice system, strengthened by the Black Lives Matter movement. Our College and School join this movement to examine systemic biases and issues of access in higher education. Two recent awards, an NSF ADVANCE grant and an NSF RAPID grant, will promote progress in this area.

I continue to be impressed and proud of all the faculty, staff, and students presented in this issue of The Scope. The stories truly are inspirational. I am so thankful for everyone's hard work and tremendous talent.

Sincerely,

Karen Magee-Sauer, Ph.D.
Dean, College of Science & Mathematics and the School of Health Professions

Researcher wins major NSF CAREER award funding

Dr Ileana Soto-Reyes is looking closely at the development of Purkinje cells, those intricate neurons in the brain that stretch out like trees with their branches. She wants to know, at the molecular level, how alteration in the growth of those neurons affect behavior.

Now, with a National Science Foundation CAREER award totaling $511,767 over five years, the Rowan University assistant professor can take a deep dive into the brain's biology with assistance from undergraduate student researchers.

The answers could lead to future research to find treatments for a range of common neurodevelopmental disorders, from autism to schizophrenia.

"If you know the biology, if you know which molecules are involved, in the future you can design and implement interventions that can maybe prevent or fix the problems," explained Soto-Reyes, who teaches in the University's Molecular & Cellular Biosciences Department.

Her research will focus on mouse behavior: how quickly mice bury marbles in their bedding, how long it takes them to jump from a platform, and how much time they spend exploring and digging in the bedding of a new cage.

"This is used to measure repetitive behavior," Soto-Reyes said. "When there's an abnormality in the brain, they do it even more."

The grant includes funding for Rowan undergraduate researchers, as well as paid internships for six undergraduate student researchers from the University of Puerto Rico, where Soto-Reyes obtained her bachelor's and doctoral degrees. Read more

Undergraduate researchers will be working alongside Soto-Reyes.

> I had those kinds of experiences when I was an undergrad. They were so important for my formation as a scientist. I want to give that same opportunity to other students.
>
> - Ileana Soto-Reyes

Assistant Professor, Ileana Soto-Reyes teaches in the Department of Molecular & Cellular Biosciences

Assistant Professor, Svetlana Vojvodic, teaches in the Department of Biological Sciences

NSF CAREER Award: Researcher to study how gut microbes in honey bees influence social behavior

Bees worldwide are in trouble, and with the future of agriculture and food production hanging in the balance, scientists are working hard to understand why entire colonies of honey bees are disappearing.

Now, with a National Science Foundation CAREER award totaling $763,600 over five years, Rowan University's Dr. Svjetlana Vojvodic is launching exciting new research to examine how the bacteria in a bee's gut might influence behavior. Understanding bee biology might shed light on colony collapse disorder, a leading contributor to the global disappearance of bees.

The Faculty Early Career Development (CAREER) Program offers the National Science Foundation's most prestigious awards to support early-career faculty who have the potential to serve as academic role models in research and education. Beena Sukumaran, Rowan University's former vice president for research, said this is the second CAREER award given to a Rowan University researcher this year, and only the fifth in the school's history. The honor is an indicator that Rowan's emphasis on scientific research is attracting faculty interested in exploring questions with global implications.

"They're top notch," Sukumaran said. "We're drawing very high quality faculty that any institution would be happy to have."

Nearly every spring since starting her research at Rowan University in 2014, Vojvodic has opened her bee boxes only to find a lonely queen and perhaps a few nurse bees. The worker bees fly out and never come back. Read more

NSF CAREER grant: Using rare technology, biophysicist explores molecular recognition

The protein molecules within the human body do the majority of the work of living, said Dr. Nathaniel Nucci. With a five-year National Science Foundation CAREER grant expected to total $749,406, he plans to solve some decades-long mysteries surrounding how these proteins work.

In the field of biophysics, every innovation has the potential for huge implications. What Nucci, an assistant professor in the departments of Molecular & Cellular Biosciences and Physics & Astronomy at Rowan University, discovers may well shine a light on the evolution of cancer and revolutionize how the pharmaceutical industry designs drugs.

The Science Behind Molecular Recognition

Without a complicated-sounding concept called molecular recognition, these vital proteins couldn't accomplish all that it takes to keep a living organism functioning. Somehow, these non-sentient molecules must recognize each other as distinct from the myriad proteins and other molecules that make up the human body and then bind together in precisely the right ways. "Molecular recognition happens billions of times, every second and in every cell," Nucci said. "It's awe-inspiring."

Decades after its discovery, the phenomenon of molecular recognition still has scientists searching for answers. "We as a community have been studying this for 50 to 60 years," Nucci explained. "We know a lot of the rules, but there's a lot about molecular recognition we don't understand."

One of the reasons so many questions remain unanswered is that most researchers have studied proteins in the environment of a diluted solution – and not an environment similar to human cells.

