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Dear friends,

Welcome to the Fall 2018 edition of Explorations, our biannual magazine that seeks to engage our alumni and friends through the activities and life of the school and, where it intersects, the work of the New Jersey Agricultural Experiment Station, which I also lead as executive director.

This fall we celebrated the Golden Jubilee of Helyar House, which in 1968 was named and modeled after the vision of cooperative living on campus first implemented by professor Frank G. Helyar, who created low-cost alternatives to college dormitories on campus during the Great Depression. Alumnus Dick Merritt (AG’54, CSNB’56 & ’61), who later became dean of resident instruction, remained true to Helyar’s vision and pushed for the creation of Helyar House, now a co-ed facility in which residents assume a much greater than typical responsibility for self-governance. Helyar House alumni are dedicated to supporting current residents through funding of scholarships and other means.

Among the most recent leadership changes at the school is the retirement of Peter Gillies, founding director of the New Jersey Institute for Food, Nutrition, and Health (IFNH). As I said about Peter’s retirement in my announcement to the campus community, he has been “tireless in his efforts, from fundraising and planning for the IFNH’s iconic home on Dudley Road on the Cook Campus, to networking throughout the university and beyond, and building alliances and partnerships that are the signature of this important initiative.” We welcome interim director Maria Gloria Dominguez-Bello, who joined Rutgers earlier this year as the Henry Rutgers Professor of Microbiome and Health. Her tenure home is in the Department of Biochemistry and Microbiology at the school.

In this edition of Explorations, we highlight the Department of Biochemistry and Microbiology, which dates back to 1901 when it was first established as the Department of Soil Chemistry and Bacteriology, among the first of its kind in the U.S. The work of our researchers has had far-reaching consequences, including the discovery in 1916 of Streptomyces griseus, a soil-based microorganism found in New Jersey soil and which led to the development of streptomycin, the first effective treatment for tuberculosis. It was this work that culminated in the award of the Nobel Prize in Physiology or Medicine to Selman Waksman in 1952.

You will also learn about the global dimensions of the research conducted by Maria Gloria Dominguez-Bello, along with associate professor in the Department of Nutritional Sciences Dan Hoffman and professor in the Department of Food Science Mukund Karwe, who is also dean of International Programs at the school.

The largest single gift to the Rutgers University Foundation, to date—a grant of $27.5 million by the Stavros Niarchos Foundation (SNF)—was awarded last year to our school to help develop a comprehensive, interdisciplinary approach to creating job opportunities for youth in the agriculture and food sector in Greece. The funding for this project, New Agriculture for a New Generation, is part of a €100 million (euro) investment by SNF in one of the pillars of its broader initiative, Recharging the Youth. Based on the school and experiment station’s strong success in youth engagement, food business incubation, training new farmers, and extension services that support farming, as well as business support for entrepreneurs, SNF asked us to take the lead in a joint, three-year project with the Agricultural University of Athens and the American Farm School in Greece. The scope and global significance of our school leading this project cannot be overstated as agriculture in Greece remains a very important sector of economic activity and employment, contributing roughly 4 percent of GDP while exports of agricultural products account for one third of total exports.

Our faculty and programs—broad and relevant in scope and rich in content—reach beyond our New Jersey roots and reflect our collective Rutgers pride.

ROBERT M. GOODMAN
EXECUTIVE DEAN,
SCHOOL OF ENVIRONMENTAL AND BIOLOGICAL SCIENCES
Dianne Lê
LANDSCAPE ARCHITECTURE, SEBS’19

“...This scholarship helped me enhance and decentralize my perception of the world around me, hence leading to self-growth as a more sophisticated landscape architecture major.”

William Baumle
ENVIRONMENTAL POLICY, INSTITUTIONS, AND BEHAVIOR, SEBS’19

“...This scholarship enabled me to gain valuable international experience at a large intergovernmental organization.”

Thank you

To help support students at the School of Environmental and Biological Sciences please contact Melissa McKillip, associate dean for philanthropy and strategic partnerships, at melissa.mckillip@rutgers.edu or visit makeagift.rutgers.edu
Emily Hanselman and Christine Blaze working with strict anaerobic bacteria in an anaerobic glove box.
OVER A CENTURY IN THE MAKING

THE DEPARTMENT OF BIOCHEMISTRY AND MICROBIOLOGY HAS A RICH HISTORY, ESTABLISHED IN 1901 AS THE DEPARTMENT OF SOIL CHEMISTRY AND BACTERIOLOGY, AND ONE OF THE FIRST OF ITS KIND IN THE COUNTRY. TODAY, IT BUILDS ON THIS VIBRANT HISTORY BY FOCUSING ON THE ENVIRONMENTAL ASPECTS OF MICROBIOLOGY, BIOCHEMISTRY, AND TOXICOLOGY THROUGH TWO UNDERGRADUATE PROGRAMS AND A MICROBIAL BIOLOGY GRADUATE PROGRAM.

