Dear Alumni and Friends of ORIE:

In keeping with the practice of interim ORIE Director Shane Henderson, I am writing this brief letter to you as an update on ORIE, my first as Director, following my parental leave. As always, you can find additional details online at www.orie.cornell.edu.

Shane stepped up selflessly to guide ORIE through a challenging year, in which Cornell has faced strong budgetary pressures. We have not escaped the pressures, but nonetheless have been able to maintain excellent academic and research programs, and move them forward. We thank Shane for his year of outstanding service – his devotion, leadership and initiative went well beyond those of a more typical ‘interim’ appointee.

Teaching Excellence

Shane has now turned his attention to a project he first undertook while Director, a revamping of the basic probability and statistics course required of ORIE students and offered to all engineering students. Building on the work of prior course teachers Sid Resnick and Dawn Woodard, he is introducing software demonstrations into the recitations and more interaction as well as guest speakers into the lectures - alumni who can provide brief testimony as to “how important this stuff is,” as Shane puts it. The work is supported by the College of Engineering’s Teaching Excellence Institute (headed by Kathy Dimiduk, daughter of ORIE Emeritus Professor Dick Conway), through a Teaching Grant provided by James McCormick, ORIE ’69. Amanda Kushner ’12, whose parents and grandparents are Cornell alums, helped Shane in this work over the summer.

The attention we pay to the continual development of instruction in this and other courses is evidence of the ongoing emphasis ORIE places on teaching excellence. Shane reported to you earlier that Jack Muckstadt has been named a Weiss Fellow, recognition as one of Cornell’s top teachers. Last year Merrill Presidential Scholar Adam Schneider designated Bob Bland as the Cornell professor who most significantly contributed to his Cornell experience. This year Peter Jackson received the Dorothy and Fred Chau MS ‘74 teaching award and Kathryn Caggiano received the Sonny Yau ’72 teaching award. Peter was also named Teacher of the Year by
Master of Engineering students, and the undergraduates selected Huseyin Topaloglu for that designation.

As the spring semester came to a close, the Cornell Board of Trustees accepted the recommendation of Cornell Provost Kent Fuchs that Paat Rusmechientong be awarded tenure. Paat is playing an important role in our strategy of marrying Operations Research and Information Engineering, with his Stanford Ph.D. in OR, his experience in data mining and personalization at Amazon, his development of our new required course on information systems and analysis, and his revision of our revenue management course.

**Research Grants**

Paat, together with ORIE faculty members Kathryn Caggiano, Peter Frazier, Jack Muckstadt, David Shmoys and Huseyin Topaloglu, and under the leadership of Peter Jackson, is helping Verizon Wireless understand the returns of cell phones due to manufacturing defects, accidents and other reasons. They will focus initially on understanding why phones are returned and how the return rate relates to the amount and type of usage by customers, testing prior to release of the model, and supplier history. This understanding will be used to forecast phone returns, and eventually to explore implications for product design, policies for sale, upgrade and replacement of phones, reverse logistics, the supply chain for new phones. The team, which also includes Ph.D. student Collin Chan and Civil and Environmental Engineering Professor Oliver Gao, brings an exceptionally broad range of ORIE skills to bear on the research. Verizon Wireless has provided funding of $500K for the first year of an anticipated 3 year project.

ORIE faculty has fared well over the past academic year in the national competition for research funding from the National Science Foundation and other organizations. Sid Resnick, Paat Rusmevichientong, Gena Samorodnitsky, David Shmoys, and Huseyin Topaloglu, were awarded new or renewed grants totaling nearly $1.3 M (not counting the Verizon Wireless grant) for a three year period, about a third more than faculty garnered in the prior academic year though well short of the $4 M won in 2007-8.

Sid and Gena propose to continue work on properties of random processes that have a greater likelihood of extreme events than characterized by the typical “normal” distribution; such processes occur in areas as disparate as finance and internet traffic. Gena also received a separate but related grant to study the “shape of the extreme exceedance sets” of stochastic processes and their generalization, random fields. The work is motivated by the need to understand risks associated with extreme weather, financial and security events as well as extreme loads in networks.