Environmental factors can affect the structure of these dynamic, shape-shifting proteins. Since they can only do their jobs when they're in the right shape, it's difficult for researchers in a traditional lab to get a clear picture of the way these proteins work. Read more

> Creating a model for understanding how all proteins work can lead to new ways to design drugs that are more specific.
>
> -Nathaniel Nucci

Nathaniel Nucci, Assistant Professor in the Departments of Molecular & Cellular Biosciences and Physics & Astronomy

Rowan nursing students report from COVID-19's front lines

Registered nurses balancing work with their studies at Rowan University found themselves on the front lines of the pandemic last semester. Their experiences in hospitals, nursing homes and clinics tested their resiliency.

“They came out like champions,” said Dr. Mary Ellen Santucci, a registered nurse and chair of the Department of Nursing at Rowan’s School of Health Professions. Despite overwhelming workloads, most students completed their courses.

“I’m in total awe of what they managed to do,” Santucci said. “It shows you their dedication to their education, as well as to their patient care.”

Tiara Farmer is a nurse coordinator at an outpatient center during the week, but she spent her weekends this spring filling in at a short-staffed nursing home in a North Jersey area hit hard by the virus.

“The need was just so high,” said Farmer, who allowed a patient to use her plastic-wrapped iPhone to say goodbye to a dying spouse. “I’ve never seen that much death.”

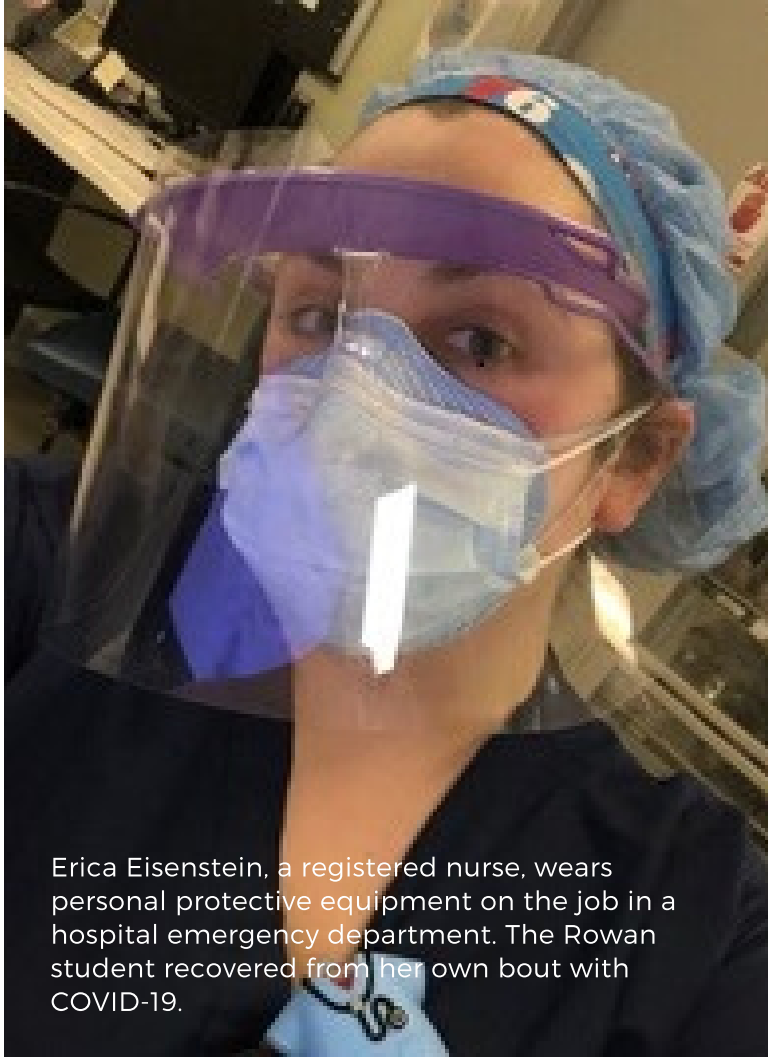
Witnessing the pandemic’s toll was a life-changing experience, Farmer said, one that reinforced her desire to care for the sick.

“Give me my mask and I’m there,” Farmer said. “I’ll do anything.”

After his daughter was born during New Jersey’s stay-at-home orders, Chris Lugo spent four weeks away from home working the night shift at a Staten Island hospital emergency department. Before returning home, he quarantined himself for two weeks in a hotel room.

“It was a very difficult decision for us as a family,” said Lugo, 31. “It was ultimately worth it. I got to keep her safe.”

Given the circumstances, he opted to drop one of his four classes last semester. Though the pandemic led him to question his career choice, Lugo views it as a call of duty.



Erica Eisenstein, a registered nurse, wears personal protective equipment on the job in a hospital emergency department. The Rowan student recovered from her own bout with COVID-19.