Brittany Karas and Gina Moreno feeding zebrafish, the model organism for studying developmental toxicology.
If there’s one thing that defines the history and future of the study of biochemistry and microbiology, it’s collaboration. It was collaboration that first merged these two previously separate departments in 1965 to become what it is today, and it’s what will propel groundbreaking research in both areas moving forward.

This spirit of working together is alive and well when it comes to microbiology, even within Rutgers’ own campus. “Microbiology is so widespread at Rutgers,” says distinguished professor and department chair Max Häggblom. “There are microbiologists at a dozen or more departments across the university, and our department is tasked with bringing all of this expertise together.”

One way the department does this is through its annual Microbiology Symposium, which began in 2007 to bring together microbiologists across diverse departments such as food science, plant biology, marine and coastal sciences, chemistry, genetics, engineering, and more. During the symposium, faculty from across the university gather to share research and open the lines of communication for collaboration. Roughly 50 to 70 students and postdocs are also able to share poster presentations of the work they do to spread the word.

If you ask associate professor Lori White, trends in biochemistry research will also rely heavily on interdisciplinary efforts going forward—especially since big data will continue to play a pivotal role. “This is an area that’s somewhat in its infancy, but won’t be going away any time soon,” she says. “It takes a certain type of person to go into this field. You need to have a good math brain for it. You need an understanding of computers. And you need extensive biological knowledge. But it also is an area that lends itself quite well to collaboration.” According to White, enlisting researchers from across disciplines brings new approaches to new questions. Such questions range from the foundational (like the impacts of protein structure on function) to the topical (like how environmental chemicals impact development).

Yet another question addressed by this department surrounds the human microbiome, “which can’t be discussed enough,” White says. While studying the microbiome—the ecological community of the human body—isn’t necessarily a new idea, the way in which researchers are approaching this topic is somewhat new. “Developments in biotechnology require an understanding of the microbial world,” Häggblom says. “It started with antibiotics but today is expanding to questions of remediation and bioenergy applications.”

Plus, he adds, there’s been a paradigm shift in how researchers and even the public consider the human body. Microbes are no longer considered simply the cause of disease, but rather understood as also promoting health. “This means there’s a focus on the microbial community overall—an ecology,” Häggblom says. “This has changed the way we think about the microbiome, and the recognition that these microbiota can affect human life from birth through death. This is playing out in research across our department.”

The Student Experience

For many science students, tightly structured programs can make studying abroad difficult. But the department is taking steps to ensure...
that its students have the opportunity to travel and study internationally, even as undergraduates.

One way students can get this invaluable experience is through a course called The Microbiology and Culture of Cheese and Wine, an elective for both biochemistry and microbiology majors offered during the summer in France. Over the course of two weeks, students learn about the science behind cheese and wine, but also their cultural importance. “This was designed specifically to get science students abroad,” says Häggblom, and attracts students from within the department but also from majors like food science.

Yet another way the department promotes international travel is through conferences. “Travel awards from alumni donations have played a major role,” says Häggblom. “They allow us to provide funds for students to attend a meeting and present, and make connections while they’re there.”

When students graduate from this department, they find opportunities in graduate schools, medical schools, or industry. They emerge with impeccable lab skills in biochemistry and microbiology. But where additional support is needed—especially from alumni—is in gaining real-world experience as interns. Perhaps surprisingly, internships can be very hard for Rutgers biochemistry and microbiology students to find, even in New Jersey where there’s a strong pharmaceutical presence. “Our students are smart, and willing to put the work in,” White says. “If they decide they want to go into industry, they’re an asset for any team. So reaching out, networking with the department, and offering these internship opportunities is a great way for alumni to get involved.”

Celebrating Decades of Leadership

Professor Peter Kahn joined the Department of Biochemistry and Microbiology in 1976 on a handshake. His research space at that time consisted of half a bench in an old lab. The campus, of course, had no computers then. Nor did it have a spectrophotometer capable of assaying enzymes and measuring spectra. Kahn convinced the dean it was needed, and built a table himself for the device—one on which, by the way, it still sits despite many upgrades over the years.

With a 40-plus year history at the university, Kahn shows no signs of slowing down. This past May, he won the prestigious 2018 Clement A. Price Human Dignity Award in recognition of his leadership in the Bosnian Student Project, which placed students whose education had been disrupted by the war in various high schools and colleges across the U.S. As a local coordinator for the project, Kahn raised funds to cover the expenses needed by 17 students earning degrees at Rutgers (outside of tuition, which was covered by the university).
STUDENTS

YEARS
EST. 1968

50

SCHOOL OF ENVIRONMENTAL AND BIOLOGICAL SCIENCES
Helyar House is a cooperative living community on the George H. Cook Campus where house members band together to work, live, and learn in a more affordable on-campus residence. They plan, prepare, and serve their own meals. They work cooperatively to clean and maintain their space. They study hard. And they have some fun along the way.

This year, Helyar House celebrates its 50th anniversary. While some things have changed, take it from these two residents: the spirit of cooperation and family remain the same.

