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Kingston



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EPIC CITY EVENTS

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# THE ISABEL

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KINGSTON ONTARIO

EXPERIENCING  
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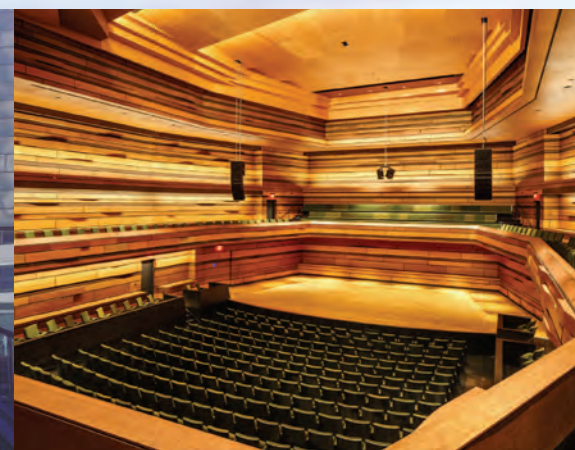
CREATIVITY  
PERFORMANCE  
LEARNING  
INNOVATION  
COMMUNITY  
CELEBRATION  
EXPLORATION &  
COLLABORATION

## 2016/17 ARTISTS

Measha Brueggergosman  
Cantabile Choirs of Kingston  
Cecilia String Quartet & Lawrence Wiliford  
Collectif9  
Johannes Debus &  
the Royal Conservatory Orchestra  
Simone Dinnerstein  
DrumECHO  
James Ehnes  
Mahan Esfahani  
Evergreen Club Contemporary Gamelan  
Marc-André Hamelin  
Heather Haynes  
ISKA Youth Group  
Oliver Jones  
Kleztery  
Jan Lisiecki  
Lute Legends Ensemble  
Ashley Maclsaac  
John MacLeod & his Rex Hotel Orchestra  
Midori  
Mulberry Waldorf Choir  
Viktoria Mullova & Accademia Bizantina  
National Arts Centre Orchestra  
Patricia O'Callaghan  
Profeti della Quinta  
Steve Koven Trio  
Georgy Tchaidze  
Tafelmusik Baroque Orchestra & Trio Arabica  
R.H. Thomson  
Toronto International Film Festival  
& Human Rights Watch  
Toronto Symphony Orchestra Chamber Soloists  
Trio Jean Paul  
Kelli Trotter  
Zukerman Trio

## WORLD PREMIERES

*One Last Night with Mata Hari*  
by John Burge & Craig Walker  
*Tales of Two Cities: The Leipzig-Damascus  
Coffee House* created by Alison Mackay  
for Tafelmusik Baroque Orchestra  
*On the Beach at Night* by Marjan Mozetich  
for the Cecilia String Quartet  
*In Hope for Peace* by Demetrios Petsalakis  
for Lute Legends Ensemble



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ACOUSTIC AND AUDIOVISUAL CONSULTANTS: ARUP

THEATRE DESIGN CONSULTANTS: THEATRE PROJECTS CONSULTANTS

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*Left to right: Donna Gillespie (CEO, Kingston Economic Development Corporation), Mayor Bryan Paterson (City of Kingston), Shai Dubey (Chair, Kingston Economic Development Corporation). Announcing Portuguese food processor Frulact investment in Kingston, Canada.*

PHOTO BY SNAPD KINGSTON

**ABOUT THE COVER**



Innovation in Kingston is proud to support and tell the stories of innovative companies you should know. Cover photo: Suzy Lamont Photography

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# WELCOME FROM THE CITY OF KINGSTON

Kingston has had a fantastic year. Kingstonians have always known that we live in a world class city, and in 2016 the rest of the world had a glimpse of this too.

As a community we came together to celebrate and support Kingston's own The Tragically Hip during their farewell concert in their hometown. On August 20th millions of people, including the Prime Minister, celebrated Canada's most loved band at the Rogers K-Rock Centre, in Springer Market Square, on backyard decks and in living rooms. Not only did fans travel from miles around to be part of this phenomenal event, images of our beautiful city were broadcast into living rooms around the world. Kingston's City Hall is now recognizable around the world in images captured during the concert. It is not the only nationally designated historical

site that the city is known for however. Kingston Penitentiary, one of Canada's oldest continuous use prisons, re-opened for public tours in May and realized over 60,000 person visits this summer. Fort Henry National Historic Site of Canada launched Lumina Borealis on December 1 – a high-tech, illuminated and interactive theatrical event that will bring the magic of the winter season to life at this UNESCO World Heritage site.

