

## Features



**Spring 2000  
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- **The Rocket Scientists of Finance**  
A look at financial institutions' growing reliance on the mathematical expertise and creativity of financial engineers.
- **Smith Launches Netcentricity Initiative**  
Corporate partners include Sun Microsystems, Oracle, Tibco, Manugistics, and SAIC.
- **Banking on Maryland**  
A profile of Cindy Flanders '82, MBA '88, a senior vice president with Bank of America.

## Departments

- **Dean's Column** - Dean Howard Frank
- **Real Time** - Richard Cripps of Legg Mason Wood Walker says volume will determine the future of after-hours financial trading..
- **Connections** - To advance its e-commerce infrastructure, the state of Maryland has tapped the Smith School's Supply Chain Management Center and other University of Maryland resources.
- **Academic Focus** - Washington Week shows Smith MBAs the ways and means of the nation's capital.
- **Faculty Up Front** - Patricia Wallace discusses our online personas in her new book, *The Psychology of the Internet*.
- **Alumni News** - Gary Dando. Golf Tournament. Networking.



## the Rocket Scientists of Finance

by Rosemary Faya Prola

Financial engineers perform the same function as their counterparts in the physical sciences: they solve problems. But while one group utilizes the rules of physics to build a 100-story skyscraper or reach distant stars, financial engineers, working for commercial and investment banks and corporations, try to understand and take advantage of the forces of financial markets to manage risk and achieve corporate goals.

Although a nearly invisible occupation to those outside the world of finance, financial engineers have been at work for more than two decades. Michael Fu, professor of decision and information technologies, co-teaches Computational Finance, one of the required courses in the cross-functional MBA concentration in financial engineering in the Smith School.

"In 1973, two events took place that helped to create the field of financial engineering," Fu says. "The Chicago Board of Options Exchange opened for trading, and the Black-Scholes Equation (which provided the first comprehensive model for creating and valuing options contracts) was published." These new financial products met the needs of investors wanting to hedge risk and companies anxious to find new ways to finance business operations.



"Over the past 10 to 15 years, a lot of different products have been developed," Fu says. "Financial engineers build it, price it, and if they do a good job, hedge the risk in the product they're selling."

Developing innovative financial products and assessing the risk position of a firm requires analyzing huge volumes of financial data. Computational models, which simulate actions in the financial market, are an invaluable tool. Financial theorists are constantly developing and refining these models, and a company's in-house expert must understand both how to use existing models and how to build fast, reliable simulations to measure risk and return.

With the development of the quantitative nature of finance, there has been a tremendous increase in the mathematics skills required to develop financial products, notes Haluk

Unal, associate professor of finance in the Smith School. "Rocket scientists' are all over Wall Street," he says.

### **The Right Stuff**

Financial engineers combine their skills in mathematics and statistics with an understanding of economics and financial theory, computer skills, and knowledge of the many financial instruments that can be used or adapted to minimize risk. Frequently teams of individuals with complementary skills will be assembled to solve a particular problem.

The functions performed by a financial engineer can vary by company, explains Unal, who is also a senior fellow at the Wharton Financial Institutions Center. "Quants' are financial engineers who create new financial products in response to specific needs. To price these 'exotic' securities or to price securities that weren't traded on a given day to close the traders' books, they build models using continuous time mathematics. These models then need to be implemented. The person who interprets the models for traders and marketers frequently is also called a financial engineer and is likely to be an MBA with a particular understanding of computational finance."

Smith School faculty have developed some of the models employed today throughout the financial industry. Dilip Madan, professor of finance, created the Variance Gamma Model, which is used every evening by Morgan Stanley Dean Witter to value the books of its options contracts worldwide. Bank of Montreal and Bloomberg L.P. have also expressed an interest in utilizing the VG model.

Madan and Fu, along with Tong Wang (Ph.D. '97), conducted research on the pricing of derivatives which was published in the winter 1998-99 issue of the Journal of Computational Finance, one of the newest and most highly regarded academic journals in the field of financial engineering.

Some of the newest Wall Street "quants" received their financial training at the Smith School. In the last four years, several University of Maryland doctoral students in physics and applied mathematics have taken Ph.D.-level courses in finance and have worked on research projects with Madan. With their academic credentials and recommendations from the highly regarded professor in hand, Charles Reyl (Ph.D. '96) joined Swiss Re Financial Products and Ali Hirsra (Ph.D. '98) and Joeri Jacobs (Ph.D. '97) gained positions at Morgan Stanley Dean Witter. Smith School Ph.D.s Tong Wang ('97), Yang Li ('97), and Ravi Balasubramanian ('98) are employed by the World Bank.

