



**Engineering | Leaders of Tomorrow**

# Summer & Fall Report 2010



## Introduction

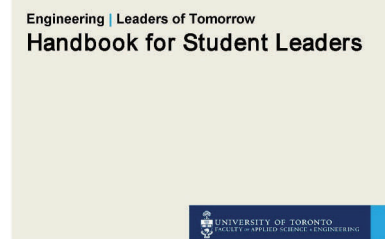
The Engineering Leaders of Tomorrow Program (LOT) sustained remarkable productivity and growth over the past summer and fall terms. This report provides an overview of our activities from May 1<sup>st</sup> to December 31<sup>st</sup> 2010. Over this period we have made 4,850 student contacts, held 141 events and meetings, delivered 11 leadership lectures, offered one certificate program, and instructed two academic courses. By these measures alone we have surpassed our achievements over the previous summer-fall period. We have also launched a number of new initiatives this year that expand both our breadth and depth. In the fall we reached out to our peer programs in the United States in an international excursion. We launched the Club Leaders Initiative that resulted in the publication of our *Handbook for Student Leaders*. We also designed the Organizational Leadership Certificate Program, to be delivered in the winter term. Lastly, we are increasingly refining our communications strategy to our students and broader stakeholders to serve them better. We hope you enjoy learning about our program's latest developments.

## Core Programming

### Club Leaders Initiative

Until recently, LOT has been focused predominantly on introducing leadership education to students who did not necessarily have direct experience leading others. This summer we launched the Club Leaders Initiative. It addressed the need to deliver support and training to those who were specifically in positions of leadership in student organizations.

The Initiative sought to understand students' specific needs and designed an approach to engage and support their growth. We sought to build community with these student club leaders through monthly sessions. We also sought to bring them together so that they may learn from each other's experiences. Through in-depth series of interviews, follow-up discussions, and group facilitation, we examined student experiences and infused this with theories and frameworks from leadership and management resources. The result of this work has been the publication of our *Handbook for Student Leaders*. It chronicles and contextualizes the real-life challenges of executive members of student organizations. We believe it is an indispensable resource for emerging student leaders, especially as they take on positions of increased responsibility within their groups. It is available online on [our website](#). The sessions that LOT piloted with this group also served to develop curriculum for our Organizational Leadership Certificate Program. They are: (1) Session One: Leader as Visionary, (2) Session Two: Leader as Facilitator, (3) Session Three: Leader as Teacher, and (4) Session Four: Leader as Coach.



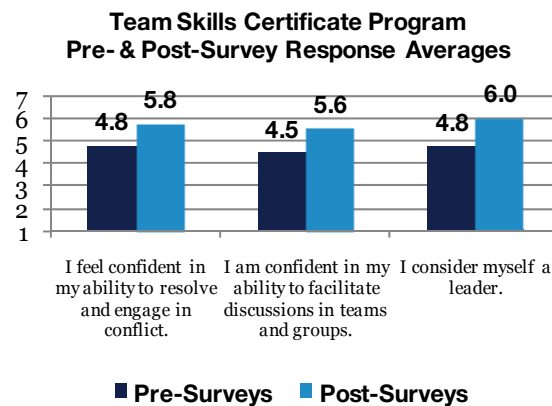
Cover for our publication, *Handbook for Student Leaders*. Available online.

### Team Skills Certificate Program

The Team Skills Certificate Program was offered for the fourth time this fall. We continued to receive many more applications than available space, confirming strong demand for this co-curricular programming. Our Team Skills Program involved five high-impact workshops. Over the course of these workshops, students learned about personality styles, how this translates into leadership strengths, as well as how to adapt their own styles while working with others. Students also got the chance to practice

conflict resolution techniques. As a capstone to their learning, students examined and reflected on their own identities, diversity, inclusivity, and how their experiences affect their ability to lead.

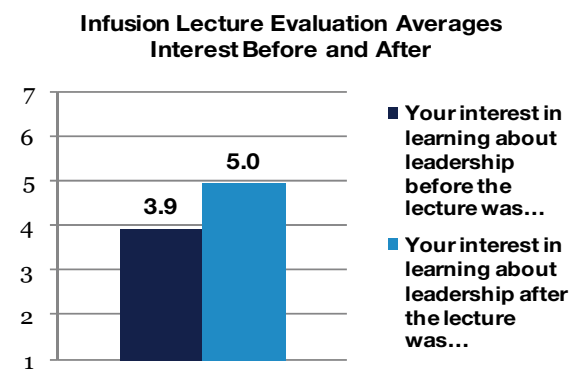
**Measuring impact.** We surveyed students before and after the Team Skills Certificate Program to gain an understanding of perceived changes in student competencies. We collected 39 pre-surveys, and 32 post-surveys. Students rated themselves on a scale of one to seven. The chart opposite provides average results in which students rated themselves higher after having taken the Certificate Program (statistically significant, 95% confidence). We view this as positive indication that our pedagogical goals were met.