We have taken important steps to leverage our community assets to build clusters of economic activity within the industries where we have a competitive advantage. We are using the expertise of our businesses and three post-secondary institutions in agri-business, health care, education, defence, ICT and tourism to attract and develop new enterprises that can work alongside our existing public sector institutions. We have invested in

creating a dynamic environment for entrepreneurs and small and medium enterprises (SMEs). The community works as a team to support entrepreneurs and SMEs, with a coordinated innovation eco-system. Kingston has been successful in attracting significant foreign direct investment – two international agri-business companies have chosen Kingston, Canada for their North American headquarters in the past 18 months. 2016 has seen construction begin for a new food processing facility and the announcement of a second significant new investment. Our international partners selected Kingston for our collaborative approach to business development and support, quality of life, and access to a highly skilled labour force and advanced research facilities. We are home to three exceptional post-secondary institutions – Queen's

University, St. Lawrence College and the Royal Military College of Canada.

Kingston is a mid-sized city of 125,000 residents with a strong public sector base and a thriving private sector, and we're home to Canada's largest military base. Kingston has more smart and innovative companies than we can count, that are leading the way with an entrepreneurial mindset and culture of collaboration. The city has been continuously ranked as a top Canadian city in which to live, be a woman, raise a family, retire and be happy.

All of this is happening right here! We encourage you to join us – come for a visit: experience first-hand why we are a smart and liveable city.

*Mayor Bryan Paterson,  
Donna Gillespie,  
Shai Dubey*



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# Tour guide GPS system telling stories around the world

The kind of supports that Kingston can offer a new company are extensive. Innovation Park offers great spaces and programs; Launch Lab, invaluable advice and mentorship. Queen's, St. Lawrence College, Kingston Economic Development Corporation – they all can play a part.

But what about the buildings? The history, the very stories that the city holds? Can that help a company in tangible ways?

They certainly do in the case of AudioConexus. Chances are, if you've taken a trolley tour in Kingston, a ride down the Thames or a tour boat through the canals of Amsterdam, you've benefited from their work – AudioConexus provides multilingual, multi-topical sightseeing experiences for tour operators interested in leading their market, attracting international visitors, and growing their bookings year round. These professionally narrated tours are mixed with engaging music and sound effects that you listen to on headphones as you move along.

AudioConexus delivers this content via proprietary hardware that is keyed to GPS coordinates. As your tourist tram, bus, boat or train passes a noteworthy building or historic site, its GPS location triggers relevant commentary. What makes AudioConexus different, beyond its technology, says CEO Jonathan Stanley, is the nature of that content. "We don't provide traditional points of interest tours – 'On your left, on your right, on your left.' It's a story that makes a point instead."

"We tell great stories. We find those stories that have meaning and emotion and then we share them in one or



Jonathan Stanley of AudioConexus

several languages at the same time." Being able to provide what Stanley calls, "cinematic audio theatre that takes place in a moving vehicle" gives his customers in turn an edge in attracting today's discerning tourist, increased ridership and predictable bookings. "Storytelling is universal. When we remove language and cultural barriers we all want the same thing, to be engaged and entertained by memorable tours and destination experiences."

A veteran of the tech sector in Toronto with extensive startup experience, Stanley co-founded AudioConexus back in 2006. A personal relationship drew him to Kingston in 2007, and he continued working on developing AudioConexus in his garage.

At first, he says, Kingston didn't figure much in their thinking. Their potential customers were mostly outside Canada and, he says, "A lot of my time and focus was on building that business."

That changed when the City of Kingston approached him and asked

him to be part of their 2012 bid to be selected one of the world's Smart Cities by the New York-based Intelligent Community Forum. "I realized it was time to turn around and look inward at the innovation that was happening in my city."

Since then, AudioConexus has taken advantage of the supports that are available to them in Kingston. "Kingston Economic Development Corporation has been incredibly supportive," says Stanley, "for the expertise they can provide and most importantly the contacts. They nominated us for a Business Achievement Award in 2013, which we won." The company has also developed connections with Queen's University, St. Lawrence College and Innovation Park.

