Summer Research
with Professor Kenneth L. Simons

Paid Opportunities for RPI Undergraduate and PhD Students

For summer 2012, RPI undergraduate and PhD students are invited to apply for two ongoing paid research projects. Both projects are prestigious opportunities to participate in NSF-funded research. The first project, about “technology disruptions,” analyzes technology and industries over periods of 50-100 years and more. It is collecting data on some 100 industries: the changing technologies used in each industry, the companies involved, and how leading companies lost or gained large market shares. The work will make fundamental contributions to our understanding of technology-driven disruptions in industries, and how the nature of the industries affects the flow of such technological advances.

The second project analyzes the emerging “smart lighting” industries, using worldwide data on companies, patents, publications, emerging products, and national policies to understand a developing cluster of industries. LED lighting promises to replace traditional light bulbs with more energy-efficient alternatives, and moreover is the basis for new communications devices, displays, and biosensors. The work will make applied contributions regarding these emerging industries, as well as contribute to fundamental understanding about emerging industries and technologies. This second project is joint with Professor Susan Sanderson in RPI’s Lally School of Management.

The work is expected to continue at least through summer 2012, and paid undergraduate opportunities may also be available during academic terms. For PhD students, the project provides mentoring and an opportunity to couple dissertation work and publications to the summer data collection project. For undergraduates, the projects are prestigious opportunities to demonstrate hands-on experience that can be invaluable when applying for jobs or for graduate study.

Interested students should fill out an application form and submit it to Ken Simons as soon as possible. Forms are available on his web page at: http://www.rpi.edu/~simonk/. Hiring will be on an equal-opportunity basis and applications from women and minority candidates are especially encouraged. For undergraduates, no particular experience is crucial, although the application form asks about relevant skills and experience. Any major is fine; in fact, variety in undergraduate majors contributes to the skills and subject matter knowledge we need. For undergraduates, some positions would benefit from programming experience. PhD students should have research interests related to management, economics, or social science of businesses, industries, and technologies, and should be interested to orient their PhD dissertations in part or whole around these research projects and/or their data. The total number of people expected to be hired for summer 2012 is about 7 PhD students plus about 10-12 undergraduate students. Most or all undergraduate positions pertain to the technology disruptions project.
Time Scale: The work is full-summer work, so I am looking for people who can be here throughout the summer and who do not have classes or other major commitments. Undergraduates should expect to spend about 40 hours per week for nearly all of the summer (a little vacation is fine). PhD students should be expected to spend at least 20 hours per week throughout the summer, developing a paper that uses data collected in the project (the paper could contribute to a PhD dissertation).

Offices: Office space is being arranged for all participants throughout summer, in the Sage Lab building. It may help if you can bring your own laptop to use while working.

Ordinary Hours: We will normally follow standard working hours of approximately 9-5 weekdays, to facilitate working with each other, using libraries, etc. Some flexibility is fine, and sometimes we may need to work at other times according to when libraries are open, when phone calls need to be made later in the day, etc.

Meetings: Each project will have a combined meeting at least once per week. Tentatively, the regular Technology Disruptions meeting will be scheduled for Monday mornings, and the regular Smart Lighting meeting will be scheduled for Wednesday mornings. If we need a big table to gather around, we can use the Economics Seminar room, Sage 3205. A startup meeting, with members of all three teams on both projects, will provide everyone a chance to get to know each other, get set up and acquainted with the facilities, and get an introduction to the research going on in both projects.

Mandated Training: Every student in the program is required by the National Science Foundation to complete a brief research ethics training program. Also, some students in the project may ask industry experts for information, and if the information asked for includes anything about those people’s own roles (or another living person’s roles), or if the interviews might yield information of this kind that we would want to use in the research, then human subjects training may be necessary first. Both of these training programs are available as on-line modules that RPI has arranged to be accessible on the Internet.

Offsite Travel: Some work will need to be done in nearby libraries such as the New York State Library, easiest reached by car. Additional trips may be helpful to other libraries such as the New York Public Library or Boston Public Library, so if you have reason to be out of town in major cities it would be great to hear.

Continuation of Employment: Continued employment is of course contingent on efficient and effective performance of the work. Officially employment can be terminated at any time, although in normal practice participants have continued throughout the summer.

Nature of Activities: A description of the “technology disruptions” project is available to participants and gives an overview of the types of information to be collected.

Term-Time Activities for Smart Lighting Project: PhD students in the smart lighting project are expected to participate in certain activities during the term as well. This is expected (based on past practice) to include a three-day industry-academia meeting, circa early February,
in which PhD students present their research via posters and participate in a research elevator pitch competition; occasional meetings with other Smart Lighting ERC students and/or all ERC participants (about 1-2 times monthly for about 1 hour); and where your schedule allows, occasional (perhaps 2-3 times per term) seminars with speakers.

Pay and Time Spent Records: The payroll schedule is every two weeks. Please record your hours worked each day in a “time spent” spreadsheet. The time spent sheet is meant to keep a record of what each person is doing without too much effort. For each day it has a line for a brief (a few words) description of what you worked on that day, along with the date, the number of hours spent, and any notes as desired. Every two weeks you should make a line with the date entered as “Two-week total,” totaling up the hours during those two weeks, and undergraduates will need to email the spreadsheet. Undergraduates should email the spreadsheet to both the financial manager and Prof. Simons so that they get paid properly (we’ll let you know the exact due date according to the RPI payroll schedule – these will probably be Wednesdays). PhD students should email the spreadsheet to Prof. Simons for the “technology disruptions” project, or to both Prof. Simons and Prof. Sanderson for the “smart lighting” project.