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Brock News

Brock experience kickstarts change

After 50 years, the Tower gets a 'makeover' with new Innovation Space

Olympian taking time away from mat

\$22M Goodman expansion for students and community

Homecoming a hit with Alumni

Goodman grad sees big future in big data

Brock-led team discovers way to test Earth's prehistoric air

From educational arena to NHL arena

Bicknell's support will be part of his legacy

Surgite brocku.ca/surgite

Surgite/sur-gi-tay/Latin for "Push on" The inspiring last words of Maj.-Gen. Sir Isaac Brock

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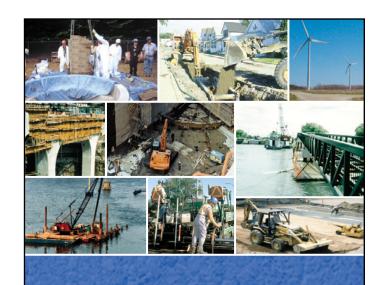
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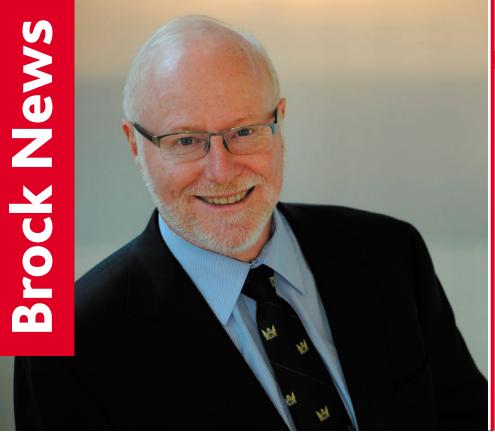
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Tom Traves

Tom Traves named Interim President

ONE OF CANADA'S most experienced higher education leaders became Interim President and Vice-Chancellor at Brock University on Oct. 1.

Tom Traves served for 18 years as President of Dalhousie University, stepping down in 2013 after helping grow the institution's stature as Atlantic Canada's flagship research and medical university.

On Sept. 29, he was unanimously approved by Brock's Board of Trustees as the person who will lead Brock for the next year while it conducts an executive search for a full-time President.

It was also announced that Traves appointed Tom Dunk, formerly Brock's Dean of the Faculty of Social Sciences, to be Interim Provost and Vice-President Academic.

Brock invests in big data

FROM MAJOR LEAGUE SPORTS to banking and retailing, big data has allowed organizations to gather enormous amounts of data on every aspect of their business models.

Executives and managers are increasingly making business decisions based on data, making it more important for recent graduates to be trained in the field.

Brock University has responded to the needs of the market with a new research hub created to strengthen interdisciplinary research collaboration on data analytics across the University. The Centre for Business Analytics (CBA) will bring together faculty from various disciplines across the University, as well as alumni and industry partners for a common purpose.

"As a challenging academic frontier, big data analytics requires a new approach and ecosystem," says Information Systems Professor Anteneh Ayanso, director of the Centre for Business Analytics.

The Centre's objectives include: supporting an interdisciplinary team of data analytics researchers; acting as a source of expertise for both public and private sectors; and fostering a training hub for the next generation of data scientists.



International Award for Possibilities recipients Eduardo Retes, left, and Alex Granja Jimenez, right, were presented with Brock jerseys from Vice-President of Administration Brian Hutchings.

Scholarship helps international students

EUARDO RETES worked his whole life with the goal of attending university abroad. But, when his home country of Honduras fell into political unrest and the economy plummeted, his ambition seemed out of reach.

Retes is one of two students to receive the inaugural International Award for Possibilities, which covers the four-year tuition cost worth nearly \$90,000.

"I pictured a future ahead of me and this is making it possible," the 18 year-old said. Alex Granja Jimenez, from Ecuador, said the scholarship is aptly named as it really is offering him possibilities he wouldn't otherwise have had.

"Without the scholarship I wouldn't have been able to attend school out of Ecuador. It opens so much opportunities—to live abroad, meet new people and live a different lifestyle," he said.

Brock team discovers "yellow fever mosquitoes" in Canada

BROCK UNIVERSITY SCIENTISTS found what are believed to be the first Aedes aegypti mosquitoes in Canada during surveillance in Windsor in October.

