

BY SHAWN PROCTOR

PARADIGM

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RESEARCHERS AT VILLANOVA CONTINUE
A TRADITION OF EXCELLENCE

Paradigm, on the surface, simply means a way of thinking or seeing. But at Villanova, it is so much more. It's how the University's teacher-scholar model of academics attracts world-class faculty who bring expertise to their research and passion to the classroom.

In turn, faculty mentor student researchers, who contribute new discoveries of their own. This valuable support yields real-world results. Villanova's students earn prestigious academic awards like the Rhodes, Marshall, Fulbright and Goldwater scholarships, and National Science Foundation (NSF) Graduate Research Fellowships. In fact, the University is the nation's top producer of Fulbright students among master's level institutions.

Villanova's faculty present, publish and study all over the world. And in Villanova's six colleges, the multidisciplinary paradigm encourages faculty to collaborate, pushing research in new directions.

Collectively, they carry forward the University's tradition of research excellence. They help discover new ideas about the world and shape understanding of it. At Villanova, this way of thinking doesn't simply explore paradigms—it creates whole new ones.

UNLOCKING THE CYCLE OF WOMEN IN PRISON

Jill McCorkel, PhD, began her research in the 1990s with a simple question: Why were prisons, already at capacity with male inmates, suddenly becoming overcrowded with females? An associate professor of Sociology and Criminology, and a faculty associate of Africana Studies, Dr. McCorkel took her research inside the prison walls to meet in person with the officials and inmates affected by the increasing mass incarceration in the US.

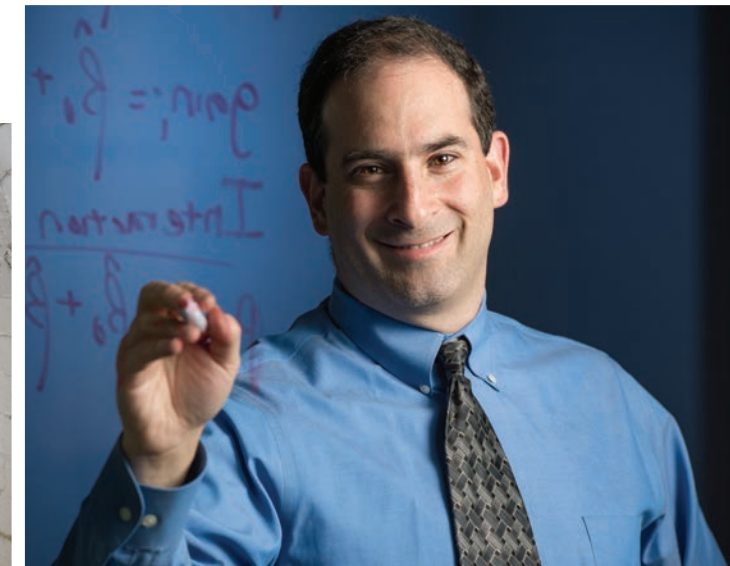
She discovered that stiff sentencing policies advocated as part of the War on Drugs were putting women behind bars. Once there, administrators focused on curing the inmates' drug addiction. Unfortunately, Dr. McCorkel discovered the single focus on drug treatment actually was exacerbating problems.

"These women were in need of help, but everything that the prison offered was under the mantle of drug addiction. They didn't receive job training or placement—these women were left bereft at the end of their sentences," she says. The resulting book, *Breaking Women: Gender, Race, and the New Politics of Imprisonment*, a finalist for the prestigious C. Wright Mills Award, captures the stark reality of women caught in a drug-fueled cycle of crime and punishment.

Her research informs the classes Dr. McCorkel teaches at Villanova and challenges students to perform deep, firsthand research on the country's most pressing social and political issues. They examine emerging cases like the shooting in Ferguson, Mo., and their findings drive classroom discussions. "Student discussions help drive new areas of my research. So in one sense, I never teach the same class twice," she says.

STATISTICS: GOING INSIDE THE NUMBERS

Michael A. Posner, PhD, associate professor, doesn't simply want the world to learn statistics; he wants the world to learn statistics in better ways. In his classes, Dr. Posner sees



Left: Jill McCorkel, PhD, associate professor of Sociology and Criminology, and faculty associate of Africana Studies Right: Michael A. Posner, PhD, associate professor of Statistics

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—MICHELLE MADDEN DEMPSEY, PHD, JD

quantitative literacy and statistics as a way for students to understand the world around them, whether it be analysis of a research paper or a factoid in the news.

“It’s vital for students to be able to understand when they see statistics whether they are the right statistics, and whether they are valid or being used in valid ways,” Dr. Posner says.

A committed teacher, he is driven by the question of how to best help students master statistics concepts. Since 2010, Dr. Posner has been studying pedagogy—essentially, the way a subject is taught—at local high schools, with the support of a \$2.4 million grant from the National Science Foundation. He analyzed methods of learning to see how they affected student attitudes, as well as their understanding of class material.

His work also is reflected in his own teaching accolades. Dr. Posner has won Villanova’s Faculty Award for Innovative Teaching, the Mathematical Association of America’s 2012 Alder Award for Distinguished Teaching and the American Statistical Association’s 2012 Waller Education Award.

“For me, Villanova University is a place where I can bring together my passion for teaching, research and service,” he says.

