

SCIENTIA

A publication for College of Science and Health alumni

DEPAUL
UNIVERSITY
COLLEGE OF SCIENCE AND HEALTH



Professor Mark Potosnak (center, right) advocates for the environment as a Catholic Climate Covenant ambassador. See page 5.

Spring 2020

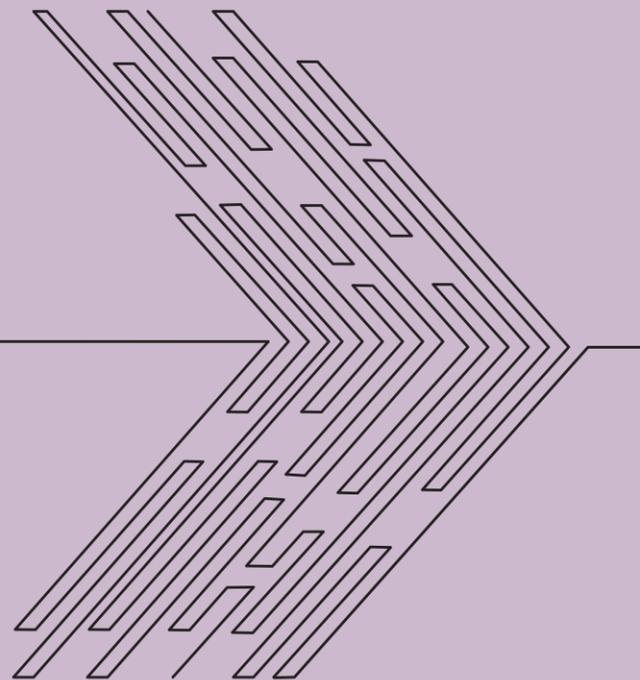
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FORWARD MOTION



experiences such as laboratories and clinicals have also transitioned to remote learning—no small feat! Our college has assisted the COVID-19 response by providing faculty expertise to the conversation as well as donating personal protective equipment to local hospitals and clinics. I am grateful to be part of this innovative, caring and resilient community, which includes the support of countless alumni. Despite the challenges we face, our Vincentian mission to serve others has never been more focused and inspiring.

On a broader scale, we're pleased to share with you our strategic plan on the opposite page. More than 50 faculty and staff members representing all of the departments, centers and programs in the college participated in three full days of retreats and countless meetings over the last year to narrow down six priorities for our college to focus on and how we will accomplish them in the upcoming years. The goal was to consider how our college would help move forward DePaul University's strategic plan (offices.depaul.edu/president/strategic-directions/grounded-in-mission) while simultaneously focusing on issues salient to the specific needs of our college. On the opposite page, you'll find a summary of the fruit of our efforts, our strategic plan.

The pages that follow in this issue highlight ways in which faculty, staff, students and

alumni are already advancing our strategic priorities. We are proud to announce that LaVome Robinson and Leonard Jason, psychology professors who are collaborating on research aimed at reducing African American youth violence, are the recipients of the largest grant the university has ever received. Their work and the stories of students who benefited significantly from summer research experiences demonstrate our commitment to research and including students in these projects (priority 3). Our alumnus Dr. William McDade (CSH '80) and the STEM Center continue to examine how to make science and health more accessible to students from all backgrounds (priority 4). We welcomed new directors to begin the creation and accreditation of graduate programs in speech language pathology and occupational therapy (priorities 2 and 5).

These are just a few of the ways in which we are beginning to move our plan forward. This issue contains many more examples that I hope you will find inspiring. We encourage you to stay connected to learn how you might play a role. Additionally, I welcome your feedback and, of course, your support. Please contact me at dkozlows@depaul.edu with any ideas you may have.

Dorothy Kozlowski
Dorothy Kozlowski, PhD
Interim Dean

I hope this newsletter finds you all healthy and safe. At DePaul, our greatest priority is the health, safety and well-being of our students, faculty and staff during the global pandemic that has upended all of our lives. I am immensely proud of how quickly the College of Science and Health (CSH) and DePaul University pivoted to an extraordinary online learning environment to safeguard lives and still provide life-changing educations.