David will continue work on algorithms that find near-optimal solutions for discrete (integer) stochastic and deterministic optimization problems that arise in a variety of application in logistics. The aim is to design algorithms that "typically" find good solutions, for which one can also provide a guarantee on the quality of the solution found.

Huseyin and Paat propose to develop a general framework for incorporating models of customer choices into dynamic decision making in operations management. They point out that “choosing
the right variety of products to offer to customers turns out to be a difficult problem with crucial tradeoffs and implications” for revenues, the size of the customer base, and operational costs, that the knowledge of customer choices may evolve, requiring adjustments to the offered assortment, and that models and algorithms should take these tradeoffs and adjustments explicitly into account.

Other faculty members have ongoing grants awarded in prior years. These include Eric Friedman, David Matteson, Mike Todd, David Williamson, David Ruppert, Shane Henderson, Mark Lewis, Philip Protter, Dawn Woodard and myself. In addition to supporting faculty activities directly, such external research funding is one of the central resources for our Ph.D. program, a crucial activity that ORIE hopes to expand.

Master of Engineering

Shane’s letter last spring described the broad range of projects that were underway in the Master of Engineering program. Three of these projects were singled out at our graduation exercises for special recognition. For more than 50 years an endowment by the Silent Hoist and Crane Company has been used to recognize top projects throughout the College of Engineering in the domain of materials handling, now broadly defined to encompass people, data, and information. This year’s winners, all from ORIE, were projects to assist MITRE in planning for a possible evacuation of Washington DC in the event of a disaster such as an anthrax attack, to help a Rochester NY medical emergency services organization determine where to locate their resources to improve response times, and to investigate, for Goldman Sachs, the replication of returns of certain managed U.S. mutual funds, with potential benefits to the investor.

Our M.Eng. program continues to be popular with students. The large entering class of more than 80 students came to Ithaca a week earlier than usual this summer to participate in a new professional development program called MEng Connect. With the assistance of Richard Gallagher CEE ’76, Associate Director Kathryn Caggiano devised the program to help students work more effectively in their project teams and to give them a strategic advantage as they enter a very competitive job market. MEng Connect addresses non-technical skills in areas such as interpersonal communication, teamwork, and presentation.

Alumni

We were delighted that so many of you were able to attend the annual alumni breakfast, traditionally held in Rhodes Hall on Saturday morning during the Reunion. More than 30 ORIE alums showed up this year for conversation with faculty and fellow alums, a slide show about ORIE activities, and talks by Interim Dean Chris Ober and Jack Muckstadt. If you come to Ithaca for a reunion, don’t forget to include the breakfast in your schedule.

Victoria Averbukh, who heads ORIE’s Cornell Financial Engineering Manhattan (CFEM) office, is organizing a mock interview marathon for third semester financial engineering students, who are currently seeking employment in advance of graduating in January. Victoria is looking for a few good women and men to help make the event as meaningful for students as possible by
serving as interviewers at the session, to be held at CFEM on September 24. Please consider participating – for more information contact her, vza1@cornell.edu.

On a sad note, we have learned that Bill Lucas, who many alumni will remember as an inspiring teacher of game theory and other subjects in ORIE from 1969 to 1984, passed away in June at the age of 77.

You can keep following the news in ORIE through regular updates that are posted to orie.cornell.edu/news, which also includes an RSS link for those who maintain news readers such as Google Reader. On the ORIE web site you can find out about upcoming events (including an exciting talk at CFEM Sept 30), post and read alumni notes, keep us up-to-date on your location and employment, review past letters and brochures, volunteer as an alumni mentor, and learn more about how you can help ORIE, all using links at http://www.orie.cornell.edu/orie/alumni. You can also follow us on Facebook at Cornell University School of Operations Research & Information Engineering.

Many thanks, finally, to Mark Eisner, who drew much of this material together. Many of you know Mark, who remains as close to the heartbeat of ORIE as ever.

Best wishes,

[Signature]

Adrian Lewis