Viju Joseph, MBA '98, is an associate in the international equity division at Morgan Stanley Dean Witter. "I look at the risk of our equity trading portfolios across the globe," Joseph says, speaking over the noise on the trading room floor where his desk is located. "Because of the number of traders and clients, we build systems that can compute what different types of risk are present." Joseph works with the technology people to build the systems, analyzes the output, and reports on his findings to senior management. The

effort is important to ensure that risk is within acceptable limits and balanced throughout the firm.

### **To Bravely Go Into New Markets**

"There's a lot of change in global financial markets right now," states Alyce Campbell, director of financial engineering at Freddie Mac, who is co-teaching Computational Finance at the Smith School this semester. She notes that national and international bank consolidations have increased competition for investors.

New technology has also produced market-shaking tremors. The opportunity for instantaneous communication has been accompanied by changes in investor behavior, Campbell says. "Private electronic communications networks (ECNs) and the Internet have made global markets more accessible and end-user technology is more friendly. Companies like Freddie Mac sell securities globally through the Internet, and this affects investor decisions."

This dynamic global market has increased "the capacity for people with ideas for new products and services to get them out to the market quickly," according to Campbell. "The marketplace is a lot more competitive for every company."

Technology has also had an impact on the work of the financial engineer. "As a result of powerful computers, products can be more accurately priced and unique derivatives more easily developed," Unal says. In addition, the development of ECNs, which offer online buying and selling of stocks and other financial products, "require sophisticated computational models that can quote a complicated contract at a one-click trade," notes Madan.

Recent developments in the global business environment have generated two significant new areas of interest to investors and business strategists: credit risk and real options.

"Since 1990 the corporate bond market has exploded," Unal states. "Now it's flooded with low-rated firms. Investors are concerned about how to hedge default risk in risky debt." Another reason for the interest in credit risk, he explains, is that "there are very few money-making opportunities left in traditional treasury bonds. But the opportunities still exist in corporate bonds, i.e., risky debt."

Unal and Madan have published two papers in this field, in the *Review of Derivatives Research* and the *Journal of Financial and Quantitative Analysis*. Their recent working paper on credit risk is also included in the Wharton Financial Institutions Center's working paper series. Recently they served as panelists on the center's financial engineering roundtable on the quantification and trading of credit risk. Madan also has taught at seminars on credit risk in London and New York. Xiaoling "Frank" Zang (Ph.D. '99), now with the Federal Reserve Board, developed a computational model in the credit risk area as part of his dissertation.

Associate Professor of Finance Alex Triantis is conducting research in the second "hot" area, real options. "Corporate financial engineers are using techniques for valuing financial options to develop models that value their companies' assets and to help them determine appropriate strategy," Triantis says. He recently worked with Airbus Industrie to value options granted to airlines that allow them to change specifications after placing an order with the European aircraft manufacturer.

"Real options models are especially useful in dynamic industries such as technology and pharmaceuticals," Triantis says, "where significant investments are required up front to pursue activities that may not yield a significant return in the short run."

The networked global marketplace that has helped to fuel the demand for new financial products shows no signs of slowing down. In the New Economy, financial engineers will continue to be challenged to build new products and evaluate and manage risk.

## Smith School Launches "Netcentric Economy" Initiative

Today, more and more organizations are investing in powerful network systems to support and facilitate their internal operations, business partnerships, and customer relationships. In the not-too-distant future, says Dean Howard Frank of the Smith School, "there will be an integrated business-to-business-to-consumer supply chain for nearly everything we do."

To develop, test, and share best business practices of this new networked world, the Smith School of Business has launched its Netcentric Economy initiative. "We're creating a unique R&D test bed to study the emerging netcentric world from a variety of perspectives," says Patricia Wallace, the Smith School's acting CIO and executive director of the Center for Knowledge and Information Management.



Central to this initiative is the Netcentric Laboratory, a sophisticated facility for researchers and the corporate community that also will serve as a hands-on learning environment for students. This seamless networked environment encompasses supply chain management, financial trading, electronic commerce, and applications and research in the behavioral aspects of netcentricity.

The Smith School is partnered with several major companies to develop and support the new laboratory. Sun Microsystems has donated servers, terminals, and software to create a mini-version of the company's Menlo Park, Calif., supply chain management laboratory. Through its alliance with Sun, the Smith School's Supply Chain Management Center is modeling the extended enterprise relationships among suppliers, carriers, distributors, and customers. In addition, Oracle Corp., Tibco Software Inc., and Manugistics have contributed software, and SAIC has contributed research funding.

Projects already under way in the new laboratory include a multi-year study for the Defense Advanced Research Projects Agency (DARPA) to identify the impacts of netcentricity on business and military organizational strategies, structures, systems, and processes. In addition, Smith researchers are conducting a three-year National Science Foundation-funded study of supply chain infrastructures.

