

SCIENTIA

A publication for College of Science and Health alumni

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CSH students and faculty came together on Earth Day for the world's largest March for Science. Read more on page 6.



Fall 2017

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TRIED AND TESTED

Quiz bowl assesses students' public health knowledge

With hands poised over buzzers, the members of DePaul's Public Health Scholar Bowl team waited in anticipation as a Saint Louis University graduate student prepared to ask the first question. What he could ask was practically limitless: How did chopsticks prevent the spread of communicable diseases in China? Why isn't it recommended for babies to consume honey during their first year? What are the symptoms of clinical depression?

"I was definitely really nervous, but we had practiced a lot and, of course, I had spent the past four years stocking up on public health knowledge," says Hope Herten (CSH '17), who majored in health sciences with a concentration in public health. "I was also excited to meet students from other schools and see how we fared as a new competitor."

The team of seven, coached by Teaching Assistant Professor Michele McCay and Associate Professor Douglas Bruce, placed seventh out of 12 teams overall in their debut competition, held March 31–April 1 in St. Louis. During the quiz bowl portion, they won three out of four rounds, including beating the 2016 overall winner, the University of Alabama at Birmingham, and the host university.

To prepare for the bowl, the students met weekly in a two-credit class, where they reviewed material, discussed current issues in public health, gave presentations and practiced their buzzer skills. "My public health, microbiology, biostatistics and chemistry courses all helped me

in some way," says Alexis González, a senior majoring in health sciences with a concentration in medical biosciences. He went back over his notes from those courses and also used the Centers for Disease Control and Prevention's health apps to deepen his knowledge.

Like González, Herten was pleasantly surprised to discover how much she had retained from her CSH courses. "During the competition, I recognized the majority of the questions and could even recall which class I had learned the material in," she says. "I liked being in a situation where I had to source knowledge from nearly every major class I had taken."



Herten asserts that the team's success wasn't simply the result of long hours of studying and practice. Rather, their collective strength came from a diversity of interests and abilities. "Each member of our team brought their own area of expertise," Herten explains, noting that business backgrounds, foreign-language skills and varied concentrations helped make their team unique. "The bowl showed me that in order to accomplish anything in public health, we can't rely solely on our own knowledge and skills."

This collaborative approach also enhanced the team's overall confidence. "When we came together as a team, we realized how prepared we were and we started winning our rounds," González says. "It showed me once again that DePaul is filled with amazing individuals who always bring out the best in one another."

While Herten won't be on the team next year, having graduated in June, she couldn't have asked for a better way to wrap up her undergraduate career. "Participating in the scholar bowl definitely reaffirmed my conviction that majoring in health sciences at DePaul was an amazing decision," she says. "This experience demonstrated so many aspects of DePaul that I love so much: the high-quality education, access to diverse perspectives and an emphasis on social justice and teamwork."

Selfless SERVICE

Aspiring nurses launch community-based projects through Schweitzer Fellowships

School of Nursing students Maryclaret Ndubuisi-Obi and Christina Ebertsch were among 30 Chicagoland graduate students selected for the competitive Schweitzer Fellowship, a yearlong service-learning program. Both Ndubuisi-Obi and Ebertsch are pursuing Master's Entry to Nursing Practice degrees. Learn more about their Schweitzer Fellowship projects below.

BUILDING HEALTHY HABITS

In every place she's lived, including Nigeria, Ethiopia and the South Side of Chicago, Ndubuisi-Obi has made it her mission to understand the local population. So when she moved to a predominantly Latino community in Waukegan, Ill., Ndubuisi-Obi immersed herself in neighborhood life. "I learned from community members that health disparities in minority populations are highly complex and multifaceted," she says. "Many people couldn't navigate health care resources and services due to the language barrier and a lack of understanding of the health care system."

Other barriers to healthy living were also affecting her neighbors. "Some were overwhelmed by the stressors of life and didn't have a healthy way to release stress," Ndubuisi-Obi says, pointing to anxiety over immigration policies as one lingering concern. "They also refrained from participating in physical activities like walking because they feared for their safety and faced a lack of social support."