The species, commonly known as the yellow fever mosquito, is responsible for the majority of human cases of Zika virus infections in the Caribbean, South America and Florida. Three Aedes aegypti mosquitoes were collected in Windsor during enhanced surveillance activities following the discovery of another invasive species, Aedes albopictus.

The discovery was made by a team from Brock University, Public Health Ontario, Entomogen Inc. and the Windsor-Essex County Health Unit.

Bryan Giordano, PhD candidate in the Centre for Biotechnology at Brock, tested the three Aedes aegypti mosquitoes in Brock's CL3 laboratory and all tested negative for Zika.



Aedes aegypti mosquito





Athletics rebrands to Brock Sports

IT'S A NEW ERA for athletics and recreation at Brock University, complete with a name change.

The department that oversees all varsity, club and recreational athletics programming at the University changed its name to Brock Sports in August.

The Brock Badgers name will remain unchanged, but the new Brock Sports title covers all activities that fall under the merged department's watch such as varsity and club sports, recreational programs, summer camps and community engagement.

Brock grad named Grape King

ONTARIO HAS ANOTHER Grape King with a Brock University pedigree.

Jamie Quai (BSc '07) was named by the Grape Growers of Ontario as the 2016 Grape King for his outstanding vineyard management skills. Chosen each September, the Grape King acts as an ambassador for Ontario's grape and wine industry at events across Canada.

A graduate of the Oenology and Viticulture program in Brock's Cool Climate Oenology and Viticulture Institute, Quai is a third-generation grape grower who is co-proprietor and winemaker at his family's Quai Du Vin Estate Winery in St. Thomas.









Syed Ejaz Ahmed

Math & Science Dean gets second term

SYED EJAZ AHMED has been named to a second five-tear term as Brock University's Dean of the Faculty of Mathematics and Science.

Ahmed's first five-year term as Dean will end Dec. 31., after which he will take a one-year administrative leave, then on Jan. 1, 2018 will commence a second term as Dean that runs through December 2023.

Rotary Club of St. Catharines members George Darte, left, and Liz Palmieri, front, with Mayor Walter Sendzik, right and Brock University Dean of Humanities Carol Merriam, Interim President Tom Traves, back middle, and Vice President of Administration Brian Hutchings, back right.

Rotary Reflecting Pool unveiled

IN OCTOBER, Brock University formally dedicated the Rotary Reflecting Pool at its Marilyn I. Walker School of Fine and Performing Arts in downtown St. Catharines.

The University dedicated the pool to recognize St. Catharines Rotary's support in helping Brock locate its arts school into a restored industrial heritage site.

In 2011, as Brock was seeking government and community help to relocate the MIWSFPA from its main campus into the city's core, the Rotary Club of St. Catharines announced it would donate \$100,000 to the cause, the club's largest single gift in its nearly 100-year history.

CCOVI turns 20

BROCK UNIVERSITY'S Cool Climate Oenology and Viticulture Institute (CCOVI) celebrated a milestone birthday in 2016—20 years. The renowned grape and wine research unit, supported by the Wine Council of Ontario and the Grape Growers of Ontario, has had a major impact on industry during the past two decades. What began in 1996 as a single science lab is today an internationally recognized centre of experts whose work priority is determined by the grape and wine industry's most pressing needs. Last year, an independent study determined that CCOVI contributed more than \$91-million and the equivalent of 307 jobs to Ontario's economy in 2014-15.



Autism summer camp celebrates 20 years

FOR TWO DECADES, a summer camp at Brock University has been offering developmentally appropriate movement education to children and youth in the Niagara Region with Autism Spectrum Disorder (ASD).

The camp's education-based curriculum is specifically focused on the needs of the participants and is a community service learning opportunity that attracts 30-50 Brock University undergraduate students and an almost equal number of campers each year. The Summer Movement Camp operates two, week-long programs and has served children and youth from ages three and up. By the end of summer, the camps had hosted more than 2,000 participants.



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Brock perience

Marcus Bernard

By Erica Bajer

MARCUS BERNARD (BA '15) remembers the moment that changed his life.

He remembers the joy on the faces of kids as they kicked around a soccer ball made of discarded plastic bags. He remembers how their extreme poverty made his soul ache.