But Kingston offers more than potential partners, too. "We're a storytelling company, and the kind of storytelling we do is both cultural and full of history and heritage. Kingston is rich in those things, and we proudly go out into international

markets, and tell people about Canada's first capital. It's a strategic advantage for us to live in a place that is aligned with what we're passionate about."

In the last year, AudioConexus's business has grown by 33 per cent, and Stanley says the company plans to expand its hiring in 2017. The company is busy creating a new tour system for Singapore that will ultimately be installed in 60 trams in the Asian city. They just opened an office in Lisbon. Closer to home, they are working with Innovation Park. Stanley can't reveal any details at this point but says the project is "new and exciting." In December 2016 they will be moving into a new location in central Kingston, a completely renovated historic space. "Choosing a historic building was important to us, but we also wanted to stay connected to the downtown because it's got this vibrancy we all love."

"Kingston for us is a really great fit."

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# St. Lawrence College meets demand for recreational therapists, mental health and addictions workers

Growing demand and new legislation have inspired St. Lawrence College to develop new programs that will produce career-ready graduates poised to step into jobs in Canada's high-demand addictions and mental health and therapeutic recreations fields.

"We know our graduates get jobs—SLC is proud to have a graduate employment rate of 87.2 per cent," said Glenn Vollebregt, the college's President and CEO. "By working with our community and industry partners to develop programs that we know are in demand, we continue to provide our students with the best possible programs that will prepare them for the careers of the future."

The college has been developing three new programs: a one-year Addictions and Mental Health post-graduate certificate program and a two-year Mental Wellness and Addictions Worker diploma as well as a one-year post-graduate certificate in Therapeutic Recreation. All three will launch in September 2017.

Demand for the new programs comes as federal and provincial governments are introducing new initiatives to expand mental health services as well as from a growing recognition that opioid addiction is spiraling out of control in this country and needs to be addressed.

The one-year post-graduate Mental Wellness and Addictions Worker diploma will enable anyone already working in the community services field—police officers, nurses, paramedics, and others—to specialize in the two specific issues of addictions and mental health.

The two-year Mental Wellness and Addictions Worker diploma, on the other hand, is geared toward learners coming right out of high school, mature students, and existing college students who are looking to specialize in addictions and mental health.

Job opportunities for graduates will be with community and mental health and addictions services organizations and in residential treatment centres, hospitals, children's centres, services for women and for aboriginal people, homeless shelters, crisis response services, youth

and family services, and ethno-cultural centres.

Both programs use what the college calls a "holistic client-centred bio-psycho-social-plus approach" that will teach evidence-informed, responsive, culturally-sensitive client-centred screening and assessment. Students will develop the ability to not only understand the causes of addictions and mental health but to formulate specific treatment plans.

Both programs, which will be offered at the Brockville campus, will provide placement opportunities in their final semesters.

The third new program—the Therapeutic Recreation post-grad certificate—comes on the heels of new provincial legislation. The Long-Term Care Homes Act now requires all long-term care homes in Ontario to have someone on staff with a university or college therapeutic recreation credential. In response, St. Lawrence College began developing the Therapeutic Recreation post-grad certificate.

While the need for the Therapeutic Recreation certificate was originally



*Therapeutic Recreation grads will work in a variety of settings*

identified to address the changing needs of our local employers, St. Lawrence College saw that demand would also grow due to the aging population and an increased emphasis societally towards inclusion of all. The college, therefore, saw wider opportunity.

When it launches next year, the Therapeutic Recreation certification will be open to anyone with a two-year diploma or a degree in health, community services, or social services. It will appeal to two types of learners: recent college and university graduates as well as people already working in the health-care or community or social services fields who need the new credential due to legislative changes.

One feature that sets the college's Therapeutic Recreation certificate apart is that it offers an entrepreneurship course for learners who are interested in going into private practice. The college also provides a lengthy placement in its last semester.

While long-term care facilities and retirement homes are the largest employers of recreational therapists, there are many other opportunities in adult day programs, hospices, hospitals and health-care agencies, rehabilitation centres, residential facilities, mental health agencies, addiction services and community agencies and schools.

The Therapeutic Recreation certification, which will run out of the college's Kingston campus, is developed to meet Therapeutic Ontario's Essential Competency Framework which ties into the academic requirement of the R/TRO designation with Therapeutic Recreation Ontario.



