

TRENT UNIVERSITY

FIFTY YEARS OF LEADING-EDGE RESEARCH AND TEACHING

FALL 2015

THE ENTREPRENEURSHIP EDITION



A group photo taken at E-Connect, a monthly forum that connects Peterborough's entrepreneurs.



Photo: Hazelwood Images



FASTSTART PUTS STUDENTS ON TRACK TO SUCCESS

You might call it the icing on the cake. Graduating with a degree is the goal for most post-secondary students, but a new program launched at Trent University called FastStart offers an opportunity to take their degree to a new level.

FastStart is a new entrepreneurial training partnership aimed at university and college students. Designed to increase entrepreneurship skills and awareness, it also aims to help students create solid business plans that take their products and services to market – quickly and successfully. Finalized in October 2014, the program was launched at Trent this past January as an extra-curricular program that opens the door to entrepreneurship for all students and community members 29 years of age or under.

John Knight, lead of the FastStart program and manager of Corporate Research Partnerships at Trent University, says the program is still in its infancy, but it has been received extremely well – both in the community and with students.

“We have over 100 Trent students already interested in our FastStart programming,” Mr. Knight says. “We are extremely surprised and pleasantly so, at how much local seasoned entrepreneurs want to support the program and help provide advice and mentorship to prospective young entrepreneurs. The engagement of young entrepreneurs with the business seasoned entrepreneurs is truly amazing.”

“Some of our youth start-up companies are moving at almost ‘warp speed’. We recently supported two companies which are now generating revenues. These young people came to a seminar in March of this year, and now they are running businesses.”

Embracing entrepreneurship

Trent and Fleming College, along with the University of Ontario Institute of Technology (UOIT) and Durham College, are working with the Greater Peterborough Innovation Cluster (GPIC) and the Spark Centre, both companies aimed at supporting budding entrepreneurs, to deliver this powerful new resource. Trent students in Peterborough and Durham will have ample opportunity to access programs and services.

Speaking of the early impact of FastStart at Trent, Mr. Knight says, “Some of our youth start-up companies are moving at almost ‘warp speed’. For example, we recently supported two companies which are now generating revenues. These young people came to a seminar in March of this year, and now they are running businesses.”

The launch of FastStart at Trent is indicative of how, at both campuses, the University is placing a significant focus on entrepreneurship to spur community economic and social development. In Peterborough, FastStart at Trent will be part of a new on-campus business and social entrepreneurship centre designed to equip students with the knowledge, tools, experiences and supports needed to become successful innovators, entrepreneurs and change agents.

Mr. Knight believes that entrepreneurship is something every student should be exposed to and believes that there are a lot more opportunities if you have an awareness of how to create your own enterprise.

Five years down the road, he expects FastStart will have helped start 50 companies, with 150 clients who will be future entrepreneurs.

Ten years down the road? Mr. Knight sees even more growth and potential. “We will have at least three FastStart companies located in the Trent Research & Innovation Park. These companies will be employing 150 people or more.” ● trentu.ca/faststart



Watch a short video at trentu.ca/showcase to learn more about FastStart





LIVE, LEARN AND DO THINGS THAT MATTER

Find ways to focus on your passion. It may sound like unconventional advice for students in Business Administration, but not so at Trent, says long-time program professor and entrepreneurship expert Dr. Ray Dart. He encourages his students to do things that matter.

“At Trent, we look at business very broadly and we pay attention to practices that transform things; and allow us to do things we couldn’t do before.”

Professor Dart, a Trent alum who has made a career out of studying beyond disciplinary boundaries, says, regardless of the course, his teaching focuses on innovation – looking at, understanding, and doing things differently. This is where Prof. Dart’s teaching, learning and research interests intersect.

Addressing an age-old problem for entrepreneurs

A leading expert in the areas of social entrepreneurship, social enterprise and business-community relationships, Prof. Dart has published several book chapters, numerous journal articles and conference and consulting presentations on the subject of entrepreneurship across Canada and around the world.

At Trent, Prof. Dart prides himself on bringing his research expertise and knowledge into the classroom and also engaging and involving students in his research. Over the past year, Prof. Dart has been working with Trent alumna and current Masters of Sustainability student, Katie Allen, on a project working with shared platform organizations, and a number of community and social enterprise projects they support.

Shared platform organizations are administrative service hubs that can support a collection of community and social enterprise projects with functions like finance, human resources, marketing and communications. By providing these back-office functions, the projects, which focus on youth and English as a second language, violence prevention and food security, among other things, are stronger – and better positioned to make meaningful change, explains Prof. Dart.

“This structure is intended to make the community sector more effective. Right now, it’s oftentimes difficult for them to focus on what they are excellent at doing,” says Prof. Dart, adding, “The model addresses an age-old problem for entrepreneurs – that of having too many things ‘to do’ and ‘to be good at’ to keep an organization afloat.”

The project is funded by the Laidlaw Foundation, which supports young people being fully engaged in the civic, social, economic and cultural life of diverse and environmentally healthy communities.



Dr. Ray Dart, expert in social entrepreneurship, engages his students in the classroom.

“At Trent, we look at business very broadly and we pay attention to practices that transform things; and allow us to do things we couldn’t do before.”

While the shared platform model has been in Canada about a decade, until now, says Prof. Dart, little has been done to try to understand it and to document how it’s working.

Building stronger business through innovation

“This is an innovative experiment in the community sector,” says Prof. Dart, adding that a better understanding of the model will ultimately lead to its use. “As a business professor, I’m incredibly excited about this project. Rather than being an incremental tweak, it’s looking at an absolutely new approach, and it’s very promising.”

After completing her undergraduate degree at Trent in Business Administration and Environmental Studies in 2009, Ms. Allen is now working directly with Prof. Dart – her supervisor – on this project as part of her Masters degree.

