

The Graduate School

2024 Commencement Citation Book



Eli J. and Helen Shaheen Graduate School Awards:

Shaheen Award in Engineering

Shaheen Award in Humanities

Shaheen Award in Science

Shaheen Award in Social Sciences

Social Justice Award

James A. Burns, C.S.C., Awards

Dick and Peggy Notebaert Award

Distinguished Graduate Alumni Award



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At the Graduate School
at the University of Notre Dame,
Your Research Matters.

The four winners of the
Eli J. and Helen Shaheen
Graduate School Awards embody
this conviction, representing
distinction among the graduating
class in each of their divisions:
engineering, humanities, science,
and social sciences.

The winner of the
Social Justice Award
reminds us that scholarship
joined to service can truly
Be a Force for Good.

Shaheen Award in Engineering



Ryan R. Posh, Ph.D.

Department of Aerospace and Mechanical Engineering

Advisers: Dr. James P. Schmiedeler and Dr. Patrick M. Wensing

A mechanical engineer whose research lies at the intersection of robotics and biomechanics, Dr. Ryan Posh has made pioneering contributions to the control of lower-extremity prostheses.

Dr. Posh entered Notre Dame with a National Science Foundation Graduate Research Fellowship and was also named a Notebaert Fellow, the University's most prestigious graduate fellowship for incoming doctoral students. He has more than lived up to the promise of these two fellowships according to his advisers, Dr. James P. Schmiedeler and Dr. Patrick M. Wensing, who also praise his extraordinary "independence, vision, and rare talent."

As a new doctoral student, Dr. Posh marshaled the qualities his advisers extol and, from ground zero, stood up an entirely new experimental research thread that holds great promise for individuals with amputation. By assembling hardware, writing code, and networking with prosthetists and clinicians, he developed a novel approach to controlling powered lower-limb prostheses. His "hybrid volitional control" (HVC) technique uses sensors placed on the muscles of a person's residual limb to seamlessly allow for both reliable walking and a wide range of specialized activities of daily living.

So impactful is his work that footage of a young woman rising on her toes for the first time in her life served as the pinnacle moment in the 30-second "Be Notre Dame" message that aired during the 2022 football season. This scene not only portrayed the joy of the young woman, it perfectly answered the question: "What does it mean to be Notre Dame?"

Dr. Posh has published two first-author journal papers in one of the most prominent journals in his field, as well as three conference papers at the very best robotics conferences—one of which was named a finalist for the best paper award in medical robotics. He has captured the interest of schoolchildren in the South Bend community during STEM outreach classes, mentored several undergraduate researchers, and excelled in teaching at Notre Dame, winning the Outstanding Graduate Student Teaching Award in 2023.

Next year, he will be a postdoctoral fellow at the University of Michigan, conducting research in a top laboratory in his field. Following his postdoctoral fellowship, Dr. Posh will continue his prosthetics research as a tenure-track professor at The Ohio State University.

Shaheen Award in Humanities



Anne Elise Crafton, Ph.D.

Medieval Institute

Adviser: Dr. Tim William Machan

The scholarship of medieval studies scholar Dr. Anne Elise Crafton has upended traditional understandings of gender and language during the medieval period.

With a dissertation based on a thorough statistical analysis of extant Old English poetry and prose, Dr. Crafton draws on sociolinguistic analyses of discourse to document the styles of speech assigned to women in the corpus of Old English texts. Divided into chapters on speech with God, speech with mortals, and speech with non-humans such as devils or animals, their dissertation compares general speech acts, as well as the smallest details of syntax and lexis. Their groundbreaking findings: Women are not, in fact, singled out in these texts as in any way inferior to or even different from men in their manner of speaking; rather, this major aspect of medieval misogyny is very much a post-Conquest phenomenon—i.e. originating in the later Middle Ages after the Norman invasion.

Dr. Crafton's adviser, Dr. Tim William Machan, says: "The implications of Anne's study are huge for Old as well as Middle English studies, for historical linguistics, and for the application of statistical methods to medieval literature."

