

Embracing Hands-on Experience

Action-based learning takes many forms at the Ross School of Business. In addition to the required Multidisciplinary Action Projects course for all MBAs, both graduate and undergraduate students select from a range of other opportunities to gain real-world experience, from interning at Fortune 500 companies and serving on nonprofit boards to identifying and investing in promising start-up firms.

Students test skills learned in classes, assess business challenges, apply the latest research findings to their assignments, and assume the role and responsibilities of leadership, all the while creating a remarkable record of achievement.

Dividend focuses on the people and programs that animate action-based learning at the Ross School in the following stories:

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Tree hugger and scuba diver Rebecca Nadel published a handbook on the economic impact of parks, trails and rivers as part of her Domestic Corps internship.

Degrees in Business and Natural Resources, Internships Stretch Engineer's Horizons

When electrical and acoustical engineer **Rebecca Nadel**, MBA '05 and MS '05, followed her passion—oceans and marine life—her journey led inland, to the University of Michigan, to dual degrees in business and natural resources.

Nadel, who graduates this spring from the three-year Corporate Environmental Management Program (CEMP), will join Shell Exploration and Production as sustainable development and social performance manager for the Western Hemisphere. Based in Houston, she will work with teams searching for and extracting oil, often in marine areas, and will support Shell's sustainability efforts. She'll also monitor how Shell's operations affect communities and people—and their environment.

Nadel, formerly an engineer with BBN Technologies in Arlington, Virginia, says CEMP and action-based learning oppor-



BRET WHITFORD

tunities at the Ross School of Business — Multi-

disciplinary Action Projects (MAP), Domestic Corps, Nonprofit and Public Management Center and the Community Consulting Club—gave her the experience she needed to switch careers.

"I did my undergraduate degree at Duke University, which has a fantastic marine lab. Being a type A engineer, though, I couldn't justify returning to grad school to be a marine biologist," says Nadel, who also holds a master of engineering degree in underwater acoustics from Pennsylvania State University.

"CEMP stands head and shoulders above other dual-degree programs in business and natural resources in terms of faculty expertise, alumni networks, staff, and financial and emotional support for students," says Nadel, explaining her decision. CEMP is part of the Erb Environmental Management Institute. The institute, a joint program of the Ross

School of Business and the School of Natural Resources and Environment, is endowed by **Frederick A. Erb**, BBA '47, and his wife, Barbara.

"Clearly Michigan is not an ocean coastal state so the Great Lakes have become my marine focus here," adds Nadel, who holds several scuba certifications. "For me, having a strong dual-degree program was most important."

Nadel gained nonprofit experience leading a Community Consulting Club team that developed a growth and marketing strategy for the Michigan Women's Foundation. The foundation promotes the development of women and girls through education, job training and financial planning. "It was a fabulous leadership experience. We compared the foundation with other state women's organizations that have grown more rapidly," explains Nadel, who also served on the club's executive board in 2004-2005.

As part of her MAP assignment, Nadel performed field work in Costa Rica and Honduras for E+CO, a non-governmental organization that supports renewable energy projects in the developing world. Last summer, Nadel gained government experience working as a Domestic Corps intern with the National Park Service in Oakland, California. She published a handbook on the economic impact of parks, trails and rivers for practitioners creating new green spaces or developing and maintaining natural areas.

"Most of us agree that the intrinsic value of enjoying nature with friends and family is most important, but today the financial benefits of being near parks—real estate values, income-generating activities and health—are important too," Nadel says.

Nadel also served on the Student Advisory Board for the Nonprofit and Public Management (NPM) Center, a joint project of the Ross School, Gerald R. Ford School of Public Policy and School of Social Work. Through the NPM, she was a board fellow with Michigan's University Musical Society (UMS). In addition to being a non-voting board member, she worked on a benchmark study of major university entertainment presenters to identify the musical society's strengths and areas where it could improve. Her findings were presented to the UMS board and at a national meeting of university presenters. "Both groups liked the way we dissected the data. The report will become a national template," Nadel says.

