

2<sup>nd</sup> Annual Georgia Tech Industry/Academic  
Workshop on  
**Revenue Management and Price  
Optimization**

Thursday, May 18<sup>th</sup> 2006



**Georgia Institute  
of Technology**

Dear Colleague,

Welcome to the second annual conference on Revenue Management and Price Optimization. The Georgia Tech College of Management, School of Industrial and Systems Engineering, and School of Civil and Environmental Engineering are honored to host this meeting.

The primary goals of this conference are to foster academic and industry research collaboration and to seek out lessons and similarities between the diverse applications of revenue management and price optimization. The focus area on Pricing and Revenue Management was established in August, 2004 with the goal of increasing the academic/industry research collaboration and educating our students on the methods and value of price optimization. If you would like to learn more about how to become involved in this focus area, please contact one of the Georgia Tech Faculty organizers listed below.

An agenda for the conference is attached. If you need any assistance, please let any of the conference organizers know and we will be more than happy to help.

*Organizing Committee:*

Georgia Tech Faculty

Mark Ferguson: [mark.ferguson@mgt.gatech.edu](mailto:mark.ferguson@mgt.gatech.edu)

Laurie Garrow: [laurie.garrow@ce.gatech.edu](mailto:laurie.garrow@ce.gatech.edu)

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***Acknowledgements***

The conference organizers wish to thank Bob Cross, Steve Swope, Andy Boyd, and Jon Higbie for their guidance and help planning this workshop. Sponsorship money, provided by Revenue Analytics and Rubicon, allowed us to charge the modest registration fees for students. We also want to thank Lisa Baxter and Carrie Crystal for their many hours working out the thousands of details to put this workshop together. Finally, we also thank the Georgia Tech Business School Communications Department for their help creating this program.

# Agenda

**Room 314**

**Room 316**

Time	Event	
8:30 – 9:00 AM	Registration	
9:00 - 9:45 AM	Welcome/Opening Bob Cross (Revenue Analytics)	
9:45 – 10:45 AM	Special Events Julie Swann (GA Tech)	Hotels Steve Swope (Rubicon)
10:45 - 11:00 AM	Break	
11:00 - 12:00 PM	Non-Traditional Industries Mark Ferguson (GA Tech)	Airlines Andy Boyd (PROS)
12:00 – 1:30 PM	Lunch	
1:30 - 2:30 PM	Software Providers Paul Griffin (GA Tech)	Travel Industry Laurie Garrow (GA Tech)
2:30 - 3:00 PM	Break	
3:00 - 4:00 PM	Retail Bob Cross (Revenue Analytics)	On-Line Travel Jon Higbie (Manugistics)
4:00 – 4:15 PM	Break	
4:15 – 4:45 PM	Georgia Tech Research	
4:45 – 5:00 PM	Break	
5:00 – 6:00 PM	Keynote Speaker Nell Williams (Marriott)	
6:00 - 7:00 PM	Cocktails (The Globe)	

## Panelists

### *Special Events*

Julie Swann

Anil Malhotra

Scott McLaren

Charlie Wade

GA Tech (moderator)

Consultant to the Arts

Georgia Tech Athletic Association

Atlanta Symphony Orchestra

***Hotels***

Steve Swope	Rubicon (moderator)
Apo Demirtas	InterContinental
Sharon Duffy	Hilton
Lee Jones	Marriott
John Kaufman	Starwood

***Airlines***

Andy Boyd	PROS (moderator)
Bill Brunger	Continental Airlines
Beju Rao	Sabre
Krishnan Saranathan	United Airlines

***Non-Traditional***

Mark Ferguson	GA Tech (moderator)
Donald Davidoff	Archstone-Smith
Bill Dudziak	BlueLinx
Sundee Kapur	NCR
Joe Kniple	UPS

***Software Providers***

Paul Griffin	GA Tech (moderator)
Molham Aref	Predictix
Andy Boyd	PROS
Paul Campbell	QL-2
Tammy Farley	Rainmaker
Douglas LaPointe	Manugistics
Jeff Moore	SAP-Khimetrics

***Travel Industry***

Laurie Garrow	GA Tech (moderator)
Darren Arrington	Dollar Thrifty
Craig Eister	InterContinental
Richard Lonsdale	Boeing
Brenda Yester	Carnival Cruise Lines

***Retail***

Bob Cross	Revenue Analytics (moderator)
Rajeev Kaul	AutoZone
Hal Kravitz	Coca Cola Enterprise
Shawn McMillian	Coca Cola Enterprise

***On-Line Travel***

Jon Higbie	Manugistics (moderator)
Kevin Geraghty	Revenue Research
Utpal Kaul	Expedia
Rich Saleh	Travelocity