*More resources to address addictions and mental health issues means SLC grads will have excellent employment prospects in the fields*

# BUILDING AN ECOSYSTEM

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# The Breakout Project

What would happen if you brought together Canada's most creative minds – its top entrepreneurs, its foremost tech innovators, its politicians, students and artists – and said to them: You've got the skills, the passion, and the vision, why not pioneer a project that will make the world a better place?

We will all find out May 10–12, 2017, at The Breakout Project, an inspired, 48-hour event taking place at Kingston's historic Fort Henry. Up to thirty teams from Ontario, elsewhere in Canada, and all around the globe will gather to search for the answers to the most challenging problems we face today, including food and water security, health and safety, migration and poverty. And what better way to speed up the pursuit of answers to today's challenges than a contest?

Teams competing in The Breakout Project will create their projects from scratch at the event – bringing no complete files with them or carrying out any sort of preliminary work apart perhaps from thinking about the problem they hope to help solve. They will be expected to advance their ideas as far as possible during the 48-hour event.

But they won't be working alone. The contest will be streamed worldwide via a proprietary platform developed specifically for The Breakout Project. Those following the action globally, as well as those witnessing the contest live locally, will have a chance to contribute their ideas and effort – and funds – via the platform to help their favourite competitors realize their projects. Well-respected speakers, experts and investors will interview the teams to showcase their efforts for the audience, in a format reminiscent of reality TV – but with brains and real goals. Whatever team has managed to accumulate the largest amount of human capital (hours worked or committed to the project at the event and on-line) and financial capital (funds collected directly or online) at the end of 48 hours will be declared the winner



*Clockwise from left: Donna Gillespie, Grant Goodwin, Emily Koolen, Ben Bowen, Natalie Lecomte-Elwood, Lisa Asbreuk*

of The Breakout Project. The top team will be announced at the closing night concert held in Kingston's Springer Market Square. The concert will feature top musical acts and a keynote address from a celebrity speaker. More than 10,000 people are expected to join in celebrating the end of this unique contest.

Says Kingston Mayor Bryan Paterson: "We are excited to host the top innovation talent in our city and to invite them to use our community as the springboard for solving huge world challenges and to showcase their talent all the while."

For participants, The Breakout Project will also be a great opportunity to meet, share and learn. Students will meet investors, software developers will hang out with thought leaders, and teams will connect with other teams to improve their projects' impact.

There is no way of knowing what the participants in the Breakout Project will discover. To be sure, there will be false starts and disappointments – and probably a few breakthroughs. The Breakout Project will change the participants. They'll carry the word about this innovative, creative city back to their labs and universities; share it with their colleagues and friends. The connections they make will outlive the 48 exhilarating, unforgettable hours of the competition – as will the social impact of the ideas they generate.

The Breakout Project is the brainchild of Innovate Kingston. A non-profit organization, Innovate Kingston was created by eight Kingston-area entrepreneurs with extensive experience in the high-tech sector, specifically to encourage the creation of rapid-growth businesses in the Kingston region. Now boasting

# B

THE **BREAKOUT** PROJECT

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Make the World  
a Better Place.**

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Imagine the power of Canada's top talent converging in one place, at one time, with one collective mission.

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**May 10–12, 2017  
Kingston, Ontario**

To learn more visit:  
[thebreakoutproject.com](http://thebreakoutproject.com)

more than 40 independent members, the organization runs local networking events, provides mentorships for aspiring entrepreneurs, connects executives with free professional training opportunities in partnership with Queen's University, and offers startups rent-free workspace. To realize The Breakout Project, Innovate Kingston has partnered with the City of Kingston, St. Lawrence Parks Commission, Queen's University, Kingston Accommodation Partners, Tourism Kingston, and Kingston Economic Development.

"This event is about bringing the best innovators together to collectively tackle the world's biggest problems," says Innovate Kingston director Grant Goodwin. "We hope to mobilize a critical mass of talented people to imagine, create and build solutions that couldn't be achieved in isolation."

# Making scents of the fragrance industry

These days, perfume entrepreneur Will Yin can smell success. Puns aside, for more than two years the young Queen's graduate has been fighting disappointment and reversals, but now his hard work with Scent Trunk, his custom fragrance company, looks poised to turn that industry on its head.

Yin is quick to acknowledge the help he has received from the people at Innovation Park.

