



OPERATIONS  
RESEARCH  
CENTER

Operations Research Center  
Massachusetts Institute of Technology

**GRADUATE STUDENT DIRECTORY**

November 2006

## Timothy C. Y. Chan

Operations Research Center, E40-130  
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**Education**      **Massachusetts Institute of Technology**, Cambridge, MA  
Candidate for PhD in Operations Research; expected completion, June 2007.  
Research Interests: Decision making under uncertainty, health care

**University of British Columbia**, Vancouver, Canada  
BSc in Honours Applied Mathematics, Minor in Commerce, May 2002.

### Research and Professional Experience

- 2004–Present    **MIT Operations Research Center**, Cambridge, MA  
*Research Assistant*  
Currently studying the effects of uncertainty on radiation therapy treatment planning using concepts from robust optimization and probability theory.  
Research Advisors: Prof. John N. Tsitsiklis and Dr. Thomas Bortfeld
- 2005, 2006  
(Summer)      **Massachusetts General Hospital**, Boston, MA  
*Operations Researcher*  
Formulated robust programs for radiation therapy problems under uncertainty and designed a computer implementation to produce robust treatment plans for clinical-sized cases.
- 2004  
(Summer)      **UBC Centre for Operations Excellence**, Vancouver, Canada  
*Technical Analyst*  
Designed a simulation model to analyze the end-to-end efficiency of the service assurance process of a large telecommunications company. Our work was presented to the CEO of the company.
- 2002–2004    **MIT Operations Research Center and Laboratory for Information and Decision Systems**, Cambridge, MA  
*Research Assistant*  
Derived optimal policies for single and multi-agent exploration of an uncertain environment through the use of dynamic programming and Markov Decision Processes.  
Research Advisors: Prof. John N. Tsitsiklis and Prof. Eric Feron
- 2001  
(Summer)      **UBC Department of Mathematics**, Vancouver, Canada  
*Research Assistant*  
Formulated UBC's final exam schedule as a graph coloring problem and designed a computer program to optimize the schedule, resulting in a feasible solution with eight fewer exam blocks.

Research Advisor: Prof. Richard P. Anstee

## Publications

T. C. Y. Chan, T. Bortfeld, and J. N. Tsitsiklis, "A Robust Approach to IMRT Optimization," *Physics in Medicine and Biology*, Vol. 51, pp. 2567–2583, 2006.

J. Unkelbach, T. C. Y. Chan, and T. Bortfeld, "Accounting for Range Uncertainties in the Optimization of Intensity Modulated Proton Therapy," submitted.

T. Bortfeld, T. C. Y. Chan, A. Trofimov, and J. N. Tsitsiklis, "Robust Management of Motion Uncertainty in Intensity Modulated Radiation Therapy," in preparation.

T. C. Y. Chan and E. Feron, "Single and Multi-agent Exploration of a Markov Decision Process," *Proceedings of the 42<sup>nd</sup> Allerton Conference on Communication, Control, and Computing*, October 2004.

M. Ishutkina, T. Chan, and E. Feron, "Development of an Automated Tracking System of Tagged Wild Animals," *Proceedings of the Automation Technology for Off-Road Equipment Conference*, October 2004.

M. Dror and T. Chan, "Goofspiel," (Ed.) M. Hazewinkel, *Encyclopaedia of Mathematics*, Kluwer Academic Publishers, Amsterdam (in press).

## Teaching Experience

2006  
(Fall) **MIT Sloan School of Management**, Cambridge, MA  
*Teaching Assistant*  
15.060 Data, Models, and Decisions (MBA core course)  
Instructors: Prof. Arnold Barnett, Prof. Dimitris Bertsimas, Prof. Georgia Perakis

2005  
(Fall) **MIT Electrical Engineering and Computer Science**, Cambridge, MA  
*Teaching Assistant*  
6.251J/15.081J/16.321J Introduction to Mathematical Programming  
Instructor: Prof. Vincent D. Blondel

2004  
(Fall) **MIT Electrical Engineering and Computer Science**, Cambridge, MA  
*Teaching Assistant*  
6.431 Applied Probability  
Instructor: Prof. John N. Tsitsiklis and Prof. Muriel Medard

## Honors and Awards

2006–2007 Hugh Hampton Young Memorial Fund Fellowship  
2006 First place, CORS Student Paper Competition  
2004–2006 NSERC Doctoral Postgraduate Scholarship

2004–2005 MIT Student Life Programs Graduate Leadership Award  
2002–2004 NSERC Postgraduate Scholarship A  
2002–2003 MIT Presidential Fellowship

### **Leadership Activities**

2006–Present Chair, Board of Trustees, Sidney-Pacific Graduate Community  
2005–Present MIT Corporation Joint Advisory Committee  
2005 Coordinator, MIT Operations Research Seminar Series  
2004–2005 President, Sidney-Pacific Graduate Community  
2003 President, MIT INFORMS Chapter

### **Computer Skills and Interests**

Experience with Microsoft Office, C++, Matlab, Mathematica, AMPL and CLEX

**Citizenship** Citizen of Canada

## David Czerwinski

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### Education

**Massachusetts Institute of Technology, Cambridge, MA**  
Candidate for PhD in Operations Research; expected completion, June 2008.

**Stanford University, Stanford, CA**  
BS in Mathematical and Computational Science, June 1998. With distinction.

### Experience

2006

**D2 Hawkeye Inc., Waltham, MA**

*Intern*

Collaborated with physicians to analyze healthcare outcomes using a large medical insurance claims database. Analyzed the effects of depression on the utilization of medical services. Built a predictive model for the diagnosis of depression.