"I've been going to fabulous UMS events since I arrived in Ann Arbor. I camped out at the box office the beginning of each term and stocked up on half-price tickets," says Nadel, who also has worked with UMS marketing and education directors to increase student attendance at events.

Nadel, who served as a graduate research student assistant with Michigan Sea Grant, rounded out her coursework with an independent study of the impact of cruise ships on the marine environment.

Looking back at her three years as a CEMP student, Nadel, a competitive mountain biker, says, "Michigan has pushed me and made me realize how much more I can do. The Ross School has given me great management responsibility and has extended my horizons and capabilities more than I ever expected." 

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Business Students Help Scientists Bring High-tech Inventions to Marketplace

Promising scientific research and groundbreaking technologies often fail to achieve commercial success because they lack compelling market strategies needed to secure adequate financing.

Financing Technological Entrepreneurship, a practicum offered for the first time in fall 2004 at the Ross School of Business, provided MBA students and undergrads with skills to avoid common pitfalls and successfully navigate the perilous path from the laboratory to the marketplace and first-hand insight from practitioners in the field, including **Rick Snyder**, MBA '79.

The course combined readings, lectures, presentations by industry leaders and projects that teamed students with researchers and faculty from the University's Medical School, College of Engineering, Office of Technology Transfer and Kresge Hearing Institute, as well as the Michigan Research Institute and Michigan State University.

Participating scientists are in the early stages of commercializing research in the life sciences or information technology, and the students devised business plans to help them attract financing

from angel, seed, venture capital or strategic investors.

Students worked directly with the principal investigators for each research project, said Professor David Brophy, instructor of the practicum and director of the Center for Venture Capital and Private Equity Finance at the Ross Business School.

They analyzed the potential product application for the researchers' intellectual property, assessed the competitive landscape for the product and created a financial model. The market strategies for these initiatives typically involve a licensing agreement with an existing corporation or creation of a start-up company.

Snyder, founder of Ardesta Corp., an Ann Arbor-based venture capital firm that invests in nanotechnology companies, advised Brophy's class to focus on the product and its application—not on the underlying science.

"We don't do technology investing (at Ardesta). We do product investing," Snyder said. "You have to ask the right questions. How does this become a product and what's the time frame? Are you building a component, a subsystem, a system or a solution? Where should you be in the distribution chain? Where's the value?"

Snyder identified other questions for the students to address as they developed their business plans. Is the product's success dependent on creation of a new market niche, or will it replace an existing product or technology? What is the total value it will bring to customers? What are the potential obstacles? Will the benefits outweigh prospective customers' resistance to a new product or the infrastructure investment required to adopt a new technology?

"Is it a need-to-have or a nice-to-have? When you have something new, nice doesn't cut it. It has to fulfill a need," Snyder said.

Research commercialization is critically important, Brophy said, because technological innovation fuels competitiveness and the creation of economic value and jobs; and the work in Financing Technological Entrepreneurship positions the University at the forefront of this movement.

"There will be 50 Ross Business School alums knowledgeable about research commercialization," said Brophy, who co-authored two chapters in the textbook used in the course,

Financing University Spinouts: A Handbook for Entrepreneurs and Investors. “They will be prepared to evaluate and form these types of deals.”

Tieh-Ling Koh, MBA '05, said the course taught her how to merge entrepreneurship with her master's degree in biology. “There is a need for people who can bridge science and business,” she said. “Hopefully, I'll have an advantage.” **M**

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Domestic Corps Intern Helps Rosalynn Carter Institute for Caregiving Sharpen Its Brand Identity

The Rosalynn Carter Institute for Caregiving (RCI) faced a classic marketing challenge: Identify its audience and tell that audience about its products and services, says **Diane Stoner**, MBA '04.

Stoner and 29 other Domestic Corps interns at the Ross School of Business worked 12-14 weeks last summer for nonprofit organizations in economically distressed communities from Tsaille, Arizona, to Benton Harbor, Michigan. Through action-based learning programs such as Domestic Corps, now in its 13th year, the Ross School provides students opportunities to solve real-world business challenges and develop leadership skills. Interns are supported by corporate and philanthropic donations.