Other components of the netcentricity initiative include collaborative multi-disciplinary research within the Smith School and with the University of Maryland's A. James Clark School of Engineering, computer science, industrial/organizational psychology, and economics departments; and the schools of library and information sciences and public affairs. The Smith School also will develop a range of outreach programs to share best netcentric business practices.

"We're trying to do something that's never been done before in a university setting," says Frank. "Our vision is to create an integrated research and teaching environment that links technology research of the netcentric environment with business research and includes training in behavior, policy, strategy, and finance."

*Picture: Sandor Boyson (standing), director of the Smith School Supply Chain Management Center, and Anil Agarwal, director of Sun Microsystems' Supply Chain Competency Center, test the new Sun equipment in the laboratory. Agarwal is a Fellow and advisory board member of the Supply Chain Management Center.*

## **Cindy Flanders '82, MBA '88: Banking on Maryland**

A career in banking wasn't Cindy Flanders' original vocational choice. A personnel/labor relations major as an undergraduate, Flanders was set on becoming "the next Ken Moffitt," she recalls, referring to the federal mediator in the 1981 baseball strike. But fate intervened when the AFL-CIO laid off 600,000 members and the job market for would-be labor negotiators dried up. Employed at the time by Suburban Bank, the 1982 Maryland graduate decided to stay in banking.



Flanders worked her way through college, earning an associate's degree in liberal arts from Prince George's Community College and then a B.S. summa cum laude from the University of Maryland. Attending school part time, it took her seven-and-a-half years to complete her undergraduate studies.

Following graduation Flanders moved to a position in Suburban's accounting department. Advised by her boss to either earn a CPA or an MBA, she chose the latter: "I was really bad at accounting," she comments. Shortly after enrolling in the MBA program at Maryland, she transferred into commercial lending, the area she remains in today. But that wasn't her plan at the time. Again, fate intervened.

"I took most of my electives in finance with the goal of becoming a portfolio manager," Flanders says. But then came the October 1987 stock market crash, and the investment firms were laying off, not hiring people. "Then I knew it was my destiny to be in banking."

Following Sovran Bank's purchase of Suburban in 1986, Flanders was named a vice president in commercial lending. Subsequently she was named group vice president for southern Montgomery County, and in 1991, senior vice president.

In 1993 NationsBank purchased Sovran, and soon after, Maryland National Bank. "It was a very stressful time for us," Flanders recalls. "When we were purchased, probably 70 percent of our commercial portfolio was risk rated, that is, had problems. There was also a lot of people and client overlap caused by acquiring a bank in the same market," she says. As a manager, she was dealing with lay-offs and with territorial and systems integration issues.

Weathering this storm, the bank continued to be successful, purchasing Bank of America in 1998, with the new bank adopting the more well-known brand name. Flanders achieved another career milestone as well, celebrating her 25th anniversary in banking.

Recently she was named market executive for the bank's Washington Commercial Growth Group, which comprises D.C., suburban Maryland, northern Virginia, and

southern Howard County. "Arguably it's the hottest market in the mid-Atlantic region if not the East Coast," she says.

Flanders' Bethesda office is decorated with University of Maryland and Terrapin memorabilia. She became involved in university activities at the urging of a banking colleague and friend, Bill Apollony, B.A. '69, MBA '76, senior vice president of the Healthcare Banking Division of Allfirst. "The better the University of Maryland looks, the better we (alumni) look,' Bill told me," she says.

Flanders has been active in the business school's mentoring program and the bank's recruitment of Maryland students. She serves as treasurer of the Smith School alumni chapter Board of Directors. She also is a member of the school's leadership committee for the university's Bold Vision o Bright Future fund-raising campaign. In fall 1999 she joined the University of Maryland Alumni Association Board of Governors.

Flanders is working with the business school's advancement office to establish a Bank of America Fund to support Smith School programs and activities. More than 250 Bank of America employees are graduates of the business school.

"I'm a big believer in education and its power to change society," Flanders says. Her philosophy and personal experience have influenced a future career direction. Someday, the Maryland grad says, she would like to return to the classroom as a teacher.

## **Building a Faculty Powerhouse**

*Dean Howard Frank*

I spend a great deal of time talking and writing about the strategies, initiatives, and programs of the Smith School of Business. What I can't emphasize enough are the people at the Smith School who make the programs so successful. As we pursue our goal to become the model for business education in the New Economy, the extra-ordinary people of Smith prove time and time again that they are the school's most valuable assets.

We are fortunate to have an exceptional faculty at the core of our business school community. Its members include: groups whose research productivity puts them at the forefront of their fields; fellows of the American Academy of Management; editors of top academic journals; and consultants to regional, national, and international organizations looking to learn and capitalize on the rules of the New Economy.