Back in 2014, Yin and two other recent Queen's grads were part of the Dunin-Deshpande Queen's Innovation Centre, which offers an intensive summer program for would-be entrepreneurs, where they develop a concept and then pitch it for actual startup money.

Yin and his partners came up with an idea for a customized perfume company. From studying the industry, they saw that its leaders were saddled with very long supply chains. A particular perfume had to pass through many hands before it reached the customer. The attendant mark-ups made it difficult for the big suppliers to provide anything affordable to customers other than generic scents. By bringing their supply chain in-house and making the perfume, Scent Trunk could offer their customers custom-made perfumes at a good price.

Yin and his partners lost the competition, but they didn't give up. As self-described "penniless students," Yin says, "We had to find a way to do things cheaply and keep things going." Innovation Park's GrindSpaceXL, an accelerator for startups offered a chance.

"We figured that GrindSpaceXL would be a good opportunity for us to get a place to work, maybe even grow the company, although at that point we weren't really sure what the future held."

They got more than they expected. "The greatest value for us was the ecosystem. There was a lot of support in that building." They were assigned mentors and coaches but says Yin, "It went way beyond that. Take Ed Thomas, Queens' Assistant Director of Industry Partnerships, He loves to help out. That's not really his job, but he just loves the startup atmosphere." When Yin's partners quit, and it looked as if Scent Trunk might fold, Yin was encouraged to keep going by Scott Runte from Launch Lab. "He said, I guarantee that if you don't work on the startup, you'll regret it. You'll look back and wonder what might have happened to it." Inspired, Yin started rebuilding. Scent Trunk also secured funding through the NRC's Industrial Research Assistance Program, co-located at Innovation Park.

It's taken two tough years of fundraising, testing the product and



PHOTO BY GARRETT ELLIOTT PHOTOGRAPHY

Left to right: Richard Smale, William Yin

slowly building up a bank of data on what it is people look for in a perfume (scent is highly personal), but today Scent Trunk is on its way. Customers ordering from the company's all-new website launched in early November are sent what Yin calls a "Fit Kit," a small box of six bottles filled with what might be called the building blocks of perfume: citrus, floral, amber, aromatic, wood, and chypre. "There's a card and on it you rate the six scents, whether you loved them or hated them. Then you take a picture of that, text it back to us and in

a week, you're going to have your own personalized fragrance. Each month you can choose something new or you can stick with what you have."

"Scent is highly personal," says Yin. "The part of our brain that detects smells is also the part that registers emotions and memory." As Scent Trunk builds its customer base they are becoming more informed. They are gathering data on people, who they are and what they like to smell. As Yin says, "No one, no other company in the world understands this relationship."

Using this information and Scent Trunk's production nimbleness, Yin hopes to branch out – "the plan is to make candles, soaps, lotions." Scent Trunk has moved out of Innovation Park, into its own space in Kingston, has a satellite office in Cincinnati, Ohio, and now employs eight people, including Yin. He thinks his firm has the potential to become a "multimillion dollar company."

Scent Trunk may have left Innovation Park, but Yin still keeps in touch with his former mentors there, "although more as friends now," he says

"Scott Runte, Sam Khan, Ed Thomas, everyone was really helpful. When you are a startup it's going to get messy and a little disorganized. They were definitely there to help us out."



## A transformative experience

Put together two inductors and you get a transformer; put two old friends together at Innovation Park and you get something equally transformative.

Doug Malcolm and Yan-Fei Liu had met and become good friends back in the 1990s, while working in Nortel's power group in Ottawa. When the company disbanded it, they went their separate ways – Liu (a Queen's PhD) back to Kingston, to become a professor with the university's Department of Electrical and Computer Engineering, Malcolm ultimately to Sumida, the Japanese manufacturer of inductors and other coil-based technologies.

A chance meeting at a conference in Dallas in 2011 got them together again. Over lunch, an idea took form. Liu had a problem with inductors, the key element that enables the charger in a phone or computer to take a flow of electricity and reduce its voltage, from 120 volts to 12 in the case of your computer's power supply, for example, or from 3.7 in your cell phone battery down to 0.8. The challenge? "Your cell phone charger now is much, much smaller than the one that came with your first or second cell

phone," he says. "We want everything smaller." Inductors have resisted this trend. You can shrink an inductor by making it higher frequency, but this creates a problem with power loss. It also creates tremendous heat, which can affect the operations of the device or computer. This is why large groups of servers are kept in special air-conditioned rooms.