## **Moderator Bios**

**Andy Boyd** has served as Chief Scientist and Senior Vice President of Science and Research at PROS (Pricing and Revenue Optimization Solutions) since 1999. He joined PROS in 1997 as Vice President of Science and Research following almost 10 years as a university professor. His group consists of an international collection of advanced degree recipients in Economics, Operations Research, Quantitative Marketing, and Statistics, with domain expertise cutting across multiple industries. Andy is founding president of the INFORMS Section on Revenue Management and Pricing, and maintains a formal affiliation with the Texas A&M University Department of Industrial Engineering. He is one of the original designers of the CPLEX linear programming library, now part of ILOG. Andy has over 25 scholarly publications to his credit, including papers in *Operations Research*, *Management Science*, and *Mathematical Programming*, among others. He has also held numerous research grants from agencies such as the National Science Foundation and the Federal Aviation Administration, has written several technical articles and book chapters, has been an active participant at industry conferences on pricing and revenue management, and was part of a 2003 Edelman finalist team for work with Texas Children's Hospital. Andy received his A.B. with Honors at Oberlin College with majors in Mathematics and Economics in 1981, and his Ph.D. in Operations Research from the Massachusetts Institute of Technology in 1987.

**Robert G. Cross**, the Chairman and CEO of Revenue Analytics, is widely recognized as the foremost expert in the field of Revenue Optimization. Labeled the "guru of revenue" by the Wall Street Journal, Mr. Cross founded Talus Solutions, Inc., a company credited with creating billions of dollars in value for clients such as Delta Air Lines, Marriott International, Ford Motor Company and UPS. Talus was acquired by Manugistics Group, Inc. in December of 2000 for \$366 million. Mr. Cross authored *The New York Times* Business Best Seller, *Revenue Management: Hard Core Tactics for Market Domination*, (Broadway Books 1997), which has been subsequently published in French, German, Japanese, Korean, Chinese and Portuguese editions. He is in demand as a global lecturer on Revenue Optimization and is frequently quoted in international business publications. His writings have been included in the *Book of Management Wisdom* (John Wiley & Sons 2000) along with such business luminaries as Bill Marriott, Jack Welch, Lee Iacocca and Tom Watson, Jr. Mr. Cross also serves as a Distinguished Executive-in-Residence at the Terry College of Business at the University of Georgia. He holds a JD (cum laude) and a BA in Chemistry from Texas Tech University.

**Paul Griffin** is a professor in ISyE. He completed his Ph.D. at Texas A&M University and works in the area of Economic Decision Analysis. His current research includes effective capacity management through pricing mechanisms. He, along with Dr. Keskinocak, teaches graduate ISyE courses covering several pricing topics including revenue management.

**Jon Higbie**, Director of Operations Research for Manugistics' Revenue Management Group, leads one of the premier Operations Research organizations dedicated to Pricing and Revenue Management. Since joining Manugistics in 1995, he has served in a number of key roles, including Senior Scientist and Director of Consulting Services. Dr. Higbie is a recognized expert in the practice of Pricing and Revenue Management. He has served on more than 30 client engagements across several industries, with many of the world's leading organizations including ABC Television Network, Ford Motor Company, Marriott International, and Delta Air Lines. He is particularly known for his innovative work in the hospitality and advertising industries and for his contributions to the science of group revenue management, real-time price optimization, and large-scale optimization. Prior to joining Manugistics, Dr. Higbie served on the faculty of Georgia Tech's College of Management. He is an active member and frequent speaker with the Institute for Operations Research and the Management Sciences (INFORMS). Dr. Higbie received his B.A. in Physics from Wittenberg University and his Ph.D. in Management Science and Information Technology from the University of Georgia.

**Julie Swann** is an assistant professor in the School of ISyE. She received her B.S. in Industrial Engineering from the Georgia Institute of Technology in 1996 and her M.S. and Ph.D. in Industrial Engineering and Management Sciences from Northwestern University in 1998 and 2001, respectively. She was awarded an NSF CAREER grant in 2004, and recently, one of her papers was selected as a Finalist in the Shepherd award at the CDC. She co-authored a case study that was a Finalist in the 2004 INFORMS Case Competition. In 2002, she received the Doctoral Dissertation Award from the Council of Logistics Management and was a Finalist in the Dantzig Doctoral Dissertation Competition at INFORMS. Dr. Swann is currently focused on the modeling and analysis of problems and algorithms in logistics, transportation and supply chain management. She has particular interests in developing and analyzing tools to manage demand, such as pricing, revenue management, or lead-time quotation, to increase the flexibility in the system. Other research interests include applications of economics and optimization to healthcare policy.

**Steve Swope**, founder, President & CEO of The Rubicon Group, is a leader in the successful planning, design, implementation and evaluation of Revenue Management and pricing programs. Steve's Revenue Management career began with his oversight of the development of Delta Air Lines' first system shortly after the U.S. industry was deregulated in 1978. Since leaving Delta in 1985 Steve has provided Revenue Management services to a wide range of customers in numerous industries including hotels, airlines, casinos, rental car operators, broadcasting, tour operators and the golf industry. In 1999 Steve formed The Rubicon Group to provide superior pricing, revenue management and competitive rate gathering technology to the marketplace. Under Steve's management Rubicon has become the dominant supplier and integrator of competitive information into Revenue Management technology. Rubicon's products are provided to the airline, hospitality, rental car and third party e-commerce industries. Over the past twenty-five years, Steve has been recognized as a leading authority on the discipline of Revenue Management and pricing. He is a respected lecturer worldwide in both the business and academic communities on these critical business practices.