“It’s exciting to be working with Dr. Dart on a project like this. The admin hub provides an organizational backbone through access to professional services, support and expertise,” says Ms. Allen. “Shared platforms can help to remove barriers to success by reducing risk and operating costs, as they provide access to mentorship, professional services and facilities. They create the potential to grow an innovation ecosystem.” ●

FROM THE CLASSROOM TO THE COMMUNITY: ENTREPRENEURSHIP OPPORTUNITIES



ABOUND AT TRENT UNIVERSITY DURHAM

At Trent University Durham, students are learning the fine art of entrepreneurship through a rich collaboration between academia, business and community. Bottom line: the future is looking bright.

“We have a responsibility to positively contribute to the social, cultural, and economic fabric of ‘the new Durham,’” says Joe Muldoon, head of Trent University Durham. “Our strengths in the social sciences and humanities, combined with innovative, interdisciplinary programs and the support of local, social enterprises, entrepreneurship is a natural fit for our growing campus.”

Internship embedded with entrepreneurship

Trent University Durham English Literature graduate, Lana Nolan-Bolton, recently completed an internship experience of a lifetime at the Community Innovation Lab. As one of Trent’s many trusted partners, the local, non-profit organization offers entrepreneurial, experiential and social innovation programs for young people.

As part of the internship opportunity offered through Trent University Durham’s Business Administration program, which is open to students in all disciplines, Ms. Nolan-Bolton was tasked with

“In light of high youth unemployment, new graduates are choosing different career paths including self-employment which can be more viable. It’s great that Trent University Durham is playing a role in introducing students to and helping them succeed along other potential paths.”

conducting research for a women’s entrepreneurship-based project and on the new Communications & Critical Thinking B.A. program offered exclusively at Trent University Durham. Through the internship, she gained vital experience to move her forward in her career. All on home turf.

“I loved researching for Trent University because the new program is fantastic and I am passionate about integrating community-based learning into studies,” says Ms. Nolan-Bolton. “Through this internship, I increasingly understood my skills and strengths and entered my graduate program in Public Service this fall with new-found confidence. I also developed a base of connections and mentors which is invaluable for a young graduate.”

The role of universities in supporting social innovation

Reflecting on her experience, Ms. Nolan-Bolton says she understands now, more than ever, that post-secondary institutions are important to their communities and should support social innovation and entrepreneurship while, at the same time, preparing students for future success.

“Social innovation and entrepreneurship advocate and work toward a better future for everyone,” she says. “In light of high youth unemployment, new graduates are choosing different career paths including self-employment which can be more viable. It’s great that Trent University Durham is playing a role in introducing students to and helping them succeed along other potential paths.”

“The Durham community cares deeply about the professional success of current and future students in the region,” adds Mr. Muldoon. “With a dedicated effort on new programming and strong community partners, our University will continue to foster critical entrepreneurial thinking in our students.” ●



Student Lana Nolan-Bolton working with community partner, Community Innovation Lab.

As part of a growing list of new programs offered at the expanding Trent University Durham campus is a proposed Postgraduate Certificate in Entrepreneurship, launching in 2017. Stay tuned for details!



THE BRIDGE FROM MAIN STREET TO BAY STREET

Today, David Patterson '66 is one of Bay Street's brightest minds and most successful financiers. Long before his entrepreneurial success, he started out as a kid from small town Ontario who spent his time devouring Hardy Boys mysteries borrowed from the storefront library. It was Trent University that helped shape his life and his career path. "Trent turned out to be the perfect spot," he says.

Graduating with a degree in political studies and philosophy, Mr. Patterson's undergraduate years at Trent proved to be the catalyst that unleashed his extraordinary curiosity and helped propel him to the summit of the Canadian financial industry.

A whole new world

"At Trent, I learned how to write, how to think, how to express myself," Mr. Patterson recalls. "I also learned how to process ideas. I had graduated from Smiths Falls and District Collegiate Institute and then all of a sudden I was reading the West's great writers and philosophers. It opened up a whole new world for me."

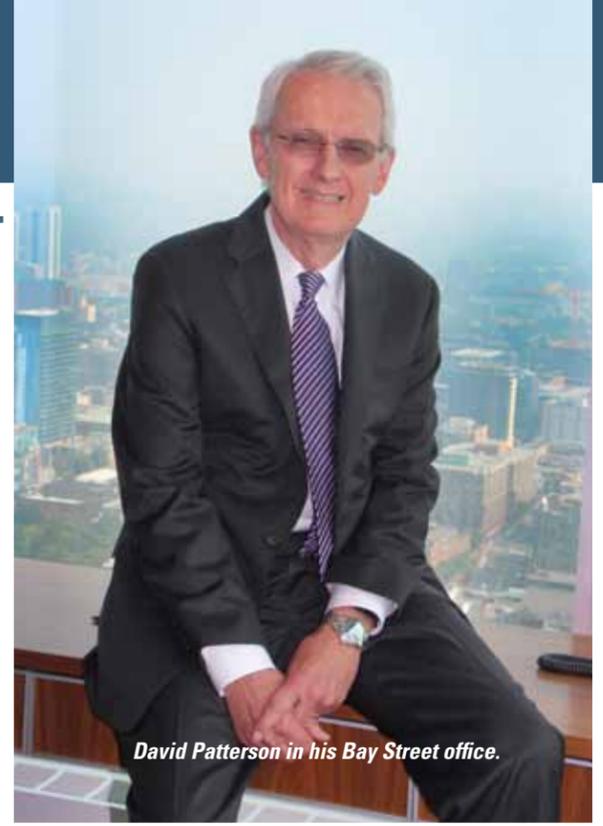
He then put those skills to work when he launched his Bay Street career as a junior level manager for a trust company called Canada Permanent. He was soon managing the head office branch, but the firm had drifted into serious financial trouble. Interest rates paid on deposits were rising sharply while the rates earned on five-year mortgages were fixed.

Mr. Patterson happened to come across a newspaper article on futures contracts as a means of hedging risks against such problems. He read everything he could on the subject and put together a rescue plan for the trust company executive team's consideration. Although they later decided to sell the firm to a bigger rival, his interest in futures was now entrenched.

