PhD Alumni Dietrich is #27 on Fast Company's List of the 100 Most Creative People in Business

As Vice President of the Business Analytics and Mathemati- cal Sciences Department at the IBM Thomas J. Watson Research Center, Brenda Dietrich, ORIE Ph.D. ’86, leads IBM’s research efforts in applying advanced mathematics to increase efficiency, reporting directly to the Director of IBM Research. The June 2009 issue of Fast Company magazine includes Dietrich on its list of the “100 Most Creative People in Business.” The magazine had previously published a profile of Dietrich, who last visited Cornell in 2007. As a Ph.D. student, she worked under the guidance of Professor Robert G. Bland.

In selecting the 100 individuals, “we looked for dazzling new thinkers, rising stars, and boldface names who couldn’t be ignored,” the Fast Company editors wrote. Dietrich is one of at least three Cornell engineering alumni on the list, which also included Jon Rubinstein, BS EE ’78 M.Eng. ’79, formerly head of hardware engineering at Apple and now head of R&D and product development at Palm and PalmSource, West, MS CBE ’84, formerly chief technology officer at Motorola and now at Cisco.

Fast Company notes that Dietrich’s “team at IBM studies behind-the-scenes processes in business — from manufacturing scheduling to logistics to resource allocation and optimal design and is particularly interested in using a new kind of calculus to study the stability of systems.”

Éva Tardos, professor of computer science and the Jacob Gould Schurman Chair of the Department of Computer Science, was cited for her work in the design and analysis of graph and network algorithms. Her research aims at optimizing the solutions of problems that involve the interaction of many variables to find the result that is best for all participants, with applications ranging from games to airline scheduling. Tardos is a member of the ORIE field faculty.

Michael J. Todd, the Leon C. Welch Professor of Operations Research and Information Engineering, was cited for advances in interior point methods and semidefinite programming. His research interests are in algorithms for linear and convex programming. Todd teaches courses in linear and nonlinear optimization and game theory.

For more ORIE news and articles on ORIE alumni, please visit our website.

http://www.orie.cornell.edu/orie/news/
http://www.orie.cornell.edu/orie/alumni/

Three ORIE Faculty Named SIAM Fellows

Three members of the ORIE faculty have been named to the inaugural class of fellows of the Society of Industrial and Applied Mathematics (SIAM). The fellows program honors SIAM members recognized by their peers as distinguished contributors to the discipline. There were eight Cornell in all who were named SIAM fellows.

Adrian Lewis, professor of operations research and information engineering, was cited for contributions to variational analysis and nonsmooth optimization. He conducts research in the mathematical study of efficient resource allocation and optimal design and is particularly interested in using a new kind of calculus to study the stability of systems.

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Director

Laura McLay, an Assistant Professor in the Department of Statistical Sciences and Operations Research at Virginia Commonwealth University, recently posted an entry on her blog, “Punk Rock Operations Research,” with the caption “Brenda Dietrich shows that OR is creative.” Michael Trick, who also served as President of INFORMS, notes in his blog that “it is too bad that Brenda is described [in the Fast Company citation] as a mathematician (which she is) rather than the more specific and accurate “Operations Researcher.”

Others on the Fast Company list include philanthropist Melinda Gates, electric car company CEO Shai Agassi, artist Damien Hirst, FDIC head Sheila Bair, former cable TV executive Bonnie Hammer. Fast company, indeed.

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Carlton’s Merrill Presidential Scholars Program honors 32 seniors this month and the high school teachers and university faculty members who made important contributions to the students’ lives.

Each spring semester, approximately one percent of the graduating class is named to receive this honor by the deans of each of Carlton’s seven undergraduate colleges. The scholars, in turn, recognize a high school teacher who most inspired their scholastic development and a Cornell faculty member who most significantly contributed to their college experience. The high school teachers are invited to campus as guests of the university to participate in two days of events.

This year, ORIE had two students receive the award. Adam Schneider (Chappaqua, N.Y.) chose ORIE Professor Robert G. Bland and Richard Goodman of Horace Greeley High School as the two teachers who made important contributions to his life.

Adam Elmachtoub (Manalapan, N.J.), who was also graduated from computer science department. Elmachtoub recognized Erik Levin from Manalapan High School and Charles Van Loan from computer science.

The Merrill Presidential Scholars Program is made possible by funding from the late Philip Merrill ’55. The high school teachers are honored under the STAR (Special Teachers Are Recognized) scholarship established in 1989 with support from the late Donald Berens and his wife, Margi Berens, both members of the Class of 1947. STAR is supported through additional gifts from alumni and friends. A one-time $4,000 scholarship is established in each teacher’s name for a financially needy Cornell student from the teacher’s high school or geographical area.

“The next generation of researchers to be the most creative yet...These are indeed exciting times for operations research at Cornell.”

—James Renegar Director Operations Research and Information Engineering

Merrill scholars honor high school, Cornell teachers

ORIE Faculty News

Dawn Woodard Joins ORIE Faculty

Professor Dawn B. Woodard received a B.S. degree in mathematical and computational science from Stanford University and holds M.S. and Ph.D. degrees from Duke University, where she studied in the Department of Statistical Science. She joined ORIE in Fall 2008 and currently teaches the Statistical Data Mining course, which deals with extracting information from large sets of data in order to draw conclusions relevant to business and other problems.