2005

**RAND Corporation, Santa Monica, CA**

*Summer Associate*

Used integer programming to improve the method the Army uses to set inventory levels. The problem is characterized by severe space constraints and sporadic demands.

1999-2002

**Chicago Transit Authority, Chicago, IL**

*Transit Research Analyst II (1999-2000), Senior Transit Research Analyst (2000-2002)*

Served as the Planning Department's lead analyst of the ridership data produced by the CTA's Automated Fare Collection (AFC) system. Performed advanced analysis of trip patterns based on time of day, origin, destination, and transfer flows. Coordinated and trained staff.

1995-1996

**Kottke Associates, Chicago, IL**

*Software Developer*

Developed software to process real-time currency futures market data, facilitate index arbitrage trade execution, and analyze performance.

### Publications

"Airlines as Baseball Players: A New Approach to Airline Safety." With Arnold Barnett, MIT. *Management Science*, Vol. 52, No. 9. (Sept., 2006), pp. 1291-1300.

"Using Entry-Only Automatic Fare Collection Data to Estimate Rail Transit Passenger Flows at CTA." With Adam Rahbee, CTA. *Conference Proceedings, Transport Chicago*, June 2002.

"Chicago's Regional Approach to Welfare To Work." With Kim Hunt, CTA. *Transportation Research Record 1753*, January 2001.

**Computer Skills** R, OPL Studio, GAMS, SAS, SQL, Visual Basic, MS Access, MS Excel, Matlab

**Citizenship** Citizen of United States of America

## Pavithra Harsha

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**Education**      **Massachusetts Institute of Technology, Cambridge, MA**  
Candidate for PhD in Operations Research; expected completion, June 2008.  
GPA: 4.9/5.0

**Indian Institute of Technology, Madras, India**  
Bachelor of Technology (B Tech) in Mechanical Engineering  
Minor: Operations Research  
GPA: 9.58/10.00

### Experience

**2003 – Present**      **Massachusetts Institute of Technology, Cambridge**  
*Research Assistant*  
Working with Prof. Cynthia Barnhart and Prof. David C. Parkes on *Auctions for airport landing slots*: Designing auctions and airline response models for slot auctions and developing a simulator for the same. *Activity rules for a combinatorial auction*: Designed activity rules for any combinatorial auction to check consistent bidder behavior.

**2006**  
(Summer)      **Emptoris, Burlington**  
*Intern*  
*Scalability of Auction Algorithms*: Developed and tested customized large scale algorithms for the winner determination problem which phenomenally improves the convergence to the optimal.

**2005 – 2006**      **Massachusetts Institute of Technology, Cambridge**  
*Teaching Assistant*  
*Introduction to Mathematical Programming*, School of Engineering, Fall'05 *Systems Optimization: Models and Computation*, Sloan School of Management, Spring'06

**2005**  
(Summer)      **Hewlett Packard Labs, Palo Alto**  
*Intern*  
*Quantum Auctions*: Designed (the first) framework for implementing classical auctions using quantum information theory which offers the benefits of a compact bidding language for partnership bidding and privacy of bids.

**2002**  
(Spring)      **Toyota Kirloskar Automotive Parts, Bangalore, India**  
*Intern*  
Designed the Internal Kanban (pull) system for various assembly-lines for Just-In-Time manufacturing to reduce the inventory stored.

**2001**                      **Jawaharlal Nehru Center for Advanced Scientific Research, (JNCASR), India**  
(Spring)                      *Summer Research Fellow*

### **Publications**

G. Vikram, Pavithra Harsha and N. Ramesh Babu, "Analytical approach for selection of optimal feed rate in efficient machining of sculptured surfaces", *International Conference on Manufacturing Automation 2002*, Hong Kong, December 2002.

### **Honors and Awards**

- *Banco Foundation Prize, 2003*, Awarded for best academic record in Mech. Engg. (IIT Madras).
- *Dr. S. Chandrasekhar Memorial Prize, 2002* and *Raghavendra Memorial Prize, 2001*, Awarded for highest
- CGPA in first six and four semesters of Mech. Engg. (IIT, Madras).
- *Summer Research Fellow 2001*, Jawaharlal Nehru Center for Advanced Scientific Research, India.
- *Prathibha Merit Scholarship 1999{2003*, given by the Andhra Pradesh (India) Govt. to the top six girl students in the IIT-Joint Entrance Exam.

### **Computer Skills and Interests**

Java, CPLEX, OPL Studio, Matlab, Pascal, AutoCad

**Citizenship**      Citizen of India

## Dan Andrei Iancu

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**Education**      **Massachusetts Institute of Technology**, Cambridge, MA  
Candidate for PhD in Operations Research; expected completion, June 2010.  
Advisors: Professor Dimitris Bertsimas and Professor Pablo Parrilo

**Harvard University**, Cambridge, MA  
SM in Engineering Sciences (GPA 4.0 / 4.0), June 2006.

**Yale University**, New Haven, CT  
BS in Electrical Engineering and Computer Science, May 2004.  
Summa cum Laudae, with distinction in the major (GPA 3.92 / 4.0)  
Thesis title: *Geometric Approach to Digital Quantum Information*

### Research Experience

**2006**              **Massachusetts Institute of Technology**, Cambridge, MA  
(Summer)          Research Assistant  
Working with Professor Dimitris Bertsimas implementing a novel heuristic  
for solving large scale integer programming problems.