In the early 1980s, Mr. Patterson joined the corporate finance department at Bank of Montreal and began to interest his clients in futures contracts. He moved on to the brokerage firm Burns Fry to join the fledgling futures desk and by the end of the decade, his hard work and entrepreneurial spirit had him launching his own firm, eventually named Northwater Capital. Northwater developed sophisticated hedging strategies and products for pension funds and became the largest company of its kind in Canada – making Mr. Patterson one of the most successful entrepreneurs to come out of Trent.

Exploring new directions

Now in his sixties, Mr. Patterson has no intention of retiring and has, in fact, taken Northwater in new directions. These days, he spends as much as 1,000 hours a year flying to business meetings across the continent and beyond in order to coach and assist the leaders of the companies in which he is invested. Travelling gives him the opportunity to further feed his curiosity. He keeps upwards of 200 books stored on his iPad and he reads about everything from new concepts in psychology to theoretical musings about the origins of the universe.



David Patterson in his Bay Street office.

"Trent was serious about making us readers and teaching critical thinking," he says. Both have clearly been essential to his remarkable career.

In addition to guiding business leaders and entrepreneurs toward success, Mr. Patterson also recruits and develops young talent, including a number of recent graduates from Trent University. Speaking to the next generation of business leaders, he has the following advice: "At some point you recognize it's not about what you've achieved but what you can give back. I take great satisfaction in helping people develop their own talents and abilities, recognize and seize opportunities, and accomplish their goals." ●

NOBLE PURIFICATION, NOBLE INTENTIONS

Trent born business reinvests in the University



Dr. Andressa Lacerda working in the Noble Purification prototype facility.

"You often hear that scientists can't do business and business can't do science, that they are different worlds, but our ability to bridge the gap between science and business was a huge motivation for me."

Adam Noble and Trent alumna Dr. Andressa Lacerda '08, the minds behind one of the most dynamic entrepreneurship projects to come out of Trent University in its 50 year history, make it clear that, although they both have a set goal for Noble Purification, a water filtration company based at Trent University, they most certainly don't have set roles. Though their titles read president and CEO and COO, they both know that being successful entrepreneurs means you wear many hats.

"I was the janitor yesterday and Andressa was the accountant, that's what makes a successful company," explains Mr. Noble.

Successful is an understatement for these two entrepreneurs. What started as a science fair project for Mr. Noble in grade 11, growing algae in a mason jar in his parent's sauna, moved to a lab at Trent University working with Dr. Paul Frost, David Schindler Professor in Aquatic Science, and has turned into a budding business that has grown significantly in its two years of operation.

Partnership sparks a new venture

In order for Mr. Noble to take his science fair project to the next step, he needed to learn how to use a microscope – in stepped Dr. Lacerda, who was completing her Ph.D. at Trent in Environmental & Life Sciences at the time. The spark was immediate. Upon meeting, they both realized they were onto something bigger. Armed with a passion for science and vision to change the world, the duo turned to the community for support.

"The entrepreneurial passion was always there but a lot of the basic education you might get from a business administration degree wasn't something either of us had," explains Prof. Lacerda, who came to Trent to study Biology as an international student from Brazil in 2008. "That's where the support we got from both Trent University and the greater community was essential. I went out into the community to pull together an advisory board and, because we have such an awesome community, they said yes."

To this day, Noble Purification is still using this advisory board of legal experts, professionals in the banking sector and retired executives of major companies, for the support to help the business to evolve further.

Bridging the gap between science and business

As the flagship company to be started out of Trent, one would imagine that its founders be from a business background. Not



the case for Noble Purification.

"I grew up in a business household, but I always liked science," explains Prof. Lacerda. "You often hear that scientists can't do business and business can't do science, that they are different worlds, but our ability to bridge the gap between science and business was a huge motivation for me." Prof. Lacerda adds that it was the flexibility she was provided at Trent during her graduate studies that allowed her to pursue this.

"We are an example that you don't need an MBA to be able to run a successful business," explains Mr. Noble. "We've been able to run our company with the help of our community and the support of the University. As part of our interest in helping foster entrepreneurship at Trent, we want students to know that having the right support is key to any venture."

Paying it back...and forward

"We wouldn't be here without Trent," Mr. Noble states, referring to the instrumental role the University, its facilities and staff have played in his growth as a researcher, and in their company and its development. Mr. Noble specifically mentioned the support of Dr. Neil Emery, vice president Research and International at Trent University, who placed him in his lab, co-authored a peer review journal article with him and helped link him to appropriate mentors and advisors at the University.

With a growing team of five employees, and having recently expanded their business beyond a Trent lab to a larger, near-by bio filtration prototype facility, the company is on the fast track to success and Mr. Noble and Prof. Lacerda are paying it forward, by reinvesting back into the Trent community.

"We decided that before we would be paid out of the company ourselves, we wanted to put money back into Trent," explains Mr. Noble, referring to \$500,000 and in-kind services Noble Purification has invested in Trent through equipment, mentoring, teaching, and funding of research projects for Trent grad students.

"Our goal is to push research and student entrepreneurship forward at Trent University. We plan to grow here – we want to hire local and have as many Trent students as possible involved in our research. Investing now makes sense." ●



Watch a short video at trentu.ca/showcase to hear more from Dr. Andressa Lacerda about Noble Purification



IDEAS TO ACTION: COURSE CREATES NEXT GENERATION OF ENTREPRENEURS

Business Administration 3420: Entrepreneurship
Professor Cammie Jaquays

The Entrepreneurship course at Trent is more than just a class. It's where we were motivated and pushed to translate ideas to action," says Sana Virji, a recent Business Administration graduate and now successful entrepreneur and business owner.

Ribbet, a business created by Ms. Virji and fellow Trent student Ribat Chowdhury, which offers coupons, deals and discounts via apps for iOS and Android, grew from school project to flourishing start-up, all thanks to Business Administration 3420 and the \$5 Challenge.

From \$5 to successful business

The \$5 Challenge is a key component of Professor Cammie Jaquays' popular third-year business class. Each year, she charges her students with making as much money as possible through a start-up business initiative. They are given \$5 in seed money and five days to make it all happen.