All of these issues are addressed through Ndubuisi-Obi's project, which draws on the resources of Roberti Community House, Lake County Forest Preserves, the Lake County Health Department, the Waukegan Park District and Rosalind Franklin University of Medicine and Science. Open to Latina women and their children, her initiative offers regular exercise sessions, meditation,

bilingual guided nature walks and free health screenings. The latter incorporates workshops on chronic illnesses to help bridge the gap between health literacy and access. "I want to empower this community to take charge of their circumstances and actively participate in improving their overall health," Ndubuisi-Obi asserts.

A COMMUNITY OF HOPE

Ebertsch's project also developed out of personal experience. Like many, she has watched close friends and family members struggle with, and in some cases succumb to, cancer. "One of the overarching goals of my program is to provide hope," she says. "We want to let patients know that they are not alone during this process."

In tandem with Phil's Friends, a Christian nonprofit, Ebertsch leads weekly cancer support groups at Rush University Medical Center. The sessions are open to any cancer patient in the hospital's outpatient waiting room, and every participant also receives a small care package.

Each session focuses on a certain topic, such as nutrition, depression, family support, self-esteem or mindfulness, and includes an activity. "For example, we might make ornaments or decorate cookies during the Christmas season," Ebertsch says. "The activities serve as an outlet and enable patients to remain present in the discussions as much or as little as they desire."

Ebertsch emphasizes the need for compassion when working with this vulnerable population and says that her studies at DePaul have helped her develop communication skills, empathy and a better understanding of the patient-provider relationship. "These patients are facing one of the biggest challenges of their lives," she notes. "It's my privilege to be there for them."



Postcards from Abroad

Students expand their worldviews during whirlwind study abroad programs

Chatting with a Czech midwife at a birth house. Conducting experiments with Spanish researchers. Making dumplings with Chinese students at Weifang Medical University. Mucking around in an Irish bog.

Snapshots from CSH study abroad programs reveal the depth and breadth of these programs, which are jam-packed with cultural and educational experiences. Offered during the winter intersession and summer breaks following required associated courses, the two-and-a-half-week programs give busy students an opportunity to travel abroad without missing out on critical labs or coursework. The shorter duration of these programs also means they're more affordable than semester- or quarter-long sessions.

Students return to the states with altered perspectives, enhanced skills and new friends. Below, they share memories of these remarkable experiences.

PSYCHOLOGY IN CONTEMPORARY CHINA

Beijing, Hong Kong, Qingdao, Weifang | Winter 2016

Led by Associate Professor Yan Li and Emerita Professor Karen Budd

HIGHLIGHTS: Visited three universities, attended five guest lectures from leading psychology researchers, conducted interviews and surveys for research projects, conversed with Chinese students, visited a high school and elementary school, saw cultural and historical places (including the Great Wall of China, Forbidden City, Ten Thousand Buddhas Monastery and Mount Lao)

POSTCARD: "In addition to being challenged in a new environment while conducting my research, I was able to make amazing lifelong connections. The cultural immersion allowed me to achieve a deeper understanding of the world and appreciation of the cultural differences among us, as well as how they shape our lives. I was able to experience the constantly evolving field of psychology from the perspective of a country where the study of applied psychology is still fairly new. It was very exciting to see how the Chinese students were brimming with ideas and prospects about the future of applied psychology and becoming part of a growing field." –Julia Huk, health sciences major



FROM ATOMS TO ECOSYSTEMS, SCIENCE IS GLOBAL

Cádiz, Spain | Summer 2017

Led by Associate Professor Jason Bystriansky and Assistant Professor Kyle Grice

HIGHLIGHTS: Conducted research in laboratories and at field sites on the coast, toured the marine sciences and chemistry facilities at the University of Cádiz, visited a salt-production site, watched the procession of the Virgen del Carmen, explored Cádiz, sampled local delicacies at the farmers market

POSTCARD: "I had never left the country before, nor had I done a research project on my own like what was being offered. The trip was unique from a cultural perspective, but it was also probably the most useful application of knowledge and problem-solving skills I have experienced in college. For my experiment, I took tissue samples from mussels and clams and assessed their glucose and lactate levels in response to oxidative stress. It was very cool to think of how research progresses over time." –Will Sassack, health sciences major