**2005-2006**        **Harvard University**, Cambridge, MA  
Research Assistant  
Worked with Professor Navin Khaneja, studying the optimal control of  
complex systems arising in nuclear magnetic resonance (NMR).

**2003-2004**        **Yale University**, New Haven, CT  
Worked with Professor Michel Devoret (Applied Physics) on a novel  
approach to Quantum Information, using error correcting codes.

**2003**              **Yale University**, New Haven, CT  
Worked with Professor Willard Miranker (Computer Science) on an  
implementation of a visual recognition model based on neural networks.

### Teaching Experience

**2005-2006**        **Harvard University**, Cambridge, MA  
Teaching Fellow for the graduate courses in "Decision Theory" (Professor  
R.W. Brockett) and "Estimation and Control of Dynamical Systems"  
(Professor Navin Khaneja). Graded weekly problem sets and exams, held

weekly office hours, organized review sessions before midterms and final exams.

**2003-2004**      **Yale University**, New Haven, CT  
College tutor in Linear Algebra, Multivariate Calculus, and Algorithms. Held one-on-one sessions with undergraduate students.

### **Work Experience**

**2004**  
(Spring)      **Yale Center for Systems Science**, New Haven, CT  
Laboratory assistant for the director of the center, Professor Kumpati Narendra. Purchased and maintained computers, helped with presentations and research proposals.

**2003**  
(Fall)      **Yale University**, New Haven, CT  
Computing Assistant for Jonathan Edwards College. Helped the undergraduate students in my residential college with computer-related problems

**2003**  
(Summer)      **Yale Office of Development - Phone Program**, New Haven, CT  
Helped raise in excess of 20000\$ for the Yale Alumni Fund.

### **Honors and Awards**

Membership in Tau Beta Pi – Engineering Honors Society  
Kao Fellowship for academic performance (Harvard)  
Derek Bok Prize for excellence in teaching (Harvard)  
Nominated twice for the Division of Engineering and Applied Sciences Teaching Award (Harvard)  
Member of the Romanian Team for the International Physics Olympiad (2000)  
Gold medal at the International Physics Contest in Sopron, Hungary (2000)  
Various prizes in the National Physics Olympiad and Traian Lalescu Mathematics Contest (Romania, 1996-2001)

### **Skills**

Computer Experience: C, C++, Java, Pascal, Matlab, Mathematica, PSpice, CPLEX, LPSolve, Perl, HTML, CSS  
Languages: English (fluent), Romanian (native), German, French (intermediate)

### **Activities and interests**

Treasurer of the Graduate Student Council (Harvard University). Managed the annual budget of 60000\$, designing allocations for student groups, conference and summer research grants  
Vice-president of the Harvard Romanian Graduate Club  
Treasurer of the Romanian Students Association (MIT)

(Interests) Sports (tennis, soccer), literature, music, old movies

**Citizenship** Citizen of Romania

## Kathryn M. Kaminski

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**Education**      **Massachusetts Institute of Technology, Cambridge, MA**  
Candidate for PhD in Operations Research; expected completion, June 2007.

**Massachusetts Institute of Technology, Cambridge, MA**  
BS Electrical Engineering, June 2001.

**Ecole Polytechnique, Paris, France**  
Visiting Scholar, Majeure 2, Spring 2000

### Work Experience

**2001-Present**    **MIT Laboratory for Financial Engineering, Cambridge, MA**  
*Research Assistant*  
Research in stopping strategies, behavioral finance, portfolio theory, and financial planning under the supervision of Andrew W. Lo, Harris & Harris Group Professor, MIT Sloan School.

**2004**            **INRIA: Project OMEGA, Sophia Antipolis, France**  
(Summer)        *Research Assistant*  
Developed simulations to compare mathematical model based trading strategies with misspecification and technical analysis methods using various stochastic models under the supervision of Professor Denis Talay, Ecole Polytechnique.

**2002**            **Bracebridge Capital, Hedge Fund, Cambridge, MA**  
(Summer)        *Summer Associate*  
Designed, implemented, and analyzed stochastic tree models using C++ and VB to match both the yield and volatility term structure in order to provide financial tools for the trading floor.

**2001**            **Societe Generale, Investment Bank, Paris, France**  
(Summer)        *Summer Associate*  
Developed a stochastic model for the valuation of subordinated debt products with Hull-White methods for modeling defaultable bond prices using C++ and VB. Decreased run time from exponential to linear by applying dynamic programming techniques.

**2000**            **Qualcomm, Inc., Voice Band Signal Processing Group, San Diego, CA**  
(Summer)        *Summer Intern Systems Engineering*

Improved Voice Recognition Algorithm in CDMA chips by implementing embedded software in C to include frequency/time weighting for discriminate training. Gained experience in digital signal processing and wireless communication.

**1999** **Qualcomm, Inc.**, Globalstar Project, Boulder, CO  
(Summer) *Summer Intern Systems Engineering*  
Developed software to modify the Globalstar phone rate decision algorithm using C, implemented numerous MATLAB scripts to reduce relative communication errors, and gained experience in CDMA technologies and wireless communications.