In 2013, Ms. Virji and Mr. Chowdhury won the challenge, which is also open to students at Trent and Fleming College, turning their \$5 into \$1,500 with the first generation business card-sized coupon booklet for students. Last year, the students infused their invention with technology – a QR code for each coupon – and won the challenge again. This time, raising \$6,300 – the most money in the challenge's five-year history at Trent.



Outside the box thinking links creativity and entrepreneurship

The \$5 Challenge is but one of a series of hands-on, real-time, real-life assignments in Business Administration 3420, where Prof. Jaquays engages her students and encourages them to think outside-the-box.

Another assignment is the YouInnovate Challenge. Prof. Jaquays gives the students an everyday household object and asks them to, within three weeks, create a product, an accompanying video and a mini business plan to sell that product.

"Henry Ford said, 'If I had asked people what they wanted, they would have said faster horses.' Using this example, I encourage the students to go and create cars – not faster horses," says Prof. Jaquays, who has been teaching the course for eight years.

Business plans are only the beginning

At its core, Entrepreneurship 3420, a key course in the Entrepreneurship Specialization in Trent's Business Administration program, explores the questions "What is an entrepreneur?" and "What does it take to be one?" and covers issues ranging from the creation and development of business ideas and models to sociological, psychological, and economic considerations of the origin and function of entrepreneurs in business as well as in non-profit and community settings.

With the addition of new accounting courses and a specialization in accounting, as well as plans for a finance specialization (coming 2017), Trent's expanding BBA program is better preparing our students for success in today's competitive business world. Learn more trentu.ca/businessadmin



Professor Cammie Jaquays challenges her students to create a successful business with \$5.

The course takes students beyond the classroom and into the community – they write business plans as if they were taking their initiatives to market. And oftentimes, they do, as demonstrated by the success of Ms. Virji and Mr. Chowdhury.

Future bright for new entrepreneurs

According to Industry Canada, 98 per cent of businesses in Canada have one to 99 employees, and so, Prof. Jaquays says entrepreneurship education is essential. She estimates that about one-third of her students pursue entrepreneurship after graduation – and some, even before.

"Our students can do anything they want," says Prof. Jaquays. "It's my job to get them to open up their minds so that they know they can do it – and give them the resources and the tools they need to succeed." ●



INVESTING IN TRENT

SOLVING THE WORLD'S PROBLEMS, ONE NEW ENTERPRISE AT A TIME

New Centre for Social Business Innovation and Entrepreneurism to create culture of entrepreneurship at Trent

Entrepreneurship is a high-impact career pathway for students, whether it be creating a new social enterprise or a new business venture which helps address unmet needs in our communities or the world at large," says John Knight, manager of Corporate Research Partnerships for Trent University.

This is one of the many reasons why Trent University continues to make key investments in entrepreneurship, most recently with the creation of a Centre for Social and Business Innovation and Entrepreneurism (CSBIE) which will be housed in the new Student Centre, a 37,000 sq. ft. facility scheduled to open on Trent's Peterborough campus in September 2017.

"A large number of students at Trent have a common passion to find ways of fixing our world's problems. What matters is that young people find a way to take action. We truly believe that we can help Trent students fix the world's problems, one new enterprise at a time."

"This enterprise will build on the successful initiatives and partnerships that already exist at Trent, such as the FastStart program, the Trent Business Council, The Cube, the student-run Trent Youth Entrepreneurship Society, and Trent's involvement with the Greater Peterborough Innovation Cluster," Mr. Knight says. "Locating it in the Student Centre, where students congregate, will attract those who are curious about starting their own businesses as well as those who have never considered being entrepreneurs."

Cultivating student-led initiatives

The CSBIE, hosted by Trent's Career Centre, will cultivate student-led initiatives and start-ups by providing experiential, co-curricular and interdisciplinary learning

opportunities, as well as access to mentors, partners and resources. Students will gain the knowledge, tools, experience, and support to become successful innovators, entrepreneurs and change agents.

The opportunities for experiential learning are beneficial to all students, even those who don't start their own businesses. "There are a lot of learning experiences in entrepreneurship that are valuable," says Mr. Knight. "Students learn about financing, self-motivation, how to manage risk, how to be creative, and how to market."

Focus on social innovation

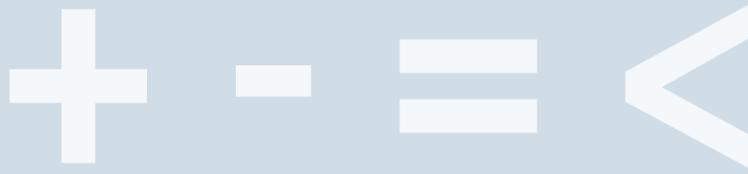
A unique aspect of CSBIE will be the focus on social innovation to address pressing socio-economic issues.

"Because of Trent's liberal arts background we have a history of involvement in social causes and social innovation," Mr. Knight says. "A lot of our graduates work for social enterprises and non-profits, so it makes sense to help them start their own social enterprises."

An investment in solving problems

The \$15 million Student Centre will be funded mainly through a student levy which will cover \$10.5 million of the capital costs. The remaining \$4.5 million will be contributed through university sources and philanthropic donations. Mr. Knight is encouraging friends and alumni of Trent to support entrepreneurship at Trent by making a donation to the project.

"The Centre for Social and Business Innovation and Entrepreneurism and its affiliated programming is designed for a low-risk student investigation of the entrepreneurship option in their career path," he says. "A large number of students at Trent have a common passion to find ways of fixing our world's problems. What matters is that young people find a way to take action. We truly believe that we can help Trent students fix the world's problems, one new enterprise at a time." ●



FROM ZEROS TO HEROES:

THE CUBE HELPS NASCENT TECHNOLOGY COMPANIES TO SUCCEED



Alesia Blackwood of Unlock Math working out of The Cube.

Trent alumna Alesia Blackwood '96 has high praise for the support her fledgling tech company, Unlock Math, has received from The Cube, the business incubator located in the DNA Building on Trent University's Peterborough campus.

