

TIM Lecture Series:

Leadership Position in Technology Entrepreneurship and Commercialization

“We have worked very hard to figure out how to achieve a global leadership position in technology entrepreneurship and commercialization, and tonight, we present you with the seven proof points we have developed over the past several months. We ask that you validate these proof points and fully engage with us to attain them.”

Tony Bailetti
Director, Institute for Technology
Entrepreneurship and Commercialization
Carleton University, Ottawa, Ontario

Overview

The fourth Technology Innovation Management (TIM) lecture of 2012 will be remembered as one of the most important events on technology entrepreneurship and commercialization held in Canada's Capital Region this year.

On Thursday May 31st, a much larger audience than expected attended Carleton University to engage with faculty, graduate students, and professionals working to establish a worldwide leadership position in technology entrepreneurship and commercialization for Carleton University and the region. Members of the audience included technology entrepreneurs, investors, company executives, R&D personnel, economic development and government personnel, faculty, students, and alumni from Ottawa's post-secondary institutions, service providers, consultants, and visiting scholars. The event started at 6 p.m. and was scheduled to end at 9 p.m. However, event attendees engaged in vibrant conversations well past 10:30 p.m.

The May 31st TIM lecture was organized into two parts. The first part described seven proof points that can substantiate a leadership position for the university and

the region as well as the many opportunities for community members to help attain these proof points. The slides on the proof points selected to drive action toward attaining a worldwide leadership position are available here: tinyurl.com/82s2ob3

The second part of the lecture was a showcase of graduates students' work in entrepreneurship and commercialization. It was comprised of 10 presentations: one described a doctoral thesis proposal, one described a completed master's thesis, and eight highlighted master's-level projects that led to the launch of new technology ventures in Canada's Capital Region. From the very first speaker, the excitement and energy level in the overcrowded room were high and the presentations were delivered with matching enthusiasm.

The desired outcomes of the May 31st TIM lecture were to: i) validate the seven proof points and engage community talent who wish to help achieve them; ii) showcase graduate student talent and engage community resources with students' theses, projects, and ventures; and iii) volunteer to help key organizations in the community achieve their own proof points for leadership positions in technology entrepreneurship and commercialization.

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Opening Remarks

The Dean of the Sprott School of Business, Dr. Jerry Tomberlin, opened the lecture by welcoming the attendees and describing the joint status of Carleton University's Technology Innovation Management (TIM) program within both the School of Business and the Faculty of Engineering and Design, and its many strong connections to the community. He then introduced the President of Carleton University as a person who is committed to fostering entrepreneurship, innovation and creativity at Carleton and in the region.

Dr. Roseann O'Reilly Runte, President and Vice-Chancellor of Carleton University, expressed her pride about hearing students refer to Carleton University as the most entrepreneurial university in Canada. Dr. Runte set the tone for the event by relating a story of a painter in ancient Greece who was intent on painting horses that looked so real that people could imagine riding them right off the page. The painter studied anatomy and mechanics of movement, and he practiced many years without getting the painting right. One day, after many years of hard work, the painter threw a wet sponge at the painting out of frustration. The wet sponge left markings in the painting that made the horses he had drawn look like they were riding in a cloud of dust. That small addition to the painting made the artist into an accomplished and celebrated painter. The president's story emphasized that success requires hard work over many years, science, research, and inspiration. Luck is something that you make with other people.

Next, Dr. Tony Bailetti, Director of the Institute for Technology Entrepreneurship and Commercialization, thanked Carleton's senior administration and Mr. Wes Nicol for their commitment to make the university the most entrepreneurial in Canada. He also thanked the Industrial Research Assistance Program (IRAP; tinyurl.com/7z5jhvv), the Ontario Centres of Excellence (OCE; oce-ontario.org), the City of Ottawa (ottawa.ca), and Invest Ottawa (investottawa.ca) for their tireless efforts helping technology companies that operate in the region.

Leadership Relies on Implementing a Business Ecosystem Approach

In his presentation, Dr. Bailetti explained that an important distinguishing feature of the TIM program (carleton.ca/tim) is its implementation of a business ecosystem approach to delivering exceptional educational

experiences to graduate students who are required to complete theses and projects.