## Bios of Panels

### SPECIAL EVENTS

**Anil Malhotra** is a strategy consultant who has worked with performing arts organizations for over 13 years and whose clients have included the Chicago Symphony, New York Philharmonic and New York City Opera. He specializes in the area of marketing strategy and financial analysis and is currently focused on steering a revenue management initiative for the Atlanta Symphony Orchestra (ASO). This project includes the analysis, development and a post-implementation review of new pricing strategies for classical concerts at the ASO. Anil holds a degree in Finance and Economics from the University of Western Ontario in London, Canada.

**Scott McLaren** is the Director of Sales, Marketing and Ticket Operations at the Georgia Tech Athletic Association. He has been involved in college athletics for 10 years as an administrator with four of those years being at Georgia Tech. He currently oversees the day to day sales of all ticketed events at Georgia Tech and the promotion of these events. He also oversees the selling of all Premium Seats, suites and club seats, at the facilities of the Georgia Tech Athletic Association. Scott has his undergraduate degree in Information Systems from Florida State University and his Masters in Sports Administration from Florida State University.

**Charlie Wade** has served as the Vice President for Marketing and Concert Promotions at the Atlanta Symphony Orchestra (ASO) since 1998. He is responsible for \$10 million in annual ticket sales as well as all aspects of music press for the ASO. Under his leadership the ASO was first orchestra in country to develop a predictive model for classical concert sales and one of the very first orchestra's to adopt revenue management principals. Prior to coming to Atlanta, Mr. Wade held a similar post for the Jacksonville Symphony Orchestra for nine years. During his time there the Orchestra in cooperation with the City of Jacksonville built a new home for the Orchestra, the Robert E. Jacoby Symphony Hall. He also led the creation of a major outdoor concert series for the Jacksonville Symphony similar to Atlanta's Chastain Park Amphitheater. Mr. Wade began his career in the arts marketing field working for the Alley Theater, a major regional theater located in Houston. He also worked for the Dallas Symphony Orchestra during the start-up phase of approval and construction of that city's new symphony hall. Mr. Wade graduated from Florida State University with a degree in Political Science. He went on to work for five years as a public radio reporter and news director and was for several years a Florida correspondent for National Public Radio. Mr. Wade often serves as a marketing consultant, is a frequent speaker at national conferences of the American Symphony Orchestra League, and was the keynote speaker for the first National Arts Marketing Conference in San Francisco in 2002.

## HOTELS

**Apo Demirtas** is the Vice President Market Strategy in IHG's Hotel Management Group. His current areas of responsibility include the development and implementation of revenue generation strategies to enhance all revenue streams and market share of the Hotel Management Group of IHG. Due to his expertise in Revenue Management, he also leads the RM operations of the managed and owned hotels of the Hotel Management Group through his brand and regional teams. Prior to joining IHG, Apo held a variety of positions with Hilton International, Movenpick Hotels and Hilton Hotels Corporation in hotels and at corporate headquarters in the Revenue Management and Operations disciplines. Most recently, he was the Vice President Revenue Strategy of the Hotels Division of the Travel Distribution Services (TDS) of Cendant Corporation. Apo is a 21 year industry veteran and started his hotel management career in Europe as a student at a Hotel Management Vocational High School. He holds a BA and an MBA in Hotel Management with specific concentration on Microeconomics, as applied to hotels.

**Sharon Duffy**, Vice President of Revenue Management, Hilton Hotels Corporation, received her Bachelors degree in Hospitality Management from Florida International University in 1985. Since joining Hilton 23 years ago as a Guest Service Agent, Sharon has held various positions in Front Office Operations and Revenue Management at multiple locations across the company. She is currently based in Beverly Hills and is an integral part of the team that supports all facets of Revenue Management for the Hilton, Doubletree and Hilton Garden Inn brands. Specifically, her responsibilities include Franchise Revenue Management, Project Management, and support of the Revenue Management Training and Consolidated Center teams in Dallas, Texas.

**Lee Jones** is Vice President, Global Revenue Management, Pricing Strategy & Analysis for Marriott International, Inc. Lee is responsible for leading Lodging Revenue Management efforts worldwide related to pricing and analysis. Since joining Marriott 8 years ago, Lee has held a variety of positions in Finance and Global Revenue Management. Prior to joining Marriott, Lee worked for the real estate consulting group at Ernst & Young in Washington DC and local real estate developers in the Washington DC market. He is a graduate of George Mason University and holds a BS degree in Finance, as well as an MBA degree from The Pennsylvania State University.