The Cube is a technology-focused initiative of the Greater Peterborough Innovation Cluster (GPIC) that puts early stage and start-up companies in a nurturing environment where they have ready access to the expertise, mentorship, coaching, and networking they need to grow their businesses. Trent is a core partner of the Innovation Cluster, along with Fleming College, the Ontario Centre of Excellence (OCE), and the Peterborough Region Angel Network (PRAN).

Giving start-ups the support they need, when they need it

"You don't know what you need when you're starting out," says Ms. Blackwood, a graduate of the Trent-Queens concurrent education program, who, with her husband,

Matthew, had the idea of developing an online integrated math curriculum for struggling students. They were one of the first clients to be accepted into The Cube.

"At The Cube, you're surrounded by people with experience who can look at your business from an outside perspective," Ms. Blackwood explains. "You're connected to experts who can give you legal advice, access funding sources, and help with marketing or developing your website."

Launched in late 2013, The Cube's current clients are all high-growth, high-potential technology enterprises, ranging from bio-filtration and water management to cancer research, app development, and sustainable agriculture. They are assisted by GPIC's "knowledge partners," local professionals who support the growth of these aspiring entrepreneurs and innovators with advice, guidance, and mentorship.

"We work with high-risk early stage companies who face failure if they aren't given the support they need," says Martin Yuill, president and CEO of GPIC. "Our goal is to get entrepreneurs out of the basement, the bedroom, and the garage, and into an empowering, collaborative space, because great ideas are not born and developed in isolation. The Cube offers a supportive environment where entrepreneurs also benefit from peer mentoring."

As the only business incubator for technology companies in the Peterborough region, The Cube fills a gap in the local job creation spectrum. "We focus on growing globally-scalable companies who will employ people with science, technology, engineering, or math backgrounds," Mr. Yuill says. "These companies require a very particular skill set and specific support."

Partnership benefits both students and clients

Mr. Yuill underlines the value of The Cube's relationship with Trent, emphasizing that it goes beyond the provision of office space. "Trent gives our clients ready access to academic and intellectual skills, which is important," he says, noting that Unlock Math employs graduate students from Trent's Mathematics department. "Other clients benefit from access to Trent facilities like research labs and advanced equipment."

He says that Trent's emphasis on interdisciplinarity, along with its growing focus on entrepreneurship, makes it an ideal breeding ground for future clients of The Cube. "Great ideas come from anywhere and especially from interdepartmental, interdisciplinary collaboration," Mr. Yuill says. "You put an art student together with a computer science student and suddenly you've got something new. That's a strength for Trent."

"Having a facility like The Cube on campus reinforces Trent's commitment to helping their students, by providing a link between student entrepreneurs and the academic world and by having a positive impact on the community in which they are rooted," Mr. Yuill adds.



"Our goal is to get entrepreneurs out of the basement, the bedroom, and the garage, and into an empowering, collaborative space, because great ideas are not born and developed in isolation."



"Locating the Centre for Social and Business Innovation and Entrepreneurship in the new Student Centre, where students congregate, will attract those who are curious about starting their own businesses as well as those who have never considered being entrepreneurs."

Student Centre view from Founder's Walk (artist's rendering, subject to change)



Dr. Suresh Narine and student co-inventors in the Trent Centre for Biomaterials Research.

STUDENT CO-INVENTORS THRIVE AT TRENT UNIVERSITY

two students' research focused on different topics, the collaborative lab culture at Trent allowed them to merge their ideas to brew up a unique product that caffeine craving consumers could soon be lining up for.

Dr. Suresh Narine understands the power of cultivating an entrepreneurial spirit. As a Trent alumnus, professor in Physics & Astronomy and Chemistry, and the director of the Trent Centre for Biomaterials Research (TCBR), he's surrounded himself with students, industrial partners and academic collaborators who, like him, are driven by research that will have a commercial and environmental impact.

"We deliberately seek students who are motivated by applied opportunities for their academic work, students who find motivation by seeing their work impact society," explains Professor Narine.

To develop students' academic and commercial abilities, they go through a rigorous interview process and orientation program, are exposed to the centre's industrial partners, and are taught early on about the challenges involved in commercializing a product. Students learn to prepare research proposals which have economic as well as scientific justification, are taught to understand the value of confidentiality, and all students sign a contract which establishes up front that they will share in the economic proceeds of any commercialization of their research.

Culture is key...as is the perfect cup of coffee

"If you speak to the students in my lab, they are all excited and motivated by intellectual property and commercial application as a measure of their success," says Prof. Narine. "Culture is really powerful this way."

The culture in Prof. Narine's lab was put on display in a recent partnership between Materials Science graduate students, Michael Floros and Michael Tessier. While the

of spontaneous combustion together – and excitedly approached me to approve a project they conceptualized all on their own," explains Prof. Narine. "To develop a series of phase change materials from food lipids which can effectively regulate the temperature of a cup of coffee."

The result? Three filed patents, published work in major academic journals, and a coffee cup that will cool your coffee to perfect drinking temperature in seconds

"We deliberately seek students who are motivated by applied opportunities for their academic work, students who find motivation by seeing their work impact society."

and keep it at drinking temperature for nearly four hours. Professor Narine, the students and their industrial partners are now seeking to commercialize this invention.

Putting the power in students hands

With over 18 patents coming out of the TCBR alone in the past five years it's clear that Prof. Narine is putting the power in the hands of students – both at the undergraduate and graduate level - to focus on research that will solve the varied problems in today's world.

For example, when one of the commercial partners involved with the TCBR discovered that a commercially-generated cocktail of compounds used as waxes were capable of lowering the crystallization temperature of biodiesel, they turned to Prof. Narine and his students to figure out which of

the compounds in the mixture was causing this reaction.

A number of undergraduate students, including Bruce Darling and Mark Baker, two student summer interns, took up the challenge on this project under the supervision of more senior students. Both Mr. Darling and Mr. Baker are now named as inventors on a total of four patents originating from this research. Not only was the TCBR able to confirm which compounds were involved, but they were also able to figure out the mechanisms involved and then vastly improve on the efficacy of the compounds. This work was a collaboration between undergraduates Mr. Darling and Mr. Baker as well as Athira Mohanan's Ph.D. thesis, research associates, Dr. Shaojun Li and Dr. Laziz Bouzidi and Prof. Narine himself.