Dr. Crafton's facility with languages—ranging from Latin to Old, Middle, and Early Modern

English as well as Middle Scots and Old Saxon—made their exemplary dissertation possible. They have also excelled as a teacher and mentor. Whether at their post in the Hesburgh Libraries' Rare Books Room, at its reference desk, or in the classroom, Dr. Crafton fosters critical reading practices by encouraging peers and students to identify both present and absent voices, underlying expectations, and the implicit and explicit narratives crafted by an author. Most importantly, all are advised to grapple with what Dr. Crafton calls "the perpetual discomfort that is the incomplete historical record."

Next year, Dr. Crafton will be a postdoctoral scholar in Notre Dame's Rare Books & Special Collections within the Hesburgh Libraries.

Shaheen Award in Science



Carlos Misael Madrid Padilla, Ph.D.

Department of Mathematics

Adviser: Dr. Daren Wang

Combining statistics and data science, Dr. Carlos Misael Madrid Padilla's work fuses his mathematical acumen with powerful insights from statistics to uncover patterns and information from vast amounts of data—data that does not adhere to specific distributions.

While Dr. Madrid Padilla entered Notre Dame as a graduate student in mathematics, the decision in his third year to switch to statistics was supported by the graduate committees of both the Department of Mathematics and the Department of Applied and Computational Mathematics and Statistics (ACMS).

His research “breaks new ground,” say Dr. Sam Evens of Mathematics and Dr. Robert Rosenbaum of ACMS, “by using ideas he learned in mathematics about partial differential equations to significantly impact problems in statistics.”

One sphere in which Dr. Madrid Padilla excels is structural estimation—using advanced techniques to deepen our understanding of problems embedded in events across time and space. Applications abound for urban planning issues (e.g., traffic congestion) and in such public health challenges as the spread of disease.

A second focus is change point detection. Here, Dr. Madrid Padilla models how researchers can identify precisely when hidden

changes occur—for example, the points at which a virus like COVID-19 spreads over time because of new variants. This knowledge is vital for public health responses and strategies.

Dr. Madrid Padilla has completed four papers, with two already published in *NeurIPS*, the top publication in machine learning. He has a number of additional papers in process. Moreover, he has received superb evaluations as both a teaching assistant and an instructor.

With these stellar achievements, Dr. Madrid Padilla received many employment offers—for postdoctoral, tenure-track, and even hedge fund positions at such top-tier institutions as Duke University, Carnegie Mellon, and the University of California, Berkeley. He chose a tenure-track position in the Department of Statistics and Data Science at Washington University in St. Louis and will begin there in fall 2024.

Shaheen Award in Social Sciences



Natán Ezequiel Skigin, Ph.D.

Department of Political Science

Advisers: Dr. Aníbal Pérez-Liñán and Dr. Guillermo Trejo

With a focus on Latin America, political scientist Dr. Natán Skigin combines fieldwork with experiments to address key challenges contemporary democracies face around immigration, conflict, and human rights. Specifically, he examines how the political voices of marginalized groups, such as immigrants and the families of victims of disappearance, reduce discrimination and mobilize citizens to hold politicians accountable for abusing the state's coercive power.

One of Dr. Skigin's advisers, Dr. Aníbal Pérez-Liñán, says: "Natán's work combines urgent normative questions, sophisticated methodological tools, and relevance for human rights. It is a creative research agenda that is attracting much attention."

That attention has translated into more than \$100,000 in external funding from such organizations as the National Science Foundation, the American Political Science Association, Innovations for Poverty Action, and Evidence in Governance and Politics.

In addition, Dr. Skigin won an Emerging Scholar Award from the Harry Frank Guggenheim Foundation and a Minerva Peace Scholar Fellowship from the U.S. Institute of Peace. In 2023, he was chosen as a Distinguished Junior Scholar by the Political

Psychology section of the American Political Science Association.