In addition to our lecture and discussion courses, our face-to-face learning

MAKE NO LITTLE PLANS

The College of Science and Health provides high-quality, personalized and accessible science and health education, grounded in the values of St. Vincent de Paul, to a diverse student body. Its teaching and research advance knowledge in service to society. These six priorities excerpted from our strategic plan show how the college is striving to strengthen that mission.



1 The priority: Expand, foster and celebrate diverse faculty and staff at all levels, with a focus on groups that are traditionally underrepresented in academia.

How we achieve it: Boost and share diversity, equity and inclusion metrics. Grow a faculty that thrives professionally while reflecting our student body's diversity.

2 The priority: Strengthen the quality of our graduate and professional programs to provide a high-quality student experience throughout the college.

How we achieve it: Raise visibility of graduate programs to showcase their value to undergraduate learning and training, faculty research and DePaul's mission and prestige. Increase financial support to graduate students for travel, research grants, tuition waivers, stipends and health insurance. Improve professional development opportunities. Strengthen mentoring relationships between graduate and undergraduate students. Grow graduate-program synergy at CSH and with other programs across the university. Increase CSH graduate student and alumni interaction. Enhance competitiveness of graduate students in career pursuits.

3 The priority: Support, enhance and communicate excellence in research by the CSH community as a whole.

How we achieve it: Support and enhance faculty, staff and graduate student research, and ensure research experiences are available to all undergraduate students. Market and communicate this multilevel research across DePaul and beyond.

4 The priority: Increase first-year and transfer student retention, and support a sense of inclusion, particularly among those who identify as students of color, first generation, low income and LGBTQIA+.

How we achieve it: Understand the perception of inclusivity among the aforementioned students. Establish a college-based, peer mentor training program for transfer students. Establish an early warning system that helps advisors engage with at-risk undergraduate students.

5 The priority: Expand CSH capacity and programs for students interested in health-related careers.

How we achieve it: Determine resource needs of all current health-related programs at DePaul. Define prospective health-related programs to diversify DePaul's portfolio. Increase capacity of pre-health advising.

6 The priority: Reconceptualize the STEM Center to support a community of practice among faculty, staff and students focused on STEM education and outreach.

How we achieve it: Create a STEM Center advisory committee consisting of faculty from all CSH departments and schools that will guide the center's activities. Redevelop the STEM Center's mission, priorities, goals, objectives and core activities.

PRINCIPLED PRESCRIPTION

WILLIAM MCDADE IS MAKING MEDICINE MORE DIVERSE NATIONALLY



One way to increase access and improve care “is to produce more physicians who are more likely to care for disadvantaged and minority individuals,” McDade explains. “Minority physicians are more likely to practice in these communities.”

After graduating from DePaul, he went on to earn PhD and MD degrees from the University of Chicago and did an anesthesiology residency at Massachusetts General Hospital under the auspices of Harvard Medical School. McDade was executive vice president and chief academic officer of the Ochsner Health System in New Orleans and deputy provost and associate dean of the University of Chicago’s Pritzker School of Medicine.

Graduating from high school at 15, he might have had his pick of universities, but he applied to only one. “DePaul was the closest of the great local universities that offered small classes, a variety of majors in the sciences and the preparation sufficient to allow me to pursue graduate-level training,” McDade says.

“I learned from faculty about the social conditions that lead to health disparities,” he explains. He and his chemistry research advisor at DePaul, the late Avrom Blumberg, “often had conversations regarding the impact of hypersegregation on the social determinants of health.”

McDade also appreciated the guidance of DePaul biology faculty members Robert C. Thommes and James E. Woods, and philosophy and religion faculty member Ben Richardson. The latter “was a wonderful influence in thinking about



the African American struggle and the importance of social factors and humanities in understanding the social condition,” McDade notes.