SCHOOL OF NURSING CZECH REPUBLIC STUDY ABROAD PROGRAM

České Budějovice, Prague and Strakonice, Czech Republic; Vienna, Austria | Winter 2016

Led by Clinical Assistant Professor Linda Graf and Clinical Associate Professor Ron Graf, associate director, Doctor of Nursing Practice Program

HIGHLIGHTS: Toured hospitals and a home for the elderly, attended presentations from health care representatives, visited Hrdlicka Museum of Man at Charles University, enjoyed a brewery tour and tasting, splurged at Christmas markets, gave presentations to Czech nursing students, explored castles and cathedrals

POSTCARD: "During undergrad, I was unable to study abroad due to financial constraints and working full time, so this graduate program caught my eye. It was an opportunity to step outside my comfort zone and practice cultural awareness, which is emphasized in nursing care. I enjoyed visiting health care facilities, learning how the Czech health care system functions and seeing how resourceful nurses can be! Hearing nurses speak so warmly about their patients and passionately about their profession reaffirmed my own career path." –Brenda Pacheco, Master's Entry to Nursing Practice program

IRELAND: ECOLOGICAL EVALUATION AND CONSERVATION OF CULTURAL LANDSCAPE

Doolin, Dublin, Killarney, Letterfrack, Wicklow | Summer 2017

Led by Professor and Department Chair Liam Heneghan and College of Liberal Arts and Social Sciences Associate Professor Hugh Bartling

HIGHLIGHTS: Hiked through Irish national parks, heard talks from wildlife experts, observed nature in Irish cities, conversed with prominent writers, listened to traditional music, visited cultural and historical sites (including Ashtown Castle, Clonmacnoise monastery, St. Kevin's Bed and a portal tomb)

POSTCARD: "I signed up for this program because I love being outdoors, plus I was interested in what Ireland prioritizes in regards to nature and conservation. My biggest takeaway was that conservation is essential to maintaining ecosystems in a changing environment. Although we tend to think of parks as natural, there are people behind the scenes maintaining the ecosystem's balance by removing invasive species, planting native species, creating paths and so on." –Alicia Kirby, environmental science major





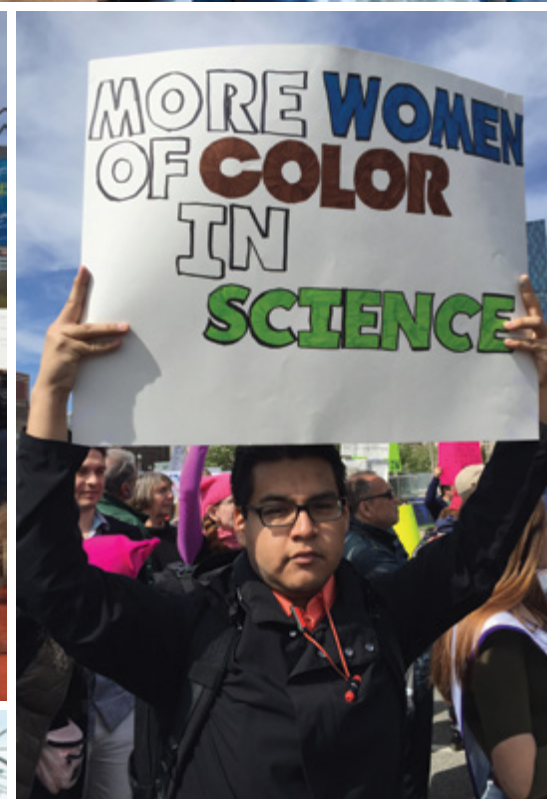
WHY WE MARCHED

STUDENTS AND FACULTY RALLY IN SUPPORT OF SCIENCE

With homemade signs held high, CSH students and faculty joined a crowd of roughly 60,000 to show their support for all things science on Saturday, April 22. Chicago's March for Science, the largest of more than 400 associated marches around the world, gave participants an opportunity to demonstrate in favor of science education, policy, research and related endeavors. "I marched because too often scientists' voices aren't heard in politics or by the public," says Miss Illinois Earth 2017 Taylor Mitchell, a graduate student in biological sciences. "I marched to raise awareness that scientific research is important and that our voices should be heard."