Bernard, then 18, was on a one-week experiential learning trip with Brock University teaching English to children in the Dominican Republic.

He didn't want to be there. He wanted to go for Spring Break with his friends or at least spend the week at home in Toronto.

"I'm a firm believer that everything happens for a reason. That trip was a turning point in my life," he says.

Seeing the poverty, desperation and lack of opportunity left him changed forever. Through group reflection with his fellow students, Bernard began to take a look at what he was feeling and how he could use it to try and help.

"That trip really hit home the simplicity of play and how all you need is a soccer ball and a few friends to have fun," he says. "It really made me think about how I grew up and how

I've been exposed to so much opportunity."

Most importantly, Bernard remembers thinking about the lack of opportunity the kids there have simply because of where they were born.

"That's really what motivated me to make a change, to want to make a difference, to give these children opportunity to be able to reach their full potential."

Not long after that experiential learning trip with Brock, Bernard went to his father's home country of Trinidad and Tobago to try out for the under 20 national soccer team.

He made the team and was there for four gruelling months. The day he was leaving for Canada, after the last whistle of the final World Cup game he was playing in, he had another epiphany.

"I sat down right on the field in the middle of everything going on and I had this moment of reflection. I couldn't believe it was over. I had accomplished my goal and I felt very fulfilled," he recalls. "It was then that I realized I could use sport as a tool to make change for children in need.





Change in the Dominican Republic.



Soccer for Change participants in the Dominican Republic celebrate with their new soccer balls.

Continued from page 9

"Soccer for Change uses sport as a tool to educate and empower children. Our focus is not on developing soccer skills, it's really about using sport as a vehicle to drive change. My hope is that by helping these kids develop these life skills, it will lead them to better lives and better futures for themselves, their families and their communities."

He says skills learned on the field include teamwork, communication, focus, goal setting and leadership, to name a few.

The organization has sent two groups to the Dominican Republic for one-week service trips. Bernard says the volunteers, aged 18-26, also learn the same life skills as the participants.

Soccer for Change uses sport as a tool to educate and empower children."

- Marcus Bernard

So far, 80 children have participated, 100 soccer balls and 500 jerseys have been donated and 20 volunteers have contributed.

Bernard says he's working with Brock to organize an experiential trip in February 2018.

Sandy Howe, Associate Director of Brock's Experiential Education, says Bernard's story is an inspiration, but his experience isn't entirely unique. Countless students say that experiential learning has changed their lives.

"It's so awesome to hear from students who have had a transformational experience in one of their experiential courses. To see their eyes light up and hear them connect the dots keeps us fueled each day and makes it all worthwhile," she says.

Brock is a leader in experiential education with nearly 5,000 students participating in 2015/16. It's been happening on campus for decades and the University is creating a co-ordinated approach to grow it even further.

"Experiential learning opportunities are available to students in every faculty at Brock, which is something we're proud of on campus," Howe says. "This gives them the chance to develop their skills and resumé, gain confidence in themselves and in their learning, have insight into their future career path, and make connections with community partners."



To find out more about

Soccer for Change

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Brock University

After 50 years, the Tower gets 'makeover' wit



Artists renderings of Brock's innovation complex in front of Schmon Tower.

THE PLAZA IN FRONT of Brock's Schmon Tower has seen little change since it was built half a century ago, but it's about to get a radical facelift.

On Nov. 3, the University received more than \$16 million from the Canadian and Ontario governments to support two major infrastructure projects. One will significantly improve the Niagara region's capacity to innovate new enterprises, while the second initiative helps the University generate more power for less money while dramatically helping it reach its greenhouse gas reduction targets.

The more visible of the two ventures is the Brock Learning, Innovation, Networking and Collaboration Centre, known as the LINC. It will rise on what is currently the Schmon Tower's open-air pedestrian mall, becoming a sleek two-storey innovation centre where students, researchers and faculty will collaborate with community partners on a wide range of entrepreneurial projects.