“I love what I do,” Lugo said. “A lot of people don’t realize it’s a very difficult job. They don’t realize the stress, the deaths you see every day, the mental health you deal with yourself … I don’t regret it for a minute.”

When schools closed, Briana Cruz sent her two kids, ages 14 and 9, to stay with their father for a month, while she covered for sick co-workers at her two nursing jobs.

“It was horrible,” Cruz said. “It was very stressful to try to manage both jobs, and try to be a student at the same time … and then you had to take on the role of a teacher.”

Things are calmer now, but Cruz is concerned about infections this fall.

“I think that we have to be just as cautious now and make that a regular thing in our lives,” Cruz said. “We need to make sure we’re hand-washing, wearing our masks, and try to distance ourselves as much as possible still.”

Read more

ADVANCE grant uses science to increase diversity among STEM faculty

Pay inequity, inadequate family leave policies and persistent gender stereotypes could be slowing the careers of women faculty, or maybe not at all.

With a new grant from the National Science Foundation, a Rowan University research team is investigating whether societal inequities and cultural barriers are hurting advancement for women faculty in the science, technology, engineering and math fields.

“As a fast-growing research university, Rowan and its leadership believe this is important work,” said Dr. Jim Newell, former senior vice president for Medical Initiatives and University Research. “We have a supportive president, and a strong track record of applying science and data to identify inequalities, and then fixing them.”

Totaling nearly $300,000, the ADVANCE Catalyst-funded project will collect data to measure the ways women are left behind their colleagues throughout their academic careers. The work is led by a team of six co-investigators representing Rowan’s College of Science & Mathematics/School of Health Professions, the Henry M. Rowan College of Engineering, and the College of Humanities & Social Sciences.

“Diversity, in STEM fields especially, is a challenge everywhere,” said Dr. Stephanie Farrell, interim dean of the Henry M. Rowan College of Engineering and a co-investigator on the ADVANCE project. “It’s a challenge that we have to address on a national level, as well as an institutional level. Just looking at the data, we want to do a better job in terms of recruiting and retaining diverse faculty. That’s really what the ADVANCE grant is all about.”

“The thing that makes Rowan a special place is that this work is so embraced and so valued,” Farrell added. “We have such good support from the leadership. That makes it easier.”

Though the majority of Rowan’s deans are women, fewer women faculty are middle managers, such as department heads in STEM. And women of color are underrepresented across the board, noted Dr. Suzanne Bausch, vice dean for the College of Science & Mathematics, and the study’s principal investigator.

“It’s a big issue in STEM faculty, in particular,” Bausch said. “There have been times throughout my career when I’m the only woman in the room. You’re treated differently. It’s why grants like this exist.”

The grant will give the researchers an opportunity to survey faculty, collect data on numerous measures of equity, and build a five-year plan to address any inequities they find. Read more

> “Students want to see people who look like them, and see that they can succeed.
>
> -Suzanne Bausch

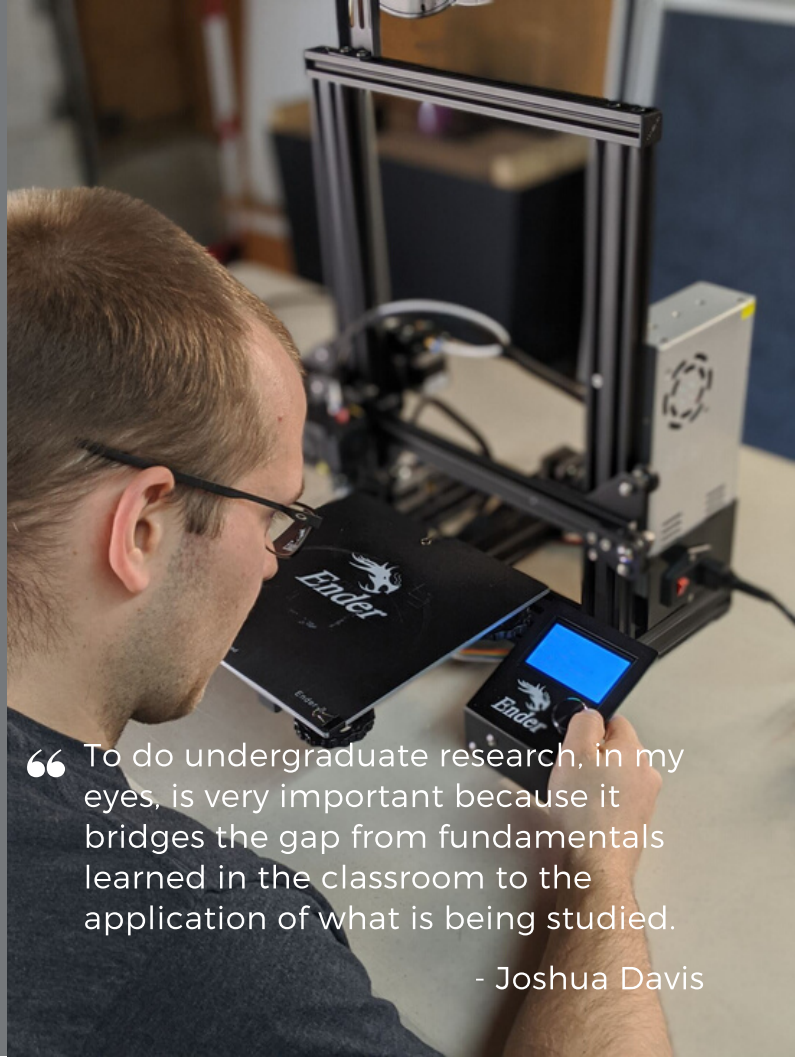
Rowan's ADVANCE investigators include: (from left) Stephanie Farrell, Kaitlin Mallouk, Suzanne Bausch, Nidhal Bouaynaya, Nawal Ammar, and (not shown) Meredith Joppa.