The group has also been able to design polyurethane foams made from the byproducts of a vegetable oil refinery owned and operated by some of the TCBR's commercial partners, which has also resulted in four patents being filed by Ph.D. graduate student Prasanth Pillai, and Drs. Li, Bouzidi and Narine. This project is also the focus of significant commercial activity by the centre and its industrial partners.

"All inventors, including students, share equally on the proceeds of commercialization which is a wonderful motivator as it rewards people for their work," explains Prof. Narine. "Watching an undergraduate student play an equal role alongside seasoned academics and researchers in innovation is tremendously exciting and rewarding." ●

Professor Narine's work with his students, collaborators and commercial partners has once again received a resounding vote of confidence from his industrial funders and the Natural Sciences and Engineering Research Council (NSERC) of Canada: he has recently been reappointed as a Senior NSERC Industrial Research Chair (IRC), his third consecutive renewal as an NSERC IRC.



Meet Dr. Suresh Narine and hear more about how his lab fosters entrepreneurship in a short video trentu.ca/showcase

A NEW CROP OF ENTREPRENEURS

Trent partnership providing students sustenance

Jon Duffy admits there is something satisfying about sinking his teeth into a Trent tomato. It's more than just the taste or texture. For Mr. Duffy, a third-year Sustainable Agriculture and Food Systems student and co-manager of the Trent Market Garden, it's knowing that it likely got its start from a seed sown by one of Trent's own. It was nurtured by someone he probably knows. It grew on land set aside specifically for the purpose of producing food for Trent. And – at least to some extent – it's the result of a seed planted a few years ago when Trent's Sustainable Agriculture and Food Systems program was taking root.

An appetite for sustainability

One year ago, the University announced its students would be taking on a planting exercise – a bridge between the classroom and the real world – social enterprise in action.

This announcement, coupled with a partnership between Trent University Food Services, Chartwells and the Sustainable Agriculture and Food Systems program, means you can now find tomatoes, eggplant, basil, squash, lettuce and a wide variety of ready-to-eat produce, grown right here on campus and ready to serve at one of Trent's food service facilities this fall.

From the one and half acre Trent Market Garden, Chartwells, the operator of on-campus dining halls and food kiosks, has agreed to buy much of the produce grown. The food service company also provided seed money for infrastructure at the garden.

Jon Duffy guides a tour through the Trent Market Garden.



Jon Duffy

Students get their hands dirty

Reflecting on the experience, Mr. Duffy says, "Being involved in this innovative project has been an amazing experience.

Being able to play a role in producing healthy, local food for the Trent community and, at the same time, gain valuable, hands-on experience has allowed me to apply my academic knowledge to the real world and is truly invaluable."

Providing a yield for Trent's food service facilities is not something Mr. Duffy could have envisioned in his first year at Trent, but it's something he's fully engaged in now.

He laughs at the suggestion that it likely isn't at all what he would have been doing between assignments during his University years. He gets some surprising looks when he shares his stories of planting seeds at home and nurturing them before they can go into the ground. But it's not just him, he insists. There's a big buy-in from many in the Sustainable Agriculture and Food Systems program at Trent. He hopes it can be a lasting, viable legacy for Trent and the program.

Mr. Duffy admits that this isn't a project he could have tackled on his own. A number of other people, including fellow classmate, Emma MacDonald, co-manager of the Trent Market Garden, devoted a great deal of time in planning, writing of numerous grant applications, and working the land throughout the summer.

Mr. Duffy says his time at the Trent Market Garden has inspired him to make use of his horticultural knowledge after graduation by operating an urban farm or working with small not-for-profit organizations to help to integrate mini-farms and gardens into urban environments.

A natural fit

Mark Murdoch, director of Food Services for Trent University, says the students are learning how demanding farm work can be while also gaining valuable experience. Part of the program requires students to develop a business plan.

Mr. Murdoch says the farm needed infrastructure to be able to grow food, the students needed a location for their market garden, and Chartwells wanted to buy a food product that is locally grown. It was a natural fit. 🌱



The Trent Market Garden and Experimental Farm are part of the new Trent School of the Environment. The new school, launched this fall, brings together vast expertise at Trent to spark and inspire the next generation of global environmental leaders. trentu.ca/environment



LEVELING UP: TRANSFORMING GAMING INTO BUSINESS SUCCESS

For Hasham Burhani, straightforward learning is a tad boring. It's not nearly as fun, engaging, or addictive as gaming. For this graduate student, currently enrolled in Trent's Applications of Modelling program, the intriguing concept of gamified learning morphed into his own business.

Drawing inspiration from his early gamer days he says, "Important information can be consumed in a much more fun way with increased retention and recall. That's why we remember the rules of *Super Mario* from our childhoods."

In 2001, while a student at Trent, Mr. Burhani founded Evolutis Technologies to create interactive learning environments for use in and out of the classroom that stimulate vision, sound and touch at the same time. Through fun and gaming the user is fully engaged while retaining maximum information.

"We hope to see our customers playing these games while waiting for a bus, or on a train heading to university," said Mr. Burhani. "In future we would like to team up with universities to deliver subject specific apps that take advantage of our innovations."

Evolutis Technologies is currently producing two interactive, educational video games designed for mobile devices that focus on chemistry and biology. The company plans to complete *Atmos* this year while working on *Infectus* through 2016.

"The final software engineering course at Trent was instrumental when implementing solutions from prototype to finished product. Trent offered me the perfect mix of theory and practice."

Game comes to life at The Cube

To launch his business, Mr. Burhani set up shop at The Cube, a technology business incubator located on Trent University's Peterborough campus. Through strategic partnerships with organizations including the Ontario Centres of Excellence (OCE), The Cube offers access to top-notch research facilities, academics and mentors. Among other services, The Cube provides business management tools, expertise, training and connections to funding.