**MARIA GUEVARA CARPIO**  
Public Health, SEBS’21

Maria Guevara Carpio has always been family-oriented. “I knew that Rutgers would be a big place, and I was looking for a way to be part of a smaller, supportive community,” she says. Helyar House fit the bill. She moved in as a freshman and, now in her sophomore year, serves as the house’s social chair. In this role, she coordinates events like pumpkin picking, paintball, or even simple bowling nights. She also organizes larger-scale events like overnight trips to the beach or mountains.

Outside of these events, though, it’s the smaller, everyday gatherings that will stay with her long after she leaves. Like many families, the Helyar House family gathers for house clean ups, holiday gift swaps, and Super Bowl parties. “We also study together,” Guevara Carpio says. “I see people studying and it motivates me to work harder.”

On a personal note, Guevara Carpio also says that living in Helyar House has helped her break out of her shell. “Since it’s a small community, it forced me to meet all kinds of people,” she says. “You live with these people, so if you have a problem with someone or something, you have to communicate—it’s a small area we all share! It really helped me get out of my comfort zone and grow.”

The best part about Helyar House, though, is that it’s not necessarily all sunshine and rainbows, says Guevara Carpio, and that’s when the family environment is the most valuable. “We have family dinners with whoever is in the house, and talk about everything, from light topics to politics,” she says. “It’s good to know that whenever we are struggling with something, there’s someone here to rely on.”

**GERARDO QUILES**  
Bioenvironmental Engineering, SEBS’20

It’s Gerardo Quiles’s fourth year living in Helyar House, and he says the experience has benefited him academically, financially, and personally. “It’s all about what you make of it,” he says. “For me, having all these people close by allowed me to build individual relationships with all different kinds of people. I’ve made my best friends here.”

In fact, it was the people living in Helyar House who convinced him to join in the first place. He wasn’t sure what to expect; he only knew that he’d be working in exchange for financial assistance. He wasn’t sure it was even for him. But once he started to interview with the current residents, “I was sold,” he says. “Seeing how it impacted their lives became more important than any financial help I’d get from living here.” In the following years, he’s seen something similar happen with potential housemates he interviews.

Like many Helyar House alumni, one of Quiles’s favorite memories is his first Thanksgiving there. Residents invite their friends and family, and they cook for everyone. He remembers feeling overwhelmed because of the volume of food they had to cook, but everyone came together and pulled it off. In a way, that’s the whole message of Helyar House. “We aren’t as focused on the individual, but rather the individual’s responsibility for everyone else. It’s a family unit,” he says. “That family attitude is still very much alive at Helyar House. The spirit of individuality is still alive. We take pride in the fact that we’re not like every other dorm, and hopefully we won’t ever be. That difference gives us character.”
FIELD TRIPS
Some researchers make breakthroughs in the lab. Others must travel the world in search of answers. With interests ranging from the human microbiome to health and nutrition, the SEBS researchers profiled below achieve “ah-ha” moments around the globe.

**DANIEL HOFFMAN**
Department of Nutritional Sciences

Daniel Hoffman’s research focused on how poor growth early in life can influence health in adulthood. This research brings him to countries like Brazil, Mexico, South Korea, and Kenya, where nutritional deficiencies are more common than they are in the U.S. Together with Jim Simon of the Department of Plant Biology, he is currently in the middle of a five-year, USAID-funded study in Kenya, examining the effectiveness of nutrient-dense vegetables on the micronutrient status and growth of children. “The quality of a child’s diet is a key determinant of growth, so if we can improve their nutrition, we can improve their growth,” he explains. That said, there is a need for interdisciplinary intervention, especially in these poor areas. “We can understand the biological problems but if the economy isn’t improving, the people can’t address them or change their dietary habits,” he says. “To best understand how to improve nutrition and health in these regions requires more interdisciplinary research.”

**MARIA GLORIA DOMINGUEZ-BELLO**
Department of Biochemistry and Microbiology

How do modern lifestyle practices—from the way we eat to the way we treat diseases—impact the human microbiome? That’s the question leading the research interests of María Gloria Dominguez-Bello, whose most recent work centers on how the microbiomes of babies born vaginally can differ from those delivered via cesarean section. “Babies born via C-section bypass the birth canal, and therefore miss their first exposure to the microbes there,” she explains. “This research attempts to restore this exposure and measure the effect on the microbiome.” So far, she has studied babies in Puerto Rico, New York, Spain, and Chile. Preliminary results show that there are indeed differences in the microbiome of C-section babies, and that a restoration method can work. “If we can understand what is driving immunity disorders—asthma, allergies, celiac, and others—and which microbes are needed at what age, we can try to restore them,” Dominguez-Bello says of future translational impacts. “The real probiotics are yet to come.”