**John Kaufman** is Vice President of Global Revenue Management for Starwood Hotels and Resorts Worldwide, Inc. He has over 15 years of travel industry experience. He joined Starwood in October 2001 to form its Customer Relationship Management Group. In October 2003, John was asked to become the Vice President of Starwood's Global Revenue Management Team, to oversee revenue management strategy, analysis, operations and systems worldwide. Prior to joining Starwood, he spent a year and a half at Priceline.com, first as Vice President of Revenue Management for Priceline Yardsale and then as Vice President of U.S. Airline Relations for Priceline's airline group. Before that, John spent 10 years at American Airlines, with growing responsibility in the areas Sales, Finance, Revenue Management, and CRM. John has an MBA from Duke University's Fuqua School of Business, and a BA from Cornell University. He lives in Westport, CT, with his wife Laura and sons Adam (8) and Elliot (4).

## NON-TRADITIONAL INDUSTRIES

**Donald Davidoff** is Group Vice President, Pricing and Revenue Management for Archstone-Smith, the 2<sup>nd</sup> largest publicly traded multi-family housing REIT. His team is responsible for a variety of demand management activities including pricing, credit scoring and market research. Prior to joining Archstone-Smith, Donald led the team that built the Lease Rent Options<sup>TM</sup>, the industry's first automated revenue management system, at Talus Solutions, later acquired by Manugistics. While with Talus/MANU, Donald worked on pricing and revenue management software and business processes in a variety of industries including rental car, hotel and gaming, package services and retail. He has spoken at several conferences and written several trade press articles about pricing and revenue management. Donald's prior background includes leading a franchise retail travel agency group and four years in the United States Air Force as a project manager working on guidance and control systems for ICBMs. He is a published book author, co-writing *Parenting the Office* and writing a textbook on customer service published by Prentice-Hall. Donald earned a Master's degree in Systems Management from the University of Southern California and a Bachelor's degree in Aeronautical Engineering from the Massachusetts Institute of Technology.

**Bill Dudziak** is a Senior Manager in BlueLinx's Planning and Analysis group. His current areas of responsibility include the development and implementation of BlueLinx's pricing strategy, inventory management system and other decision support tools. Prior to joining BlueLinx three years ago, Bill held a variety of positions with International Paper and Georgia Pacific. Bill and his team were named "Best in Class" according to a recent AMR study of pricing system implantations. Bill holds an MBA from Georgia Tech and a BS in Civil Engineering and Economics as well as a MS in Civil Engineering from Carnegie Mellon University.

**Sundeep Kapur**, Director Strategic Marketing, NCR Corporation, is responsible for strategic marketing at NCR eCommerce. He works with ecommerce executives across industry as they leverage the internet for their multi-channel marketing initiatives. Sundeep works with leading corporations on the subject of driving returns through innovative best practices. By guiding them to enable technology and services, these companies can brand, personalize, and speak to their customers more effectively. In addition to planning, driving, & executing on multi-channel initiatives for some of the more prestigious retail, financial, travel, & communication firms – he runs an ecommerce roundtable with top multi-channel retailers and catalogers around the country. With a BA in Economics & Marketing, BS in Computer Science, and an MBA, Sundeep has been with NCR for the past 16 years.

**Joe Kniple** is the director of pricing strategy and solutions at UPS. This group is responsible for pricing strategy, policy, processes and systems at UPS, and it supports more than 100 pricing personnel and 2,000 field salespeople. Kniple has been with UPS for more than 20 years, including time spent in the UPS small package field operations and corporate headquarters, and also at the UPS Supply Chain Solutions group. Kniple holds a MBA from Georgia State University.

## AIRLINES

**Bill Brunger** is the former Senior Vice President of Network, Continental Airlines Inc., a role he held between August 2003 and December 2005. In that position, he was responsible for developing and implementing the airline's route network, including economic forecasting, route planning, scheduling, pricing, revenue management and the decision support functions related to those disciplines. Previously, he was vice president of distribution planning and revenue decision support development for Continental, and sat on the Boards of Directors of Orbitz.com and Amadeus. Over a 25 year airline career, he has held a range of positions in the pricing, revenue management, strategic planning and marketing departments. Bill is currently pursuing a Doctoral Program in Management at the Weatherhead School of Business at Case Western Reserve University. He continues to do consulting projects for Continental Airlines. Bill has a Masters of Business Administration degree with distinction from the Wharton School of the University of Pennsylvania with concentrations in market modeling and decision sciences, and a bachelor's degree in liberal arts from Middlebury College. He sits on the Board of Trustees for the Houston Ballet and Pitzer College. Brunger lives in Houston with his wife, and they have one son.

**Dr. B. Venkateshwara Rao** is a Senior Principal at Sabre Holdings. He is a graduate of Indian Institute of Technology and Texas A&M University. He works on customer behavior, pricing, marketing, assortment planning, yield management, revenue planning, and deal evaluation models for Retail and Airline Revenue Management. Over his nine years of experience at Sabre he led prototyping and implementations of revenue planning, pricing and marketing decision support systems for online travel retailing, as well as forecasting and revenue mix systems for airlines. He publishes in various Operations Research and Industrial Engineering journals. He won 2001-2002 IIE Transactions best publication award in Quality and Reliability category. He is a frequent speaker at INFORMS, IIE, and AGIFORS conferences. He won best presentation awards at AGIFORS Operations, Cargo, and Revenue Management study group meetings. He interacts with executives and senior managers on decision support aspects of Retailing and Revenue Management. He taught as a part time faculty at the Business School of University of Texas at Arlington and is currently an adjunct professor in Engineering Management Information & Systems at Southern Methodist University, Dallas.