Student named a top undergrad reseacher in chemistry

A Rowan University student has received the prestigious Eastern Analytical Symposium Undergraduate Student Research Award for 2020.

Joshua Davis, from Swedesboro, New Jersey, is one of four students nationally recognized for their work in the field of analytical chemistry. Awardees are selected by an independent jury of experts from nominations received from the scientific community at large.

Davis was nominated and selected for his outstanding work developing novel microfluidic devices designed for both point-of-care clinical diagnostics and fundamental studies related to breast cancer metastasis. His efforts have been partially supported through a Restek Academic Support Program grant. Read more



> “To do undergraduate research, in my eyes, is very important because it bridges the gap from fundamentals learned in the classroom to the application of what is being studied.
>
> - Joshua Davis

Rowan makes hand sanitizer for emergency use

Jim and Kaitlin Grinias make hand sanitizer.

When Jim Grinias heard local distilleries were producing batches of alcohol-based hand sanitizer to answer an emergency shortage, the Rowan University chemistry professor realized he could help, too. With most University research shut down due to the pandemic, Grinias used his lab and Rowan-donated materials this week to produce nearly 20 gallons of hand sanitizer, following a recipe and guidance issued by the World Health Organization and the U.S. Department of Health and Human Services.

“It seems like a lot, but I think it’s a drop in the bucket compared to what’s needed,” said Grinias. “Everyone needs to chip in and do what they can.” The necessary ingredients were donated by labs across Rowan’s College of Science & Mathematics: ethanol, hydrogen peroxide and glycerol. Researchers also donated gallons of isopropyl rubbing alcohol and bleach for distribution by the Gloucester County Office of Emergency Management to hospitals, nursing homes and first responders.

“We cleared it out,” said Grinias, an assistant professor who teaches analytical chemistry. “We were able to find everything. It was all hands on deck.” Read more

Professor serves as evaluator for new Roots to Prevention initiative in Camden

Nicole Vaughn (far left) and team (from left) Koren Norwood of Camden County Department of Health & Human Services; Jonathan Wetstein of Parkside Business & Community in Partnership; April Schetler of Virtua Health; Bridget Phifer of PBCIP; and Greg Mayers of Virtua Health.

A Camden group has won a national grant competition that will increase both healthy food options and income opportunities for city residents.

Roots to Prevention Partnership (RTP) recently secured the BUILD Health Challenge award. RTP is among 18 awardees nationwide, selected from more than 130 applicants.

Rowan University Health & Exercise Science Professor Dr. Nicole A. Vaughn, a faculty member in the Community Health Program in the School of Health Professions, is a researcher and evaluator for Camden's Roots to Prevention.

The BUILD Health award includes a $250,000 grant — plus a $250,000 matching contribution of cash and in-kind support from Virtua Health-- to implement a new healthy food access program. As part of the project, Rowan will provide direct support as well as in-kind contributions. The award will support free and low-cost produce for eligible Camden residents, nutrition education, and city produce farming initiatives.

"Working in urban communities to improve community health system alignment among hospitals, community-based organizations, the county health department and the University is innovative and needed to tackle complex problems such as food access," said Vaughn.

"The partners for this initiative are driven by the opportunity to collaborate with the Camden community to build a food environment that promotes health and economic opportunity for urban farmers, patients, corner stores and residents." Read more

Students, Melanie Paladino (left) and Sam Ricci

Rowan's rapid research growth is paying off for undergraduates

As a student researcher, Sam Ricci works alongside faculty in a Rowan University lab, applying the lessons he's learned in the classroom.

He's gaining rich experience, and he's getting paid for it.

Ricci, a senior biophysics major, is among a growing number of undergraduate students who are paid for their labors in the lab. Their work is supported through public and private grants won by Rowan faculty for specific projects.

That means students can spend more time exploring real-world problems before they graduate."I get to think about this stuff a little more independently, which is nice," Ricci said. "That's definitely unique to Rowan.