To meet the growing demand for our innovative curricula and programs effectively, we have launched an ambitious effort to increase the number of Smith faculty members. We want to make sure that our faculty includes the right mix of functional experts and New Economy researchers to provide the blend of fundamental skills and new business practice knowledge required by today's fast-paced workplace. As we grow, it also is vital that our faculty maintains the culture of teamwork and collaboration needed to support the integration of core business functions and cross-functional concentrations in our curricula.

During the next four to five years, we plan to grow the faculty from its current level of 100 to about 140. We are recruiting individuals at the prime points in their productivity curves, attracting scholars who can contribute immediately to preparing our students for the New Economy.

We are making substantial progress. For the academic year 1999-2000, we experienced our most successful faculty recruiting season ever, attracting 16 new senior scholars and teachers. Their primary research areas include the adoption of new information technologies, netcentric supply chain management, network markets, support for shared knowledge creation in virtual communities, and high-technology entrepreneurship.

With our recruitment for the next academic year nearly complete, we will welcome about 15 new faculty members in fall 2000. The creation of new faculty chairs and professorships, made possible by our generous donors and funding from other sources, are making our faculty enhancement efforts possible.

Our students and business clients count on getting the education and training they need to excel: good grounding in core business functions; know-how to apply technology to business practices; and the ability to transform data, information, and knowledge into organizational competitive advantage. Thanks to the Smith School's growing faculty

powerhouse, we can provide our customers with the tools they need to compete successfully in the 21st-century workplace.

## After-Hours Trading? Show me the Volume

*by Richard E. Cripps*

Chairman Arthur Levitt of the Securities and Exchange Commission last fall submitted recommendations regarding after-hours trading on the primary exchanges to the chairman of the New York Stock Exchange, Inc., and the CEO of the National Association of Securities Dealers, Inc. Created by three government-appointed working groups, these recommendations articulate the direction for innovation and service the stock exchanges will deliver to meet the challenges of competitive global financial markets.



According to the proposals, the traditional 9:30-to-4 trading day will yield to an increasingly electronic network that will be open on a continuous basis. How soon 24-hour, seven-day trading occurs has moved beyond issues of technology capability to the knotty, but solvable, problems of logistics and regulation. The key fundamental issue remaining, however, is how much demand, or liquidity, "after-hours" trading will create to generate a viable and competitive marketplace.

We are all aware of the capabilities and power of the Internet to connect users directly to electronic marketplaces. While there are important differences between the NYSE and NASDAQ, particularly with order execution, they both are networks that are becoming increasingly electronic. However, regulations and membership guidelines restrict the use of the networks. Furthermore, investors wanting to execute transactions outside normal hours, mostly because of late-breaking news, traditionally were forced to conform to "New York time." In response, an "after-hours" company, known as Instinet, facilitated order-matching for large institutional investors in the early 1990s. It is important to note that the trading volume in after-hour markets was (and still is) relatively miniscule compared to volume in the normal trading day.

The combination of enabling technology and a bull market that has attracted millions of individual investors has created innovative electronic communications networks (ECNs). ECNs have the ability to execute transactions during and after normal trading hours. Recognizing the inevitable and potential chaos of ECNs competing with the established exchanges, the SEC has pushed the development and coordination of after-hours trading. The idea is to "open up" the NYSE and NASDAQ networks by extending trading hours, lessening restrictions on proprietary listings, and giving more direct access to trading information.

In practical terms, trading through an ECN is available several hours before normal market hours and into the early evening (EST). Expanding hours further depends on attracting enough investors who want to trade. Market price efficiency is a function of having a critical mass of buyers and sellers. Lacking the liquidity of active trading volume, after-hours trading becomes a backwater of inefficient pricing, subject to manipulation. This, of course, is something that the SEC does not want to happen.

That said, we are likely to see the development of a global electronic marketplace in the future. In reality, this might represent 100-150 stocks of large multi-national corporations with a global shareholder base. For example, DaimlerChrysler AG, formed from the merger of Germany-based Daimler Benz and Chrysler Corp., has created common stock that trades in London, Frankfurt, Tokyo, and New York. The company went through significant expense to ensure that its financial statements conformed to all governing exchange requirements, as well as having the various taxing authorities agree to ease withholding requirements for dividend distributions. DaimlerChrysler has more than one billion shares outstanding with a significant number of shareholders in each market.

The value of a network is derived from the number of its users. In the case of stocks, volume is the ingredient that will determine the value and success of after-hours trading.

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## **Supply Chain Center Supports eMaryland**

**Center partners with the state to help create the most technologically advanced business environment in the nation.**

Maryland Governor Parris Glendening has called upon the Smith School's Supply Chain Management Center (SCMC) and the University of Maryland's Office of Information Technology (OIT) to help advance the state's e-commerce infrastructure. The project, "eMaryland," seeks to establish Maryland as the premier state in the country for conducting business in the digital economy. Strategic components of the eMaryland plan are a networked electronic infrastructure, advanced Internet-based business services, and legislative policies aimed at creating "the fastest, most efficient e-business environment today."