**Krishnan Saranathan** has been at United Airlines for over 10 years. In his current role as Director of Enterprise Optimization, he leads a business analytics group of over 40 people that focuses on leveraging optimization and other mathematical modeling techniques to support critical functions for a number of business areas including Aircraft Scheduling, Revenue Management, Sales, Finance, Crew Scheduling, Airport Operations and Maintenance. In his previous role as Manager of Revenue Models, Krishnan led the modeling efforts for Orion, which is United's home grown O&D based Yield Management System. Krishnan has an MBA from Kellogg Graduate School of Management at Northwestern University, an MS in Transportation Engineering and Operations Research from University of Missouri at Columbia and a B-Tech in Civil Engineering from Indian Institute of Technology at Madras, India.

## SOFTWARE PROVIDERS

**Molham Arif** has spent the last 15 years helping build enterprise-grade predictive, optimization, and simulation solutions. Molham is currently the CEO of Predictix LLC, a company he co-founded in 2005. Predictix serves 10 clients on four continents, helping them solve their most challenging forecasting, planning, supply-chain, and revenue management problems. Prior to Predictix Molham was President and CEO of Optimi Corporation, a 220 person international wireless network optimization company he co-founded in 2002. Optimi was bootstrapped without outside funding and generated over \$65M in revenue during Molham's tenure. Optimi's wireless network optimization and prediction software and services are used by over 50 wireless companies, including Cingular, T-Mobile, Nextel, Nokia, and Telcel. Prior to Optimi, Molham was CTO at the Brickstream Corporation, a VC backed company that he co-founded and invested in. Prior to that, Molham founded LogicBlox Corporation in order to develop core software technologies that facilitate the development of configurable and scalable predictive software applications that cannot be easily developed using traditional transaction oriented technology. Prior to that, Molham spent 9 years first at HNC Software and then at its subsidiary Retek in a variety of roles. Molham holds a Bachelors degree in Computer Engineering, a Masters degree in Electrical Engineering, and a Masters degree in Computer Science, all from the Georgia Institute of Technology.

**Andy Boyd**, chief scientist and senior vice president of science and research at PROS (Pricing and Revenue Optimization Solutions). Please see the moderator section for Andy Boyd's bio.

**Paul Campbell** is Vice President of Travel Solutions at QL2 Software. His current areas of responsibility include Product Development, Sales and Marketing of solutions applicable to the travel industry. Previous to QL2, Paul spent over 4 years at Delta Airlines as General Manager in the Revenue Management organization, 3 years as a Consultant at DFI/Aeronomics/Talus Solutions and over 21 years at United Airlines in the Revenue Management, Sales and Operations organizations.

**Tammy Farley**, Executive Vice President and co-founder of The Rainmaker Group, has a broad-based background in the hospitality industry, which has established her as being a highly qualified and credible resource for business development and consulting; particularly in the resort and casino hotel markets. Through the implementation of Customer Value-based Revenue Management solutions, Ms Farley has assisted major hotel/casino companies to most effectively optimize profits. The system allows these companies to manage room demand so that each room yields the highest possible combined room and gaming revenues per guest. At one installation, this contributed to a 13 percent increase in gaming and hotel revenues per available room. With over fifteen years of experience, Tammy has worked with on a wide range of software implementations at major airlines, hotel chains and casino companies throughout the United States, Europe, Africa, Australia and the Middle East.

**Douglas LaPointe** is the Director of Consulting Services for Manugistics. Douglas has been with Manugistics for 12 years, providing Pricing and Revenue Management solutions to clients around the world including Masterfoods, Delta Air Lines, Sears, Limited Brands and Fairchild Semi-conductor.

**Jeff Moore** received his Masters in Electrical Engineering (specializing in DSP) from Georgia Tech in 2003. On graduation he joined Price Optimization start-up Khimetrics in Scottsdale, Arizona as a research scientist. Jeff was instrumental in developing the science and architecture of key Khimetrics products. He designed and implemented the scalable SKU-store demand modeling core that now drives all of Khimetrics' optimization and forecast offerings. He also was the lead system designer of Khimetrics' Markdown and Promotion Optimization products. Jeff's scientific and architectural contributions helped to make Khimetrics a clear target for acquisition by industry leaders in business software. Khimetrics was acquired by SAP early in 2006 for their superior demand modeling and forecasting science. Today Jeff is working to integrate and extend Khimetrics' science in the broader realm of SAP's retail software offerings.