CSH was an official sponsor of the local march, and the student organization DEEP (DePaul Ecology, Evolution and Physiology) hosted a poster-making session on April 21. DEEP member Franklin Joaquin, a senior majoring in biology with a concentration in ecology and evolution, marched because "science is under attack ... it's being portrayed inaccurately, especially when it comes to climate change." Fellow biology student Melina Kanji also emphasized evidence and facts, noting that scientific findings have allowed us to learn about and steward our world. "I marched because I wanted to feel the positive energy that comes from people who are passionate about helping to make the world a better place to live," she adds.

For Vincent de Paul Professor Dorothy Kozlowski, the benefits of science are innumerable. "I marched because science is involved in all aspects of our lives, from the food we eat to the medicines we take to the ways in which we entertain ourselves and communicate," she says. "To minimize or ignore advances in science is detrimental to our society and our country." Or, as a student's poster depicting Earth succinctly proclaimed, "We only got one."



EDUCATION EXTENSION

CSH FACULTY SHARE THEIR EXPERTISE WITH CHICAGO'S SCHOOLS

The ties that bind DePaul to Chicago and vice versa stretch back decades. As an urban university with a Vincentian heart, it's no surprise that faculty members often collaborate with other educational institutions throughout the city. "I feel privileged to live in a great city like Chicago," says Margaret Silliker, professor. "If I have a skill that could be helpful to my community, what a pleasure to be able to contribute!" Silliker's passion is echoed in the actions of her colleagues who volunteer their time and energy to support the next generation of scientists and mathematicians.

ALL'S FAIR IN MATH AND SCIENCE

Silliker recently judged a local science fair, where she encountered quite a few bright minds. "I was very impressed by the apparent push toward quantitative data and the students' understanding of the importance of replicates," she says. "I was reminded that a creative scientific mind can do very good science with modest materials."

This attention to detail and rigor is perhaps even more notable due to the ages of the students: these were middle schoolers at the Audubon School in Roscoe Village on Chicago's North Side.

Meanwhile, Assistant Professor Sarah Connolly has served as a volunteer science fair judge for the past five years at her alma mater, Lincoln Park High School. Though her conversations with each participant are brief, Connolly strives to create meaningful connections. "For the students who appear to be the most capable in their presentations, I push the questions to a higher level," she explains. "For the students who are less sure of their projects, I ask questions that make them think, but I don't push them so far that they get discouraged."

Connolly says the students are excited to interact with a "real-world" scientist. "Reaching out to the community helps



Assistant Professor Kyle Grice (right) with teacher Mina Rodriguez and chemistry students.

demonstrate that careers in science are attainable and that scientists are everyday people," Connolly says.

COACHING INDEPENDENCE

Athletic teams have coaches, so why not science classrooms? Assistant Professor Kyle Grice is in his third year as an American Chemical Society science coach at DePaul College Prep, where he guides students in Mina Rodriguez's International Baccalaureate chemistry course as they pursue independent projects.

"I work with students to think about what kinds of tools they have available and how they can ask their research question and go about testing it," Grice says. "Mina and I can't tell them what to do their project on, but we can help them to focus and develop it."

While the students are eager to learn, their class periods are only 50 minutes, which can be limiting. "At DePaul, we have 3-4 hour labs, so we have students doing multicomponent experiments and diving deeper into topics," Grice notes. "This experience has given me a better

understanding of what to expect from first-year general chemistry students."

MIND THE GAP

"Our overarching goal is to strengthen math and science teaching in order to increase student achievement while decreasing the achievement gap in these subjects," says Professor Lynn Narasimhan, director of the STEM Center. Housed in CSH, the center conducts community outreach through a number of initiatives. Two of the center's standout programs include Leading With Algebra, which brings together math teachers from Chicago Public Schools to collaborate on issues related to algebra teaching and learning, and Math Circles of Chicago, which unites fifth- through 12th-graders across the city to tackle novel mathematics after school or on Saturdays.

All told, nearly 500 Chicagoland students participate in interactive math sessions each year, and 150 middle and high school math teachers attend quarterly workshops. Since 2012, the center has offered professional development for 300 math teachers and 50 science teachers.



Chicago Mayor Rahm Emanuel with Linda Boasmond at the groundbreaking for Cedar Concepts' second facility.