The RCI, located in Americus, Georgia,



BRIAN TALBOT

Many of Diane Stoner's recommendations to improve the brand identity of the Rosalynn Carter Institute for Caregiving were implemented immediately following Stoner's final report to Rosalynn Carter and the nonprofit's board in September. Here, Stoner stands with faculty member Len M. Middleton outside the Carter Center in Atlanta.

seeks to increase awareness of the needs of caregivers — people who provide care for disabled children, elderly parents, ailing spouses, frail friends, and neighbors. Stoner's goal was to help the organization improve its brand identity and promote its products and programs.

“RCI is virtually unknown outside southwest Georgia. My task was to help RCI publicize itself nationally given its small budget,” Stoner says. The nonprofit, which is affiliated with Georgia Southwestern State University, is the only university-based caregiver organization in the nation. The RCI also has a national office in Washington, D.C.

The internship was an excellent opportunity for Stoner, who began in the evening MBA program in 2002 and transferred to the day program in January 2004, to apply lessons learned in marketing, strategy and organizational behavior. She developed a dozen recommendations, including: Commit to a naming and identity strategy and be vigilant in its implementation, adopt one consistent tagline such as “Advancing the interests of caregivers across the lifespan and across America” and make the RCI Web site the hub of the organization's marketing efforts.

Before Stoner arrived, the RCI was known by at least five names. “This was diluting its message and confusing,” says Stoner, who recommended using one name — Rosalynn Carter Institute for Caregiving — and one abbreviation — RCI. The RCI must piggyback on the Carter Center's marketing efforts to create its own identity, she says. If the Carter Center has brochures in a museum, the RCI also should have brochures. By seeing the two publications together, people will understand that they are separate organizations,” Stoner says.

The RCI board of directors implemented Stoner's recommendations



STEVE KUZMA

Merging Theory and Practice

More than 400 MBA students capped their first year at the Ross School of Business this spring with seven-week Multidisciplinary Action Projects (MAP). Here, left, **Joanna Zucker**, MBA '97, brand manager at Procter & Gamble, talks with **Graciela Cruz**, MBA '06, at Company Day about a Procter & Gamble marketing strategy project. Company Day, held each January, gives students and faculty advisers an opportunity to learn about potential projects before bidding on assignments. Among the more than 80 companies and nonprofits represented at this year's Company Day were American Express, CitiGroup, Cummins Inc., Microsoft Corp. and Northwest Airlines.

MAP, a field-based, 7.5-credit immersion course, is a defining characteristic of the Ross School MBA experience. Student teams work full time on projects, acting as consultants to firms and nonprofits that compete to be MAP sponsors. Using their analytical skills and the latest research findings, students produce valuable information for sponsors and stimulate exchanges that benefit scholars and business practitioners. For information about sponsoring a MAP team, contact Gale Amyx, MAP managing director, at gamyx@umich.edu or call 734.763.2463. **M**

regarding nomenclature immediately, says Ronda C. Talley, RCI executive director and professor. Stoner also helped edit RCI publications, five of which have been published.

Talley is impressed with the quality of Ross School of Business students. “Diane was wonderfully self-motivated and brought ideas into the equation that I would never have thought of.”

Stoner serves on the University of Michigan Alumni Association Board as a board fellow through the Nonprofit and Public Management Center, a joint project of the Ross School of Business, Gerald R. Ford School of Public Policy and School of Social Work.

She also continues to follow RCI's progress. In fact, when President Jimmy Carter was interviewed on National Public Radio last fall, he talked about the Rosalynn Carter Institute for Caregiving and, Stoner notes, “He got it right.”

Domestic Corps, launched in 1992, provides business assistance to nonprofit organizations throughout the United States.

Each year Domestic Corps interns provide more than 15,000 hours of business assistance, including strategic planning, business plans, and financial and operational analyses. To learn more about Domestic Corps and read students' accounts of their intern experiences, visit www.bus.umich.edu/DomesticCorps. 

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Dual Degrees, TMI Assist with Career Transition

A Tauber Manufacturing Institute (TMI) team drew on operations management, corporate strategy and lean manufacturing skills to create a visual management system to reduce inventory at Honeywell's Autolite Sparkplug Plant. As a result, Honeywell is saving more than a million dollars each year.