The LINC's state-of-the-art space will support a wide range of research and development partnerships between Brock and Ni-







Politicians representing Canada and Ontario were at Brock University to announce \$16 million in funding for two Brock projects as well as funding for Niagara College. Pictured from top left: Niagara Centre MP Vance Badawey, St. Catharines MPP Jim Bradley and St. Catharines MP Chris Bittle. Bottom left: Niagara College President Dan Patterson, Deb Matthews, Ontario's Minister of Advanced Education and Skills Development, Brock student Madi Fuller, Navdeep Bains, Canada's Minister of Innovation, Science and Economic Development and Brock Interim President Tom Traves.

agara's businesses and social organizations, and places knowledge mobilization at the entranceway to the University.

Its purpose-designed facilities will include transdisciplinary collaborator and maker space as well as a consumer lab, digital scholarship lab, start-up lab, proof of concept lab and eral government has contributed \$5.2 million while the province is providing \$2.6 million.

Brock's co-generating system is a natural-gas-powered source of utilities that has enabled the University to grow without interruption, even during adverse events like the 2003 Northeast Blackout.

With the Brock LINC, we will be much more able to help make Canada a world leader on intellectual and economic fronts."

- Tom Traves

launch space. The federal government is contributing \$8.5 million from its Strategic Investment Fund to the LINC project, which has a total cost of \$19 million.

Brock's other major initiative is a much-needed \$10.3-million upgrade to the co-generation plant that produces electricity, heating and cooling for much of the main campus. The fed-

However some of its key equipment is a half-century old and badly needs replacing.

The upgrade project will replace four of the eight gas-powered generation engines with high efficiency, electronically controlled units that use 21 per cent less energy, produce 12 per cent more electricity and will reduce Brock's carbon emissions by 4,100 tons per year.

The project will also replace some of the University's carbon steel water lines with stainless steel. These 50-year-old pipes are at a very high risk of failure and could cause catastrophic flooding, research interruptions and significant damage to sophisticated research facilities.

The news came in a Nov. 3 announcement at Brock by Navdeep Bains, Canada's Minister of Innovation, Science and Economic Development, and Deb Matthews, Ontario's Minister of Advanced Education and Skills Development.

Tom Traves, Brock's Interim President, called the announcements a huge investment in Canada's future, and especially for the Niagara region.

"With the Brock LINC, we will be much more able to help make Canada a world leader on intellectual and economic fronts," said Traves. "And by helping fund the co-generation project, our governments are helping Brock be part of the effort to make Canada a leader in lowering the carbon emissions that are damaging the Earth's environment."

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Michelle Fazzari wrestles at the Rio Olympics in August against Turkey's Elif Yesilirmak, who defeated her in the 58 kg women's division. Vauqhn Ridley photo.

Olympian taking time away from the mat

By Tiffany Mayer

SINCE LAYING IT ALL ON THE MAT at the Summer Olympics, Michelle Fazzari has been wrestling her emotions rather than opponents.

Taking time off from pinning rivals is a well-deserved break for the Brock University graduate and wrestling team member, who competed in the gruelling sport on the world stage in Rio de Janeiro.

She finished 17th in the 58-kilogram women's wrestling category at the August games—no easy feat, but no easy pill to swallow for someone with gold-medal dreams.

"I gave everything to that event years prior, months prior, the day of the event. I'm glad I did it. Some days I'm sad about it. Other days I'm optimistic. I gave everything I had," said Fazzari (BEd '10, BEd '13).

These days, she's trying to figure out if she has more to give to the sport. The more she talks about it, however, it's clear she does, even if she hasn't made it official.

"I probably will go back but I'm just being open to how I feel," she said. "I always said I'd wrestle until my heart wasn't in it. You can't fake it in wrestling. You need every ounce of your heart to go that far."

And every ounce of her heart is what she's given the sport that's tested the mettle of athletes since Ancient Greece. It started as a bit of a fluke, though, for the former competitive speed skater. Fazzari tried it on a dare after see-

ing a flyer beckoning the brave to try out for her high school team in Cayuga, Ont.

She was in Grade 10 and though it started as a joke for her, Fazzari's coaches were very serious. One of them was Mickey Calder, brother to legendary Brock wrestling coach Marty Calder.

Fazzari hated the sport at first. The early morning practice times were more demanding than the wrestling itself. Still, something about the challenge kept her coming back. By Grade 12, she won an Ontario Federation of School Athletic Associations (OFSAA) championship, and the wooing of university recruiters followed.