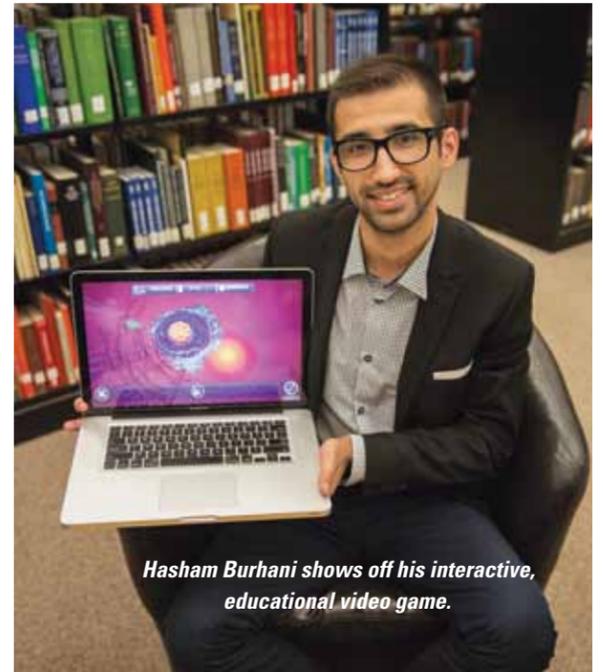
The Cube in Peterborough and the Spark Centre in Durham, a fellow Trent partner, provided office space and facilitated the company's participation in the OCE Discovery innovation-to-commercialization conference.

"The Cube is an important technology innovation hub in the region due to this strategic collaboration."

"They have both been of tremendous help in regards to giving us opportunities to represent game innovation in Peterborough," Mr. Burhani says, adding, "Trent University has great computer science and business departments that can provide The Cube with future technologists and entrepreneurs. The Cube is an important technology innovation hub in the region due to this strategic collaboration."

Mr. Burhani initially graduated from Trent's Computing and Information Systems program, specializing in software engineering. His entrepreneurial vision emerged through exposure to additional sciences during his studies including biology, chemistry and psychology.

"It was during these courses where the idea of gamified learning really dawned on me," he recalls.



Hasham Burhani shows off his interactive, educational video game.

Following graduation from Trent, he worked for a year as a software developer in Vancouver, before returning in 2013 to pursue his masters degree in Applied Modelling and Quantitative Methods. In addition to inspiration, he also values the technological skills he continues to acquire at Trent.

"My theoretical understanding of programming paradigms enabled me to pick up new programming languages very quickly," stated Mr. Burhani. "The final software engineering course at Trent was instrumental when implementing solutions from prototype to finished product. Trent offered me the perfect mix of theory and practice." ●

LAUNCHPAD FOR STUDENT ENTREPRENEURS



Cameron Ogden meets with Rose Terry, entrepreneurship coordinator at GPIC.

If you're a Trent University student on the brink of launching your own business, the student-run Trent Youth Entrepreneurship Society (TYES) wants to hear your percolating ideas. TYES provides students of all stripes, whether they're studying Anthropology, Chemistry, English Literature or anything in between, with vital resources and guidance to transform their entrepreneurial dreams into a real-life operation.

Hanging the 'open' sign on student businesses

"We are fulfilling the unique need to support all kinds of entrepreneurs and connect students from different subjects to potential partners and team members," said Cameron Ogden, a Business Administration student in his fifth year and president of TYES, one of Trent's newest student groups. "Our Business program's specialization in entrepreneurship, with a focus on other areas such as marketing, accounting human resources, is strengthened by our connection to numerous other student groups including the Trent Central Student Association, the Trent Business Students Association and the Trent Marketing Association."

The student-run organization offers provides students with the opportunity to participate in networking events featuring guest speakers and workshops to help students create business plans and improve their pitching skills. A key component of the group's mandate is securing financing to support entrepreneurial students while providing critical resources essential for job creation and the success of Trent students.

"Our services will be vital in the creation of sustainable, socially beneficial, internationally developmental and technological businesses," Mr. Ogden says.

sustainable, socially beneficial

Partnering in enterprising success

TYES resources are amplified by additional partnerships in the local Peterborough business community, designed to create proper channels for students to accelerate their businesses including FastStart, an extra-curricular program that opens the door to entrepreneurship, and the Greater Peterborough Innovation Cluster (GPIC), a group which brings together talent, knowledge, and investment to drive economic growth and development and entrepreneurship-led job creation.

"We are fulfilling the unique need to support all kinds of entrepreneurs and connect students from different subjects to potential partners and team members,"

"FastStart and GPIC have cast an extremely wide net in Peterborough and have made many crucial connections for budding student entrepreneurs," Mr. Ogden explains. "Their goal to foster entrepreneurship in Peterborough supports our initiatives at Trent. We truly benefit from each other by introducing students to all of their resources, skills, and knowledge partners."

Within this established partnership TYES is gearing up for a busy fall by extending Global Entrepreneurship Week (GEW) held at Trent University from November 16-20 into Entrepreneurship Month from November 12-27. The group will offer boot camps on power pitching and lean business canvassing models to prepare participants for student-run entrepreneur competitions during GEW.

Mr. Ogden says TYES will also facilitate access to several upcoming entrepreneurial competitions to highlight talented students at Trent University and showcase Peterborough as the next entrepreneurial hub of Ontario.

More than profit margins

Mr. Ogden believes TYES, along with its partners, will serve double-duty as both safety net and trampoline for potential entrepreneurs, reducing the hesitation students associate with starting their very own business.

He also has higher aspirations. "We will strive to innovate and disrupt the status quo in terms of defining a successful business. A business that is financially sound is equally as important as having a positive impact in our community and world." ●

internationally developmental and technological businesses



Cameron Ogden discusses the Trent Youth Entrepreneurship Society in a short video at trentu.ca/showcase



MEET A TRENT STUDENT

SCRIPTING A NEW FUTURE: THE ART AND BUSINESS OF THEATRE

What does a Business Administration degree have to do with a love of the theatre? For Dane Shumak, it is just as important as a great headshot or dramatic soliloquy.

As a performer, director and entrepreneur, this recent Business Administration graduate, and co-founder of Cordwainer Productions, can confidently call the shots both on stage and in the back office. With several successful productions under his belt already, Mr. Shumak is bringing down the house.