### Teaching Experience

**2001-Present** **MIT Sloan School of Management**, Cambridge, MA  
*Teaching Assistant for Professor Andrew W. Lo*  
15.450 The Analytics of Financial Engineering (Spring 2003)  
15.408 Quantitative Investment Management (Spring 2004)  
15.407 Finance Theory Finance Technology Option (Fall 2004, Fall 2005)  
  
*Teaching Assistant for Professor Stewart Myers and Professor Jiang Wang*  
15.401 Finance Theory MBA Section (Fall 2006)

**2001-2002** **MIT Department of EECS**, Cambridge, MA  
*Teaching Assistant for Professor John Tsitsiklis and Professor Muriel Medard*  
6.041 Applied Probability (Fall 2001, Spring 2002)

### Publications

"Technical Analysis Compared to Mathematical Models Based Methods Under Misspecification", (with Christophe Blanchet-Scalliet, Awa Diop, Rajna Gibson, Denis Talay, and Etienne Tanre), Working Paper 2004, INRIA and NCCR-FINRISK.

"When Do Stop-Loss Rules Stop Losses?", (with Andrew Lo), Working Paper, 2006.

### Honors and Awards

MIT France student ambassador 2003-5

### Computer Skills and Interests

Computer Experience: MATLAB, Maple, C++, scheme, Linux, Unix, VB, Excel, Microsoft Word, Latex

Languages: French (proficient), Russian (good), and German (beginner)

Interests: Swimming, Running, Biking, Ice Hockey, Tennis, Salsa Dancing

**Citizenship** Citizen of the United States of America

## Lionel Jonathan Kluberg

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**Education**      **Massachusetts Institute of Technology, Cambridge, MA**  
Candidate for PhD in Operations Research; expected completion, June 2010.  
Research Topic: *Price of Anarchy for Atomic and Non-atomic games.*

**Ecole Polytechnique, Paris, France**  
Bachelor of Science, Applied Math, October 2006.  
Top 3 Engineering Schools in France (rank according to the magazine Le Point)  
Ranked 17th out of 404 students.  
Thesis title: *A Curse-of-Dimensionality-Free Numerical Method for PDEs.*

**Lycées Louis le Grand and Saint Louis, Paris, France**  
Three-year intensive course of higher education in Math, Physics and Computer Science: prepared for a nation-wide competitive exam and was admitted to Ecole Polytechnique Paris.

### Experience

**2006-Present**    **MIT Sloan School of Management, Cambridge, MA**  
(Fall)            *Research Assistant*  
Study of the price of anarchy in different settings.

**2003-2006**      **Ecole Polytechnique, Paris, France**  
*Private Lessons*  
Tutored high school and undergraduate students in Math and Physics.  
Helped students pass their entrance exams for engineering school.

**2005**            **Children's Hospital, Boston, US**  
(Summer)       *Voluntary worker*  
Managed the stocks of reagents and created an inventory in Dr Corfas biology laboratory. Practice of teamwork.

**2004**            **Gendarmerie (Police force), Versailles, France**  
(Spring)        Part of my program of undergraduate study at the Ecole Polytechnique.  
Leadership training as a lieutenant in the Police force.

### Skills and Interests

Languages

French - native speaker  
English - fluent: TOEFL, GRE  
Spanish – Intermediate reading and speaking skills

**Computer**

Programming in Java, VBA, Matlab, CPLEX.

Good working knowledge of Microsoft Word, Excel, PowerPoint and Access.

**Citizenship** Citizen of France and USA

## Thibault Le Guen

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**Interest** Applications of OR to high technology/engineering domains (aerospace, energy, finance)

**Education** **Massachusetts Institute of Technology**, Cambridge, MA  
Candidate for SM in Operations Research; expected completion, June 2008.  
Advisor: Professor Georgia Perakis.

**Ecole Centrale Paris**, Paris, France  
One of the most prestigious Engineering School in France  
Ranked # 3 out of 462

**Lycee Henri IV**, Paris, France  
Two-year intensive course of higher education in Math and Physics:  
Prepared for a nation-wide competitive exam and was admitted to  
Ecole Centrale Paris.

### Experience

**2006** **Bosh und Siemens Hausgeräte**, Dillingen an der Donau, Germany  
(Summer) *Intern*  
Optimization and design of new production lines and of new equipments for  
the packaging area.

**2005-2006** **Lycée Henri IV**, Paris, France  
*Teaching assistant in physics*

**2005**  
(Summer) **Sanofi Aventis**, Dagenham, UK  
*Intern*  
Use of the SAP software and stock's management

### Projects

**2006-2007** **"Modelling on the settling of a house during droughts periods."**  
Ecole Centrale Paris/CNRS

**2005-2006** **"Modelling on the winds effects on the Millau Bridge"**  
Ecole Centrale Paris/ CNRS

## **Honors and Awards**

Recipient of the "*Jean Gaillard Fellowship*", among all French students admitted to Harvard and MIT

Recipient of the "*Ambassadorial Fellowship*" of the Rotary Foundation

Recipient of the "*Time Plus Fellowship* "

## **Skills**

Languages:

French: native language

German: fluent (European Baccalaureat, Zentral Mittelstufenprüfung)

English: fluent (TOEFL,GRE)

Spanish: good speaking, writing and reading skills

Computer:

Use of Microsoft Office, Microsoft PowerPoint, Windows, Unix

Programming in Femlab, Java, Maple, Python

**Citizenship** Citizen of France

## Tanachai Limpaitoon

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**Education**      **Massachusetts Institute of Technology**, Cambridge, MA  
Candidate for SM in Operations Research; expected completion, Feb. 2008.  
Candidate for SM in Transportation; expected completion, Feb, 2008.  
Area of Interests: Logistics, Supply Chain Mgmt, Network Optimization

**Chulalongkorn University**, Bangkok, Thailand  
B.Eng. in Electrical Engineering, May 2005.  
Thesis title: *Performance Analysis of Single Pair HDSL*

### Experience

**2004**      **Accenture Solutions Co.,LTD.**, Bangkok, Thailand  
(Summer)      *IT Intern*  
Supported the implementation of an Invoice Management System. Tested the system and analyzed users' feedbacks to work out system bugs.