## TRAVEL INDUSTRY

**Darren Arrington** is Director of Science in the Revenue Management department at Dollar Thrifty Automotive Group. He is responsible for Market Segmentation models, Decision Support tools, and forecasting and pricing optimization systems for Corporate owned Dollar and Thrifty Branded car rental locations. He has been with the company and the RM department for 6 years.

**Craig Eister** is the Director of Pricing in the Global Revenue Management Department at the InterContinental Hotels Group. His current areas of responsibility include Pricing Strategy, Pricing Implementation and Tools, and Pricing Analytics for all brands and regions globally. Craig has been with InterContinental Hotels Group for twelve years, responsible for a variety of revenue management systems, applications, and strategies. Previously, he worked in the revenue management field at American Airlines. Craig received his Master's Degree from the University of North Carolina at Chapel Hill in Operations Research, and a Bachelor's Degree in Mathematics and Computer Science from Duke University.

**Richard Lonsdale** has over twenty years experience in the transportation industry. His experience covers all things related to passenger revenue, including forecasting, network planning and revenue management. He is currently a regional director in the Passenger Revenue Analysis and Fleet Revenue Management group within the Marketing Department of Boeing Commercial Airplanes. The Passenger Revenue Analysis and Fleet Revenue Management group assists customer airlines in determining how to maximize their profit generating potential. Our team works with a customer airline to develop efficient schedules combined with appropriate capacity and frequency, to maximize revenue potential, minimize operating cost and maximize profitability. This process leads to the identification of fleet requirements and the development of a fleet

plan. The group also conducts regular surveys and basic research targeted at the development of improved models of passenger, airline and industry behavior. We are currently focused on the development of an airline industry simulator. Richard started his airline career with Canadian Pacific Airlines in 1986. In 1987 he became a senior systems analyst in the Scheduling and Planning Division, and participated in the building and operation of a leading edge revenue management system, including the design of algorithms for the implementation of optimization processes and airline business rules. In 1993 Richard moved to the Revenue Management Department at Cathay Pacific Airways in Hong Kong, where he introduced the PROS Revenue Management System, and implemented supporting operational procedures. He also provided expertise in the specification and development of a dynamic network optimization and control system. Richard has contributed to the Handbook of Airline Economics, and presented at numerous conferences; he was born in England and received a master's degree in geography from Oxford University in 1977.

**Brenda Yester** joined Carnival Cruise Lines in 1999 as staff vice president - revenue management and was promoted to vice president - revenue management two years later. Prior to joining Carnival, she spent three years at Royal Caribbean Cruises, Ltd., most recently as the company's director of revenue management. She also worked for four years at Ryder System, Inc., in various finance and accounting posts. As vice president of revenue management, Yester oversees all of Carnival's revenue management functions, including pricing, inventory management and the continuing development of the cruise industry's most sophisticated revenue management system. Yester, along with a team of accomplished revenue management professionals, is charged with continuing the cruise line's course of improved revenue performance. Yester also serves on Carnival's executive committee, comprised of senior management who provide guidance and oversight regarding all aspects of the company. She graduated *cum laude* from the University of Miami in 1989 with a bachelor's in business administration, specializing in finance, and earned her master's in business administration from Nova University in 1995. Yester provides career guidance to University of Miami business school students as part of the university's mentor program. Yester has been recognized as one of Travel Agent Magazine's "Rising Stars," which highlights young travel industry executives. She is also a certified public accountant. For the past three years, Yester has served on the board of directors for the South Florida chapter of the Make-A-Wish Foundation, an organization dedicated to fulfilling the dreams of children with life-threatening medical conditions. Most recently, she was appointed to serve on that organization's executive committee. Yester resides in Southwest Ranches, Fla.

## RETAIL

**Rajeev Kaul** is Director, Price and Product Optimization, at AutoZone, a Fortune 300 automotive aftermarket retailer. His education includes MS and MBA degrees from UMass, Amherst. His role at AutoZone is to develop next-generation solutions and provide recommendations for improving product assortment and pricing strategy, thereby improving return on investment. His prior job experiences includes GE, where he developed six-sigma and cost-of-failure models, contributing significantly to business profitability, and Advanta, where he created pricing decision-support solutions for the mortgage banking industry.

**Hal Kravitz** is Vice President, Business Development and Chief Officer of Coca-Cola Enterprises, Inc. With 22 years of experience in the Coca-Cola system, he is responsible for revenue growth management, including business planning and insights, pricing strategy, channel and sales operations, and category planning. He joined Coca-Cola Enterprises in June of 2001 and was named vice president and general manager, Southeast Region with responsibility for managing five operating divisions in the Southeast United States. In February 2000, he named group vice president, Eastern North America Region Sales and Marketing with responsibility for Coca-Cola North America's seven Eastern U.S. regions: Mid-Atlantic, Chicago, Consolidated, Northeast, North Central, Southeast, and Puerto Rico. In August 1999, he was named vice president, CCE East Field Sales and Marketing with responsibility for managing the Company's business with Coca-Cola Enterprises' Eastern North America group. In May of 1997 he was named assistant vice president, Channel Business Development. This organization supported the efforts of Coca-Cola USA and bottlers in the development and commercialization of channel business strategies and plans, programs, and development tools, as well as Cold Drink strategy development. In August of 1995, named managing director, Coca-Cola USA Field Sales and Marketing, Central Group headquartered in Dallas, Texas. Mr. Kravitz began his career with Coca-Cola in 1983 where he has since held various positions in both Headquarters and Field Sales and Marketing capacities. During this time, he also spent five years working for two major U.S. Coca-Cola Bottling Companies, including Coca-Cola Enterprises. Mr. Kravitz is a graduate of the University of Georgia and holds a B.B.A. in Accounting. He currently resides in Atlanta with his wife, Valerie, and their son, Sam. Mr. Kravitz also has two daughters, Rachel and Lauren. Rachel has just begun her first year at Texas Christian University and Lauren is a junior at Pace Academy.

