

INSPIRING LEADERSHIP 2015/16

The Institute for Leadership Education in Engineering





**ENGINEERS LEADING CHANGE
TO BUILD A BETTER WORLD.**

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WELCOME

At ILead we believe that today's complex world requires a new kind of engineer, one who is competent with both human and technological systems, one who captures hearts as well as minds, and one who is ready to influence others for positive change. Our job is to assist them to grow their capability and to be ready.

This year ILead took bold steps forward. We expanded our student programs. We dug deeper into complex research questions about engineering leadership in the workplace and the classroom. We championed our cause nationally and internationally. We hired wonderful new programming and research staff.

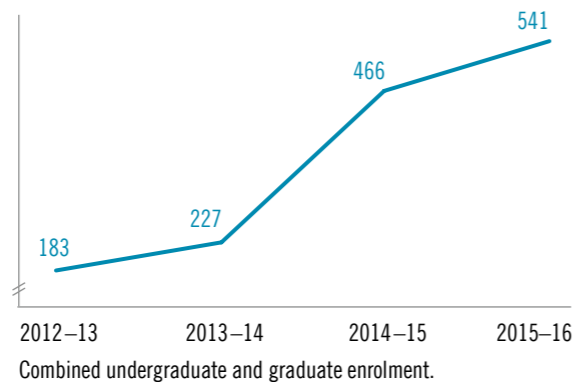
The future is bright. We thank you for your interest.

Professor Doug Reeve, PhD, PEng
Director, Institute for Leadership Education in Engineering

LEADERSHIP COURSES

Last year we experienced a surge in academic enrolment as we added new instructors to our teaching roster, enabling us to deliver more courses. This year we continued to grow student enrolment by offering multiple sections for courses, especially those that experienced waitlists the previous year.

ENROLMENT IN LEADERSHIP COURSES



In 2015-2016 we enrolled 541 students across 17 course offerings, making this year our strongest yet for academic instruction. As many of our courses fill up every year, we believe that our ability to continually expand enrolment is only limited by our capacity to teach.

COURSES OFFERED

- APS343: Engineering Leadership
- APS442/APS1010: Cognitive and Psychological Foundations of Effective Leadership
- APS444/APS1026: Positive Psychology for Engineers (AKA The Happy Engineer)
- APS445: The Power of Story: Discovering Your Leadership Narrative
- APS446/APS1019: Leadership in Project Management
- APS1011: Concepts and Applications of Authentic Leadership
- APS1027: Engineering Presentations
- APS1029: The Science of Emotional Intelligence and its Application to Leadership
- APS1030: Engineering Careers: Theories and Strategies to Manage Your Career for the Future
- APS1501: Leadership and Leading in Groups and Organizations

OPPOSITE: Students in our leadership courses engage with senior managers of engineering-intensive companies at our annual panel discussion.





Ernesto Díaz Lozano Patiño
CivE 1T5 + PEY

“Over my last year in undergrad, I had the honour to serve as the President of the Engineering Society. In a role where I was expected to be a leader, I had numerous occasions to grow and develop advanced leadership skills. Central to this was my involvement with ILead, especially through their course APS343 (Engineering Leadership), which I took while in office. The material we learned in class, the discussions we had, served as a guide for me to reflect on my leadership performance in the Engineering Society and gave me concrete tools to improve.”



Oyinkansola Romiluyi
ChemE 1T5 + PEY

“In my yearlong role as an ILead Leadership Lab Facilitator, I went through an important process of self-discovery: I came to know the strengths and skills I possess and had numerous opportunities to practice these. I grew in my capacity to teach and mentor others, to facilitate, to speak in public, to provide helpful feedback, to manage conflict, to deliver under pressure, and to work in a team. I am now continuing my leadership development in my role as a Women’s International Leadership Fellow at International House-New York.”

CO-CURRICULAR PROGRAMS

This year we expanded our co-curricular programs to serve students better. In addition to refining The Game, a social innovation program we introduced last year, we launched three new initiatives (below). As a result, there are now more distinct entry points to leadership learning that better reflect diverse student needs.

LEADERSHIP LABS

We launched Leadership Labs to provide a drop-in, easy access option for students to learn practical skills. These are 90-minute workshops that tackle topics such as public speaking, professional networking, and building high performance teams. We developed the Leadership Labs with two student groups in mind: First and Second Year students who have no prior exposure to formal leadership instruction, and Professional Experience Year students who benefit from the flexibility and career focus that the Labs offer.