"Whether undergraduates' research work is paid or not, access to such opportunities attracts talented students to Rowan," said Beena Sukumaran, Rowan University's former vice president for research. "They also gain opportunities to travel with faculty to conferences to present their results." Read more

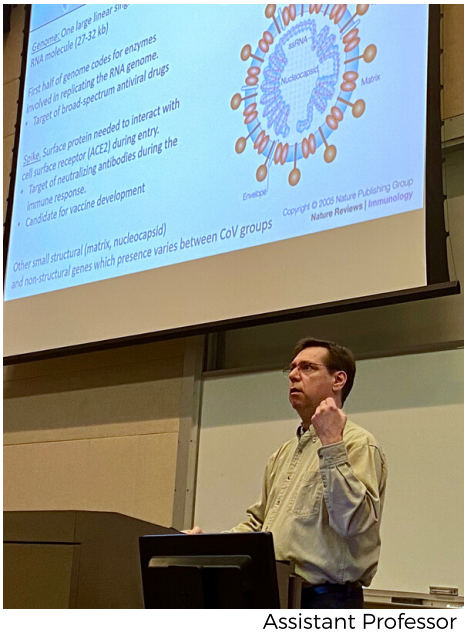
Tracking COVID numbers and trends

Associate Professor Anthony Breitzman

During the rapid increase of infections last April, Dr. Anthony Breitzman, researcher and associate professor in the Department of Computer Science, tracked COVID-19 growth rates in each state and county-by-county spread in New Jersey.

Using data from the N.J. Department of Health and the COVID Tracking Project, among others, Breitzman's analysis indicated that by the first week in April, social distancing measures and staying at home were slowing down the overall rate of new coronavirus infections in New York and New Jersey. Read more

Rowan virologist gives seminar on COVID-19



Assistant Professor Claude Krummenacher gives COVID talk

In late February, virologist, Dr. Claude Krummenacher, gave a seminar on the new Coronavirus to a full house in Rowan Hall.

Attended by students, faculty, staff, and local community members, his presentation entitled, "The new Coronavirus: fact vs. fiction (mostly facts)," provided much-sought information on the origin, risks, and steps to curb COVID-19.

Krummenacher, assistant professor in the Department of Biological Sciences and the Department of Molecular & Cellular Biosciences, was also featured in NJ.com and on a local radio program discussing the risk of transmission of COVID-19 from groceries.

Rowan graduate Rebecca Lewandowski, serves on federal COVID-19 task force

As a member of the SARS-Cov-2 Medical Countermeasures Task Force, Dr. Rebecca Lewandowski is part of the Biomedical Advanced Research and Development Authority, a U.S. Department of Health and Human Services office leading preparedness and response to chemical, biological, radiological, and nuclear threats, as well as pandemic diseases.

Asked what it's like to serve at this historic moment, Lewandowski responded with one word: "Patriotic." Her work is a way "to just give back," Lewandowski said. "That's very motivating as a scientist and an American to feel like you are doing something that is useful and going to help other people."

For Lewandowski, that work began at Rowan University with a bachelor's in Biological Sciences and a doctorate in Cell & Molecular Biology at the Rowan University Graduate School of Biomedical Sciences.

Read more

Researchers aim to improve autism services

A small team of Rowan University researchers is tackling a project to modernize the way direct service providers collect data to improve services for adults with autism.

Funded with a two-year, $396,601 grant from the N.J. Department of Health, the project will explore the use of smart speakers, wearable sensors, speech-to-text technology and video software to capture accurate information, increase user satisfaction, and ease employees' workload.

Direct service providers, or DSPs, support individuals with complex needs, enabling them to live in the community. New Jersey's contracted service agencies struggle to attract and retain these workers, and turnover is high.

Using a research framework she once used to improve data collection for combat medics, Dr. Patrice "Polly" Tremoulet wants to design an easy-to-use, paperless system that could make caregiving more gratifying and enjoyable.

A Rowan assistant professor and human factors psychologist, Tremoulet is first seeking input from the people who will use the new system.

"We're talking about an overworked, high-turnover population that truly cares about clients and wants to do the best thing," Tremoulet said. "I want to provide tools that help people do their jobs more effectively."

Tremoulet's team includes Dr. Christina Simmons, a Rowan assistant professor and board-certified behavior analyst whose research focuses on autism and severe behaviors; and Dr. Andrea Lobo, a Rowan professor and computer scientist who specializes in buildingsoftware systems. The grant includes funding to support five student researchers.

Better reporting will also improve therapies for clients with severe, challenging behaviors, said Simmons.

"If accurate data are not being collected, that's directly impacting patient care," Simmons said.

As a parent of a 15-year-old with autism, Lobo said she was eager to join the project. "The possibilities are so exciting," Lobo said.

"The potential for impact is so large, on a problem that is so gigantic … and that costs so much money. We are thrilled that the New Jersey Department of Health has recognized the potential of this."