Dr. Tony Bailetti then made it clear that to attain a leadership position in technology entrepreneurship and commercialization, the university and community members must collaborate by using the wide-lens perspective enabled by the business ecosystem approach (Bailetti, 2008; timreview.ca/article/138; Milinkovich, 2008; timreview.ca/article/200; Hurley, 2009; timreview.ca/article/276; Bailetti, 2010a; timreview.ca/article/325; Bailetti, 2010b; timreview.ca/article/355). He emphasized the need for key organizations to move away from narrow-lens perspectives on entrepreneurship, innovation, and creativity.

A narrow-lens perspective on delivering academic programs leaves the provider focused on course staffing, student enrolment, and budgets. This makes narrow-lens suppliers prone to ignoring the implications for graduate students of globalization, co-innovation, and value-chain adoption challenges. Interaction between TIM students and members of the innovative wider ecosystem is a fundamental building block of the TIM program's content. The TIM program therefore uses a wide-lens perspective to deliver graduate-level education because the success of its students depends on the success of individuals and organizations innovating outside of the university. Today, this dependence is more pervasive than ever before. Failure to expand the focus to include the business ecosystem that successfully delivers and commercializes innovation will set up graduate-level programs for failure, regardless of how well they deliver on their narrow-lens objectives related to staffing, enrolment, and budgets.

Choosing to focus on the ecosystem approach to deliver graduate education, rather than the narrow-lens approach common elsewhere, has changed everything for TIM students and faculty – including how they define and measure success, how they see their work, how they prioritize opportunities and threats, how they contribute to the launch and growth of ventures, and how and why they contribute to the geographical and virtual communities in which they are embedded. Proper staffing levels, the correct size of enrolments, and adequate budgets are certainly important; however, these are just necessary but not sufficient conditions for the success of TIM students, the TIM program, the university, and the region.

Graduate students benefit from leveraging an existing healthy business ecosystem that includes assets

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anchored around the TIM program and assets closely associated with it. Students use, modify, and add to these assets. The assets anchored around the TIM program include: i) the TIM Review (timreview.ca), a monthly journal that provides technology entrepreneurs who operate in small and large firms practical solutions to real-world problems; ii) the Research Centre in Technology Innovation (tinyurl.com/7mjmzxm), a centre that carries out projects that strengthen or disrupt existing industrial competences; iii) the TIM Lecture Series, monthly lectures that promote knowledge transfer among technology company executives, entrepreneurs, research and development personnel, faculty, and students; iv) TIM Entrepreneurs, an accelerator for ventures owned by TIM students; and v) Lead to Win, Carleton Entrepreneurs, and Ottawa Young Entrepreneurs, programs designed to provide mentors, space, and funding to entrepreneurs who wish to launch and grow businesses that can generate six or more knowledge jobs in the region within three years.

Assets that are closely associated with the TIM program include: i) the Lead to Win Founders Club, an industry association that supports successful graduates of the Lead to Win program; ii) Lead to Win for Women, which supports women who launch and grow businesses; iii) BigBlueButton, an open source project that enables universities and colleges to deliver high-quality learning experiences to remote students; and iv) The Nicol Institute, an organization that provides internships to graduate and undergraduate students at Carleton University who are working to transform their ideas into commercial and non-profit ventures.

Dr. Bailetti ended his presentation by stating that his colleagues are committed to expanding the business ecosystem to include individuals and organizations around the world that are interested in bringing their entrepreneurship curricula, research, and services into the 21st century.

Part 1: Proof Points and Reasons to Engage

Dr. Steven Muegge, Dr. Michael Weiss, Tom Duxbury, David Hudson, and Chris McPhee presented the seven proof points to the audience, and identified the ways in which individuals and organizations can engage in helping attain each proof point. Together the seven proof points comprise a solid and achievable set of concrete objectives that engaged community members can contribute to and work towards.