**Shawn McMillian** is a Vice President in Coca-Cola Enterprise's Revenue Growth Management Organization. His current areas of responsibility include Pricing Process Improvement, Pricing Strategy, Forecasting and RGM systems/tool development and support. Shawn has been in the beverage business for 17 years. Since joining The Coca-Cola system 11 years ago, he has held a variety of leadership positions in Field Sales and at Coca-Cola Enterprise's Corporate Headquarters in the area Pricing. Shawn graduated from the University of North Carolina with a BA in Psychology.

## ON-LINE TRAVEL

**Utpal Kaul** is the regional director of market management for Expedia, Inc. His principal responsibilities include revenue management of the Expedia.com and Hotels.com brands and deployment of a field sales team to secure access to inventory and foster hotel relationships. Kaul also supervises the local marketing and merchandising efforts for Expedia. Prior to joining Expedia, he worked in various management positions with Oberoi Hotels & Resorts, an international Luxury Hotels chain. Kaul holds a master's degree in hospitality from Cornell University with a major in revenue management and electronic distribution.

**Rich Saleh** is Director of Pricing and Revenue Planning at Travelocity. He is responsible for processes, data, metrics and decision support technology that drive competitive pricing practices across the organization consistent with corporate strategy and objectives. His team is also charged with driving innovations to maximize Travelocity and supplier partner success while best serving the needs of travel customers. Prior to joining Travelocity, he was VP of Decision Sciences at SummitLogic where he oversaw the analytic components of the company's demand portfolio optimization software suite. He also spent 10 years at Talus Solutions developing analytic models and software applications for airline and hotel revenue management and leading consulting engagements. Rich holds an M.S. in Engineering-Economic Systems from Stanford University and a B.S. in Industrial Engineering from the University of Michigan.

**Kevin Geraghty**, Principal of Revenue Research, has always been at the forefront of new developments in Revenue Management. He established his reputation with the National Car Rental project, which received an Edelman nod. Since then he has consulted with a long list of Fortune 500 companies including The Coca Cola Company, UPS and most of the major airlines that are still in business (and none of the ones that are not). In 1997, he established Revenue Research Inc. with a mission to spread revenue management benefits to new industries. Revenue Research developed one of the earliest Financial Services implementations of RM for GMAC Insurance. Recently, Kevin has been working with e-commerce marketing and real-time payment providers to explore opportunities for RM techniques in cyberspace.

## KEYNOTE SPEAKER: NELL WILLIAMS, MARRIOTT

**Nell Williams** is a Vice President in Marriott's Global Revenue Management Organization. Her current areas of responsibility include the deployment of Revenue Management people in the field and the system strategy and decision support solutions that enable them to be effective. Since joining Marriott 21 years ago, Nell has held a variety of positions with Marriott in hotels and at Corporate Headquarters in the Sales and Marketing and Operations disciplines. Nell is the business owner of Marriott's One Yield system which was the grand winner of CIO Magazine's 2005 Enterprise Value Award. Nell holds an MBA in Marketing and Finance from Boston College and a BA in English Literature from the Catholic University of America.

# Pricing and Revenue Management Initiative at Georgia Tech



Pricing and Revenue Management Initiative at Georgia Tech started through the *Dynamic Pricing and Revenue Management Focused Research Program* established by Professor Mark Ferguson (College of Management) and Professors Paul Griffin and Pinar Keskinocak (School of Industrial and Systems Engineering), which received its seed funding from the Office of the President at Georgia Tech in 2004.

## Mission

The mission of this initiative is to establish an industry and academic community whose goal would be to promote and advance the understanding and use of dynamic pricing and revenue management. We propose to do this by:

- Advancing the state-of-the-art in this area through academic research.
- Collaborating with firms to better understand the current challenges and trends within industry.
- Disseminating state of the art knowledge through teaching classes and leading workshops.
- Providing graduates with a solid understanding of methodologies and core concepts within this area.

Currently, there are multiple efforts in this area dispersed across several units at Georgia Tech. The ultimate goal of this initiative is to combine these efforts and establish a Center for Pricing and Revenue Management (CPRM) at Georgia Tech with inter-disciplinary membership and activities across different units.