Attending Brock, which was known as a wrestling school, was a no-brainer, she recalled. "I think I was expected to go to Brock because Mickey Calder was my coach and Marty Calder was the coach at Brock."

Her mom also nudged her toward choosing Brock, though others warned Fazzari, who'd never even wrestled at the club level when she graduated high school, that it would be "survival of the fittest" as a Badger.

It was exactly what she needed and then some. Fazzari found a welcoming community at Brock, one that felt like family yet pushed her to perform her best. "My eyes opened when I came to Brock. It was 'Wow, I can do this.' I got hooked on it. Things started coming together and I loved the challenge in the room."

Fazzari was invited to wres-

tle at a tournament in New York City in her first year. She lost both matches but won some perspective on where the sport could take her.

"You think you're at a certain level and then you experience a higher level and it's ' Now, how do I get that good?' I just kept wanting to compete and win." Eventually, she realized she wanted to compete and win at the Olympics.

She kept that dream to herself at first. Fazzari recalled thinking people would laugh at the small-town kid with big-league dreams, but she made it her long-term goal and systematically set out to achieve it.

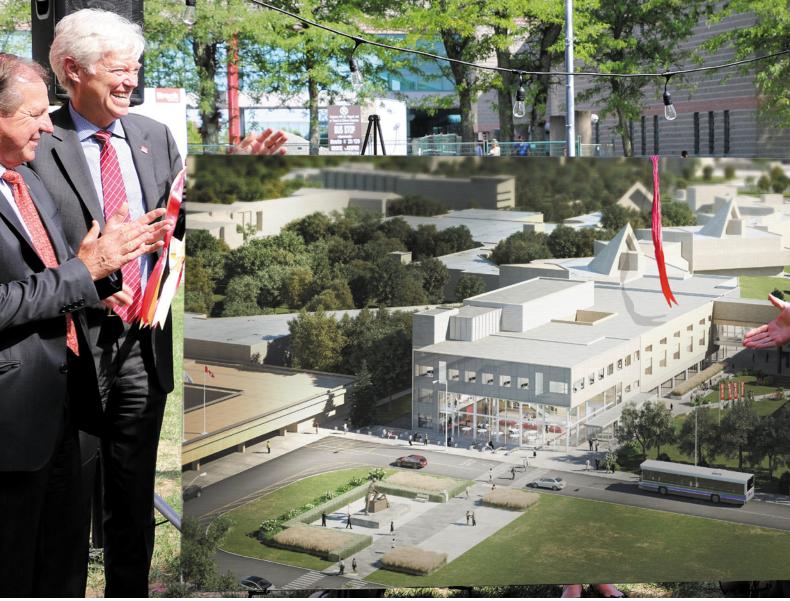
In 2006, she made her international debut at the junior and senior Pan American Championships, winning silver and bronze, respectively. She medalled or made the top 10 at other international and university-level competitions in the years following. She also fought through injuries and persevered after shoulder surgery imposed a timeout on her progress.

Fazzari used the 2012 Olympic qualifiers as training for 2016. She stood at the sidelines during official competition in London, watching her teammates, including Tonya Verbeek, and learning how to get to Rio.

Turkey's Elif Yeşilırmak kept Fazzari from exacting her golden plans this past summer, however. She's not the same person she was when she headed to Rio, she said. Nor should she be, she added. The experience taught Fazzari patience and resilience. She's working on acceptance.

"You just push yourself past the day before. Then you push yourself past that. You work yourself mentally and physically. You leave no stone unturned."





Brock University Board of Trustees chairman John Suk, left, and Interim Dean of the Goodman School of Business Barry Wright celebrate the expansion project with St. Catharines MPP Jim Bradley.

\$22M Goodman expansion for students and community

By Erica Bajer

A MAJOR RENOVATION and expansion project at Brock University's Goodman School of Business designed to help better connect students, entrepreneurs, researchers and local businesses is on time and on budget.

Construction of the \$22-million project began in August and is slated for completion in December 2018. The transformation will enhance student learning and add nearly 30,000 square feet of new space to the Goodman School.

"The Goodman School of Business, with its dramatically expanded facilities, will only become more of an example of Brock's leadership as a Canadian centre of student-focused, experiential learning," said Vice-president of Administration Brian Hutchings during a celebration event to mark the beginning of construction held Sept. 16.