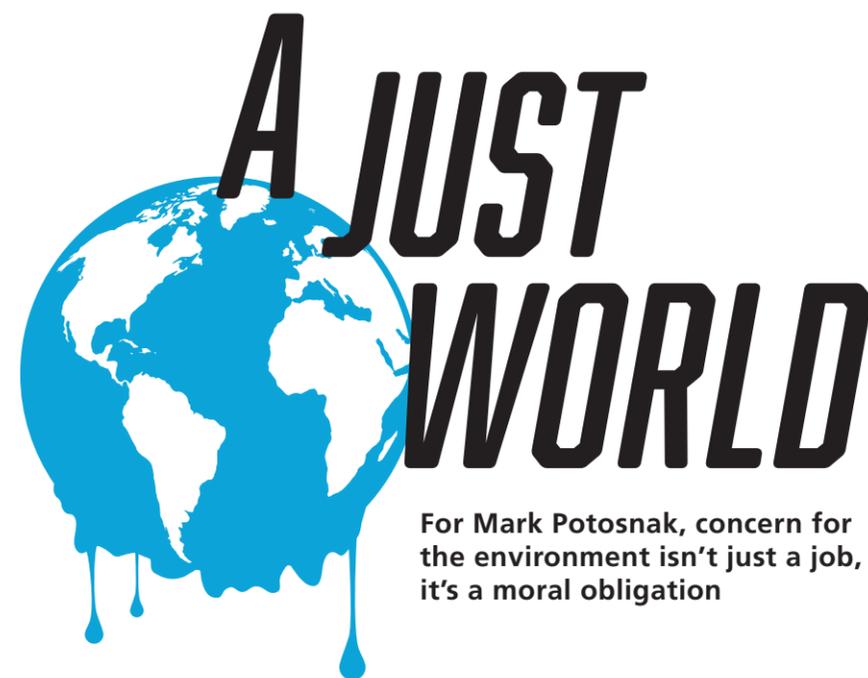
His time at DePaul was not all work, however. McDade roomed at Clifton Hall with Eugene Lenti (EDU '79), who served as DePaul’s women’s softball coach for nearly four decades until his retirement in 2018. The roommates enjoyed shooting free throws at Alumni Hall.

“Every now and then Coach Ray Meyer would look out from the deck, and I would be sure to concentrate just a little bit more,” McDade recalls. “I hoped I would be as tall as my 6’4” brother. It didn’t happen.”

The practitioner team at your medical facility is likely to become more ethnically and culturally diverse, thanks in part to Dr. William McDade (CSH '80). In March 2019, he became the first chief diversity and inclusion officer of the Accreditation Council for Graduate Medical Education (ACGME).

ACGME created the post to “lead the nation’s graduate medical education training programs in promoting diversity of residents, fellows, faculty and staff, and to make the medical education learning environment more inclusive,” he says.

Growing up on Chicago’s South Side, McDade “knew that in order to see my ophthalmologist, we needed to pack a lunch” because of the travel time. He noted that “there was little access to specialty care in my community.”



Nature has always been a big part of life for Mark Potosnak. He grew up in a log cabin in southern New Jersey, and some of his best memories revolve around hunting, fishing, hiking and camping. Today, as an associate professor of environmental science and studies at CSH, he teaches students about interactions between the terrestrial biosphere and

the atmosphere. As an ambassador to the Catholic Climate Covenant, an organization that seeks to guide the U.S. Catholic Church’s response to climate change through education, he explains to community members in different churches, schools, hospitals and other settings how concern for the environment intersects with Catholicism.

“I bring a faith perspective on climate change, and I think that resonates with students,” he says. “I’ll always make sure when I’m talking to any student audience that I talk about the moral and ethical aspects of climate change.”

One of those aspects is social justice. While everyone will be affected by climate change, he says, the poor and vulnerable will be the most challenged by it. With challenges such as wildfires, flooding, drought, hurricanes and other weather-related issues, those with less financial security have limited options when it comes to protecting themselves, and in some cases, leaving their homes and starting anew. “The less affluent you are, the less you are able to adapt to climate change,” he says.

Respect for nature has long been a part of Catholicism and the larger Christian tradition, says Potosnak. The Book of Genesis is all about nature. In the 13th century, St. Francis of Assisi was concerned about people getting away from nature and thereby getting away from God. And in 2015, Pope Francis published a 180-page encyclical on the environment, “Laudato si’,” acknowledging the role humans have played in climate change and explaining why environmental stewardship is a moral issue. Potosnak taught a class about that encyclical.