CLUB LEADERS ROUNDTABLE

The Roundtable enables peer-to-peer learning under our guided facilitation. We aim to build a community where club leaders can share ideas, insights, and strategies with one another through monthly gatherings. The Roundtable is geared toward those who have extracurricular leadership positions.

SUMMER FELLOWSHIP

We developed the Summer Fellowship for senior students with extensive leadership experience either through ILead programs or through leadership positions held in student organizations. Over the course of 16 weeks, we challenge students to develop and test strategies for change in their organizations. Through high-level interaction in a small cohort, the Summer Fellowship encourages students to form enduring, supportive relationships.

OPPOSITE: Participants of The Game debrief with our guest facilitator during midpoint presentations.





1. Participants in The Game, a co-curricular program that teaches students to appreciate the nature of complex social problems and challenges them to come up with solutions. Teams work together over the course of seven months to refine their solutions and then present them to a panel of judges, with a cash prize awarded to the group that delivers the most compelling idea. **2.** Students learn about organizational cultural typologies at our Leadership Lab on Workplace Readiness. **3.** A student presents his group's "big idea" in front of his peers and social change experts at The Game's final presentations.

4. ILead's Leadership Education Specialist Jordan Daniow facilitates student discussion at the Workplace Readiness Leadership Lab. **5.** A student considers next steps during an exercise in The City Game: A Competitive Team Building Experience, part of our Leadership Labs. **6.** A team smiles for the camera at the Design Frameworks session of The Game. **7.** ILead Assistant Director Annie Simpson facilitates a session on conflict resolution at a full-day Leadership Lab on Team Skills. **8.** A panel of engineering professionals share their experiences with students at the Workplace Readiness Leadership Lab.

RICHER, DEEPER FACULTY COLLABORATION

The Faculty of Applied Science & Engineering offers an incredible range of services to its students. This year we embedded ILead into more academic courses. We also collaborated with the Entrepreneurship Hatchery and the Engineering Outreach Office.

COURSE INTEGRATION

We collaborated with faculty to integrate leadership material into their courses. For example, in a Third Year Industrial Engineering course on algorithm design, we ran an interactive workshop on team values to support team projects. For a Second Year Materials Science communications course, we taught students how to project confidence and infuse their personal narrative when giving a technical presentation. For the Second Year Engineering Science course Technology, Society and Critical Thinking we role-played group dynamics and designed follow-up tutorials run by course TAs. We also continued to reach First Year students by delivering several leadership workshops in their mandatory classes. Lastly, PhD candidate Patricia Sheridan's Team-effectiveness Learning System, a tool that improves the quality of feedback in group courses, was implemented in more courses.

THE ENTREPRENEURSHIP HATCHERY

The Entrepreneurship Hatchery is a launchpad for startup-minded students in the Faculty. We believe leadership education complements the training that students receive in the program. ILead presented team effectiveness essentials to the Hatchery's entire cohort and then followed up with targeted consultations with each team.

ENGINEERING OUTREACH

Our leadership programs offer a compelling benefit to future students. We worked with the Engineering Outreach Office to offer a Leadership Styles workshop for GLEE, a program that invites young women to campus who have received offers of acceptance. We also held sessions for the Jr. DEEP program, which offers elementary school students mini-courses to spark a lifelong love for science, technology, and engineering.

OPPOSITE: Students attend ILead:Grad's January event "Success Stories from PhD Engineers and Scientists: Conversations about Careers and Lessons from the Workplace"





Henry Xu
ECE 1T9

“Leadership is the ability to inspire and motivate those around you. This year I grew as a leader by participating in discussions about the importance of a balanced engineering education. As I encouraged those around me to get more involved in the community, I saw that they started to appreciate the personal growth and social interactions that are part of taking on leadership roles. I am now more eager than ever to bring these discussions to the engineering student community, and hopefully motivate more people to pursue their extracurricular interests.”



Nazinin Orang
PhD Candidate, ChemE

“My experience being the co-chair of ILead:Grad in the past year has enabled me to appreciate the importance of team dynamics and peer support. I’ve learned that taking extra time to listen to team members and making sure everyone is on the same page, even if not in total agreement, goes a long way. I have seen firsthand that if the values of the team line up, the team can go very far and achieve great results.”