**2003**      **Toyota Motor Thailand Co.,LTD.**, Bangkok, Thailand  
(Summer)      *Production Planning Intern*  
Worked with suppliers in order to analyze manufacturing performance. Gained insights into Toyota's JIT Logistics and Production Operation Kaizen.

**1999 - 2005**      **Srithai Auto Seats Industry Co.,LTD.**, Bangkok, Thailand  
*Marketing & Sales Coordinator*  
Liaised with suppliers to maintain relationships and negotiate pricing and logistics. Evaluated the impacts of our products on major auto manufacturers' sales and pricing. Optimized manufacturing operations' efficiency.

### Publications

T. Limpaitoon and P. Prapinmongkolkarn, "Performance Analysis of Single Pair HDSL," April 2005, *Proceedings of the IASTED Conference on Networks & Communication Systems*.

### Honors and Awards

President of Transportation Student Group, MIT, 2006  
Social Chair of Thai Student Association, MIT, 2006  
Anandamahidol Fellowship awarded for Best Engineering Student, 2005

### Computer Skills and Interests

Computer: C#, C++, Java, CPLEX, OPL Studio, GAMS, MATLAB  
Athletics/Music: Golf, Badminton, Basketball/ Piano, Guitar

**Citizenship**      Citizen of Thailand

## Ruben Lobel

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**Education**      **Massachusetts Institute of Technology, Cambridge, MA**  
Candidate for PhD in Operations Research; expected completion, May 2009.

**PUC-Rio, Rio de Janeiro, Brazil**  
B.S. in Electrical Engineering, May 2005.  
Minors in Decision Support Systems and Control Theory.  
Thesis title: *Analysis and Simulation of Multivariate Time Series for Spot Prices in Energy Markets*

**University of California - Berkeley, Berkeley, CA**  
Exchange Program at the Industrial Engineering and Operations Research  
Department - Fall 2003 to Spring 2004.

### Experience

2005-Present      **MIT Operations Research Center**  
(Fall)              *Research Assistant*  
Research on Dynamic Pricing and Revenue Management with Professor  
Georgia Perakis, with applications on airline pricing and the retail industry.

2006                **MIT Leaders for Manufacturing Program**  
(Summer)        *Teaching Instructor*  
Assisted Professor David Gamarnik with the course: "System Optimization  
and Analysis for Manufacturing"

2004-2005        **PSR Consulting, Rio de Janeiro, Brazil**  
                      *Research Analyst*  
Modeled and designed optimization problems that describe the electric  
power system, using Stochastic Dynamic Programming, Time Series Analysis  
and Game Theory concepts.

2003-2004        **Ghostrider Robot Project (Blue Team), University of California–Berkeley,**  
                      **CA**  
                      *Developer*  
System modeling and controller programming for an autonomous motorcycle  
that participated on the DARPA Grand Challenge.

2002-2003        **TecGraf Computer Graphics Laboratory, Rio de Janeiro, Brazil**  
                      *Research Assistant*

Research on oil platforms dynamics simulation, computer graphics and virtual reality technology, sponsored by the Brazilian Oil Company - Petrobras.

**2001-2003**     **PUC-Rio Mathematics Department**, Rio de Janeiro, Brazil  
*Teaching Assistant*  
Assisted courses in Differential Equations, Calculus and Algebra.

### **Honors and Awards**

Lucent Global Science Scholars Award, 2001  
Three Academic Excellency Awards at PUC-Rio and full tuition scholarship

### **Skills**

Fluent English, Portuguese, Spanish and basic French

Programming in C/C++, Fortran, Java, Delphi, Excel, MATLAB and Mosel (for Xpress)

**Citizenship**     Citizen of Brazil

## Lavanya Marla

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### Education

**Massachusetts Institute of Technology, Cambridge, MA**

Candidate for Dual SM in Operations Research and Transportation; expected completion, June 2007. GPA 5.0/5.0

Tentative Thesis Title: *Robust Optimization for Large-scale Network-based Resource Allocation Problems.*

Candidate for PhD in CEE Systems; expected completion, July 2009.

**Indian Institute of Technology Madras, Chennai, India**

Bachelor of Technology, June 2004.

Major: Civil Engineering, Minor: Industrial Engineering

Thesis title: *Buckling of Composite Laminate Plates*

### Experience

**2004-2006**

**MIT Department of Civil and Environmental Engineering, Cambridge, MA**  
*Research Assistant*

Research Advisor: Prof. Cynthia Barnhart

Development of modeling techniques, algorithms, and computational testing for robust optimization, that is, optimization under uncertainty. Models and algorithms are specifically geared towards large-scale network-based resource allocation problems motivated from the airline and logistics industries.

**2006**  
(Fall)

**MIT Department of Civil and Environmental Engineering, Cambridge, MA**  
*Teaching Assistant, Transportation Systems Analysis (graduate high-level)*

Involves holding software tutorials, weekly office hours, and helping prepare problem sets and quizzes.