SPEAKING OUT AGAINST SEXUAL EXPLOITATION

Many believe that violence against women and issues of sex trafficking are only prevalent in developing countries. However, research by **Michelle Madden Dempsey, PhD, JD**, in the field has opened eyes to the prevalence

of these social justice issues around the world—and at home.

“People think of them as problems that are far away, but we’re focused on the commercial exploitation that is happening in our own backyard,” she says.

Dr. Dempsey, associate dean of Faculty Research and Development, and professor at Villanova University School of Law, also has helped start the Villanova Law Institute to Address Commercial Sexual Exploitation. It provides education and technical assistance to those who respond to commercial sexual exploitation in Pennsylvania.

Her research combines the analytic tools of a legal philosopher with her feminist sensibilities and experience as a prosecutor.

She is currently co-writing a book regarding sexual assault for the University of Oxford. Her book *Prosecuting Domestic Violence: A Philosophical Analysis* was awarded second prize in the UK’s Society of Legal Scholars Peter Birks Award for Outstanding Legal Scholarship.

Dr. Dempsey believes the Augustinian Catholic intellectual tradition at Villanova creates an ideal environment for her research. “Villanova is a Catholic university in the best sense. It seeks to have a wide range of ideas, and that has freed me up to pursue new lines of thought,” she says.

SUPPORTING HEALTHY MOTHERS AND BABIES

Infants are the most fragile members of society. But many face great risks, even before they are born.

To help children in underserved communities grow up healthy, Assistant Professor **Amy McKeever, ’08 PhD, RN, CRNP, WHNP-BC**, works to improve prenatal care, in partnership

with Catholic Social Services, and Latina and African-American populations. “We want to transform prenatal education to tailor it to a high-risk population,” she says.

Dr. McKeever’s research seeks to fill important gaps in the nursing and health care literature, and help prevent infant mortality and morbidity. She recently was the primary author on a pioneering article in *Nursing for Women’s Health* on pain management strategies for expectant mothers who have had drug dependence. Through the clinical, research-publishing process related to patient care, she mentored then student Sarah Sheehan ’13 CON.

Dr. McKeever’s research creates many such opportunities for her students, as part of their professional development, to serve these populations. “With the expanding role of nurses in health care, we are helping students take leadership roles earlier, engage in research and rely on evidence-based practice,” she says.

UNDERSTANDING COMPLEX SYSTEMS

Dynamic systems expert, **C. “Nat” Nataraj, PhD**, has spent his career researching the prognostics of complex systems, an engineering concept that can predict failure in the near future. He has received several grants from the Office of Naval Research and the Defense Advanced Research Projects Agency to investigate the diagnostics of complex dynamic systems in order to help complex machinery and robotic systems perform self-maintenance.

But few systems rival the human body in terms of sheer complexity. And he believes that the concepts designed to help engineers model mechanical systems can explain biomechanics and save lives.

“Diagnostics is like detective work, since many times complex diagnostics is counterintuitive. You are trying to find something that is hidden,” says Dr. Nataraj, professor and chair of the Department of Mechanical Engineering, and the Mr. and Mrs. Robert F. Moritz, Sr., Endowed Chair in Engineered Systems. His innovative research into strategies for predicting and preventing fatal cases of periventricular leukomalacia in infants garnered a \$1.9

million grant from the National Institutes of Health.

As he works to expand the research into other areas of biomedicine, he believes that it will require developing new models to understand how diseases affect the body. “You have to work on every disease differently—heart attacks versus diabetes, for example,” he says. “To me, they are all manifestations of the same fundamental scientific problem. The key is diagnosing the problem before it becomes catastrophic.”

COMPREHENDING THE ECONOMICS OF FOREIGN AID

When the US partners with the World Bank to provide foreign aid around the globe, the implications that arise are equally economic and political. That’s where the research of **Christopher Kilby, PhD**, associate professor of Economics in the Villanova School of Business, is vital for understanding the geopolitical effects of those funds.

Recognized as VSB’s Emerging Scholar in International Business, Dr. Kilby has worked with researchers at Villanova and beyond to identify the impact of geopolitics on foreign aid and international organizations. His research topics range from the impact of the War on Terror on US foreign aid to global electioneering by the World Bank. “My work is interdisciplinary, even though it is published in economic journals, because the experts who read and cite it are just as likely to be economists as they are to be political scientists,” he says.

And due to a VSB initiative to pair promising students with strong faculty researchers, Dr. Kilby collaborated with then student Elizabeth Bland ’11 VSB on a paper about informal influences on the Inter-American Development Bank, a major source of multilateral financing in Latin America. Bland presented it at an economic conference held at Villanova in 2012, and it will be included as a chapter in the forthcoming book *The Handbook of Economics of Foreign Aid*.

“At Villanova, the goal is to get students excited and prepared to embark on their own academic research,” Dr. Kilby says. ■



Left: C. “Nat” Nataraj, PhD, professor and chair, Department of Mechanical Engineering, and the Mr. and Mrs. Robert F. Moritz, Sr., Endowed Chair in Engineered Systems Right: Christopher Kilby, PhD, associate professor of Economics



Left: Michelle Madden Dempsey, PhD, JD, professor of Law, and associate dean of Faculty Research and Development Right: Amy McKeever, ’08 PhD, RN, CRNP, WHNP-BC, assistant professor of Nursing