FROM THE GROUND UP

ALUMNA PAVES THE WAY IN THE CHEMICAL MANUFACTURING INDUSTRY

Linda Boasmond (CSH '98) seemed born to science. As a child, she adored her microscope and chemistry set, so it wasn't a surprise when she enthusiastically explored science courses at DePaul. She enjoyed dramatic physics experiments and dabbled in premed but ultimately decided to major in chemistry. Boasmond also exercised her curiosity in other, more surprising ways, such as by conducting a self-designed tour of manufacturing facilities across the country, including those of The Hershey Company, Ocean Spray and Rubbermaid. "I would go anywhere to see how they made things," she says.

Thus, the foundation was clearly in place for Boasmond to attain her current position as president of Cedar Concepts Corporation, a Chicago-based chemical manufacturer. Boasmond didn't necessarily aspire to an executive-level role, but as she moved up in the industry, her father's words were always with her: "Whether you're the president or sweeping the floors, make sure you're the best at it."

Boasmond was the first female partner at Cedar Concepts, and she became the sole owner in 2004. The company makes surfactants, lubricants and chemical intermediates for major corporations

such as Procter & Gamble, Clorox, Citgo and Boeing. Cedar Concepts products can be found in shampoos, lotions, makeup and laundry detergent; they are also used to fight fires, drill for oil and manufacture airplane parts, among other uses. With just under 40 employees, Cedar Concepts isn't one of the largest chemical manufacturers, but they are mighty, shipping nearly 70 million pounds of product annually.

In 2014, the company decided to expand. "The original plant was at capacity," Boasmond explains. "If we wanted to take the business to the next level, we needed more space." There was never any question in Boasmond's mind where the new facility would be located. "I love Chicago—it's where I grew up, it's where I was educated," she says. "The people here have supported me, and I wanted to see good things happen in this city."

The second manufacturing plant opened in the South Side's Back of the Yards neighborhood and earned LEED certification from the U.S. Green Building Council, reflecting Boasmond's belief in sustainability. She still gets chills thinking about the day the plant opened; she says it was one of the most monumental days of her life.

Boasmond does her part to get involved in the wider community in other ways as well. She serves on several boards, including the Illinois Manufacturers' Association and Girls 4 Science. The latter brings Boasmond back to her childhood. During six-week sessions at three different sites throughout Chicago, hundreds of young women ages 10 to 18 explore electricity, medical science, physics and other subjects.

Seeing these budding scientists makes Boasmond excited for the future. She looks forward to a day when she won't be the country's only African-American owner of a chemical plant. "If you are a young woman, especially a young woman of color, you're going to face additional challenges in this field," she attests. "You have to stay focused, persevere and be passionate."

It's advice that Boasmond herself continues to follow. "I don't think of myself as successful yet," she says. There are many things still on her to-do list, both in terms of strengthening the nation's manufacturing base and combating gender and racial stereotypes. "My husband says it's really hard to say 'no' to me," Boasmond laughs. "I'll just keep trying until I get the 'yes.'"

LAB NOTES



NEWS FLASH

- Professor Liam Heneghan, department chair for environmental science and studies, received a Protector of the Environment: Educator award from the Chicago Audubon Society.
- Associate Professor Matthew Sorenson was appointed director of the School of Nursing in March.
- Chemistry student Cesar Saucedo won first place in the oral presentations category at the Louis Stokes Alliances for Minority Participation Spring Symposium and Research Conference in STEM.
- Recent recipients of CSH awards include Professor LaVome Robinson for Excellence in Research and Professor Suzanne Bell for Mid-Career Excellence in Research.
- The chemistry department purchased a LC-MS spectrometer in response to increasing industry expectation for graduates to receive training in modern instrumentation.