**MUKUND KARWE**
Department of Food Science

As a food engineer, Mukund Karwe’s research generally centers on food manufacturing and processing, preservation, and safety. Recently, he partnered with the Institute of Chemical Technology in Mumbai to create and promote quinoa-based cereal and snack food in India. “We made breakfast cereal with 100 percent quinoa, 100 percent amaranth, and a fifty-fifty blend,” he says. “And we asked people what they thought.” As it turns out, the blend was preferred, which was great news for Karwe. “Quinoa is healthy and gluten-free, and a very good source of plant-based proteins and nutrients,” he says. Karwe’s food manufacturing expertise was also put to work in Thailand, where he partnered with the Asian Institute of Technology in Bangkok to create a functional ingredient from fish waste. “There is a lot of fish waste generated worldwide, and we can use that waste to extract useful things using modern technology,” he says. Both of these projects were funded by Rutgers Global.
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APRIL 27, 2019

PHOTOGRAPHY BY JOHN O'BOYLE
Olaf Jensen’s research on Mongolian fisheries has shed light on the effects of climate change, and opened a world of opportunity for students.
FACULTY PERSPECTIVE:
Olaf Jensen, Department of Marine and Coastal Sciences

What initially attracted Olaf Jensen to Mongolia was its population of a unique fish called taimen. It’s the largest species of trout in the world, growing up to six feet long and reaching 200 pounds. In recent years, a booming recreational fishery has brought tourists from all over the world to Mongolia in pursuit of this prize. At the same time, the area is experiencing temperature increases at more than triple the rate of the global average.

As an expert in aquatic ecology and fisheries management, this combination piqued Jensen’s interest. His research in Mongolia explores “how climate change may have a direct impact on the fish, and spawn indirect changes in human behavior,” he says. Part of this is bringing students from all over the world, including Rutgers, to propose and execute their own research projects. One project explored how the fish are thriving despite rising water temperatures; yet another examined how two species of fish that both feed on drifting insects coexist.

On the one hand, this research can help the fishery remain sustainable (it’s 100 percent catch-and-release, and the use of barbless hooks means that roughly 90-95 percent of the fish caught end up surviving). But on the other hand, this research will also help guide a response to climate change. “If we want to understand and anticipate what climate change may do here,” Jensen says, “it’s helpful to see what’s happening in Mongolia.”

STUDENT PERSPECTIVE:
Abigail Golden, Ph.D. student, Graduate Program in Ecology & Evolution

Abigail Golden came to Rutgers specifically to work on Jensen’s team in Mongolia. “I was looking for a lab doing a mix of social and ecological work surrounding fisheries,” she says. “I’m interested in the interaction between humans and ecosystems, and fisheries are a good example of that.”

Upon arriving at Rutgers, Golden proposed a project and secured funding. She traveled to Indiana University to take Mongolian language and cultural training. And then she was off for a research trip to the area. “I was interested in understanding how a fishery operates when you have people from such different backgrounds and interests fishing for the same thing,” she says. During her 10 weeks in Mongolia, Golden spent time with two American-run fishing camps that catered to foreign tourists. She traveled on the boats with them, conducted interviews, and led surveys. Her second trip involved interviewing the locals to learn more about their perceptions of climate and socioeconomic change following the Soviet transition.

“This has been invaluable,” Golden says of her international experience. “Demonstrating that I can write a successful application for funding, carry it through, and produce research from it will definitely help me in my career going forward.”

PHOTOGRAPHY BY JOHN O’BOYLE.
AGRICULTURAL EXPERTISE, ABROAD

Revitalizing the Agriculture and Food Sector of the Greek Economy
No one was immune to the economic crisis in 2008. Unemployment soared, wages stagnated or fell, and markets crashed. In Greece, the situation was especially dire. By 2012, youth unemployment rose to 44.7 percent, nearly doubling the 23 percent rate affecting the rest of the EU. Just one year later, when unemployment leaped to 60 percent, the Stavros Niarchos Foundation (SNF) announced a call to action, to help jump start economic opportunity for Greece’s younger generations. SNF committed to a long-term investment of 100 million Euro to address this problem, and decided on three areas of focus: cultural tourism, technology, and agriculture and food. They called the initiative Recharging the Youth.
“I got to thinking. We do agricultural extension, we provide support on people’s farms, we have successful urban youth engagement programs, we have business incubators in the food space, and we know agricultural tourism,” says School of Environmental and Biological Sciences (SEBS) executive dean Bob Goodman. “I made the argument that we had many of the components of what was needed in Greece and would be happy to be involved.”

Together with Greece’s Agricultural University of Athens (AUA) and the American Farm School (AFS), Rutgers is playing a vital role in planning an ambitious, multi-year project with roots at SEBS and reach across the globe. Under the Recharging the Youth umbrella, the program is called New Agriculture for a New Generation. Here’s what’s happened so far.

**STEP 1  FEASIBILITY AND PLANNING PHASE**

The first step was determining the agricultural sectors in Greece where investments in training the workforce could result in opportunities for economic growth—the sectors with the most potential would be those that could not only create lots of new jobs, but also would require low costs of entry.

“We explored and investigated 20 different areas of the food and agricultural system in Greece, with the intent to identify their current state and ability to grow and absorb new young Greeks,” explains Kenneth Karamichael, director of the Office of Continuing Professional Education, youth development expert and project leader for New Agriculture for a New Generation. What Karamichael and his extended team found was not only that Greece has strong products, the right soil conditions, proper expertise, and an ag-friendly climate, but also that young Greeks and their families have access to land—something in short (and expensive) supply in Rutgers’ home state of New Jersey and across the U.S. Plus, during the economic downturn, all sectors with the exception of agriculture and food declined. “That’s another indicator that agriculture is a strong sector for Greece to invest in,” Karamichael adds.