While Potosnak believes that the challenges facing the world because of climate change are dire, he tries his best to be positive when talking to students. He focuses on things they can do in their own lives to try to make a difference, such as using public transportation and walking rather than driving a car that emits greenhouse gases. He also finds hope in groups around DePaul that are involved in environmental issues. For example, dozens of members of DePaul Urban Gardeners, The Climate Reality Project Campus Corps and Catholic Campus Ministry marched in the Youth Climate Strike last year.

In the 10 years since he became an ambassador, Potosnak has learned a lot about what inspires people to act. Science and politics don’t do it, nor do facts, figures, statistics and graphs. But discussing ethics, morality and beliefs? Those discussions, he says, can really energize people.



Psychology professors LaVome Robinson and Leonard Jason received a \$6.6 million grant for their violence-prevention project.

Chicago often makes national headlines for its problems. But when it comes to addressing those problems, a lot of important work gets overlooked. Two psychology professors at DePaul University are working to prevent violence among African American teenagers in Chicago Public Schools.

Shootings, gangs, drugs, poverty and violence are part of the lives of too many Chicagoans. With the Success Over Stress Violence Prevention Project, W. LaVome Robinson and Leonard A. Jason are teaching ninth-grade African American students in violence-prone neighborhoods how to manage their stress and engage in positive thinking and problem solving.

Last fall, the two community psychologists were thrilled to learn they had received a \$6.6 million grant—the largest research grant in DePaul history—from the National Institute of Mental Health for their program, which DePaul leads in collaboration with Rush University Medical Center, Heartland Health Centers and Chicago Public Schools. The grant will be used to train social workers in five or six schools to carry out the program. In time, Robinson and Jason hope the work will expand to other schools and even other cities.

LESSONS IN RESILIENCE

The project brings the ninth graders together in small groups to talk about challenges and stressors they face and learn how to cope better. At the start of the 15-session program, Robinson, who is the principal investigator for the research, says they lay down some ground rules, the most important of which is that what's shared in the group stays in the group. Then they go through some icebreaker exercises so that the kids can get to know one another and feel comfortable sharing personal experiences.

"One thing that most African Americans have in common is racism and discrimination," says Robinson. "It's

very stressful to have those experiences, and children don't necessarily have very advanced cognitive skills to handle stressors like racism. We try to prepare them for those kinds of stressors and equip them with skills so that they can manage the stress that's associated with discrimination, oppression and racism."

To teach these skills, the program facilitator walks the students through a number of scenarios, like being followed around a store when they're simply there to shop or stopped by the police when they've done nothing wrong. "Those are the kinds of things we work through with them that are common to their day-to-day experience that might not be common to others," says Robinson.

To date, the program has been through two efficacy trials, and results have been positive: 80 percent of participants said that the classes have helped in stress reduction.

Robinson has seen these transformations firsthand. She says that participants have learned to become better problem solvers and to find meaning and growth in challenging and potentially devastating experiences. "At the end of the 15 sessions, it's not uncommon even for very tough males to start crying. They don't want us to go. They really feel that we have made a difference in their lives," says Robinson.

Jason, who is director of DePaul's Center for Community Research, adds that the positive impact is one that could spread through the entire community. "If youth are better able to deal with some of the crises that are in the community, then you have individuals who are prepared to be role models for others. Then they don't end up contributing to this escalating set of problems, but positively contribute to the community and neighborhood by themselves or with family and friends."

A LASTING IMPACT

The ninth graders aren't the only students who are learning from the project. So are

students at DePaul. "There's a large role in all of our research for undergraduates to volunteer. Some we actually hire to be research assistants," says Jason. "We are very much fulfilling the mission of DePaul, which is teaching, service and research. All three are occurring with this project."