Opening doors in competitive theatrical world

Unsure how to channel his love of theatre into a successful and viable career, Mr. Shumak came to Trent University in 2011, attracted by small class sizes and a liberal teaching style. After taking several first-year courses he discovered that a mind for business could open many doors in the competitive theatrical world.



Dane Shumak performs in a successful production of *Rent*.

“It’s a unique position, as not a lot of theatre artists have a business background, and I think it allows me to be uniquely and especially successful,” says Mr. Shumak, who took advantage of the flexibility of Trent’s Business program and combined his Business degree with a minor in English – just one of the five ways students can do business at Trent. During that pivotal first year at Trent Mr. Shumak performed in the Anne Shirley Theatre Company’s (ASTC)

production of *Xanadu*. As he further pursued his Business Administration degree he tried his hand at directing *Spring Awakening* at the Market Hall Performing Arts Centre. He’s been hooked on theatre ever since.

Business mind cues director’s vision

“Being a theatre director is a perfect synthesis of art and management,” said Mr. Shumak. “Every day, I use what I’ve learned in numerous areas including marketing, negotiation, accounting, budgeting and human resources to ensure balance in each production and to promote the overall success of my company.”

Following the success of *Spring Awakening* the undergraduate launched his own company, Cordwainer Productions, in 2014 with fellow Trent students Bronte Germain, Ryan Hancock and Justin Hiscox. He feels the Trent community provided vital encouragement for his theatrical endeavours with funding and support.

“Entrepreneurship is important to the core of Trent University.

Where there isn’t an opportunity, create one. Don’t be afraid to take risks. These are things that Trent and my education here have given me the confidence to do, and I’m so glad to have been given that chance.”

“Without the Anne Shirley Theatre Company, Cordwainer Productions would never have gotten off the ground,” stated Mr. Shumak. “The partnership of the Trent Central Student Association (TCSA) and other University departments has been instrumental in developing audiences and involving the Trent community in the wonderful work we are trying to do.”

Bright lights, big city – productions expand to Toronto

Cordwainer Productions has staged several productions including *The Last Five Years*, *Dogfight: The Musical* and a successful concert series. The company is currently working a production of the musical *American Idiot* this fall.

As with many Trent students, Mr. Shumak’s future is his for the taking. While continuing to work with Cordwainer Productions he is exploring his options in Toronto and further developing as an artist - an artist armed with an education in business.

“Entrepreneurship is important to the core of Trent University,” says Mr. Shumak. “Where there isn’t an opportunity, create one. Don’t be afraid to take risks. These are things that Trent and my education here have given me the confidence to do, and I’m so glad to have been given that chance.” ●



Hear how Dane Shumak channeled his love for theatre into a successful business in a short video trentu.ca/showcase

More news: trentu.ca/news

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A GLIMPSE INTO THE LATEST FINDINGS AT TRENT



LISTENING TO THE SOUND OF RIBBET

Take a stroll through downtown Peterborough and you’ll hear it... ribbet, ribbet. What started as a business challenge for Trent University students Sana Virji and Ribat Chowdhury, has transformed from an entrepreneurial notion to a money-making venture. Last fall, the Trent Business Students Association hosted a challenge that saw students challenged with making as much money as possible through a start-up business initiative. They were given \$5 in seed money and five days to make it all happen. With their business discount coupon program, which allows shoppers to save on meals, eyeglasses, spa treatments and more, Ms. Virji and Mr. Chowdhury, then both fourth-year students, exceeded the expectations of their professors and classmates. The \$5 challenge turned into \$6,300 for the pair, setting an all-time record in the challenge’s history.



KING OF QUINOA BATTLES THE DRAGONS



After a health crisis that resulted in the loss of a third of his pancreas, Trent alumnus Jamie Draves, a graduate from Environmental and Resource Science and Chemistry, turned to quinoa. This superfood inspired him to start his own business, and to help others like him. About six months ago, Trent alumnus Jamie Draves, a graduate from Environmental and Resource Science and Chemistry, took his pitch to CBC Television’s *Dragon’s Den*, looking to introduce quinoa to his already established Katan Kitchens business, an innovative, health food enterprise that produces high quality superfoods for the ‘Food for Health’ market, which has emerged as a leader in the research and development of quinoa in Ontario. His venture – both on television and in the ground – has begun to bear the fruits of his labour. “We are just now starting to receive crops from 15 different farmers, tallying more than 150 acres of quinoa,” Mr. Draves said. “We also are expecting to make some announcements in the next month or two on the outcome of the deal with Vikram Vij from *Dragon’s Den*.”

TECH SAVVY SENIORS

In true Trent style, a recent interdisciplinary partnership sees, Cammie Jaquays, professor in Business Administration, and Kim English, professor in the Trent/Fleming School of Nursing, teaming up to address the needs of seniors. Connected Care Communications is a platform solution provider that incorporates mobile technology with secure cloud storage to address the needs of seniors. The concept replaces the outdated paper trail system involved for senior in home care with new mobile technology that helps seniors with managing everyday health challenges so they can safely stay at home longer. “We are committed to empowering seniors in their homes with technology innovations and also for the nursing registries that provide for them,” Prof. Jaquays says. “Studies show that seniors want to age at home. It’s critical that we determine how technology can help and how the use of technology affects seniors and care providers.”



POUTINE AND Ph.D.’S



It’s probably oversimplifying things to say Canadian Studies Ph.D. candidate Peggy Shaughnessy has a passion for helping people. But it’s the reason she’s back at Trent and juggling her studies with running a successful downtown Peterborough business. Owner of the Whistle Stop, a popular pouterie and restaurant, Ms. Shaughnessy, who completed her B.Sc. in Psychology at Trent, before tackling the master’s of Canadian Studies and Indigenous Studies also at Trent, applies her drive as a passionate entrepreneur to everything she does. Most recently, that includes heading back to Trent to continue her work with First Nations communities, and building on her Master’s research, to develop a social network for those affected by mental health and addiction. “Trent has been a huge part of my success. This is my passion,” says Ms. Shaughnessy.



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