With several peer-reviewed articles—including a solo-authored paper in *Political Psychology*, the most prestigious journal for the study of political psychology—Dr. Skigin has demonstrated an equally strong publication record. A co-authored paper on political parties and criminal violence in Brazil inspired an "Interpreter" column in the *New York Times*. His co-authored book showing how personal narratives challenge common misperceptions about immigrants and facilitate their integration into host societies is under advance contract with Cambridge University Press.

At Notre Dame and Universidad Torcuato Di Tella (Argentina), Dr. Skigin taught three courses on political behavior, research design, and quantitative methods—courses that earned him top student evaluations and an Excellence in Teaching Award in 2020.

In the next academic year, Dr. Skigin will be a postdoctoral fellow at Harvard University's Weatherhead Center for International Affairs. In fall 2025, he will begin at the University of Georgia as an assistant professor of comparative politics in the Department of International Affairs.

Social Justice Award



Camille "Cam" Mosley, Ph.D.

Department of Biological Sciences

Adviser: Dr. Stuart E. Jones

Dr. Camille "Cam" Mosley from the Department of Biological Sciences is the winner of the Social Justice Award, given annually to a graduate student in the Notre Dame community who has tackled complex societal issues through scholarship, teaching, and service.

A biologist who studies lake ecology, Dr. Mosley is the driving force behind a collaborative project in Wisconsin focused on habitat restoration and targeted harvest in fisheries. While completing this important research, and leading and mentoring Notre Dame undergraduates in field experiments the last three summers, Dr. Mosley has taken on another role: being an agent of institutional change, with a passion for promoting diversity and inclusion.

On campus, Dr. Mosley has served in a number of high-profile positions, including president of the Black Graduate Student Association, co-president of Graduate Students Against Racial Injustice at Notre Dame, and member of the Graduate Student Advisory Council. They have also extended social justice activities into the South Bend community—taking on issues like affordable housing and dangerous levels of lead in homes—and into national professional organizations—for

example, serving as co-chair of the Justice, Equity, Diversity, and Inclusion program for the North American Lake Management Society. Their department recognized Dr. Mosley for these and other efforts by naming them Graduate Student Leader of the Year in both 2023 and 2024.

Dr. Mosley's adviser, Dr. Stuart E. Jones, praises their exemplary record of outstanding scholarly work combined with making "a profound impact" on issues of justice and equity. A perfect example: In addition to publishing two first-authored peer-reviewed articles on their dissertation topic and receiving the Frazier Thompson Scholarship for their research, Dr. Mosley is a contributing author in the book *Been Outside: Adventures of Black Women, Nonbinary, and Gender Nonconforming People in Nature* and a peer-reviewed article in the *Journal of Conservation Biology* titled "Queer Black Voices in Conservation."

Dr. Mosley will spend next year at the University of Minnesota as a recipient of the National Science Foundation Postdoctoral Research Fellowship in Biology.

Behind every graduate student
producing **research that matters**
is a powerful team of inspiration,
mentorship, and support.

Meet our honorees:
exemplary faculty and
alumni, who empower our
graduate students to translate
their research into impact.

James A. Burns, C.S.C., Award



Prashant V. Kamat, Ph.D.

Professor, Department of Chemistry and Biochemistry

Dr. Prashant Kamat, the Rev. John A. Zahm Professor of Science in the Department of Chemistry and Biochemistry and Radiation Laboratory, and concurrent professor in the Department of Chemical and Biomolecular Engineering, is the winner of the James A. Burns, C.S.C., Award. Named for the first Notre Dame president with an advanced degree, the award recognizes outstanding faculty scholarship and mentorship and showcases Notre Dame's very best doctoral advisers. Dr. Kamat is honored for sustained mentoring over the course of his career.

Dr. Kamat is recognized worldwide for his work over the past four decades in building bridges between physical chemistry and material science. Focused on developing advanced nanomaterials that promise cleaner and more efficient light energy conversion, his ambitious research agenda has played a pivotal role in bringing in millions of dollars in grant funding from the Department of Energy and other sources. He has published more than 500 peer-reviewed papers, and Thomson-Reuters has named him one of the world's most cited researchers each year since 2014.