Christopher Whipple (CSH MA '16, PhD '18) was one of those students. Even before applying to DePaul's graduate program in community psychology, Whipple was drawn to prevention work. While working in the probation department of a juvenile court, he saw, time and again, the same kids coming back through the system. Many of them had been exposed to violence and substance abuse when young and lived in poverty. "Getting out of the system seemed like a difficult thing to do," he says.

He got involved with Success Over Stress in 2014 while pursuing his PhD, and after graduating in 2018, he served as project director.

"Working on the project helped me to develop an interest in this population, specifically, and in violence prevention work," says Whipple. "Working in Chicago, it's apparent that community violence and exposure to community violence is a major issue for youth, particularly African American youth. It was apparent to me that something needed to be done."

Recently, Whipple accepted a job as assistant professor of psychology at Penn State Harrisburg, where he's continuing to pursue this research and develop his own protocols.

"Harrisburg is obviously a smaller city than Chicago, but it still has similar issues. It's got issues with poverty and lack of resources, it's got issues with community violence and violent crimes," he says. "So there are many opportunities to get involved and develop these useful interventions with the community to address problems and concerns that are relevant to them."

ONE Peace AT A TIME

PSYCHOLOGY PROFESSORS LAVOME ROBINSON AND LEONARD JASON ARE WORKING TO PREVENT VIOLENCE IN SCHOOLS

IMPACTFUL INQUIRY

Real-world opportunities give undergraduate students a head start on their career paths

DePaul University is classified as a doctorate-granting university with high research activity by the Carnegie Classification of Institutions of Higher Education, the leading framework for recognizing and describing institutional diversity in U.S. higher education. This research activity doesn't just involve faculty and graduate students, but undergraduates as well. Although DePaul is not primarily a research institution, providing research opportunities for undergraduates is especially important for CSH students who want to go to graduate or professional school and experience the real-world practice of science and health care. CSH offers undergraduate summer research opportunities, including the Dean's Undergraduate Fellowship with community institutions, the DePaul/Rosalind Franklin University of Medicine and Science Summer Research Program and the Undergraduate Summer Research Program for on-campus research projects.

"Summer research experiences are transformative for students in terms of their engagement with DePaul, learning content and skills regarding research, professional development and preparation for their careers," says Vincent de Paul Professor Susan D. McMahon (CSH MA '92, PhD '96), associate dean for research and a professor of psychology.

Jennifer Salazar (CSH '13), assistant director of undergraduate advising and research at the college, works with the Dean's Undergraduate Fellows. Salazar says, "The Dean's Fellowship, which pays our students and is primarily donor-funded, sends two messages to our students: they deserve to be paid, and alumni and others who invested in

the fellowships care about the students."

Phillip Funk, CSH associate dean for health programs and initiatives and associate professor of biological sciences, says that the summer research program at Rosalind Franklin in North Chicago, Ill., helps prepare CSH students for education in the health professions and "expands the kind of labs that students can get into—more biomedical work, a lot of National Institutes of Health-funded labs, some really cutting-edge things."

"It moves our students into a medical school research environment," Funk says. "They can do types of research there that they can't do here, and they get paid for their research."

Three students who have performed summer research definitely agree.

HIV/STI research



SOPHIE CHISHTY, a senior majoring in health sciences (public health), was a Dean's Undergraduate Fellow in the Chicago Department of Public Health's HIV/STI Unit. The department was so pleased with her

work that it kept her on as an intern on its Congenital Syphilis Elimination Team, doing data entry and analysis to monitor morbidity resulting from the disease.

As both a fellow and an intern, "my main research position is as an interviewer with the Chicago Health Assessment Team of the National HIV Behavioral Surveillance Project," Chishty explains. "I survey individuals of the high-risk heterosexual population on Chicago's South and West sides and collect information about health behaviors and outcomes, such as sex practices and injection drug use."

The project benefits clients "by incentivizing HIV testing and increasing awareness of sexually transmitted infections," Chishty says. "Most clients were genuinely interested in learning more about sexual health, and many individuals expressed that they wanted to become more involved in HIV prevention and activism in their communities."