"We looked at every aspect of Honeywell's process," says TMI team member **Tony Baptista**, MBA '05 and MS '05. We revised production schedules, developed a system to maintain discipline on the workshop floor, and improved information technology and communications to help material flow more efficiently."

Baptista's TMI experience is one of several action-based learning opportunities the Cambridge, Massachusetts, native has taken advantage of during his three years in Ann Arbor. The understanding that comes from working with peers on real-world problems is one reason students like Baptista choose the Ross School of Business.

TMI, an interdisciplinary partnership between the Ross School of Business, College of Engineering and industry, emphasizes leadership training and hands-on experience through internships. On this project Baptista worked with a master of engineering in manufacturing student to implement a substantive change at Honeywell.

"TMI was instrumental in helping me transition successfully to a new career in an operations environment," explains Baptista, who worked in the medical and pharmaceutical fields prior to coming to Michigan and will join Honeywell after graduation, initially in its information technology division.

Baptista is only the second student to earn a concentration in manufacturing

through TMI and two master's degrees through the dual business and natural resources program — Corporate Environmental Management Program (CEMP). The first, **David Gard**, MBA '01 and MS '01, works as an energy policy analyst at the Michigan Environmental Council in Lansing.

In a second internship at Honeywell, which he found through a national student club conference in Los Angeles, Baptista was responsible for optimizing processes in delivering information technology services to customers. He was asked to develop a strategy to reorganize the IT department of more than 200. In the process, he discovered that staff, located around the world, had worked in teams for years but had never met each other.

"The IT department relied heavily on e-mail, virtual discussion rooms and conference calls. However, facial recognition is important especially when it comes to gaining trust and working together," says Baptista, who took close to 100 photographs of IT staff and created a media splash akin to the "Got Milk?" campaign. The posters were very popular and many satellite offices asked for copies. To learn the names of the people on the posters, Baptista encouraged Honeywell employees to visit the company's Web site, where they also learned about the IT team's reorganization efforts.


"I learn a lot from coursework and lectures, but I learn most from interacting with my peers, through CEMP, TMI and programs like IMAP [International Multidisciplinary Action Projects]," says Baptista, who describes his IMAP experience in Kenya as "amazing."

His five-member IMAP team worked with a nonprofit seeking to introduce a passive solar oven to the region. "On the ground, we discovered the product was not appropriate for the climate. It was too fragile." Another faith-based organization had developed an oven that was not as vulnerable to dust, dogs and wind.

"We recommended the nonprofit leverage its grant-writing expertise, collaborate with the faith-based organization and take advantage of the infrastructure of Kenya's coffee cooperatives to make inroads in the passive solar oven market." Even though the client didn't agree with the team's conclusions, Baptista says, "It was an exciting project. We were able to apply our core course work to a project that sought to address social, economic and environmental needs."

Spotlight! Shines on Pfizer Project Team

Pfizer Inc. team members **Nari TenKley**, MSE '05, and **David Portner**, MBA '05 and MEngr '05, won first place at the Tauber Manufacturing Institute's (TMI) *Spotlight!* 2004 in September. The TMI team increased the capacity of the pharmaceutical firm's "kilo labs" by more than 20 percent without the need for significant capital expenditures. Kilo lab facilities produce the first bulk quantity of a prospective drug for toxicology testing and Phase I clinical trials in humans. This increase in capacity has saved Pfizer the need to construct an additional kilo lab manufacturing facility, which would have cost approximately \$50 million.

TenKley and Portner, who each won \$4,500 scholarships, competed with 15 other teams at the all-day event that showcased students' 14-week summer projects. Each TMI team presented its results to an audience of corporate representatives, students, alumni and faculty. Judges from the manufacturing industry evaluated the projects on the basis of scope, implementation, impact, overall presentation skills and other criteria to determine the winners. For more information about TMI Team Projects, visit www.tmi.umich.edu. 