### Leadership Infusion Lecture Series

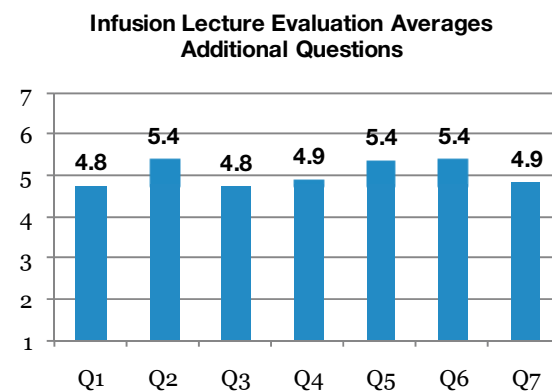
The Leadership Infusion Lecture Series entered its third academic year. LOT delivered 11 guest lectures on leadership topics to undergraduate engineering classes in the fall—more than in any other term—reaching 1,001 students. With an even greater number of leadership lectures scheduled for the winter term, LOT is on track to reach more classes and students than ever through this curricular offering.

**Measuring impact.** At the end of every lecture, we collected surveys to gage our effectiveness. We asked students to rate their interest in learning about leadership before and after the lectures on a scale of one to seven in ascending order of agreement (n=453 and n=468, respectively). The chart opposite shows a statistically significant increase in what students rated themselves on these questions (95% confidence). Because one of the primary goals of these lectures is to stimulate interest in learning more about leadership topics, we see this as encouraging feedback.



We also asked students to rate the following questions on a scale of one to seven (n=473). We present average results in the following chart.

1. Your interest in learning about leadership while at university...
2. Your interest in learning about leadership after graduation...
3. The effectiveness of the learning experience was...
4. The value of the learning experience was...
5. The delivery of the lecture was...
6. The relevance of this lecture to your professional development is...
7. The intrinsic interest of the subject matter is...



## Academic Courses

LOT offered two academic courses in the fall term, (1) APS501: *Leadership and Leading in Groups and Organizations* taught by Dr. **David Colcleugh** and (2) APS1010: *Cognitive and Psychological Foundations of Effective Leadership* taught by Dr. **Robin Sacks**.

Dr. Colcleugh used his experiences teaching this course to contribute to his manuscript for a forthcoming book on engineering leadership. Our third course APS1011: *Concepts and Applications of Authentic Leadership* will be offered in the winter term. Learn about all our [leadership courses online](#).



APS1010 Class photo from Fall 2010.

## Undergraduate Team Skills Study

LOT has undertaken significant work on examining the pedagogy and practice of effective team skills within the undergraduate curricular experience. Engineering students frequently engage in group work; indeed, it is not uncommon for a portion of a student's grade to be assigned by how well he or she performs as a group member. Hence, we found it important to understand what effective team work resembles, and how to maximize its efficacy. Through our study, we seek to answer these four questions:

1. What effective teamwork skills should we be teaching to our students?
2. What are we currently teaching in terms of teamwork skills?
3. How should we teach effective teamwork skills?
4. How should we evaluate the effectiveness of teaching teamwork skills?

We conducted a comprehensive literature review to determine best practices for teaching team skills to students. Currently, we are piloting and assessing a number of pedagogical tools in CHE 230: *Environmental Chemistry*, including a 360° assessment, a team skills leadership infusion lecture, and a tutorial introduction to effective team development. Our study is ongoing.

## Special Events

### Summer Institute 2010

LOT hosted *Coaching: A Methodology to Enhance Research, Teaching, and Student Life* on June 9<sup>th</sup>. This professional development opportunity brought together 42 staff and faculty from across U of T for a full day of learning. The event was led by management consultants **Nick Evans** and **Wayne Stark**, who also instruct LOT's graduate leadership course APS1011: *Concepts and Applications of Authentic Leadership*.

**Measuring impact.** We asked participants after the event to complete a survey of their experience. When asked "On a scale of one to ten, how would you rate this workshop overall?" respondents rated our event an average of 8.25 (n=24). When asked, "Has this workshop increased your interest in participating in other leadership development opportunities?" 21 of 24 (87.5%) respondents indicated "yes". We also asked what participants enjoyed most about the event. Respondents typically indicated that they liked the experiential, hands-on programming and the high level of interaction between colleagues across campus.