While a graduate student, Woodard was a contractor for Insightful Corporation, the makers of a popular statistical software package called S-PLUS. There she developed and tested software to assist users of S-PLUS in areas such as drug safety, determination of appropriate doses, and analysis of what happens to an ingested pharmaceutical in the body. She has also worked for SAS Institute (a statistical software vendor), for Peakstone Corporation, a startup company providing tools to manage business performance; and for Rockwell Scientific, now part of Teledyne.

Peter Frazier To Join ORIE Faculty


Frazier’s research interest is in statistical learning, focusing on the efficient collection of information and on the role of information collection in stochastic optimization. This research area, which he refers to as “optimal learning,” has many applications, including simulation, medicine, market research, manufacturing optimization, emergency response, and the natural sciences. His thesis introduces knowledge-gradient methods, a class of sequential Bayesian information collection methods that balance the cost and benefit of collecting information.

Henderson Promoted to Full Professor

Shane Henderson, who came to Cornell as an Assistant Professor and was promoted to Associate Professor in 2004, is now a full Professor. Professor Henderson joined Cornell in 2001 from the faculty of the University of Michigan, where he focused on discrete event simulation, a field in which many of his research contributions have been made. His primary area of teaching is discrete event simulation, in which the behavior of systems subject to uncertainty — in ways that prevent their solution by manipulating formulas — is instead analyzed by generating repeated trials on a computer to “toss the dice” to replicate the random properties of the events being modeled (e.g. the arrival of a customer, demand for a product, a service outage, etc.).

“Before the trip, I had never used a drill or a saw,” Tian said in a brief talk at the April 23 recognition ceremony. “Now I would call myself a professional carpenter,” she added with a smile. “Technical skills aside, I also learned so much from the people there.”

Tian expects to use her Cornell education to “collaborate with people from all kinds of backgrounds, to expand my world view, and one day to become a social entrepreneur.”

For Kovacs, spending a summer working for Emerson Electric was not a new experience. He had worked at the company’s offices in St. Louis (his home town) in 2007, but when invited to spend a second summer with Emerson he said “surely, but seeing that I’ve lived in St. Louis all my life, can you send me elsewhere?” So the STAR scholarship program sent him to Manila as a Corporate Planning and Finance Engineer. In that capacity he was asked to plan the assignment of workers in the new Global Materials Data Center, which houses customer service representatives, and to analyze the cost and customer service response time. During the summer he developed an Excel-based algorithm to optimally allocate seating space, basing representative workers with comparable skill sets closer together and developing a shift strategy for the unit, which fields requests from all over the world.

“Between the real-world experience, the lasting friendships, the scenery and the food, I’d say this was one of the most unique and rewarding experiences I have had.”

Kovacs wrote for a poster displayed at the ceremony. He will enter the M.Eng. program in Civil and Environmental Engineering in the fall, and hopes to eventually get an MBA.

Kovacs is a second generation Cornell engineer. Growing up, his father, Sandor Kovacs ’80, had a different kind of global experience. He was born in Hungary, leaving with his family on foot after the unsuccessful Hungarian Revolution, immigration to the US in 1959 and eventually getting a PhD in theoretical physics at the California Institute of Technology before becoming a cardiologist and professor at Washington University in St. Louis.

Other ORIE students who received certificates, but were unable to attend the ceremony, were Fanhao (Marcus) Meng and Eun Gi Chung.

Global Fellows: Vicky Tian and Tamas Kovacs Describe Their Work in Nicaragua and The Philippines

Junior Vicky Tian and graduating senior Tamas Kovacs are among four Engineering Global Fellows in ORIE this year. The Engineering Global Fellows program recognizes students who have significant work, volunteer, research or study experience in a foreign country of origin. Tian traveled to Nicaragua with the seven members of the 12 person Solar Oven Team, and Kovacs spent a summer at the offices of Emerson Electric in Manila, The Philippines.

“Before the trip, I had never used a drill or a saw,” Tian said in a brief talk at the April 23 recognition ceremony. “Now I would call myself a professional carpenter,” she added with a smile. “Technical skills aside, I also learned so much from the people there.”

The Solar Oven Team, led by Tian Bond, has been working on designing and building a solar cooker for use in remote areas such as the moonlight valley of Caragua in Nicaragua. The project, organized as a class called “Engineers for a Sustainable World,” dealt with analysis, design and construction of the oven, built two large units while in Nicaragua. Another unit built by the team was demonstrated on His Plaza on Earth Day 2009. Tian plans to use her experience in her career to change the world, preferably by working in a company that provides climate change solutions.

Kovacs, a computer science major who transferred to ORIE in 2006, plans to work at a financial services company after his senior year. His senior design project, organized as a class called “Engineers for a Sustainable World,” dealt with analysis, design and construction of the oven, built two large units while in Nicaragua. Another unit built by the team was demonstrated on His Plaza on Earth Day 2009. Tian plans to use her experience in her career to change the world, preferably by working in a company that provides climate change solutions.

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