Dr. Kamat's award-winning research has mirrored an equally impressive dedication to developing his students. He has supervised more

than 30 doctoral students, and he has mentored them with great attention to their individual research agendas and scholarly achievements. Due in large part to his research group's productivity and his excellent mentoring, Dr. Kamat has an outstanding record of placing his students in top positions in academia, national laboratories, and industry—from Caltech, to the Los Alamos National Laboratory, to 3M and Intel. Three of his students have been Shaheen Award winners.

Beyond the boundaries of campus, Dr. Kamat has also pushed to support graduate students around the world, coordinating international doctoral student exchanges, and working to expand collaborations for Notre Dame in India.

The department's director of graduate studies, Dr. Gregory Hartland, summarizes well Dr. Kamat's ability to synthesize scholarship and mentorship: "Prashant has had a tremendous influence on hundreds of graduate and undergraduate students, continuing to work at the forefront of the energy research field while creating opportunities for impactful graduate research and education."

James A. Burns, C.S.C., Award



Rebecca A. Wingert, Ph.D.

Associate Professor, Department of Biological Sciences

Dr. Rebecca Wingert, the Elizabeth and Michael Gallagher Associate Professor in the Department of Biological Sciences, is the winner of the James A. Burns, C.S.C., Award. Named for the first Notre Dame president with an advanced degree, the award recognizes outstanding faculty scholarship and mentorship and showcases Notre Dame's very best doctoral advisers. Dr. Wingert is awarded for excellence in mentoring among mid-career faculty.

Her research focuses on the genetic and molecular mechanisms that control stem cells involved in renal development—an area of study she began while a postdoctoral fellow at Harvard University. With renal disease in children and adults reaching epidemic proportions around the world, identifying the origins of the disease has become critically important.

Dr. Wingert's commitment to her research is matched only by her commitment to graduate students. While the typical term of a director of graduate studies (DGS) is three years, Dr. Wingert has served as her department's DGS for the last nine years. She has helped lead the expansion of the program to more than 150 students—making it one of the largest graduate programs at Notre Dame. But despite the growth, Dr. Wingert has remained

laser-focused on improving the experience of individual doctoral students, leading efforts to better support underrepresented minorities, and restructuring course work requirements so that students are able to spend more time on research. That additional time for research has in turn increased students' competitiveness in the job market.

Beyond her own department, Dr. Wingert has also been an exceptional mentor to other areas of the University, serving as a faculty adviser to Notre Dame's chapter of the Association for Women in Science since its inception in 2012 and as a faculty partner in the Building Bridges Mentoring Program. Her nominators, Dr. Jason Rohr and Dr. Elizabeth Archie, write: "Dr. Wingert's steadfast commitment to Biological Sciences' large graduate student population and her unwavering dedication as a mentor and adviser make her the quintessential Burns Award winner."

Dick and Peggy Notebaert Award



William A. Phillip, Ph.D.

Professor, Department of Chemical
and Biomolecular Engineering

Dr. William Phillip '04, the Rooney Family Collegiate Professor of Chemical Engineering, is the winner of the Dick and Peggy Notebaert Award, which honors a faculty member or administrator who has had a significant impact on graduate studies at Notre Dame.

Since joining the University in 2011, Dr. Phillip has maintained an active, collaborative, and well-funded research program in sustainable technologies for water purification and critical mineral recovery.

He has also been an exceptionally conscientious and productive graduate mentor. He has published more than 40 peer-reviewed articles with his students, who have gone on to secure positions in such prestigious companies and laboratories as Intel and the Argonne National Laboratory.

Beyond his own students, however, it is Dr. Phillip's achievements as departmental director of graduate studies (DGS) for which he is honored as this year's Notebaert awardee. Over the last four academic years, he has conceived and championed major changes in the spheres of professional development, research feedback, and student recognition—resulting in both an improved focus on the holistic development of graduate students and on faculty needs.