## UnERD 2010

The Undergraduate Engineering Research Day (UnERD) took place on August 6<sup>th</sup> in the Bahen Centre for Information Technology. LOT provided logistical support and facilitated meetings to help the student organizing committee see this complex event through to fruition. UnERD 2010 had approximately 30 podium presentations and 44 poster presentations. The event gave students, staff, and faculty the chance to see the wonderful research conducted by its undergraduate students.

## Clubs Day

For the first time, LOT took part in the Faculty's annual Clubs Day event on September 6<sup>th</sup>. We had a strong booth presence supported by staff and student volunteers, giving hundreds of first year students the opportunity to learn more about our leadership development opportunities. LOT also delivered a seminar presentation that day to students who wanted more information.

## PSU-MIT Engineering Leadership Meeting

Top-tier American universities are increasingly recognizing the importance of developing engineers as leaders. U of T Engineering was the only Canadian school to attend the inaugural Engineering Leadership Meeting, co-sponsored by the Pennsylvania State University (Penn State) and the Massachusetts Institute of Technology (MIT). LOT represented the Faculty at this two-day gathering of leadership educators, which took place October 20<sup>th</sup> and 21<sup>st</sup> at State College, Pennsylvania. We were joined by these eight U.S. programs:

- Bernard M. Gordon-MIT Engineering Leadership Program
- Penn State University Engineering Leadership Development Program
- Iowa State University, Engineering Leadership Program
- U.S. Naval Academy, Leadership, Ethics and Law Department
- Southern Methodist University, Bobby B. Lyle School of Engineering
- Tufts University School of Engineering Gordon Institute
- University of California-San Diego, Jacobs School of Engineering, Gordon Engineering Leadership Center
- The Gordon Engineering Leadership Program at Northeastern University

Delegates were impressed by our program's creativity and emphasis on personal and societal leadership. We had a number of schools request visits to learn more about the LOT program. The next Engineering Leadership Meeting takes place in April 2011. We will attend again and send a larger delegation.

## Leaders on Leadership

On November 1<sup>st</sup>, LOT hosted the Leaders on Leadership Discussion Panel. This event saw five exceptional business and community leaders share their experience with a room full of engaged students. The diverse panel included: (1) Lucio DiClemente, Corporate Director; (2) John van Leeuwen, CEO of Ecosynthetix Inc.; (3) Amanuel Melles, Director of Capacity Building Unit, United Way of Toronto; (4) Douglas Muzyka, Senior Vice President and Chief Science & Technology Officer of DuPont; and (5) Bonnie Schmidt, President of Let's Talk Science.

## The Art of Powerful Conversations

The LOT-Faculty Office and LOT Chem Working Group collaborated to bring renowned motivational speaker and author Stuart Knight to U of T Engineering on November 24<sup>th</sup>. Knight spoke to over 100 students about the value and power of personal connections, and offered tips and tools to help us engage more frequently with those around us. The event was interactive. Knight got the audience mingling with one another, giving those in attendance a chance to practice relationship-building techniques.

## Holiday Video Launch Party

We welcomed the U of T Engineering community to our Holiday Video Launch Party on December 2<sup>nd</sup>. The aim of this event was to acknowledge the hard work of everyone involved in LOT's many programs, to recognize the achievements of our student Working Groups, to provide an opportunity to showcase LOT's work over the summer and fall terms, to formally launch our promotional videos, and to spread the holiday cheer before the beginning of exams. We were pleased with the excellent turnout, which saw the coming together of students, staff, and faculty.

## Communications

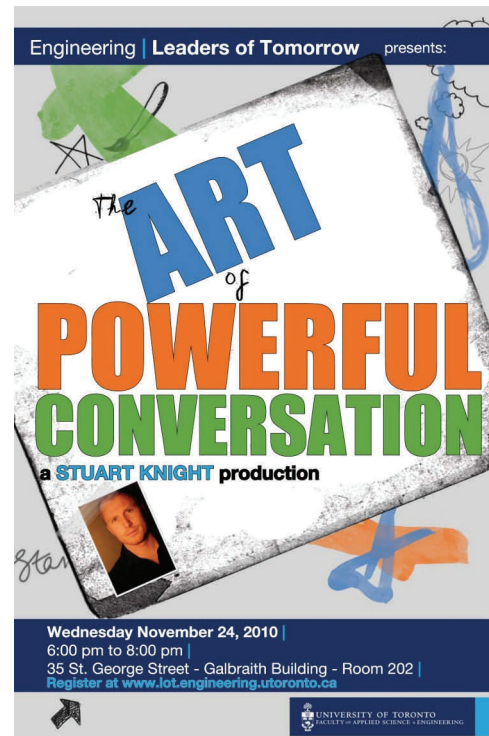
### Web + Social Media

We have worked hard over the summer to enliven our communications strategy. Our new, completely redesigned website marks a vast improvement over our previous presence. It now reflects the vibrancy and scope of our program, delivers information more effectively, and harmonizes with the Faculty's visual standards. Since its launch in September to December 2010, our website has received 3,744 visits and 14,143 total page views.