Thinking about this challenge, Malcolm and Liu came up with a novel solution. Don't try to make the inductor smaller. Make it slightly larger – and then bury all the other components inside it. The end result would be a power supply that isn't as big as before, but doesn't suffer from the drawbacks of high-frequency inductors. Together, they approached Malcolm's boss in Chicago with the idea and got the go-ahead to launch a Sumida R&D project – a rarity in North America.

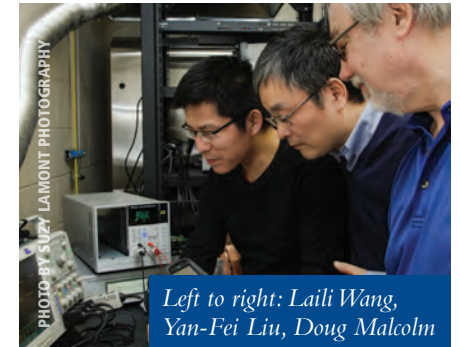
Because Liu was at Queen's, and Malcolm was anxious to return to Canada after many years away, they chose Kingston. The company got off the ground in January 2013, and the two men headed out to search for empty space for rent on a winter's day.

"We started driving around looking for a storefront, says Malcolm. "It was a

snowy day. Out the window, I could see Innovation Park, and the minute I saw it, I liked it."

They quickly learned that Innovation Park offered more than any empty storefront. They were able to set up shop right away, and quickly tap into a network of useful connections. Rick Boswell, the Assistant Director at Innovation Park and their "landlord," helped them apply for a Natural Sciences and Engineering Research Council of Canada (NSERC) grant to cover the cost of a student to work in their lab. In August 2014, they also received a Collaborative Research and Development grant from NSERC, intended to underwrite mutually beneficial cooperative projects between university researchers and their private sector partners that benefit Canada economically.

Malcolm and Liu have been granted a patent for their innovation, and they have five or six more pending. They are working to expand their power supply in inductor model to work with different voltages and currents. Commercial interest in their idea is strong, and they have recently hired a marketing director to help them sell



Left to right: Laili Wang, Yan-Fei Liu, Doug Malcolm

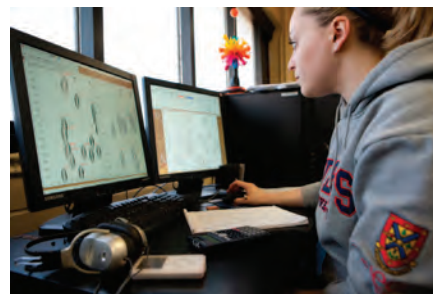
their product. All told, they have eight employees, six in Kingston at Innovation Park and two in Ottawa. Three of their employees are Queen's grads. That's a plus of the Kingston location. "It is easier to recruit someone who is already here," says Malcolm. The company currently also has a Queen's PhD working in its lab, and Sumida recently hired another student on a year-long co-op program.

A rekindled friendship, a chance sighting of the ideal space for their company, it seems in a way so casual a start to a successful firm. But as Steven Liss, Queen's Vice-Principal (Research), says, "Business sometimes works that way. The important thing is to provide a framework where these informal relationships and lucky connections can grow into something lasting."

## Queen's University launches online Health Sciences degree

In September 2016, the Faculty of Health Sciences officially launched the new Bachelor of Health Sciences (BHSc) degree. This groundbreaking new program, specifically designed to prepare its graduates for further studies in health professional programs such as medicine, dentistry, and pharmacy, is one of the only health sciences degrees in North America to be offered in a fully online format.

The program has been in development for the past four years. Over that time, a curriculum of completely new and innovative health sciences courses has been created. Courses are delivered through a series of online learning modules which integrate virtual classrooms and labs, real-time simulations, discussion forums, video lectures, and a host of other



technologies. As new educational tools and resources are introduced, they, too, can be seamlessly introduced into the curriculum.

The BHSc program is competency-based, meaning that the curriculum develops skills, or 'competencies', in students that purposefully match those found today in health professional programs such as medicine. Students will

not only learn the course content, but also learn how to apply it as effective advocates, collaborators, communicators, leaders, scholars, and professionals.