To name just a few of Dr. Phillip's initiatives: creating a first-year orientation course covering diversity and inclusion, networking, and library skills; implementing an enhanced rubric as the basis of the annual student/adviser mentoring discussion; completely re-engineering doctoral program gateways to facilitate documentation, discussion, and feedback on research plans and dissertation completion; and managing the complexities of both the COVID-19-induced shift to remote work and the return to the classroom and laboratory, taking extra care for the physical and mental health of students.

Dr. William Schneider, departmental chair, summarizes Dr. Phillip's tenure as DGS as follows: "Dr. Phillip has completely reinvented and optimized our graduate program to fit the realities of today's Ph.D. training landscape. He perfectly models the type of activities that the Notebaert Award seeks to recognize."

Distinguished Graduate Alumni Award



Michael Davern, Ph.D.

Executive Vice President and Chief Research Officer,
NORC at the University of Chicago

Dr. Michael Davern is the winner of the 2024 Distinguished Graduate Alumni Award, given each year to a graduate alumnus or alumna of the University who has contributed significantly to scholarship, research, or society.

A sociologist who received his doctoral degree from Notre Dame in 1999, Dr. Davern is executive vice president and chief research officer at NORC at the University of Chicago—an internationally renowned social science research organization with experience conducting research in more than 100 countries and employing a staff of more than 3,000 individuals.

At NORC, Dr. Davern serves as a principal investigator of one of the best known longitudinal social science data sets: the General Social Survey (GSS), which has carefully tracked behaviors and attitudes of the American people since 1972 and is a key tool for researchers, policymakers, and journalists.

In addition to leading the GSS, Dr. Davern has also helped lead NORC's expansion into broader research areas. His particular focus is the health sciences, and he oversees four health research departments that create and disseminate data products critical to decision makers. One example of his innovative efforts in this field is NORC's COVID-19 Impact

Survey, which provided invaluable real-time data on COVID-19's impact on health, mental well-being, and jobs during the early stages of the pandemic.

Dr. Davern has published more than 70 peer-reviewed articles on such topics as evaluating data quality, survey methodology, and health disparities. He was named a fellow of the American Statistical Association in 2018.

Before joining NORC, Dr. Davern's roles included: research director of the State Health Access Data Center at the University of Minnesota; investigator with the Minnesota Population Center; and founding co-director of the U.S. Census Bureau Research Data Center at the University of Minnesota.

Besides holding a seat on NORC's executive council, Dr. Davern served as a member of several committees that provide service to the federal statistical system, including the Board of Scientific Counselors at the National Center for Health Statistics. He has also served on other National Academies of Science panels, including as a data quality reviewer for the American Community Survey.

Commencement Speaker



Sabine Hadida, Ph.D.

Senior Vice President and San Diego Site Head,
Vertex Pharmaceuticals

The Graduate School wishes to extend its grateful appreciation to Dr. Sabine Hadida, a renowned medicinal chemist, for delivering the keynote address during the Graduate School's annual commencement ceremony.

Dr. Hadida serves as senior vice president and San Diego site head at Vertex Pharmaceuticals. She gained international recognition as the leader of the chemistry team that discovered FDA-approved cystic fibrosis medicines Kalydeco, Orkambi, Symdeko, and most recently, Trikafta—a ground-breaking triple-drug therapy estimated to help approximately 90% of all cystic fibrosis patients improve function in the lungs and other affected organs, drastically increasing life expectancy—as well as nine medicines in clinical development and two in preclinical development.

For her revolutionary work in drug discovery, Dr. Hadida was a co-recipient, with Paul Negulescu and Fredrick Van Goor, of the 2024 Breakthrough Prize in Life Sciences, as well as the 2023 Wiley Prize in Biomedical Sciences.

Dr. Hadida holds more than 60 U.S. patents and is the author of many peer-reviewed articles published in scientific journals. She earned bachelor's, master's, and doctoral degrees in pharmacy from the University of Barcelona in Spain.

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