**2003**  
(Spring)

**Nagarjuna Construction Company, Hyderabad, India.**  
*Summer Internship*

Managed a large-scale 52-acre housing project, coordinated the scheduling of activities on-site, and managed the supply chain of materials to site.

### Presentations

"Robust Optimization Methods for Large-Scale, Network-Based Resource Allocation Problems", INFORMS Annual Meeting, Pittsburgh, November 2006.

## **Honors and Awards**

- Member of MENSA, the international high-IQ organization
- National Talent Search Scholarship from the Government of India, 1998 - 2004

## **Activities**

- Co-director of the Indian Business Club at MIT, 2006-07
- Coordinator, MIT Center for Transportation and Logistics Speaker Series, 2005
- Member, Executive Committee, IIT Madras Association of North America, Greater Boston Chapter

## **Computer Skills**

C, C++, OPL Studio, CPLEX

**Citizenship** Citizen of India

# Stephen Shum

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## Education

**Massachusetts Institute of Technology**, Cambridge, MA  
Candidate for Ph.D. in Operations Research; expected completion, June 2007.  
Advisor: Professor David Simchi-Levi

**University of California**, Los Angeles, CA  
B.Sc. in Electrical Engineering, 2003.  
B.Sc. in Mathematics, 2003.

## Research Interests

General research interests span across several areas including operations and supply chain management, economics, optimization and beyond. In particular, applications of economic models, game theory and mathematical programming to study different issues in supply chains.

## Teaching Experience

2005 – 2006

**Massachusetts Institute of Technology**, Cambridge, MA

*Teaching Assistant*

- ESD.273 *Logistics and Supply Chain Management*, PhD class (Fall 2005, Fall 2006)
- ESD.763 *Operations and Supply Chain Management*, executive master (ESD, LFM and MLOG) and distance learning class (Summer 2006)
- 15.762 *Supply Chain Planning*, MBA class (Spring 2005, Spring 2006)
- 15.763 *Manufacturing Systems and Supply Chain Design*, MBA class (Spring 2005, Spring 2006)

Graded case reports and homework assignments, held office hours, lectured occasionally.

2002 - 2003

**University of California**, Los Angeles, CA

*Tutor of Mathematics Department*

Provided drop-in tutorial services to students of undergraduate mathematics classes.

## Professional Experience

2003-2006

**MIT Operations Research Center**, Cambridge, MA

*Research Assistant (Professor David Simchi-Levi)*

Current research focus on economic and coordination issues in supply chains including contracting, operations incentives, supply chain competition and cooperation, and the marketing-operations interface.

- 2005**  
(Summer)                    **Sabre Airline Solutions**, Southlake, TX  
*Summer Intern*  
Designed and implemented heuristic algorithms to generate initial solutions in large-scale airline crew scheduling optimization problem; Analyzed the quality and efficiency of the heuristics and the optimization engine of the new airline crew scheduling software prototype; Reported and presented potential improvement and development directions to technical staff and executives.
- 2002**  
(Summer)                    **UCLA Electrical Engineering Department**, Los Angeles, CA  
*Research Assistant (Professor Izhak Rubin)*  
Analyzed and simulated routing algorithms for ad hoc mobile wireless networks.

### **Publications and Working Papers**

“Coordinating Efforts of Multiple Retailers in a Decentralized Supply Chain,” with David Simchi-Levi. Working Paper.

“Coordinating and Rational Contracts in Supply Chains,” with Xin Chen and David Simchi-Levi. Working Paper.

“Robustness to Renegotiation,” with David Simchi-Levi. Work in Progress.

### **Presentations**

“Coordinating Efforts of Multiple Retailers in a Decentralized Supply Chain.” To be presented at *INFORMS Annual Meeting*, Pittsburgh, PA, November 2006.

“Coordinating Efforts of Multiple Retailers in a Decentralized Supply Chain.” *INFORMS Hong Kong International*, Hong Kong, June 2006.

“Coordinating and Rational Contracts in Supply Chains.” *INFORMS Annual Meeting*, San Francisco, November 2005.

“Coordinating and Rational Contracts in Supply Chains.” *INFORMS MSOM Meeting*, Northwestern University, June 2005.

“Risk Aversion and Supply Chain Coordination.” *INFORMS Annual Meeting*, Denver, November 2004.

### **Honors and Awards**

- Finalist of 2006 George E. Nicholson Student Paper Competition
- INFORMS 2006 Future Academician Colloquium
- UCLA Verizon Scholarship (2002)
- Fr. Kelly’s Fund Scholarship (1999-2003)
- Hong Kong Schools Alumni Federation Scholarship (1999-2003)
- Standard Chartered Bank Award for Excellent HKCEE results (1998)

**Activities**

Referee for *IIE Transactions*

Coordinator of the ORC Seminar Series (2006)

Member of Institute for Operations Research and Management Sciences

Member of American Economic Association

**Skills**

*Computers:* C++/C, Matlab, HTML, S-Plus

*Languages:* English, Chinese (Cantonese and Mandarin)