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**By The Numbers**

| **43.2%** | Unemployment rate of Greek youth, as of May 2018 |
| **€12.2 Billion** | Yearly potential of the Greek agrifood sector |
| **260,000** | Potential new agrifood jobs by 2021 |
| **18** | Greek export areas tripled their contribution to GDP during the crisis |
| **13** | Of them were agrifood products |

**Want to get involved?**

Rutgers leadership is looking for SEBS alumni with connections in Greece. Visit greece.rutgers.edu to learn more.
The findings—which partly identified the agricultural and food industries with the most potential—were published in November 2016. At that point, SNF asked Rutgers to lead the development of an implementation proposal. The result? A landmark grant from SNF of over $27 million to support the training programs, business incubators, and management of this innovative program.

This grant is the largest, to date, in Rutgers’ history.

**STEP 2 TRAINING, PROGRAMMING, BUSINESS INCUBATION**

After the planning phase was complete, Rutgers and its partners got to work. “Everything we did had to be attractive to young people up to age 40,” says Karamichael. “Whatever we did had to be accessible, and it had to be something that could translate to a vocational educational training module that’s responsive to the needs of the agriculture industry.”

The first round of training included nine different programs and reached 700 young people. The areas of focus ranged from livestock farming to beekeeping to agritourism, and each program was tailored to the needs of that industry.

“All of the training programs are quite practical in nature,” says Effie Lazaridou, managing director of the Greece-based Rutgers New Agriculture for a New Generation Program team. “Some programs may include meeting at a farm to demonstrate techniques to young growers, or a classroom component where participants learn about marketing and branding. In others, scientists go to the farmers’ individual locations and advise them on site. It’s all experiential, and it’s all created for individual support however it’s needed.”

After the formal training program is complete, participants have access to ongoing mentoring and counseling. In addition to the training programs, Rutgers’ grant will support the creation of a food innovation center and incubators for agrifood businesses, as well as building out an existing farm into a permanent training center. These initiatives are currently in the planning stages.

**STEP 3 THE FUTURE**

The goals for this program are ambitious, says Lazaridou, and have the potential to completely transform the food and agriculture sector in Greece. Thanks to this program, she sees a cultural shift on the horizon. “One of the major challenges we face in Greece is collaboration; this has failed in the past,” she says. “We have some amazing examples of cooperatives that are doing magnificent work, but these aren’t the standard. We hope to encourage a new breed of farmers and growers, and support the trend of helping them to understand that their true strength is in the cross-pollination of their ideas. Not only within the sector, but across the value chain—and it starts with looking at the value chain as a system of components that will thrive together or fail together.”

PHOTOGRAPHY COURTESY OF THE AMERICAN FARM SCHOOL, GREECE.
From across the nation to around the world, alumni are making discoveries, growing businesses, and training the next generation. But it all started at SEBS.

**Tiffany Katz**
**GSNB’10, Animal Biosciences**

Tiffany Katz is a scientist working in a junior faculty position at Baylor College of Medicine. She previously held research positions at the University of Pittsburgh and at Texas A&M University.

**On her Rutgers mentor:**
I learned just about everything I know about life as an academic from my Rutgers mentor Dr. Wendie Cohick. She not only provided excellent mentoring regarding the scientific process, experimental design, grantsmanship, and communications both oral and written, but also prepared her mentees by providing insights into the political environment in the academy as well as behind-the-scenes administrative processes. I continue to use all of this knowledge almost every day.

**On Rutgers pride:**
My biggest pride about being a Rutgers graduate is the Department of Animal Sciences. It is well-rounded, ethical, and committed to the education of its students and the community. The Department of Animal Sciences brought the graduate students to really wonderful educational field trips each year including a fish hatchery and an equestrian center. They also held educational fairs and auctions for the community with demonstrations using our unique horse treadmill. Additionally, the diversity of the department’s scientific expertise contributed to the outstanding education the students receive. I was not only able to master techniques in rodent studies, but I had the opportunity to learn about multiple domestic species and even lizards by helping other students run their studies. I was able to assist in equine muscle biopsies and jugular blood collection, caprine sexual preference studies, reptile exercise and growth trials, and porcine lactation studies.

**On campus memories:**
My favorite activities at Rutgers included salsa dancing with Scarlet Mambo, yoga at the Rec Center, and the occasional late night at Clydz for martinis.

**On her next steps:**
My dream job is to run my own research lab, train students and postdocs, and teach courses. My research goals are to delineate mechanisms underlying the developmental origins of disease hypothesis. I strive to ultimately enable disease prevention and identification of individuals at increased disease risk due to environmental exposures during early life and development.

**Robert D’Arienzo**
**SEBS’12, Meteorology**

Robert D’Arienzo is a senior meteorologist and global strategy leader for IBM. In this role, he leads the global go-to-market strategy for energy, environment, and utilities within The Weather Company integration team of IBM Sciences. He has worked in the energy sector for about six years.