BOB CULVER



STEVE KUZMA

Tony Baptista talks with Ford Motor Co. executives at a reception honoring and thanking Ford for providing fellowship support for third-year Corporate Environmental Management Program (CEMP) students. Baptista is only the second student to earn a concentration in manufacturing through Tauber Manufacturing Institute and two master's degrees through CEMP, a dual business and natural resources program.

As president of Open for Business, the school's student club for gays and lesbians, Baptista has raised the group's profile through corporate recruiting events and by joining forces with the Law School's larger Outlaw Group.

Baptista, who also taught communication studies to undergraduates in the College of Literature, Science, and the Arts for four semesters, says, "Michigan gave me a lot of opportunities. I came here to become as technically competent as possible. I soon discovered that the technical aspects of a business problem are often the easiest to solve; driving results comes from understanding organizational behavior and how it supports the company's strategy. The school has prepared me to bridge those gaps and help a company achieve its strategic goals." 

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Wolverine Venture Fund Scores an IPO Home Run

The Wolverine Venture Fund (WVF), the student-governed venture capital fund at the Ross School of Business, picked a winner six years ago when it invested in a promising new start-up called IntraLase.

Last October, the ophthalmic medical device company became the first firm in the fund's portfolio to go public. The initial public offering infused \$1 million

into the WVF, bringing its total value to \$3.5 million.

"It's rare that a first investment like this hits a home run," says **Will Johnson**, MBA '98, a member of the first WVF student board. Another student board member, **John W. Cunningham**, MBA '00 and MS '00, says, "We knew IntraLase had a good business plan, and it came to the WVF from a good source—EDF Ventures."

In December, the Michigan Venture Capital Association presented its 2004 Investment Success Award for the best liquidation event of a venture-funded company to WVF students and advisers and to **Thomas S. Porter**, MBA '67, founder and former general partner of EDF Ventures, for that firm's leadership in launching IntraLase.

If it weren't for Porter, now a general partner of Trillium Ventures, the students might not have invested in IntraLase, says **Thomas Kinneer**, PhD '72, executive director of the Samuel Zell & Robert H. Lurie Institute for Entrepreneurial Studies. Porter's former partner, **Mary Campbell**, MBA '79, founder and general partner of EDF Ventures, was on the WVF advisory board when students made their initial IntraLase investment and currently serves as fund manager for the eight-member advisory board.

IntraLase was attractive, Porter says, for a number of reasons, including its potentially huge market and proprietary technology ensuring a competitive advantage for an extended period of time. IntraLase develops and markets




PAUL JARONSKI

Investing in the Next Hot Company

Jennifer Baird, president and CEO of Accuri Instruments, presents an investment opportunity to members of the Wolverine Venture Fund (WVF) before the MBA students quiz her on the technology, value proposition, and marketing and sales strategies for Accuri's new approach to flow cytometry.

The 19-member WVF, advised by an eight-member board of entrepreneurs and venture capitalists, each year examines 60 potential deals and listens to 10 pitches. In addition to screening and assessing business plans, students perform due diligence and portfolio tracking and management. They work about

10 hours per week on the fund and receive academic credit. The WVF, one of the University's most competitive hands-on learning programs, annually receives 10 times more applications for positions on the fund than student slots available.

The WVF currently has investments in HandyLab, which has developed methods for miniaturizing medical tests; Silverpop Systems, which has developed a computer network that allows for the improved distribution of e-mails that contain audio and video; Mobius Microsystems Inc., which enables circuit designers and manufacturers to achieve higher levels of analog and mixed-signal integration across process technologies; and PanCel, an early-stage diabetes therapy company. 

ultra-fast lasers, related software and disposable devices for LASIK vision correction surgery. The firm's technology is used to create the corneal flap, the critical first step.

"To be successful as a venture investor, you need to look for something that truly makes a difference, not an incremental change," Porter says. "We thought IntraLase would be a terrific opportunity for the Wolverine Venture Fund because it had the kind of home run potential that a truly revolutionary technology can have."

In addition to working with the fund, Porter teaches Managing Growth of New Ventures, a second-year MBA class that focuses on how companies plan for the future after they receive initial funding. "If you have a winning idea, the changes that come with rapid growth can be a real distraction," Porter says. "We talk about what companies must do to manage growth rather than be victims of it."