We have also expanded the reach of our communications strategy to encompass social media technologies this fall. Our Facebook group '[Engineering Leaders of Tomorrow](#)' and our Twitter account '@[EngineeringLOT](#)' allow us to provide quick updates from the Office, send event reminders, and direct users to our website where they can glean more detailed information. As a student-centric program, the effective use of social media technologies and multimedia allows LOT to deliver information to our students in the medium of their choice.

### Video

LOT also released its set of promotional videos in the fall. Our one-minute video is targeted to students and focuses on enticing them to get involved with the program; our three-minute video is targeted to a general audience and speaks to the greater institutional need for leadership education in engineering. LOT formally launched these videos during our Holiday Party in December. They are available on our [website](#), our [Vimeo channel](#), and on [YouTube](#).



Promotional poster used for *The Art of Powerful Conversations* with Stuart Knight.

## News + Media

**D&D Newsletter.** This fall we launched our *D&D Newsletter*, a monthly electronic publication. It reaches students, staff, and faculty in the LOT Working Groups across Departments and Divisions. The *D&D Newsletter* shares news and information about happenings across the Working Groups to build community. This publication allows the LOT-Faculty Office to acknowledge the fantastic work done by the Working Groups, offer resources to support leadership development and programming, as well as share other editorial features of interest. All issues are available online on our [website](#).

**The Bulletin.** The U of T Bulletin featured an article on LOT in its August 24, 2010 issue. Titled “Shaping the Engineers of Tomorrow” the article discusses the birth of the *Institute for Leadership Education in Engineering* (“ILead”) as a result of LOT’s success since 2002. Professor **Doug Reeve**, ILead Director and LOT Co-Leader, discussed his vision for leadership education and the new institute. The article is available electronically through [News @ University of Toronto](#) and the [Bulletin Archives](#).

**U of T Homepage.** On December 16<sup>th</sup>, Prof. **Doug Reeve**, Prof. **Greg Evans**, and **Annie Simpson** became the welcoming faces of the University’s central homepage. LOT senior leadership were featured on the ‘World-Class Faculty’ banner. This prominent placement has generated great exposure.

## Staff & Faculty

In this section we would like to acknowledge changes to staff and faculty. **Estelle Oliva** joined the LOT Office in May as Leadership Education Specialist and has brought tremendous energy and creativity to the program. **Mike Klassen** (EngSci 1To) worked with LOT during the summer months in support of the Club Leaders Initiative, leading to the publication of the *Handbook for Student Leaders*. **Samoil Vohra** (ChemE 1T2) joined us in the fall as our Work-Study student. **Gina John** and **Jen Hsu** served as faculty and staff liaisons, respectively, for the Engineering Science Working Group. **April Cheng** joined **Jayne Leake** as staff liaison for the Electrical and Computer Engineering Working Group. **Lana Kwan** and **Chirag Variawa** took their posts as co-chairs of Leaders of Tomorrow: Graduate. **Lesley Mak** served as staff liaison for TrackOne programming. We thank you all for your continued service and commitment. We also want to acknowledge and thank **Nina Haikara**, who, over the summer and fall terms, has served as Mechanical and Industrial Engineering’s staff liaison. **Shannon Osborne** will resume her post for Nina beginning winter term. In addition to acknowledging these changes, we would like to thank all other staff and faculty in our Department and Division programs. We look forward to sharing their accomplishments with you in our upcoming annual report.

## Looking Ahead

In keeping with our vision for *an engineering education that is a life-long foundation for transformational leaders and outstanding citizens*, LOT has worked hard to expand our reach and efficacy. As the 2010–2011 academic year progresses, we look forward to delivering more innovative programming, more exciting events, more students reached, and more impact across the Faculty and beyond. We hope our Summer & Fall Report paints a rich picture of our year thus far. We look forward to publishing our full annual report for 2010–2011 in the coming months. Thank you for your support!

### Engineering Leaders of Tomorrow Program

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