**On his Rutgers experience:**
My time at Rutgers taught me a lot about the value of curiosity. The field of meteorology is fascinating, but incredibly complex, so asking questions until concepts have been mastered is essential. The same applies to the professional world as questions and new ideas are always embraced by leadership. Staying curious about topics beyond your expertise is also foundational to a successful career. These daunting, uncomfortable situations are what truly make us grow.

**On campus memories:**
My favorite memories include the friendships that were created and are still strong today. The meteorology community is a small but very tight-knit group that embraces collaboration and adventure. My favorite times were the endless hours and all-nighters spent in the ENR building with my former classmates. The weather never sleeps so neither did we!

**On Rutgers pride:**
There’s something about the block “R” for which I instantly get a great sense of pride every time I see one. I will always attribute a lot of my success to my time at Rutgers. Though my education at Rutgers lasted four years, the relationships that I built with my classmates and professors will last a lifetime.

**On his next steps:**
I look forward to furthering my career at IBM over the next few years, as it is an excellent and exciting company to work for. I also plan on obtaining my Certified Consulting Meteorologist (CCM) certification with hopes of creating a side business for weather and analytics consulting.
Vidya Endraiyani  
SEBS’11, Food Science

As the third generation of her family-owned noodle company, Vidya Endraiyani oversees production, distribution, research development, and marketing.

On her Rutgers experience:
Due to a good collaboration between the food science program and the food industry, I gained invaluable industry internships at multinational food companies and landed my first job as a product developer at a world class R&D facility. Those experiences have molded my work ethic, to be both a creative individual and an effective team player. I was also fortunate to be able to work under the guidance of many great leaders in those organizations, and it sets a standard to the team that I lead today, in setting company accountability from the top, balancing innovation with the short and long term goals of the company, and always making sure that we get the right people at the right position.

On campus memories:
I enjoyed the spare time spent with my lab mates under the guidance of Dr. Mukund Karwe. We were culturally diverse, and yet we helped each other in and out of the lab just like family does. I am still in touch with some of them, and really hope to meet again with the group in the near future. Apart from that, I visited Cook/Douglass Recreation Center quite frequently to swim after long hours at the lab, and was a regular at Efes Mediterranean Grill in New Brunswick for a satisfying meal.

On her next steps:
We are in the process of adding a new production line and hope to expand our markets internationally. Also, we are looking to start a noodle café chain.

On Rutgers pride:
The diverse and respectful experience at Rutgers has definitely prepared me to face the real world. My interactions with fellow students from all over the world really taught me to respect other voices but at the same to find my own; and the experience in navigating a complex environment taught me to become a resilient individual. All of those combined have stirred my inner passion, and always remind me how I can contribute more to society.

Marisa Caipo  
GSNB’99, Food Science

Since 2011, Marisa Caipo has worked for the Food and Agriculture Organization of the United Nations, providing scientific advice and overseeing regional food safety and quality. Currently, she is located at the regional office for Latin America and the Caribbean.

On her Rutgers experience:
It was trial by fire. We were told that when we stood before our department for our grad seminars, our audience would be the most difficult. If we passed, we would be able to speak in any venue, to anyone. This holds true for me. The first time, around 2005, at WHO headquarters in Geneva, I remember looking at this famous round room with the flags, and not believing I was actually giving a presentation there. There is no doubt in my mind that the graduate education I received at Rutgers gave me the tools to take on the challenges to perform my current activities.

On her Rutgers mentor:
My advisor, Dr. Don Schaffner, was pivotal to my future steps. I am a better manager because I had a very good adviser. But, you also learn from those who give you a hard time. There were a few of those during my Ph.D. studies. And I am grateful to both: to my adviser for his support and for his example in leadership and to the others, for showing me that there are different views to be assessed, understood, and addressed.

On campus memories:
Our lab group was very eclectic. We were all from different countries, and most of us were left-handed, like Dr. Schaffner. What is the probability that you would have all lefties in a group?

On her next steps:
Currently, I have joined forces with a young food safety colleague at the World Food Programme to put together a regional capacity development plan in food safety for Latin America, outside the urban areas. Soon, I plan to travel to a small town called Gracias a Dios, in the Honduran jungle, to map food safety risks along the supply chains for school feeding programs. You can only get to this place by small aircraft or boat; there are no roads. After FAO, I am thinking of going back to academia. I really believe students could benefit from my experience and knowledge acquired over the years, working with different countries.

On Rutgers pride:
The knowledge acquired, the industry experience around Rutgers, the multicultural atmosphere, the top-of-the-line research facilities and professors—I wouldn’t be able to pinpoint one thing, it was altogether a wonderful experience. Even now, I usually get, "Wow! You’re from Rutgers Food Science! You guys are famous for winning the best grad research awards!" In my time, I made the finalist list for Grad Paper Competition, too. I am very proud to be a Rutgers Food Science graduate!
Tracy Anthony
Faculty Support

Who comes to mind when you picture an SEBS supporter? Likely, you imagine an alumnus, and you wouldn’t necessarily be wrong—SEBS alumni make up an invaluable part of the Rutgers network. But the truth is that friends of the school also include neighbors, students, community groups, family and, yes, faculty and staff. Tracy Anthony, professor in the Department of Nutritional Sciences, explains why Rutgers and SEBS get her support.