OUTREACH & RESEARCH HIGHLIGHTS

Outreach milestones this year include the launch of two communities that examine the emerging field of engineering leadership from industry and academic perspectives. Our research, strategically linked to outreach opportunities, continued on a path to create evidence-based curriculum.

THE COMMUNITY OF PRACTICE COMPLETES ITS INAUGURAL YEAR

In September 2015 we officially launched the Community of Practice on Engineering Leadership (CoP) with six partner companies. The CoP is an association that connects us with companies that employ engineers to inform our students with industry perspectives. It also facilitates partnerships on workplace leadership research. In its inaugural year, the CoP held two conferences with approximately 45 participants at each.

THE ENGINEERING CHANGE LAB INSPIRES NICKEL

Led by Engineers Canada and Engineers Without Borders, the Engineering Change Lab is a new national community for individuals and organizations seeking to unlock the full potential of the engineering profession. ILead has participated in the Change Lab since its launch in January 2015. From discussions with our peers in other engineering schools, we saw the need for a national association of engineering leadership educators. This led us to launch the National Initiative on Capacity Building and Knowledge Creation for Engineering Leadership—NICKEL. ILead hosted the inaugural NICKEL conference in August 2016.

CLASSROOM & WORKPLACE RESEARCH

This year ILead worked on multiple research projects. As part of the Engineering Leadership Project, we explored how co-curricular activities contribute to the development of engineering identities and leadership skills. In the same study we began to investigate how engineering graduates navigate the transition from university to the workplace and what opportunities for leadership development are available to them at this career stage. In another study, we examined approaches to engineering leadership education across selected universities in Canada and the United States. As part of the Engineering Ethics Education Project, we piloted workshops with students where we tested case studies that were developed through interviews with practicing engineers.

OPPOSITE: ILead Research Associate Serhiy Kovalchuk in discussion with enterprise partners at a Community of Practice conference.





ALUMNI SPOTLIGHT: NATALIA LIZON

We had the pleasure of supporting Natalia Lizon (IndE OT9 + PEY) during her time as a U of T Engineering student. When Natalia flew into Toronto from Singapore, where she now works as a Google analyst, we asked her about what she's learned since graduating from Skule™.

What would the world look like if more engineers developed their leadership capability?

I think we would naturally have more engineers in leadership roles across business and politics, and more efficient, logical and coherent systems would emerge. I think the best systems are formed with teams of people from diverse backgrounds working together. I see positive benefits to engineers, and all students in general, developing their leadership capabilities and opening up the opportunities to make positive impact in their communities.

How has ILead supported you?

Tremendously. During my undergraduate studies I received mentorship from ILead faculty members and sought out its many resources when I started a women's professional development group for undergraduate students. I also took an ILead leadership course, served in an ILead working group, and attended workshops and events. These experiences developed my self-awareness, emotional intelligence, teamwork skills, risk-taking abilities, and ability to recover from mistakes and failures.

What's the next stage of your journey?

I plan to continue to refine my leadership and problem-solving capabilities to excel in my profession as a financial analyst and business partner at Google Singapore. In the future I am keen to develop a coaching practice with a focus on integrating health and personal wellbeing. Once I feel more established I also want to contribute to ILead and the University, as I've experienced firsthand their colossal impact, impact that cascades and builds years after the initial seeds have been planted.

OPPOSITE: Natalia Lizon in front of University College.





**TO OUR SUPPORTORS, FRIENDS, AND COLLABORATORS:
*THANK YOU.***

SEE YOU NEXT YEAR!

FROM LEFT: Eric Boyd (President of Hacklab.to and judge in The Game), Albert Huynh (ILead's Leadership Education Specialist), Rosemary Jose (EngSci 1T9), Sai Kiran Varikooty (ECE 1T9), Abdulla Mata (CivE 1T6), Christopher Choquette (EngSci 1T9), Sidra Syeda (EngSci 1T9), Mike Klassen (ILead Assistant Director, Community of Practice on Engineering Leadership). These five students form the winning team of 2015–2016's cohort of The Game. They are excited to launch their project, FoodSkrap, with ILead seed funding.

ENGINEERS LEADING CHANGE TO BUILD A BETTER WORLD.



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Institute for Leadership Education in Engineering

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