Selected to participate based on their expertise in supply chain and related e-commerce activities, SCMC and OIT will test and develop new e-business services and associated business practices and processes. This new charge is in line with SCMC's mission, according to Sandor Boyson and Thomas Corsi, directors of the center.

"Since the center was established in 1998, one of our goals has been to work with the state to help it move in the direction of high velocity electronic supply chains," states Boyson. "We want to expand the region's reputation as a logistics hub and enhance its ability to attract and retain businesses that depend on highly efficient supply chain procedures."

The center's involvement in eMaryland began last fall, when Boyson and University of Maryland Associate Vice President and CIO Don Riley (who also is professor of decision and information technologies in the Smith School), were asked by the governor's Information Technology Board E-Commerce Task Force to consolidate its recommendations and create a comprehensive IT proposal. Based on their report, legislation was introduced to the Maryland legislature earlier this year to implement the eMaryland strategies.

Funded activities will include establishing a consortium of University of Maryland SCMC and OIT researchers and industry representatives to develop and deploy innovative Internet-based business applications in a research center housed at the university. In this effort, the center will be able to leverage its established relationships with world-class technology leaders in the Internet business applications marketplace. OIT also will provide the state's government and higher education communities and businesses in high-tech incubators with access to e-business applications as a statewide Application Service Provider (ASP).

National visibility for the eMaryland initiative will be heightened with the CEO Board of Advisors for Electronic Commerce. Composed of executives representing some of the

world's leading technology companies, the CEO Board held its first planning meeting in February. Senior executives from Sun Microsystems, Oracle, Lucent Technologies, Cisco Systems, IBM, USInternetworking, Digex, and AppNet met with the governor, lieutenant governor, the governor's chief of staff, and legislative leaders to discuss a shared agenda for eMaryland.

The pilot program of the eMaryland initiative will be a procurement application for government agencies, public education facilities, and high-tech incubator companies. "Providing this application on the Web will give them access to a wider range of suppliers and expedite what is now a labor-intensive, cumbersome process," says Corsi. "The result will be lower prices and better services." The state Office of Procurement and Contracting has estimated that processing costs could be cut 30 percent or more utilizing Internet-based procurement applications.

"Through the eMaryland initiative," Boyson asserts, "the state will be able to build on the strengths of its vanguard ASP companies to stay at the forefront of new e-business practices, and strategically leverage the national capital region's world-leading Internet infrastructure for business and economic development."

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## **CIOs Convene to Collaborate**

The impact of computer technology and information management on the operation and service of government agencies, corporations, and academic institutions was the discussion topic for the first CIO Forum sponsored by the Smith School's Center for Knowledge and Information Management (CKIM). Thirty-three chief information officers from various sectors convened at the school last fall to discuss this and related topics.

According to Patricia Wallace, executive director of the CKIM, the forums will enable CIOs to share new ideas, track technology directions, and keep abreast of trends. The CIOs also plan to work together to:

- collaborate on cutting-edge research projects involving technology and the digital economy;
- share best practices for technology leadership and innovation in a neutral environment;
- advise on educational issues;
- influence policy related to technology and information management.

The participants at the fall gathering agreed that a forum of technology leaders from business, government, and educational organizations can and should work together to solve technology-related problems and shape future direction for the Washington/Baltimore/Northern Virginia region.

For more information about the CIO Forum, contact Wallace at: [pwallace@rsmith.umd.edu](mailto:pwallace@rsmith.umd.edu) or 301.405.8456.

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## Knowledge Management Seminars

The 1999-2000 IMC Leveraging Corporate Knowledge Seminars featured information management experts who discussed cutting-edge research and business developments in the knowledge management field. The Smith School's Center for Knowledge and Information management produces the series, co-sponsored by Information Management Consultants, Inc., an information technology and management consulting firm in Northern Virginia.

The speakers during the spring semester were:

- Steven Miller, chief engineer, RWD Technologies;
- Vasant Dhar, associate professor, Stern School of Business, New York University;
- Thomas Friedman, foreign affairs columnist, New York Times, and author of *The Lexus and the Olive Tree*;
- Kathryn Bartol, professor of management, Smith School of Business.

For more information on the series, call 301.405.8456 or e-mail: [pwallace@rsmith.umd.edu](mailto:pwallace@rsmith.umd.edu).

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## Visiting Executive Series

The speakers for the spring session of the 1999-2000 Smith School of Business Visiting Executive Series shared insiders' views of current business trends and corporate leadership issues with the Smith School community. The speakers were:



**Patrick Gates**, vice president of e-commerce, America OnLine, Inc. He is leading the redesign of the AOL shopping experience on AOL.com, CompuServe, Netscape, and Digital City, with the launch of Shop@AOL.