The team is working with a community provider, Circle Haven, Inc., to design and test the first prototype. Read more

Student organizations collaborate on project to promote health and well-being during COVID-19

For the last six weeks of the spring semester, students from the Rowan chapters of Exercise is Medicine (EIM), the Nutrition Care Club (NCC), and the National Wellness Institute (NWI) launched Project Persevere, a student initiative to promote a sense of community while emphasizing health and fitness, both physical and mental.

After the Fall 2019 Rowan University Fit Fest, a fitness event and fundraiser for ALS, dedicated to Dr. Theresa Cone, the students were anxious to organize another event. In the midst of planning, the Rowan community was grief stricken by the news of student suicide. Then, in March, came COVID-19 and the abrupt transition to remote learning and social distancing.

With crisis, came determination and resilience.

EIM, NCC, and NWI students came together and quickly adapted their plans to a virtual program promoting health, fitness, well-being, and compassion to support fellow students when they needed it most. With the goal of fostering a sense of community, they created a social media program including live workouts, mini-clinics with fitness professionals, inspirational messages, and virtual socializing.

Instagram followers were greeted each day with uplifting messages and activities to get them up and moving and feeling good.

When asked why they felt it was important to connect the Rowan community during this time, Will Samalonis, EIM President, and Michael Ono, EIM Vice President, said, “having stronger social connections makes it easier to come together in challenging times and we will feel less alone. This message felt even more important during quarantine because it is easy to feel isolated when you are not physically with each other."

“We are so proud of our students and all their hard work. This was a student-led and student-driven project that shows how much our students care about the Rowan Community," said Chrisina Garcia, Lecturer in the Department of Health & Exercise Science.

This project has inspired collaboration on future programs. The group plans to maintain some virtual activities year-round, especially if social distancing continues.

“Overall, this initiative has helped us fulfill our mission of creating an active community that supports each other whenever they need it. We are here for all of you,” said Samalonis and Ono.

Above: Video launch of Project Persevere

Project Persevere team:

William Samalonis
Michael Ono
David Jarret
Kourtney Klimek
Arianne Valderrama
Vito Nucci
Katlyn Welby
Alec Chilkotowski
Lily Ngo
Angelique Syzyminski
Danielle Felicioli

Researcher to examine pandemic's effects on Black students

When Dr. Tabbetha Dobbins learned COVID-19 disproportionately kills more Black people in the United States, her internal alarm bells rang.

The Rowan University physicist had just completed a two-year project with the American Institute of Physics TEAM-UP task force to identify the systemic changes needed to increase the number of Black graduates with bachelor's degrees in physics and astronomy.

Now, as Dobbins worked from home due to the pandemic, she wondered: How are Black physics students impacted by campus closures across the country? And how can universities better support them?

Those questions are driving Dobbins' latest research, backed with a one-year, $136,000 RAPID grant from the National Science Foundation. Recently appointed as Rowan's vice president for research and the dean of the Graduate School, Dobbins will work on the project with a team of researchers from across the country.In its November 2019 report, the TEAM-UP task force found African American students have the same drive, motivation, intellect, and capability to obtain physics and astronomy degrees, compared with students of other races and ethnicities. Factors that contribute to fewer Black physics graduates include significant financial challenges and the lack of a supportive, welcoming environment in many departments.

"The idea of TEAM-UP has always been not to fix the student, but to fix the environment that the student is in," Dobbins said. "We need to come up with the evidence and then we need to understand what support structures can be put in place."

It's important work because "lives will be changed by increasing the relative percentage of these students who enter the technical workforce after having completed the Bachelor's degree," Dobbins proposed. "The future job outlook in the STEM disciplines in the U.S. is promising, and access to these careers will provide the potential for a secure and stable financial future." Read more

Dr. Tabbetha Dobbins, Rowan's vice president for research, will work on a project to improve university support for Black physics students.

Edelman Planetarium goes virtual

Although the Ric & Jean Edelman Planetarium is temporarily closed due to COVID-19, you can still enjoy learning about the night sky at home with Cabin Fever Astronomy, a stargazing series that can be viewed online. Created by Amy Barraclough, Director of the Edelman Planetarium, and Ben West, Assistant Director, these short videos share information about space-related celebrations and things to see in the night sky. New episodes of Cabin Fever Astronomy are posted bi-weekly.

"We started Cabin Fever Astronomy as a way to continue sharing our knowledge about the night sky with the community," explained Barraclough. "The most popular part of our shows has always been the live stargazing – where we point out bright constellations and planets in the sky. Cabin Fever Astronomy was created as a way to continue that from home. We hope that people enjoy the chance to head outside and look at the night to watch the International Space Station fly overhead, locate a new contstellation or watch the planets 'wander" across the sky. Many people think that they can't see the stars from the city, but we want to change that perception. You don't need to be far away from city lights, or own a powerful telescope to enjoy the stars. Just head outside and look up!"