The fellowship "has been incredibly valuable to me because I've gained hands-on experience in conducting health surveillance and learned a lot about the field of public health," Chishty says. "Hearing the stories and needs directly from members of these communities has also been really valuable for me to learn about health disparities beyond simply data."

She would like supporters of the program and internships to know "that the Fellows they fund leave these programs with incredibly valuable experiences in their respective fields, as well as new skills and connections that will continue to benefit them in the future," Chishty says.

Cancer research



ALLISON SZULEWSKI, a junior majoring in neuroscience, worked in the lab of David Everly, associate professor of microbiology and immunology at Rosalind Franklin University, focusing on the connection between Epstein-Barr virus (EBV) and various cancers.

"The long-term goal is to find therapies to block cancer spreading and tumor growth for EBV-associated cancers," Szulewski says.

Szulewski assisted Everly in studying how the gene LMP1, expressed in most cancers associated with EBV, contributes to cancer growth.

The research "was intriguing. I got so fired up and wrapped up in plans that I had to make myself slow down," she says, noting that "it killed me that I eventually had to leave."

Until her summer research project, Szulewski says she "did not even know research was a career option. I thought if I wanted to be in the science field, I would have to be a doctor. This work helped me realize that there are so many more options to a science or health-related career other than practicing."

Szulewski says her experience "will show future employers that I know what I'm getting into if I were to research." She now wants to "practice and research in the medical field. I want to get my Doctor of Nursing Practice and follow a researcher-practitioner model."

She is thankful for donors who funded her summer research. "I couldn't have taken that internship if it wasn't funded, because it's just not financially realistic," Szulewski says. Instead, "I could contribute to the field of EBV-related research, see exactly what it's like to have a career in research, and help continue my education and eventually land a job which would also contribute to the health field."

Thin films research



Honors student and third-year physics major **KURT EDLUND** conducted on-campus group research on thin films—layers of material that can be as small as a fraction of a nanometer—used in electro-optical devices, specifically how they "changed and reacted to different pressures," he explains. The group collaborated with professors, students and scientists from DePaul, Northwestern University and Argonne National Laboratory. Edlund worked closely with Gabriela Gonzalez Aviles, associate professor of physics and astrophysics at DePaul.

The research project "gave me the opportunity to start exploring science outside of the classroom with the mindset of trying to figure out what I want to do with my life and what to study in graduate school," he says.

During Edlund's research, he learned "how important coding, using computers and software, and being able to navigate these virtual interfaces with ease was to being successful. And this shift was a metaphorical

brick wall to me to hit because essentially all of my day-to-day research work was conducted on a computer, running the data collected at Argonne."

This experience resulted in a major life change for the physics major. "I changed my academic career trajectory and added math and computer science as my second major in order to leave my undergraduate studies equipped to succeed in graduate school and beyond," Edlund says.

"The importance of this research to me is finding out what is truly interesting for me to pursue in grad school and the rest of my life," Edlund says. "This research is a stepping stone to finding my way into my scientific career."

You can help make summer research opportunities possible for CSH students. Make a gift to the College of Science and Health Dean's Undergraduate Research Fellowship Fund at give.depaul.edu/csh.

LAB NOTES

MAXIMIZING CITIZEN SCIENCE ▶

Jalene LaMontagne, associate professor of ecology, received a \$351,850 National Science Foundation grant to study the influence of climatic dipoles (associated temperature and rainfall fluctuations occurring in different parts of the world) on plant and animal populations across North America. The project will analyze climatic-ecological relationships through long-term data collected by the National Ecological Observatory Network (NEON), observations of tree seed production, and animal population numbers.



GRANT ADDS UP FOR ELEMENTARY MATH

David Jabon, associate professor of STEM studies and mathematical sciences, was awarded a \$200,000 grant from CME Group Foundation as part of its Early Math Initiative, which supports education programs for young children in underserved, low-income communities in Illinois. Jabon's efforts build on his work at the STEM Center supporting in-service teachers with a Master of Science in Science Education program, algebra training and in-school coaching.