**Robert Lawless**, chairman, president, and CEO (left), and **Francis Contino '68**, executive vice president and chief financial officer, of



McCormick & Company, the largest spice company in the world.



**Katherine Clark**, president, CEO, and co-founder of Landmark Systems Corporation, a worldwide leader in computer performance management. Clark has expanded Landmark's product line into a complete suite of performance solutions, positioning the company for the client/server market.



The winter 2000 issue of SMITHbusiness reported on the talk by **Bob Dorf**, president of Marketing 1to1/Peppers and Rogers Group, who kicked off the Visiting Executive Series last fall.

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## MBAs Go to Washington

Despite a mid-winter snowstorm that blanketed the mid-Atlantic region and closed the University of Maryland campus and government offices, the annual MBA Washington Week carried on. The January 2000 edition featured timely topics and engaging speakers, compressed into two days because of the adverse weather conditions.



The program is one of four Experiential Learning Modules (ELMs) required of full-time MBA students. The Washington Week ELM was developed in 1995 by Lee Preston, emeritus professor, and Larry Lesser, adjunct professor.

"It's important for managers to be aware of how government works," says Washington Week Director Brian Shaffer, assistant professor of logistics, business and public policy. "The program also allows us to take advantage of a huge asset, our proximity to the nation's capital."

Panels composed of industry and legislative experts discussed a variety of issues including lobbying by technology interests, trade sanctions as a way to promote U.S. foreign policy and national security, western hemisphere trade issues, and the acceptance of digital signatures in electronic commerce. In addition to sessions held in Van Munching Hall, the first-year MBAs traveled to Washington to attend programs held at the House and Senate office buildings, the World Bank, and for the first time this year, the White House. The students also had an opportunity to play the role of legislators in half-day congressional process simulations.

"I think the Washington Week ELM provides a good overview of the way Congress works," says Tim Stadthaus, a second-year MBA who volunteered to help with the congressional process simulations. Providing future managers and CEOs with exposure to the legislative process is a necessity, he believes.

Prior to enrolling at the Smith School, the Georgetown University international relations graduate was chief of staff for Representative Bill Goodling (R-Pa.). While he was on the "Hill," Stadthaus says, "we knew that the under-representation of Microsoft and other technology companies could come back to haunt them. If Microsoft had had a Washington presence, they would have been able to find out real concerns of the legislators and may have been able to round up support," he conjectures.

Amee Shah worked in nonprofit management in Washington, D.C., for four-and-a-half years before enrolling in the Smith School MBA program in fall 1999. Shah is eager to talk about the value of the Washington Week Program.

"I think for all students, and for the international students in particular, Washington Week gave us a better sense of how the business and government sectors work together, and the different issues where they interact," she says. Shah singles out the session on trade sanctions as especially interesting: "We heard both points of view: how unilateral trade sanctions affect U.S. business and the role of sanctions in U.S. foreign policy. There is a logic behind (sanctions)," she notes, "and support for them, even in partisan Washington, can cross party lines."

Although there is no homework involved in the Washington Week ELM, Shah left the session at the White House with a self-appointed assignment. In this session, staff members of the President's Initiative for One America described the administration's strategies "to close the opportunity gaps that exist for minorities and the under-served" in the United States. A member of the school's chapter of Net Impact, formerly Students for Responsible Business, Shah offered the assistance of Smith MBAs in helping to involve corporations in this effort.

In addition to Washington Week, Smith MBA students take three other ELMs: Career Management, Business Ethics, and Case Competition. ELMs provide another dimension to the learning experience, reinforcing management skills and broadening the business perspective of Smith MBAs.

*Picture: Washington Week Director Brian Shaffer (right) speaks with Luis Giuste, Senior Advisor, Center for Strategic and International Studies (left), and John Mele, senior director, North American Trade Policy, Office of the U.S. Trade Representative.*

## Sweet Victory for Winning Team

"Erupting Sweetly into the Future." That was the slogan developed by the winning team of the 1999 Strategy Board Competition. Sponsored by the Business, Society & the Economy program of University of Maryland College Park Scholars for academically talented undergraduates, the competition is part of the course, Introduction to Business and Management. Roxanne Lefkoff-Hagius of the Smith School of Business marketing faculty teaches the course, which focuses on developing business strategies for companies.



The winning team's company was Hershey Foods Corporation. Among the team's recommendations for Hershey were: develop healthier products, expand into China, and tap into the luxury candy market. Their display board featured a model of a large volcano that looked like a Hershey's chocolate kiss, with a variety of the company's candies erupting from the top. Lefkoff-Hagius created the Strategy Board Competition in which students develop written reports and visually interesting display boards to communicate their strategic recommendations for "their" companies' future growth. Representatives from the various companies studied by the teams serve as judges.