Ph.D. Clinical Psychology students have 100% success on Match Day

Rowan's first cohort of students in the Ph.D. in Clinical Psychology program are well on their way to success. During their fifth or sixth year, students apply for internship positions at an off-site agency through the Association of Psychology Postdoctoral and Internship Centers (APPIC) Internship Matching Program.

As part of this competitive process, students typically apply to between 10 and 15 sites based on their interests. Following interviews, both students and sites rank their order of preference. On "Match Day," students and site rankings are compared with the hope of a match. All of Rowan's graduate students were matched to either their first or second choice.

"Securing an internship is perhaps one of the most stressful experiences our students face during their training. The fact that these students were successful is a testament to their commitment to their training and a recognition of the skills and passion they bring to their clinical work," said, Dr. Jim A. Haugh, Director of Clinical Training for the Ph.D. program.

Ph.D. students pictured above from left to right:

- Alex Jaffe, matched with The Guidance Center, Leavenworth, Kansas
- Nicole Cantor, matched with Fargo Veterans Affairs Health Care System
- Krista Herbert, matched with the Medical College of Georgia, Augusta University
- Sheina Emrani, matched with the University of California San Diego/Veterans Affairs Psychology Internship Training Program
- Pierre Leon, matched with Rutgers University Behavioral Health Care

Mural at the Movenpick Ambassador Hotel in Accra, Ghana; site of the ReSViNET Conference in November 2019

Researchers present findings of WHO study on pediatric illnesses in Ghana

Dr. Steven Brunwasser, assistant professor and researcher in the Department of Psychology, and several colleagues were contracted by the World Health Organization (WHO) to evaluate the strength of evidence for a causal effect of early life respiratory syncytial virus induced lower respiratory tract infections (RSV-LRTI) on pediatric wheezing illnesses including asthma.

Although there is a well-established association between RSV-LRTI and wheezing illness, it is unclear if RSV-LRTI is a cause of subsequent illnesses. Children who develop RSV-LRTI, which manifests primarily as bronchiolitis or viral pneumonia, may have a general predisposition to respiratory disease.

“This distinction is important for policymaking organizations that are weighing investment in RSV-LRTI prevention programs, such as vaccines,” Brunwasser explains. “If RSV-LRTI were a true cause of chronic wheezing illness, then we would expect interventions that prevent RSV-LRTI to prevent not only acute illness, but also chronic morbidity, greatly increasing their public health value.”

The team found that evidence from observational studies a and randomized controlled trials of RSV preventive interventions did not provide compelling support for a causal effect of RSV-LRTI on subsequent wheezing illness. While RSV-LRTI prevention likely provides substantial health benefits, it remains uncertain if RSV-LRTI prevention impacts chronic wheezing illnesses.

Assistant Professor Steven Brunwasser

Last November, Brunwasser and the team presented the study results at the Respiratory Syncytial Virus Network (ReSViNET) Conference in Accra, Ghana.

“Thanks to the meeting organizers, I had the opportunity to experience just a bit of Ghananian culture, including fantastic local cuisine and traditional dancing on Labadi Beach,” said Brunwasser. “I know not many people from the U.S. will ever have that opportunity, and I am very grateful for the experience.”

The paper describing the study has been accepted for publication at Lancet Respiratory Medicine.

Class of 2020 awards & recognition

The College of Science & Mathematics and School of Health Professions congratulates the Class of 2020. It is our honor to present the Class of 2020 award recipients and student commencement speakers.

Medallion Awards

Gideon Achirem, Evelyn M. Reade Health & Exercise Science Award
Gabrielle Longo, Excellence in Psychology Award
Gina Malia, Excellence in Nursing
Jonathan Maturano, Michael Miller Award for Excellence in Chemistry
Jennifer Lynn McNamara, James M. Shafer Excellence in Mathematics Award
Matthew Necelis, Dr. Mark M. Chamberlain Excellence Award in Chemistry/Biochemistry
Vito Nucci, David R. Biren Exercise Science Award
Samantha Palumbo, Paul Dike Award for Excellence in Physical Science
Sabrina Paparo, Robert N. Renlund Preprofessional Award in the Alllied Health Field
Matthew Pekora, Robert N. Renlund Preprofessional Award in the Allied Health Field
Fiona Quigley, Health Promotion and Fitness Management Award
Paige Richards, Excellence in Biological Sciences Award
Connor Richardson, Excellence in Physics Award
Nicole Thompson, 3B Orthopaedics Athletic Training Student Excellence Award
Eric Zielonka, Nhan Huynh Award for Excellence in Computer Science

Read more about the awardees

Dean's Outstanding Senior Awards

Bridget Boyle, Molecular & Cellular Biosciences
Liam Doherty, Mathematics
Samuel Foster, Chemistry
Haylie Hennigan, Biochemistry
Michael Klimkiewicz, School of Health Professions
Zachary Levey, Psychology
Eric Shaw, Physics & Astronomy
Joseph Tagliaferro, Computer Science
Emily Wynne, Health & Exercise Science
Fiona Yeung, Biological Sciences

Read more about the awardees

Student Commencement Speakers

Luis E. Santiago Ortiz
Ciani Eugene
Zachary Levey

Watch commencement speeches

Congratulations to the many Class of 2020 graduates who were awarded individual department awards for their outstanding achievements.