◀ MEASURING STEM MENTORING

Bernadette Sanchez, professor of community psychology, is part of a collaborative research team from DePaul and Northwestern universities awarded a \$2.4 million grant from the National Science Foundation (NSF). The team's five-year, innovative mixed-methods study will be one of the first investigations to examine how mentoring relationships in an after-school STEM program affect middle-school students' science identity and skill sets. The NSF also awarded Sanchez an additional grant of \$229,722 for her participation in a collaborative project with the Museum of Science and Industry, "Investigating How Museum Experiences Inform Youths' STEM Career Awareness and Interest." In that study, Sanchez will examine the role of adults in the scientific and ethnic identities of adolescents who participate in a structured field trip experience.

◀ GANG-RELATED ECOLOGY



Adia Gooden (CSH MA '10, PhD '13), director of community programs and outcome measurements at Northwestern University's Family Institute, co-authored "Gang-Related Attitudes and Affiliations Among African American Youth: An Ecological Model," with CSH faculty members Susan McMahon, associate dean for research, and Yan Li, associate chair of psychology. The article was based on Gooden's MA thesis at DePaul and was

published in the peer-reviewed journal Violence and Victims. Using a framework of ecological and individual factors, the researchers found that poverty is associated with less parental support, exposure to violence is associated with more gang-related attitudes and affiliations, and religiosity is associated with fewer gang-related attitudes and affiliations.

◀ COUNTY ENVIRONMENTAL FOCUS

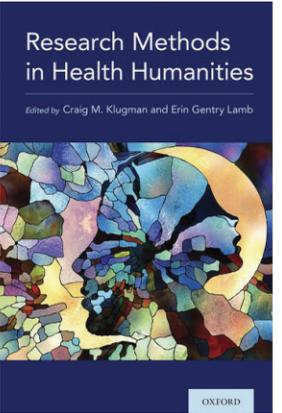


Mark Potosnak, associate professor and department chair of environmental science and studies, was appointed to serve as the higher education representative on a new Environmental Commission for Cook County. The new group includes members from academia, nonprofits, corporations and the public. Members are tasked with defining three goals for the

county to pursue. Of particular concern to the Cook County Board of Commissioners is the issue of climate change. The ordinance creating the commission describes its first purpose as "ensuring Cook County is a leader in combating global warming." Reducing the carbon footprint of the Cook County area is also part of the ordinance.

HEALTH HUMANITIES FIELD SURVEYED ▶

Craig Klugman, a professor of health sciences, bioethicist and medical anthropologist, co-edited "Research Methods in Health Humanities," published by Oxford University Press. The book surveys the diverse and unique research methods used by scholars in the growing transdisciplinary field of health humanities. A reference tool for learning, curricular development and research design, this volume provides a grounding in the traditions of the humanities, fine arts and social sciences for students considering health care careers.



DIRECTORS OF NEW PROGRAMS HIRED ▶

Directors have been hired for two new graduate programs in speech language pathology (SLP) and occupational therapy (OT). Jayne Jaskolski, director of the SLP program, has more than 25 years of clinical and teaching experience. Her research focuses on the link between oral language and learning to read. She is the co-author of "Phonological Awareness Training Program." Katherine Barrett, director of the OT program, most recently was an associate professor of occupational therapy at St. Catherine University in St. Paul, Minn. She is co-author of "International Occupational Therapy."



◀ HELPING DOMESTIC VIOLENCE SURVIVORS

CSH supported Women in Need Growing Stronger (WINGS), a Chicago-area service provider for those experiencing domestic violence, through a donation of clothing and accessories collected at sites throughout the college. The donation was delivered to WINGS resale stores, where sales help fund housing and food for adults and children receiving services from the organization.



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We welcome your story ideas,
questions and comments.

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DEPAUL RESPONDS

inspire DEPAUL

You can be part of DePaul University's response to the rapidly evolving COVID-19 pandemic. Our students and other members of the DePaul community need your support for everything from technology support for online learning to emergency assistance with everyday and extraordinary expenses. Your gift means so much during this uncertain time.

Visit **Inspire DePaul**, the university's crowdfunding website, to support efforts to help members of the DePaul community affected by COVID-19.

Be part of the response at inspire.depaul.edu.