- 1 This summer, CSH bid adieu to a beloved staff member as she headed off to a well-deserved retirement. Lucinda Rapp worked at DePaul for 32 years, first in the psychology department and then as Dean Gerry Koocher's executive assistant. Throughout her tenure, she touched the lives of countless students, alumni, faculty and fellow staff. Earlier this year, Rapp received the Via Sapientiae Award, the university's highest honor, in recognition of her outstanding contributions to DePaul.
- 2 On Wednesday, Oct. 4, A. Gabriel Esteban, PhD, DePaul's new president, joined CSH faculty, staff and students for a welcome celebration. Dr. Esteban most recently served as president of Seton Hall University in South Orange, N.J., before becoming DePaul's first lay president on July 1. Photo credit: DePaul University/Jamie Moncrief.
- 3 Associate Professor William Gilliland held a plant sale to raise funds for the Howard Area Community Garden, a nonprofit that provides growing space for low-income gardeners in Chicago's Rogers Park neighborhood. The biology department allowed Gilliland to grow the plants—more than 1,000 in total—in an unused section of the college's greenhouse. Gilliland raised approximately \$1,000 for the community garden.

- 4 Three recent CSH alumni who participated in the McNair Scholars program at DePaul received fully funded packages to pursue their PhD studies this fall. The McNair Scholars program is a federal TRIO initiative designed to prepare underrepresented groups, including low-income and first-generation students, for doctoral study and faculty careers. Clinical psychology students Yvita Bustos (CSH '16) and Jazmin Lara (CSH '17) are attending Loyola University Chicago and Utah State, respectively, while Ulises Espinoza (CSH '16) is enrolled in a biological anthropology program at UCLA.
- 5 Deacon and Vincent de Paul Professor Joe Ferrari organized the 10th Biennial Conference on Procrastination Research, which was held July 13–14 at DePaul's O'Hare Campus. The conference brought together scholars from around the world to present and discuss their procrastination-related research in various subfields of psychology. Thankfully, the speakers themselves did not seem prone to procrastination; the conference, quipped Dean Koocher, "started right on time."

A Resume of Science and Service

Dallas native Rachel Pride came to DePaul after briefly studying musical theatre at a university on the East Coast, and one university's loss was most certainly another's gain. Now a senior, Pride has taken on myriad leadership roles that have impacted DePaul and the wider community in countless unquantifiable ways.

What *can* be quantified, however, is the number of degrees, concentrations and minors Pride is pursuing, which currently stands at five. She's a neuroscience major with a concentration in cellular and molecular neuroscience, as well as a triple minor in biological sciences, psychological research methods and public health studies. While this academic course of study seems quite distant from musical theatre, it similarly reflects Pride's interest in tackling the complexities of the human experience.

Pride became one of the first neuroscience majors at DePaul when the degree was introduced last year, and she quickly took charge of rebooting the Neuroscience

Club. She now serves as co-president. "It's been fun to bring relative strangers together over a common interest," she says. "We get to nerd out together."

Apart from the club's meetings, Pride's calendar is packed with other extracurricular activities. She works as a research assistant in Professor Gregory Kharas' organic polymer lab, serves as a supplemental instruction leader for the general biology sequence, volunteers twice weekly at Lurie Children's Hospital ("almost always the highlight of my week"), holds both community director and cast member positions with DePaul's "The Vagina Monologues," and oversees DePaul's chapter of the social development and health organization Global Brigades as co-president. Plus, she's a member of Psi Chi, the psychology honor society, and Alpha Phi Omega, the national service fraternity.

Pride shared her views on service during the 2017 TEDxDePaulUniversity conference.

Her talk, "Courage to Disconnect," was inspired by the realization that she spends "an embarrassing amount of time on social media apps." She challenged the audience to unplug from social media for just one hour each week to serve their communities. It's certainly a tenet she'll carry forward into her own life. Looking ahead, Pride hopes to one day obtain another degree—an MD—and join Doctors Without Borders, an international humanitarian organization that perfectly aligns with her passion for science and service.

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Save the Date for

BLUE DEMON WEEK!

Feb. 18–24

This annual celebration of all things DePaul brings together alumni, students, faculty and staff. Mark your calendar for an alumni reception on Saturday, Feb. 24, **Blue Demon Day**, before watching the men's basketball team take on Marquette University at 11 a.m. CST. Alumni outside Chicago can get in on the action with game watches in select cities.

The **Blue Demon Challenge** will be held Thursday, Feb. 22. Show your DePaul pride by making a gift of any size to any area of the university during this annual one-day giving challenge. Your participation will help ensure our success!

Stay tuned for more information.