**Citizenship**

Hong Kong, China

## Carine Anne Marie Simon

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- Education**
- Massachusetts Institute of Technology, Sloan School of Management, Cambridge, MA**  
Candidate for PhD in Operations Research; expected completion, June 2007.  
Dissertation Topic: *Models of Dynamic Pricing under Competition*  
Coursework in Optimization Methods, Stochastic Processes (applications to finance), Statistics, Game Theory, Supply Chain Planning.
- Ecole Centrale Paris, Engineering School, Paris, France**  
Engineer, Applied Math, June 2003.  
Top 2 Engineering Schools in France. Ranked #9 out of 464 students.
- Experience**
- 2005-2006** **MIT Sloan School of Management, Cambridge, MA**  
*Teaching assistant- Course coordinator*  
Course: 15.060 Data, Models and Decisions: Core MBA Class: Coordinated team of 6 assistants; conducted recitations, review sessions, and graded case studies.
- 2006**  
(Fall) Courses: 15.762J Supply Chain Planning, 15.763J: Supply Chain Design: LFM Class.  
Managed the class website; conducted recitations and graded case studies.
- 2003-Present** **MIT Sloan School of Management, Cambridge, MA**  
*Research Assistant*  
Designed and implemented models of dynamic pricing and demand learning. Presentations at INFORMS Revenue Management Conference (Boston, June 2004, 2005, New York 2006) and Annual Conference (Denver, October 2004, SF November 200).
- 2006**  
(Summer) **Credit Suisse, New York, NY**  
*Quantitative Summer Institute*  
Followed extensive training in financial products and models. Mortgage Trading desk: created an option model for prepayments.
- 2005**  
(Summer) **Barclays Capital, New York, NY**  
*Fixed Income Trading Summer Associate*  
TIIS desk (Treasury Inflation-Indexed Security): created a forecasting model of inflation and studied seasonality of Consumer Price Index.
- 2002**  
(Summer) **Kintetsu International Express B.V, Amsterdam, Netherlands**  
*Internship*  
Upgraded the data base of hotels: implemented a search system by keywords; Designed a new storing system of client files, which resulted in an increase in work efficiency.

## **Skills/Leadership**

### Languages

French – native speaker, English – bilingual, German – fluent, Spanish – intermediate.

### Computer

Programming in Matlab , C, VBA, S-Plus, CPLEX, LateX.

Advanced knowledge of Microsoft Excel, Word, PowerPoint

### Leadership

VP of Academics at the Student Council of Ecole Centrale Paris: initiated a reform of the school curriculum. INFORMS officer at the Operations Research Center: organized a speaker series for the students and faculty. Captain of #1 Female tennis team at Ecole Centrale Paris

## **Honors and Awards**

Recipient of the *Jean Gaillard Memorial Fellowship* (2003), and of the *Robert Guenassia Award* (2005), among all French students admitted to MIT.

**Citizenship** Citizen of France

## Raghavendran Sivaraman

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### Education

**Massachusetts Institute of Technology**, Cambridge, MA

Candidate for PhD in Operations Research; expected completion, June 2007. GPA 5.0/5.0  
Tentative thesis title: *Capacity Expansion in Hybrid Telecommunication Networks*

**Indian Institute of Technology Madras**, Chennai, India

Bachelor of Technology in Computer Science and Engineering, July 2002.  
Thesis title: *Workload Characterization in Three-tier Architectures*

### Research Interests

Broad areas of mathematical programming, discrete/combinatorial optimization, and network design and optimization. Operations Management, particularly problems in logistics, telecommunications and manufacturing.

### Experience

2002 - Present

**MIT Operations Research Center**, Cambridge, MA

*Research Assistant*

Research Advisor: Prof. Thomas L. Magnanti

Work on models and algorithms for single and multi-period capacity expansion planning in hybrid telecommunication networks that use both TDM and VoIP technologies. Proposed fast heuristics with good and provable performance guarantees. Devised algorithms for capacity expansion with survivability requirements e.g., single link failure protection.

Worked on a design problem in network flows over time. Designed heuristics and lower bounds, and showed they were good on average.

2006

(Summer)

**Verizon Laboratories**, Waltham MA

*Summer Intern*

Developed models to optimize capacity expansion of the Verizon Business long-distance network (after the integration of Verizon and MCI) while routing calls without bifurcation.

Conducted a study showing significant cost benefits of allowing multiple-hop routes. Designed a model to identify alternate routes in case of link failures to minimize cost.

2005

(Summer)

**Verizon Laboratories**, Waltham MA

*Summer Intern*

Built an optimization model, Central Office Dispatch Algorithm (CODA), to assign jobs to repair technicians based on location, skill set and job priority, and embedded it into Verizon's trouble ticket management system. CODA increased the number of daily assigned jobs by 15% on average, assigning even more high priority jobs. The project won the Verizon Excellence Award in 2005.

2005

(Spring)

**Sloan School of Management**, Cambridge, MA

*Teaching Assistant, Network Optimization (doctoral level)*

Conducted weekly recitations, held office hours, and helped prepare problem sets and quizzes.

2004  
(Summer)

**Verizon Laboratories**, Waltham MA

*Summer Intern*

Optimized and automated Verizon's decision making process for expanding their long distance network. Implementation of the developed tool was estimated to cut capacity investments by 50% in the first year and by 30% over 5 years.

2003  
(Summer)

**Max-Planck Institut für Informatik**, Saarbrücken, Germany

*Research student*

Research Advisor: Dr. Martin Skutella

Considered a design version of a classical problem in network flows over time. Explored structural properties, and designed heuristics and lower bounds.

### **Publications**

"Linear Programming, Quickest Flows, and Time-cost Tradeoffs", in *Proceedings of the International Network Optimization Conference*, Lisbon, Portugal, 2005, with Thomas L. Magnanti and Martin Skutella.

"Capacity Expansion in Hybrid Telecommunication Networks", with Thomas L. Magnanti (in preparation).