Q: What is your connection to Rutgers?
A: I am not a graduate of Rutgers, but my father is. He received a master’s degree from Rutgers back in the mid-1970s. Back then, we lived near Chicago and he conducted his education mostly by correspondence, without the help of computers or the internet. I remember as a young child watching him spend long hours writing his thesis by hand! The pride he felt toward Rutgers made a lifetime impression upon me. So when, as an adult, the opportunity arose for me to join the Rutgers faculty, I jumped willingly.

Q: How does giving to Rutgers help you meet your philanthropic goals overall?
A: My own life philosophy subscribes to ideals as articulated in scripture: Give, and it will be given to you (Luke 6:38). But why Rutgers? Why my employer? Essentially, giving effectuates my commitment to my work environment. It establishes a state of mind: I am personally invested in making this place, my workplace, better in a broader, more general sense.

Q: Why target your giving to the nutritional sciences program, specifically?
A: My department manages the second largest undergraduate degree-granting program in SEBS, and we produce top-notch dietitians as well as qualified nutritionists who go on to pursue graduate or medical education, or work in a variety of careers in government, in industry, and in the community at large. Every one of my departmental colleagues works extremely hard to deliver a world-class education to our students.

I also would not be where I am in my own career without the support of my Rutgers colleagues. There is no more tangible way to demonstrate my gratitude and my support than to give back so that students and fellow faculty may enjoy greater opportunities for growth and development.

Q: Why is giving back to institutions of higher education important to you?
A: I am not a Rutgers alumna, but I do give to my alma mater. You don’t have to “give back,” per se. I would instead offer a different perspective, to see giving as creating the future, a future with opportunities never imagined yesterday or perhaps even today. I’ll also emphasize that the act of giving is magical, no matter when and no matter the amount.

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The Rutgers University Alumni Association welcomes news about your professional accomplishments and personal milestones. Submit your information at ralumni.com/mynews on the web, send it to your class correspondent listed in the Class Notes section of Rutgers Magazine, or drop a note via postal mail (Rutgers Alumni Communications, Rutgers, The State University of New Jersey, 7 College Avenue, New Brunswick, NJ 08901-1280). Ag, CAES, Cook, and SEBS news will be posted and indexed at discovery.rutgers.edu.

Morton Rosenberg AG’38, one of the remaining survivors of the Class of 1938, continues in good health, but his wife’s health has made heavy demands on his time. This report came from Class of 1938 correspondent John Cook ED’38 (aeranj@optonline.net).

Rich Snethen AG’43 and Bill Suter AG’43 served on their 75th reunion organizing committee.

Class of 1955 correspondent Robert McBride RC’55 (mojomom@surewest.net) shares that class vice president Gordon Macdonald AG’55, GSNB’58,61 passed along a letter from the Rutgers University Foundation that listed the three recipients of the Class of ’55 Endowed Scholarship. Thanks to all of the classmates that have contributed to this support. Robert also shares updates on three of his other classmates. Rudy Ruedemann AG’55 and his wife, Ruth, live in northeast Pennsylvania on a tree farm that has been in his family since 1820. They see Gordon and class president Jack Witemeyer AG’55 occasionally.

Gordon Jewett AG’55, lives in Cincinnati and is proud of his eight grandchildren. He and his wife June are happy in their surroundings with lots of friends from church and their community.

Len Levy AG’55 majored in horticulture. He went all the way to Oregon before finding his first love, then moved back to New Jersey to join his father in the wholesale floral industry. He’s been at it now, with help from his sons, for over 60 years.

Michael Retz AG’57 shares that two weeks after graduation he was in Pensacola, FL learning to fly. Eighteen months later, he received his “gold wings” and joined HS-3, an antisubmarine warfare helicopter squadron in Norfolk, VA. The next 20 years included 250 combat flights in Vietnam and he was awarded a Distinguished Flying Cross. He returned to Southeast Asia in 1975 to participate in the evacuations of Phnom Penh, Cambodia, and Saigon. He flew both single-engine and multi-engine fixed wing aircraft and eight different models of helicopters. He has been happily married to Rachel for 60 years. They have six children, 14 grandchildren, and one great-grandchild.

He retired as a Navy commander before returning to his home in San Diego, CA. He loves the weather in San Diego. With the GI Bill, he acquired a degree in landscaping and went into business until retiring at age 62. Retirement is spent volunteering for many civic activities. This report was submitted by Class of 1957 correspondent Harold Kaplan RC’57 (hjk@ufg-lease.com).

Jon Rodiek AG’65 updated his Fiji brothers on the bravery and courage of fellow brother Marty Flickinger RC’65, who passed away seven years ago after succumbing to the effects of Agent Orange. This report was provided by Class of 1965 correspondent Chuck Hennings RC’65.