Faculty recognition

Grant Awards

College of Science & Mathematics and School of Health Professions faculty received over 40 grant awards totaling over $4.9 million dollars during the 2019-2020 fiscal year. List of awards

Publications

During the past year, College of Science & Mathematics and School of Health Professions faculty over 110 publications in peer-reviewed, indexed journals. List of publications

New Faculty (2019)

Biological Sciences
Nathan Ruhl
Shelly Thomas
Sara Wright

Chemistry & Biochemistry
Ping Lu
Venkatesh Nemmara
Siobhan Toal

Health & Exercise Science
Scott Dankel
Christina Garcia
Stephanie Kneeshaw-Price

Mathematics
Christine Barden
Norman Beil
Rebeca Lufi
Juming Pan

Molecular & Cellular Biosciences
Yong Chen

Psychology
Daniel Bogart
Steven Brunwasser
Sara Diorio
Katherine Gotham
Karyn Tappe
James Yingst

Recognition of Retiree, Dr. Maria Tahamont

The College of Science & Mathematics would like to recognize Department of Biological Sciences faculty member, Dr. Maria Tahamont.

Since joining Rowan in 1992, Tahamont has dedicated her professional career to teaching and research in science education, exercise and pulmonary physiology, and diversity and access issues in higher education. She is dedicated to increasing access for women and minority students in the STEM fields.

Tahamont served as coordinator for Rowan Seminar, Chair of Biological Sciences, and was a leader of the Bildner Project, which had a profound impact by increasing the number of multidisciplinary courses that addressed issues of diversity and democracy in Rowan University course offerings.

Tahamont, committed to the success of her students, was also a recipient of The Lindback Distinguished Teaching Award.

We thank her for dedication to her students and her contributions the Rowan community.

Beyond the classroom

A special thank you to the many **students, faculty, and staff** across the College and School supporting COVID-10 response actions, and working and volunteering at healthcare facilities and testing sites.

Students from the Rowan chapter of Alpha Epsilon Delta (AED), a national health pre-professional honor society, attended the AED biennial conference in Tampa, Florida.

Translational Biomedical Sciences student, **Kaitlyn Casey**, was awarded a New Jersey Space Grant Consortium summer fellowship.

Jeremy Cooper, a Nutrition & Dietetics student, was recognized at the state level by the New Jersey Academy of Nutrition and Dietetics as the March 2020 Student Spotlight.

Physics student, **Kyril Kavetsky,** won first place in the Under 1800 Section of the three-day Philadelphia National Chess Congress.

Women's swim team member and Biochemistry student, **Emily Kopchick**, earned New Jersey Athletic Conference (NJAC) All-Conference first team in the 100 breaststroke and second team in the 200 breaststroke.

Zachary Levey, Psychology student, received a Psi Chi EPA Travel Award and the Psi Chi EPA Regional Research Award.

Molly Miraglia, Bioinformatics student, won the Undergraduate Travel and Mentoring Award for the Society of Molecular Biology and Evolution meeting.

Nursing student **Kim Sorenson** was chosen to present a the Eastern Nurses Research Society conference.

Biochemistry major, **Michaela Suckiel,** was awarded a New Jersey Space Grant Consortium summer fellowship.

Assistant Professors, **Danielle Arigo** and **Chelsie Young**, Department of Psychology, received 2020 Frances R. Lax Professional Development Awards.

Vice President for Research and Associate Professor, **Tabbetha Dobbins**, was appointed to serve on the NSF Advisory Committee for Mathematical and Physical Sciences.

Assistant Professor, **James Grinias**, won the 2020 Chinese American Chromatography Association Young Investigator Award.

Associate Professor, **Bethany Raiff**, Department of Psychology, was elected as the President of the American Psychological Association (APA) Division of Behavior Analysis.

Associate Dean for the School of Health Professions, **Peter Rattigan**, achieved All-American Road Running standards for half marathon, 10-mile and 4-mile road races in the 60-64 age group.

Mary Ellen Santucci, Department of Nursing Chair and Associate Professor, was invited to become a member of the Digital Nursing Network of the Nursing National Health Service in London, England.

Assistant Professor, **Ileana Soto-Reyes**, Department of Molecular & Cellular Biosciences, was admitted to the 2020 Class of the Mentoring Institute for Neuroscience Diversity Scholars (MINDS).

RowanUniversity
COLLEGE OF SCIENCE & MATHEMATICS
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