### **Presentations**

"Capacity Expansion in Hybrid Telecommunication Networks", INFORMS Annual Meeting, Pittsburgh, November, 2006.

"Optimal Expansion of a Hybrid Circuit/Packet Switched Voice Telecommunications Backbone", INFORMS Annual Meeting, Pittsburgh, November, 2006.

"Optimal Capacity Planning in Verizon Business Long Distance Backbone", Verizon Technology Organization, Waltham, Massachusetts, October, 2006.

"Single Facility Network Loading in Hybrid Telecommunication Networks", *International Symposium on Mathematical Programming (ISMP)*, Rio de Janeiro, Brazil, August, 2006.

"Linear Programming, Quickest Flows, and Time-Cost Tradeoffs", International Network Optimization Conference, Lisbon, Portugal, 2006.

"Time-cost Tradeoff in Quickest Flows", INFORMS Annual Meeting, Denver, 2004.

### **Honors and Awards**

Merit Scholarship from IIT Madras for being among the top 20 entrants to the institute, 2002  
Gold medalist in the Indian National Physics Olympiad, 1998, awarded to the top 35 in India  
National Talent Search Scholarship from the NCERT, Govt. of India, 1996-2002

### **Activities**

Coordinator, MIT ORC Seminar Series, Fall 2006

Member, Executive Committee, IIT Madras Alumni Assn. of North America, Boston Chapter

Treasurer, INFORMS MIT student chapter, 2005  
Member of INFORMS

**Computer Skills**

Programming Languages: C, C++  
Optimization software: CPLEX, OPL, AMPL, MATLAB

**Citizenship**

Citizen of India

## Kwong Meng Teo

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### Education

#### **Massachusetts Institute of Technology, Cambridge, MA**

Candidate for PhD in Operations Research; expected completion, June, 2007.  
Coursework: Options and futures markets, stochastic processes, dynamic programming, probability, statistics, optimization, game theory, completed most Financial Technology Option requirements. GPA: 4.9/5.0  
Thesis title: *Robust Optimization of Nonconvex Problems*

Level 2 Candidate in the Chartered Financial Analyst (CFA) Program  
Passed Level 1 Exams in June 2006.

Candidate in the Financial Risk Manager (FRM) Program.

#### **Singapore-MIT Alliance, Singapore**

Masters of Science in High Performance Computation, July 2000.  
Coursework: Simulation, numerical methods for partial differential equations, systems optimization. GPA: 5/5.  
Thesis title: *Vehicle Routing Problem With Time Windows*.  
Awards: Singapore-MIT Alliance Scholarship  
IHPC-IBM Subject Book Prize  
IHPC-IDSC Project Book Prize

#### **National University of Singapore, Singapore**

Masters of Science in Electrical Engineering (Communications), January 1999.

#### **University of Manchester Institute of Science & Technology, Manchester, UK**

Bachelors of Engineering in Electrical & Electronics Engineering, June 1993.  
1st Class Honors  
Awards: Singapore Government's Overseas Merit Scholarship  
Ford Coursework Book Prize  
Numerous Book Prizes for best in class and best in coursework

### Experience

#### **2004 MIT Sloan School of Management, Cambridge, MA**

(Fall) *Teaching Assistant*

Taught and evaluated 20 graduate students in Integer Optimization, an elective for the Financial Technology Option and a PhD-level course.  
Developed computation assignments, conducted recitations.

- 2004**  
(Summer) **American Express Financial Corporation, Boston, MA.**  
*Summer Associate*  
Worked with the fund management group.  
Achievements: Improved portfolio management system behind the AXP® Managed Allocation Fund and the AXP® Quantitative Large Cap Equity Fund.  
Improved the Lifetime Optimizer, an asset allocation tool in the Morningstar Advisor Workstation.
- 2000-2002** **Savi Technology Asia, Singapore**  
*Regional Consulting Manager*  
Company has been acquired by Lockheed Martin.  
Responsibilities: Led consulting team in Asia covering predominantly China, Taiwan and Singapore. Customer engagement, presales consulting, bid proposal preparations and system architecture design of RFID systems. Led process improvement projects with a total value > US\$2M.  
Achievements: Designed one of the world's first shipping container security system using RFID technology to address US port security requirements following 9/11. Created new business segments, designed, delivered and sold 2 process optimization systems.
- 2000**  
(Summer) **Kent Ridge Digital Labs, Singapore**  
*Intern*  
Developed a vehicle routing system to optimize delivery scheduling.
- 1995-1999** **Ministry of Defense, Singapore**  
*Project Manager*  
Served under scholarship bond.  
Responsibilities: Specify user requirements, develop technical specifications, design system architecture, recommend solutions, issue tenders, evaluate proposals and conduct system design reviews.  
Led telecommunications projects with a total value > US\$50M.  
Special Projects: Developed Harvard-style case studies for in-house management trainings  
Appointed Secretary of System Survivability work group.  
Appointed Committee member of Command, Control and Communications System Technical Architecture work group.
- 1993-1995** **Singapore Armed Forces, Singapore**  
*Platoon Commander*  
Mandatory national service.  
Led an infantry platoon of 27 men through varied missions.  
Instructor in Officer Cadet School.

## Honors and Awards

Singapore Sports Council West Zone Colors, participation in the Gifted Education Program, Singapore Prime Minister's Book Prize.

**Computer Skills and Interests**

C, C++, Matlab, Microsoft Office

**Languages**

Fluent in English and Mandarin

**Citizenship** Citizen of Singapore