Representatives from Hershey Foods who participated as judges were: Milton Matthews '68, vice president of sales, and Paul Hagerty, employee development manager.

*Pictured with Milton Matthews '68 (r), vice president of sales, Hershey Foods, are the members of the 1999 Strategy Board Competition first-place team (l-r): Andrea Morrison, Nony Odum, Michael Ortolani, and Eric Ottenheimer.*

## "Ace" Team Tops Case Competition

Tackling an intensive course load while interviewing with top employers, Smith School second-year MBA students took on another graduation requirement: the Andersen Consulting MBA Case Competition. Considered the capstone of the Smith MBA program, this annual event was held December 6 - 10, 1999, in Van Munching Hall.



The case focused on FreeMarkets OnLine, Inc., a pioneering, dynamic market maker in B2B (business-to-business) commerce. An infomediary of Internet technology, FreeMarkets OnLine creates customized B2B online auctions for buyers of industrial parts, raw materials, and other goods and services.

Teamed as consultants, students presented a written analysis and recommendations to faculty members and corporate judges in two days. For the competition's final day, only four teams were selected to give their oral presentations for evaluation by executive judges. The judges were: Alexander Dean, managing partner, Andersen Consulting LLP; Paula Jagemann, president and CEO, e-Commerce Industries; Patrick McGettigan, founder and chairman of the board, Landmark Systems Corporation; Mark Walsh, CEO, VerticalNet, Inc.; and Smith School Dean Howard Frank.

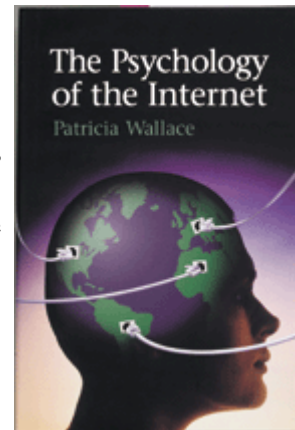
Each member of the winning team received a personalized gold plaque and a \$500 cash prize.

For information about the winning team's case analysis and recommendations, please call 301.405.2311 or e-mail: [pyee@rhsmith.umd.edu](mailto:pyee@rhsmith.umd.edu).

*Pictured l-r: Alexander Dean, Andersen Consulting; winning team members David Dodman, David Emmerling, Ann-Clayton Everett, Aaron Lieberman; Dean Howard Frank.*

## Our Online Personas

In her new book, *The Psychology of the Internet* (Cambridge University Press, 1999), Patricia Wallace explores how the online environment affects the way we behave. SMITHbusiness spoke with Wallace, executive director of the [Center for Knowledge and Information Management](#) and acting CIO at the Smith School of Business, about the book. Here are some excerpts from the interview.



### **Sb: What is the major message of *The Psychology of the Internet*?**

**PW:** A central theme is that we need a balanced, research-based analysis of what the Net is, what is happening online, and how it affects our behavior. To many people, the Internet is a paradox, and much of what they have heard is anecdotal or opinion. They hear its virtues extolled, but they also read sensationalistic headlines about its perils. In *The Psychology of the Internet*, I draw on classic and contemporary research to show that we do not mutate into a new species when we go online; rather, the Internet's environments influence what we do and how others perceive us.

### **Sb: Describe a few more of your findings about the online environment's impact on behavior.**

**PW:** Group dynamics unfold differently online compared with face-to-face settings. For instance, virtual work groups experience subtle changes in the way the group performs because of the environment. Sometimes the effects can benefit the group, such as the way status cues are minimized online; people who might not speak their minds in face-to-face settings become more willing to contribute. Other changes hinder the group's success. For example, the low media richness on the Net can easily lead to misperceptions and misunderstandings.

### **Sb: What other characteristics of the Net do you discuss?**

**PW:** The Net is an equalizer. Age, race, physical appearance, ethnicity, accents, or disabilities are not immediately visible online, though gender usually is visible because of names or pronouns. This characteristic of the Net influences interactions in fascinating ways since in face-to-face settings people rely heavily on them to form impressions.

Furthermore, people often become disinhibited on the Net because the usual social constraints are lowered. The physical distance and the possibility of anonymity create an environment in which people feel freer to express themselves. For example, many people show more self-disclosure than they would in face-to-face settings; some also show uncharacteristic verbal aggression, perhaps in flame wars or by sending harsh e-mails or caustic feedback to Webmasters.

**Sb: So we are not our true selves when communicating on the Net?**

**PW:** Everyone on the Net creates an online persona, whether they realize it or not. Sending e-mail, creating a homepage, building a Web site, participating in discussion groups-all contribute to the impression people form about you, your organization, or your company. However, few really know how to manage these impressions on the Internet because the tools we are using are not familiar.