For more information, please visit our website:

[http://mgt.gatech.edu/fac\\_research/centers\\_initiatives/pricing.html](http://mgt.gatech.edu/fac_research/centers_initiatives/pricing.html)

## Motivation Behind the Program

Pricing and Revenue Management is emerging as the “next big thing” in the area of Supply Chain Management. According to *The Wall Street Journal*, “... [Revenue management] is the number one emerging business strategy ... a practice poised to explode.” Dr. Alfred Kahn, Former Senior Staff Member, President's Council on Economic Advisors, says, “Revenue management has proven to be a devastatingly effective competitive device.” According to AMR Research, a major market research firm, “... the retail revenue management software will explode from \$75 million in 2002 to \$500 million by 2005 and \$900 million by 2007.”

**Why Pricing and Revenue Management?** In recent years, companies have spent millions of dollars on software for scheduling, inventory management, production planning, etc. for improving the supply side of the supply-demand equation. On the supply side, the main focus is to meet a given demand at minimum cost. On the demand side, the main focus is to generate revenue and increase market share. Traditionally, in many companies there has been a disconnect between these functions. Sales/marketing engages in activities to generate demand, without necessarily considering the impact on the rest of the supply chain. Manufacturing, on the other hand, takes demand as given and does the best it can given the supply and capacity restrictions. The idea of revenue management is to eliminate the disconnect between the demand and the supply sides, therefore eliminating the inefficiencies and improving the overall profitability.

**Optimizing Supply & Demand** The typical way for companies to deal with excess inventory is through markdowns. According to the National Retail Federation, marked-down goods, which accounted for just 8% of department-store sales three decades ago, now account for over 20% of sales. Main reasons for increased markdowns include increased variety of goods and shorter life cycles, long lead times, larger forecasting errors, and an inability to change inventory levels in response to demand. Production/inventory decisions have to be made before the selling actually begins with little information about demand. Given that the inventory levels and the length of the selling season are predetermined, pricing decisions become increasingly important in balancing demand and supply. Therefore, many companies are now willing to look at the demand side of the supply-demand equation and reexamine their pricing policies and explore dynamic pricing methodologies for better demand management. According to a 2003 BearingPoint/National Retail Federation Foundation study: while only 12% of respondents said that they use markdown optimization software, 53% plan to deploy it within two years. Besides increased awareness, what makes pricing and revenue management possible today is advances in information technology. New technologies allow companies to collect data, and better analyze the data to understand demand. New tools such as selling online or electronic shelf labeling systems make it easy to change prices, at low cost.

**Advancing Dynamic Pricing** In manufacturing, as in retail and service industries, most companies implement dynamic pricing to differentiate products and segment the market according to factors such as time of purchase and service level. Segmenting customers according to customer lead-time may be important since it allows manufacturers to better allocate production and distribution resources. That is, customers who need products, e.g., vehicles or PCs, quickly would pay for that service just as airline passengers who need to travel on short notice pay for the privilege of doing so. On the other hand, those with greater flexibility would pay less for their order. By better matching demand to supply and available capacity throughout the supply chain, overall revenues would increase, with those requiring premium service paying for the benefits of such service.

## Leadership

The following faculty members are spearheading the activities of the *Pricing and Revenue Management Initiative* at Georgia Tech.



**Mark Ferguson** (Coordinator) is an assistant professor in the College of Management where he teaches an MBA elective course on Revenue Management. Dr. Ferguson served as a board member of the Pricing and Revenue Management subdivision of the Institute for Operations Research and the Management Sciences (INFORMS). He has consulted with a number of companies on price optimization, two of his papers have won best paper awards at the POM conferences, and his research is funded by the National Science Foundation. He completed his PhD at Duke University and before joining Georgia Tech, he worked for five years as an inventory manager at IBM.



**Pinar Keskinocak** is an associate professor at Georgia Tech's School of Industrial and Systems Engineering (ISyE). She has published several scholarly papers on dynamic pricing including a review article that appeared in *Management Science* in 2003. She served as the cluster-chair for the Supply Chain Management and the Manufacturing & Service Operations Management tracks at the 2003 annual meeting of the Institute for Operations Research and the Management Sciences (INFORMS). Currently, she serves on the editorial board of *Journal of Revenue & Pricing Management*. She completed her Ph.D. at Carnegie Mellon University and before joining Georgia Tech, she worked at the IBM T. J. Watson Research Center for two years, mainly on projects related to electronic commerce and supply chain management.



**Laurie Garrow** is an assistant professor in the School of Civil and Environmental Engineering. Her research interests focus on the development of advanced models of travel demand and development of pricing and revenue management models. She earned her Ph.D. in Civil Engineering at Northwestern University, with an emphasis on travel demand modeling and airline passenger behavior. Her dissertation won first prize in the 2004 Aviation Applications Section of INFORMS. She has five years of industry experience, including four years as an analyst in the Research and Development Revenue Management Group of United Airlines and one year as an analyst in the Customer Science Unit of Mercer Management Consulting.