The seven proposed proof points for a global leadership position in technology entrepreneurship and commercialization are as follows:

1. **TIM program:** 100+ students enrolled and 40+ TIM theses and projects completed
2. **TIM Review:** 10,000 readers/issue
3. **Training:** 80 company founders
4. **Sprott's doctoral program:** 4 students in entrepreneurship
5. **Lead projects:** 2
6. **Disruptive-knowledge projects:** 1
7. **Internships:** 50 interns

Unless stated otherwise, the proof points represent annual targets.

The wide-lens perspective enabled by the business ecosystem approach reveals new ways for TIM students, TIM graduates, and members of the community to: i) enhance knowledge and develop skills; ii) increase their social capital; iii) add value to customers, partners, investors, and employers; and iv) contribute to their physical and virtual communities.

Under the umbrella of the wide-lens approach, the reasons for a talented individual to contribute to the attainment of these seven proof points include: i) strengthen existing skills or develop new ones; ii) achieve with others what the individual cannot do alone; iii) increase the individual's brand and options; iv) find new interests and hobbies; v) enjoy new experiences; vi) provide public examples of the individual's commitment, dedication, and interests; and vii) be part of large and diverse technology entrepreneurship and commercialization community.

Part 2: Showcase

In the second part of the lecture, students from the TIM program and Sprott School of Business showcased their research and companies. Each student ended their presentation with a request to the audience, variously asking for feedback, participation, or help to secure customers, resources, or funding.

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David Hudson, PhD candidate (Spratt), described his current research on “Entrepreneurial effort in the theory of the firm”. This research examines entrepreneurship in established companies, not just by the founders or executives, but by employees doing their jobs every day. It examines shifts in how consumer technology can provide conditions where employees add new value to the firm and how to design and manage work that depends on this technology.

Request: *Access to companies that are dealing with challenges related to their employees using consumer IT to attain work as well as personal goals and objectives.*

Contact: davidhudson@cmail.carleton.ca

Chris McPhee, MAsc (TIM), described his recently completed thesis entitled: “Using a results-based organization design methodology to construct the *Technology Innovation Management Review*”. The results-based organization design approach was developed through this research, and it was used to apply the literature on business ecosystems to the construction of a real-world organization that produces and disseminates knowledge. This new approach was described in the context of designing a technology startup in the May issue of the TIM Review (McPhee, 2012; timreview.ca/article/554).

Request: *Contribute to the TIM Review as a reader, author, or guest editor, and help spread the word about the journal.*

Contact: timreview.ca/contact

Arthur Low, founder of Crack Semiconductor and MAsc (TIM) candidate, has 20 years of experience designing integrated circuits and holds several patents in encryption and network security. Today, his venture develops a turbo-charged security hardware processor that is sold to European customers. Crack Semiconductor (cracksemi.com) is developing a platform comprised of security software, Linux, and an embedded microprocessor, which will be licensed to partners worldwide. Each partner will use the platform to accelerate security software to its own customers. The combination of optimal hardware implementations of the important public key cryptographic operations, an operating system, and applications software that is finely

tuned to the hardware significantly reduces system integration costs and increases performance.

Request: *Provide introductions to potential partners worldwide that may be interested in licensing the platform.*

Contact: art@cracksemi.com

Michael Ayukawa, founder of Cornerportal and MAsc (TIM) candidate. Cornerportal (cornerportal.com) sells a mobile-centric content management system (CMS) that integrates a social capability that makes "things" easier to sell by attaching a memorable story to now-personal objects. For service companies, the same CMS makes assets easier to manage. This helps Cornerportal's small and medium clients compete and grow.

Request: *Help identify new clients and applications.*

Contact: mike@cornerportal.com

David Ker, founder of Realwat and MAsc (TIM) candidate. Realwat (realwat.com) has employees in Canada and Cambodia developing Lasso The Web, an iPad application that makes it easier and faster to browse using an iPad, manage bookmarks, and share bookmarks to Evernote. Realwat is in the process of bringing Lasso the Web to the next level by creating an interest-based social bookmarking platform viewed as “Pinterest version 2”.