It is expected that there will be heavy demand for this new program as its flexibility makes a Queen's degree more accessible than ever. Incoming students, whether graduating from high school or adult learners returning to their studies, can take their Queen's courses anytime, anywhere, on a schedule that suits their individual needs. Learning is done at their own pace, on either a part-time or a full-time basis. Students have the option of simply taking several courses out of interest or enrolling to complete the full degree.

The online format of the program also makes it affordable for those who would otherwise have had to relocate

to Kingston. The total cost of the full degree program is under \$30,000, almost 60% less expensive than an on-campus experience. Students are eligible to apply for financial assistance.

Support for students is also a priority. Academic advisors provide counselling and guidance on all aspects of the program, for which technical support is also readily available.

Applications are now being accepted for the Winter 2017 term and prospective students can learn more and submit an application at [bhsc.queensu.ca](http://bhsc.queensu.ca). A sample course module is also available to provide a better understanding of how online learning works. More information can also be requested by contacting the program directly at [bhsc@queensu.ca](mailto:bhsc@queensu.ca).

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## Leading the way

The new 270-bed Providence Care Hospital is one of the first hospitals in North America to bring long-term mental health care into the same building as rehabilitation, complex care and palliative care, reflecting Providence Care's Values to treat everyone with respect, dignity and compassion.

Providence Care Hospital brings together into one site, inpatient and outpatient services from Providence Care's Mental Health Services site and St. Mary's of the Lake Hospital site, located at 752 King Street West, in Kingston, Ontario.

### Hospital services include:

Adult Mental Health | Complex Care | Forensic Mental Health | Palliative Care | Rehabilitation  
Seniors Mental Health | Seniors Rehabilitative Care | Inpatient | Outpatient / Ambulatory  
Community Outreach | Academic & Research

In addition to Providence Care Hospital, Providence Care offers community-based services at sites across southeastern Ontario, and provides long-term care at Providence Manor (Kingston).

## Contact Information

Providence Care Hospital  
752 King Street West  
Kingston, ON K7L 4X3  
Phone Number: 613-544-4900\*  
\*Effective April 2017

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# Laser Depth Dynamics perfecting laser welding

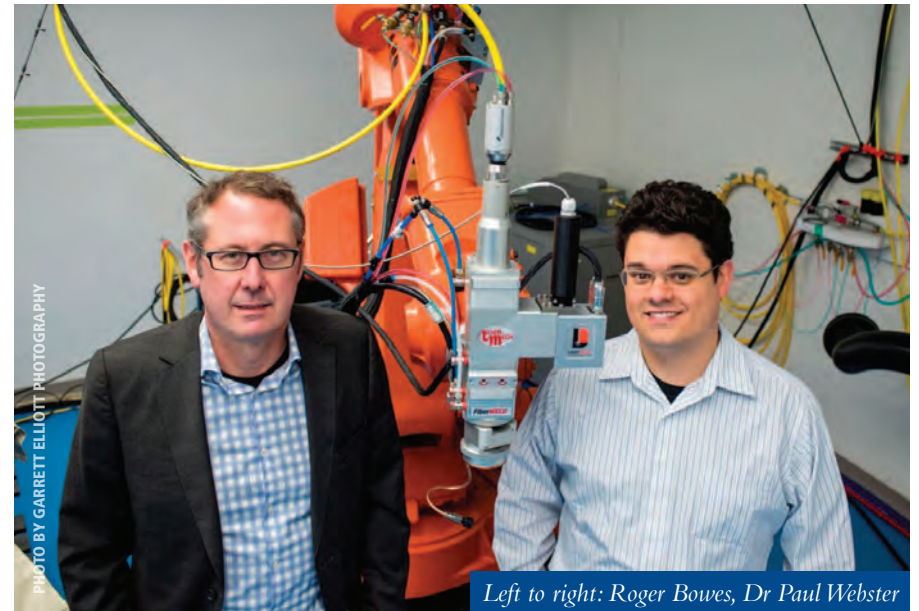
“Starting a business is relatively easy here.”

That’s not typically what you’d expect an entrepreneur to say. We expect tales of struggle and heartbreak. But Roger Bowes should know. As the CEO of Laser Depth Dynamics, he and co-founder Dr. Paul Webster have taken their company from not much more than a rough design to a thriving enterprise in just about four years.