As the institute's first executive-in-residence, Porter serves as a mentor and coach for MBA students who plan to launch or are developing a business. He also conducts monthly roundtable sessions among student CEOs through the University's Entrepreneur and Venture Club. Porter's appointment is part of an expansion of Zell Lurie programs and curriculum made possible through a new \$4 million gift from institute co-founder **Samuel Zell**, AB '63, JD '66, chairman of the board of Equity Group Investments LLC in Chicago. The gift also supports student scholarships and the new Program for Research Commercialization Potential, a 21-week program that places MBA students on research projects to assess the projects' business potential.

The WVF, which began in 1997 with six students, invested in IntraLase in 1998, shortly after researchers at the University's College of Engineering and Kellogg Eye Center founded the firm. In all, students directed the WVF's total investment of \$250,000 in IntraLase.

Administered by the Zell Lurie Institute, WVF invests primarily in early-stage, emerging growth companies. It is the only university-based venture fund of its kind in the United States. Like their predecessors, the 19 MBA students currently on the fund's board research companies, evaluate business proposals and make investment decisions.

Working as part of the student investment team opened career doors for

Will Johnson, who, as an associate at JP Morgan Partners, focuses on mid- and late-stage investing. Now an adviser to the WVF, Johnson says, "It is great experience to look at the deals that come into the Wolverine Venture Fund. We work with and learn from a very sharp group of students."

John Cunningham, new business development specialist at the University's Office of Technology Transfer, says, "The skills I learned in the Wolverine Venture Fund prepared me for what I do now that I am on the other side of the table, presenting University research to potential investors."

"This is not Monopoly money," says **Tony Pandjiris**, MBA '05, a WVF student adviser who is considering a career in venture capital or technology investment banking. "To serve on the WVF takes guts and due diligence. Typically the fund invests \$50,000 to \$100,000 in a new deal. Besides capital, the other value we add to these companies is the opportunity to present their business plans to the WVF, risk-free. We help companies with their presentations and introduce them to venture capitalists with whom we have relationships. We also help venture capital firms understand technology available at the University of Michigan."

"This is a milestone achievement for the Wolverine Venture Fund, the Ross School of Business and the University of Michigan," Timothy Faley, managing



Members of the Wolverine Venture Fund 2004-2005 are, left to right: First row, **Greg Janus**, MBA '06, **Ed Chao**, MBA '06, MS '06, **Patty Yang**, MBA '05, **Grace Wu**, MBA '06, **Karimah Malcolm**, MBA '05, **Raghav Vasudeva**, MBA '05; second row, **Todd Sullivan**, MBA '05, **Kyle Madan**, MBA '05, **Tony Pandjiris**, MBA '05; third row, **Patrick Kumm**, MBA '05, **Jenny Barba**, MBA '07, MPH '07, **Ian Cummings**, MBA '05; fourth row, **Ted Omlid**, MBA '06, **Raj Attal**, MBA '06, **David Cho**, MBA '06; fifth row, **Per Larson**, MBA '05, **Shinya Chikagami**, MBA '06, **Jason Miller**, MBA '06; sixth row, **David Shelby**, BBA '62, MBA '64, Carolyn Maguire, administrative assistant, Zell Lurie, **Will Johnson**, MBA '98; seventh row, **Thomas Kinnear**, PhD '72, **Mary Campbell**, MBA '79, Margo Shapiro, Tim Faley, managing director, Zell Lurie; eighth row, **Tim Mayleben**, BBA '84, **Don Walker**, MBA '58, and Jim Price. Rows one through five are students. Rows six through eight are faculty, staff and advisory board members. Not in photograph: **Nikhil Mathew**, MBA '06, and **Steve Weinstein**, MBA '98.

director of the WVF and the Zell Lurie Institute, said at an October 7 reception celebrating the WVF and the IntraLase IPO. "The idea of the fund was to have a real-world experience for students to develop leadership skills. We don't know of any other fund in the country that lets students make these kinds of decisions." **M**