Request: *Help raise money, download Lasso The Web and provide feedback, and refer potential clients who can benefit from the company's application development capabilities.*

Contact: David.Ker@Realwat.com

Ronald Amelunge, founder of ClearVoix and MAsc (TIM) candidate. ClearVoix is getting ready to provide mobile voice-to-text conversion solutions in Canada. Currently, the company is improving the Spanish voice to text engine and modifying the system so it is capable of delivering solutions in English.

Request: *Help identify four talented students that Clearvoix will pay to program in PHP, Joomla, and MySQL as well as complete and maintain the website "Listings.ca".*

Contact: raantelo@connect.carleton.ca

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Robert Poole, founder of Freebird Connect and MEng (TIM) candidate, has more than 15 years of experience as an entrepreneur. Freebird Connect (freebirdconnect.com) uses a game-changing platform business model to deliver powerful, self-service data analytics, collaboration, and social networking capabilities to small and medium-size organizations globally. Freebird Connect is on a mission to enable companies, municipal governments, and not-for-profit organizations to eliminate decisions based on hunches, gut-feelings, and guesses. Freebird Connect also offers its solution to global OEM partners who need data analytics, reporting, and collaboration to add value to the solution they offer to their customers.

Request: *Refer organizations that struggle to access or understand data, need to enable collaboration, and wish to generate revenue from data.*

Contact: robert.poole@freebirdconnect.com

James Makienko, founder of HiveDirect Captioning and recent MEng (TIM) graduate, is a 2012 Nicol Intern (tinyurl.com/77grl2u) who has developed a minimum viable product in six months. HiveDirect sells services for captioning video that include hosting and support services as well as SaaS captioning. Due to media accessibility legislation, public institutions must caption their videos. HiveDirect decreases up to 50% of its customers captioning costs, and its service fits well with existing processes and infrastructure. HiveDirect's customers include public and private video content creators, particularly educational institutions in Canada and globally.

Request: *Help identify potential customers, channels to market, Python/Django/front-end developers, and international opportunities.*

Contact: jmakienk@gmail.com

Natasha D'Souza, founder of VirtualEyeSee and a recent MEng (TIM) graduate, is a 2012 Nicol Intern (tinyurl.com/77grl2u) with over 15 years of industry experience working in technology companies, non-profit organizations, startups, and running her own social media consulting company, VirtualEyeSee (virtualeyesee.com). The development and commercialization of a system to deliver virtual therapy for children with special needs was a combination of a mother seeking an effective solution for her child and the knowledge gained

from the TIM program (D'Souza, 2011; timreview.ca/article/440). The system is for children with special needs (i.e., Autism Spectrum Disorder, ADHD, Asperger Syndrome) who have social challenges and for those who help these children, including schools, parents, and therapists. The system provides consistency between home, school, and the therapist, evidence of the right amount of repetitions to master a skill, and most importantly, it is affordable.

Request: *Help find developers, as well as parents and children willing to provide feedback on the system.*

Contact: natasha@virtualeyesee.com

Elias Majic, founder of Ottercall and recent MEng graduate, has four years of experience in speech recognition. Ottercall (ottercall.com) sells several mobile applications and has licensed technology to a military customer. Ottercall targets business users who are too busy to dedicate time to just learning a language at a computer. Customers focus on accent reduction and business language comprehension; they receive instantaneous feedback on pronunciation for a significantly lower price than other language-learning products. With Ottercall's software, users are able to become proficient in languages quicker, which results in greater earnings and increased global opportunities.

Request: *Help identify individuals who can help localize market offers in Brazil, Russia, India, and China and secure customers.*

Contact: eli@ottercall.com

Closing Remarks

Dean Tomberlin ended the evening by thanking the audience for attending and for their input into the proof points and graduate students' work. In closing, the Dean encouraged everyone to act upon the underlying theme of the evening: collaboration within a business ecosystem setting. In this spirit, readers of the TIM Review are invited to contribute their feedback on and support for the seven proof points and to fulfill the requests outlined in the student presentations.

The TIM Lecture Series is hosted by Carleton University's Technology Innovation Management (TIM) program (carleton.ca/tim).