Back in 2012, Bowes was looking for new opportunities. He’d already launched one startup, ESG Solutions, and then stepped away. Interested in seeing what might be out there that he could get involved with, he approached PARTEQ Innovations, the organization developed by Queen’s University to commercialize university research. “I

wondered if anything interesting was going on.”

As it just so happened, there was. PARTEQ had been working with a young PhD student named Paul Webster. He along with two others, James Fraser, his thesis supervisor in the department of physics and Victor Yang, a doctor working in Toronto, had developed a laser measuring system. The system had developed out of work that Fraser had been doing in medical imaging involving lasers. Webster saw that there might be applications for it in industry too, measuring the depth of cuts and drilling. Realizing the opportunity, Webster knew he had to move quickly to commercialize it and approached PARTEQ Innovations to help them. “By the time I met them,” says Bowes, “they had already gotten pretty far



Left to right: Roger Bowes, Dr Paul Webster

– patents and a prototype – and Paul was approaching potential customers.”

The commercial application they had settled on was in laser welding. Energy-efficient, fast, and highly accurate, it produces a very narrow, but strong weld. For that reason, it is extensively used in manufacturing automobile transmissions, which require very precise tolerances, and fuelling components, which experience very high pressures. In these applications, you don’t want a weld to fail – it could be potentially fatal for a car owner.

But the very speed of laser welding makes quality monitoring difficult.

Quality control traditionally consisted of inspecting sample parts manually and with destructive testing. When a defectively welded component was discovered, the entire production line had to be stopped, and the piece cut open to discover what had gone wrong. The process was time-consuming and highly random – no manufacturer could destructively test all of their production to find a single defect.

Laser Depth Dynamics’ inline coherent imaging technology helps overcome these challenges. For example, combined with the laser system on a robot, LDD’s technology can accurately measure the depth of precision-drilled holes and laser welds alike. Furthermore, the tool can measure before, during and after the laser process in a single presentation of the part, saving valuable

cycle time and shop floor space. The result is more accurate welds, fewer defects and, ultimately, increased safety.

Laser Depth Dynamics’s customers include major players in the automotive sector and the aerospace industry largely in the United States, but also in Europe, Asia and to some extent Canada. They are manufacturers of transmissions, pumps, turbines – basically anything that needs fine welds consistently created. The company has grown to ten employees and business has doubled in the last ten years. In October 2016, the company moved into a new home, which, says Bowes “has allowed us to set up a full laser applications lab and gives us the space we need to continue to grow.”

And that new home, it should be noted, is in Kingston.

“This is a great place to do something like this,” says Bowes. He cites the help they have received from PARTEQ and the Kingston Economic Development Corporation, as well as the benefits of Ontario’s entrepreneurial ecosystem and the government’s R&D tax credits. Rents are good too and Queen’s is our main recruiting ground. When we need anyone, we go back to the lab where Paul did his research. They are all trained and ready to go. They are as good as anything coming out of the US universities.

“It would not make sense to leave. We couldn’t do this anywhere else.”



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# TIPS On Selecting a Commercial Real Estate Broker

## 1 EXPERIENCE

Commercial real estate transactions - large or small - can be complex, whether you're buying or selling, landlord or tenant. A commercial real estate agent/broker, exclusively practicing commercial real estate, can optimize the process for you.

## 2 MARKET KNOWLEDGE

Your commercial real estate agent/broker should have a local presence and a solid understanding of the local market's rates, values, influences, trends, financial climate and planning processes, and be able to answer any questions you may have thoroughly and knowledgeably.

## 3 NEGOTIATING SKILLS

Negotiating a commercial real estate transaction can be considerably more involved than residential. An agent/broker that works exclusively in commercial real estate has the expertise needed to represent you professionally in these negotiations.



## 4 GLOBALLY RECOGNIZED FIRM

The reputation of a global commercial real estate brand is built on their practice of hiring only the best of the best to serve their clients.

## 5 COMMUNITY & NATIONAL AFFILIATIONS

A commercial real estate firm is a partner in their community through their business and charitable activity as well as their involvement in planning projects, but ideally they are also involved in broader national organizations/associations as well. Many commercial properties are listed exclusively and never appear on MLS. You want to be sure your agent/broker is aware of all available opportunities.

## 6 REFERENCES

If you wish to undertake some due diligence about the firm, your commercial real estate agent/broker should be able to provide you with a list of references.



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