1974 class correspondent Rick Stier AG’74 (rickstier4@aol.com) shares that he toured the wine country along the Moselle River in Germany in July: wonderful Rieslings, food, and

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**School Abbreviations**

AG College of Agriculture . CC Cook College . CCAS Camden College of Arts and Sciences . CLAW School of Law—Camden

DC Douglass College . ED School of Education . EIB Edward J. Bloustein School of Planning and Public Policy . ENG School of Engineering

GSAPP Graduate School of Applied and Professional Psychology . GSC Graduate School—Camden . GSE Graduate School of Education

GSM Graduate School of Management . GSN Graduate School—Newark . GSNB Graduate School—New Brunswick . LC Livingston College

MGSA Mason Gross School of the Arts . NCAS Newark College of Arts and Sciences . NLAW School of Law—Newark

NUR College of Nursing . PHARM Ernest Mario School of Pharmacy . QC Queen’s College . RBS Rutgers Business School—Newark and New Brunswick . RC Rutgers College . RWJMS Robert Wood Johnson Medical School . SAS School of Arts and Sciences . SB School of Business . SBC School of Business—Camden . SC&I School of Communication and Information . SCLIS School of Communication, Information and Library Studies . SCI School of Criminal Justice . SEBS School of Environmental and Biological Sciences

SMLR School of Management and Labor Relations . SNC School of Nursing—Camden . SPAA School of Public Affairs and Administration

SPA School of Public Health . SSW School of Social Work . UCC University College—Camden . UCJC University College at Jersey City

UCN University College—Newark . UCNB University College—New Brunswick . UCP University College at Paterson
countryside. The tour was done by car and bicycle.

Robert Williams CC’75 wrote to inform us that he was recently awarded the Consulting Forester of the Year Award by the Forest Landowners Association, a national organization of landowners who are stewards of America’s private forests. Williams is the President of Pine Creek Forestry, LLC, a New Jersey-based forest consulting firm.

Anthony Caruso CC’82 is with the Business Law Practice Group at Norris McLaughlin & Marcus and chairs the firm’s Sports and Entertainment Law Group.

Oscar Morera CC’84 is head of operations for the Premier Executive Leadership Program at Johnson & Johnson.

Kip Koelsch CC’88 published his first novel, Wendall’s Lullaby (Amazon Digital Services, 2017), an eco-thriller that pits the rescue of hundreds of dolphins against homeland security interests.

Scott L. Shapiro CC’90, an attorney with Downey Brand, was named a 2017 Top Lawyer by Sacramento Magazine.

Kelli Calabrese CC’91 is the co-author of Mom and Dadpreneurs: Strategies, Stories, & Tips from Super Achievers in Family and Business (Lessons From, 2017).

Class of 1993 correspondent Ronald Gellert RC’93, CLAW’97 (rgellert@gsblaw.com) reports the following: “...we have a really wonderful example of how great our class is.” Darcy (Velcheck) Medica CC’93, GSNB’96, ’02 graduated from Cook College in 1993 and subsequently received her master’s and doctoral degrees in animal sciences from Rutgers. Darcy was promoted to chancellor of Penn State’s Schuylkill campus. I believe her first agenda item is to franchise our grease trucks for her campus. (Maybe not.) Prior to that position, Darcy was the director of academic affairs at the Schuylkill campus. She seems to have a million other roles and activities, which I’m sure will go into her autobiography someday! Congrats, Darcy!

Tricia Fragale CC’96 and Thomas Buchanan RC’97 opened an environmental consulting firm, T&T Environmental, in Succasunna, NJ.

Christopher T. Martine CC’96, GSNB’01 received the Peter Raven Award from the American Society of Plant Taxonomists. He is the David Burpee Chair in Plant Genetics & Research and the Director of the Manning Herbarium at Bucknell University.

Adam Christman CC’00 shares the following with us: “I am now the co-chief of staff of my veterinary hospital where I was a veterinary technician while at Rutgers. I am now a co-author of a book and the host of the talk show “The Adam Christman Show” online. I was recently inducted into my high school’s (Brick Township High School) Hall of Fame for all my achievements and success in closing down two puppy mill stores in Brick over the past five years. And I am also an adjunct professor at Ocean County College teaching human anatomy and physiology as well as the veterinary assistant course.”

Svetlana Ros CC’03 is an attorney with the Healthcare Law Practice Group at Norris McLaughlin & Marcus in Bridgewater, NJ.

Ariana Tsiattalos SEBS’12 is a wetlands scientist for the New Jersey Department of Environmental Protection.

Harsh Chandarana SEBS’13 heads his family firm in India, Raghuvanshi Exports, which manufactures and exports authentic Indian snacks.

Ryan W. Koch SEBS’15 recently earned his master’s in parasitology at Oklahoma State University. He has been accepted into the Ph.D. program in the Integrative Biology Department at OSU where he is attempting to elucidate the life cycle of a cryptic parasite in turtles and snails.

Also at OSU, Ryan received the Outstanding Master’s Student Award and was accepted to Phi Kappa Phi, an honor society for academic performance. He is currently serving as president of the Zoology Graduate Student Society.

Jackson Fenner SEBS’16 is a formulation scientist at Symrise Inc. in Teterboro, NJ.