**Sb: What did you want to achieve by writing *The Psychology of the Internet*?**

**PW:** The Internet emerged with such breathtaking speed that we have had little opportunity to look at it systematically from a psychological perspective. It is a unique environment that interacts with and influences our behavior and perceptions, whether we are communicating with co-workers or family, or whether we are working, shopping, playing, or studying. Drawing on research from several disciplines, including psychology, business, communication, information science, and sociology, I wanted to show how the online environment affects the way we behave. I also wanted to explore how we, as pioneers in this online world, can influence this youthful technology and guide its development.

To contact Patricia Wallace, write her at: [pwallace@rhsmith.umd.edu](mailto:pwallace@rhsmith.umd.edu).

## Networking from Baltimore to Boston

Regional networking for Smith School alumni and students has been a focus for the school's alumni chapter this academic year. In December, the alumni chapter and MBA Finance Association hosted a networking reception and panel discussion at the Center Club in Baltimore. Panelists Michael Egan, Legg Mason Wood Walker, Inc; J. Eric Leo, Allied Investment Advisors; and David M. Sotsky, spoke to 140 alumni and students on "Investing in the Next Millennium."



"The chapter's networking committee, led by Glenn Page '91 of Allfirst Bank, is committed to helping the Smith School with recruitment, placement, and corporate relationships," says Tamara Maull, the Smith School director of alumni affairs.

In January, the business school teamed with the University of Maryland Alumni Association's New York Alumni Club to host a networking event and investment panel in New York City at the Loews Hotel, where investing in the new millennium was again the topic. Robert Ohmes '93, Morgan Stanley Dean Witter (*right*); Tara Long '97, C.E. Unterberg-Towbin (*left*); and Meg VanDeWeghe, executive-in-residence and finance faculty member (*center*), shared their business savvy with the nearly 200 alumni and students who attended.



Dean Howard Frank and Senior Associate Dean Judy Olian were on hand to talk with alumni about new business school initiatives. First- and second-year MBA students benefited from this opportunity to network with alumni representing various companies.

In February, the Smith School MBA Association and University of Maryland Boston Area Alumni Club hosted a reception for alumni and students attending Cyberposium 2000 at Harvard University. The gathering was a conference for entrepreneurs, professors, and MBA students to discuss issues facing entrepreneurs bringing their technology-based visions to market. Kevin Duffy '91, leader of the Boston area club, was pleased with the turnout of area alumni and plans to have more events like this in the future, specifically in the areas of finance, e-commerce, and cybersystems technology.

## **Applause for Gary Dando** **He is the 2000 Distinguished Alumnus of the Year.**

The Robert H. Smith School of Business honored B. Gary Dando '64 as its Distinguished Alumnus of the Year at a reception in Van Munching Hall on April 8. Dando, who was profiled in the winter 2000 issue of SMITHbusiness, is a successful accounting and auditing consultation partner with the national office of Ernst & Young LLP, the global audit, tax, and consulting firm, in Washington, D.C.



At the reception, the Smith School announced the creation of the B. Gary Dando Alumni Service Award, which will be given annually to an alumnus/a whose efforts on behalf of the business school follow Dando's outstanding example of dedication and service.

Following the Van Munching Hall event, the University of Maryland Alumni Association honored Dando, other university alumni, and members of the university community at a black-tie awards gala.

An extremely busy and accomplished professional, Dando has always made time for the University of Maryland and the Smith School of Business. He has served on various university boards and committees and generously supported university fund-raising campaigns. However, he is proudest of his successful efforts to help initiate and organize Ernst & Young's more than 20 years of support for the Smith School.

The faculty, staff, and students of the Smith School of Business salute Dando and are very pleased to be able to recognize his commitment and dedication with the business school's most prestigious honor, Distinguished Alumnus of the Year.

*Pictured: Gary Dando (left) and friend Robert J. Beall, president and CEO of the Cystic Fibrosis Foundation, enjoy the reception.*

## **Alumni Share the Franks' Treasures**

Smith School Dean Howard Frank and his wife, Jane, stand next to "Speaking in Tongues," an illustration by Steve Youll. The occasion was an alumni reception in February at the University of Maryland Art Gallery, where a portion of the Franks' extensive collection of science fiction and fantasy art was on display. The work was part of the art gallery's exhibition, "Possible Futures: Science Fiction Art from the Frank Collection."



## **Golf Tourney Set for September 21**

The 11th Annual Scholarship Golf Tournament of the Robert H. Smith School of Business will be held on Thursday, September 21, at the University of Maryland Golf Course. For information about participating in this premier tournament, contact Tamara Maull, director of alumni affairs, at: [alumni@rhsmith.umd.edu](mailto:alumni@rhsmith.umd.edu) or 301.405.2392.