"This building will enhance the strategic position of Brock University in both academic and research excellence."

The project to transform and modernize Taro Hall is being made possible by a significant gift from Chancellor Emeritus Ned Goodman and his family foundation, a \$10 million commitment from the Government of Ontario and from the support of many other alumni donors and friends.

"The Ontario government's buy-in was the clincher that allowed us to move forward with this game-changing initiative," Hutchings said.

St. Catharines MPP Jim Bradley applauded Brock's vision for the project, praising the University for designing programs that respond to the needs of the regional economy.

"We want to make sure students are aligned with the needs of employers in the economy. Brock has been targeting the appropriate areas where there's a need in our society," Bradley said.





Goodman students Leona Yiu and Nick Hollard cut a cake in the shape of the new \$22-million expansion project while fellow students look on.

"With this substantial investment, the Ontario government is showing its commitment to post-secondary education by providing students with modern facilities that will enhance the academic experience and allow for greater communication with the business community."

Barry Wright, Interim Dean of the Goodman School, said the state-of-the-art space will strengthen the partnerships between Brock and its surrounding communities, creating a scale and sophistication of innovation and business incubation space that is unprecedented in Niagara.

"One of the most dynamic spaces in the building will be the two-storey glass 'engagement atrium' at the west end of the complex," he said, noting the area will be a collaborative space where Brock students, faculty and the community can come together.

"At Goodman we have an active and engaged body of students, and this inspired space will be a catalyst for unrestricted learning and a foundation for successful careers."

The new Goodman School has been designed by +VG Architects and the builder is Cooper Construction.



Artist rendering of the expansion of the Goodman School of Business.

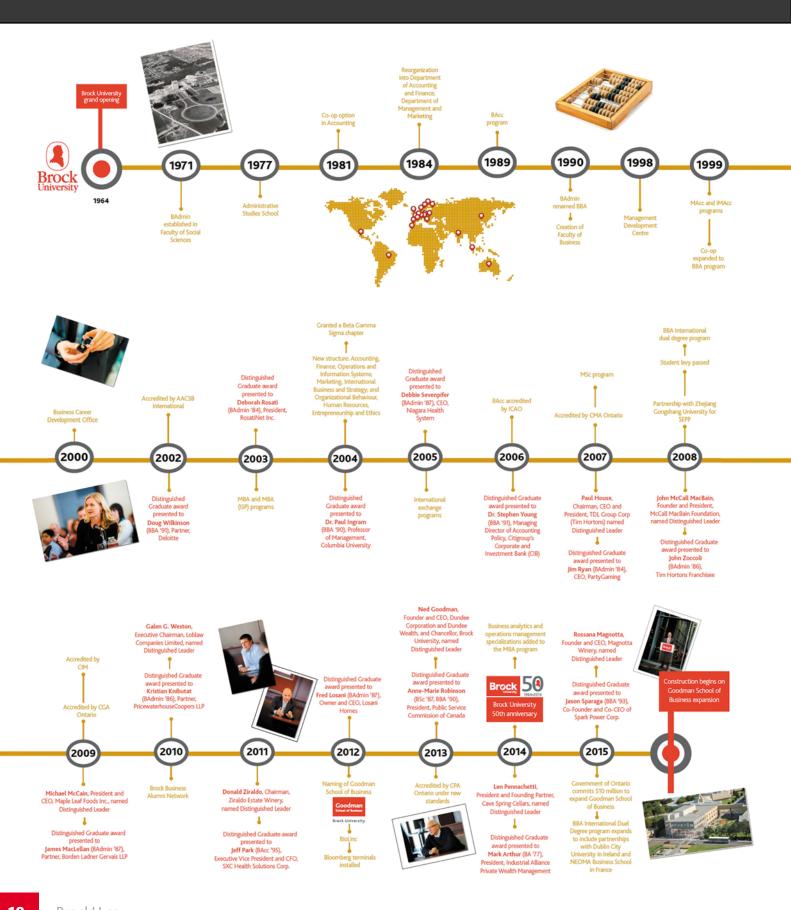
Facts

The expansion project will give the Goodman School:

- 4,000 sq. ft. atrium with smart capabilities to host networking events, speaker series, and recognition nights
- 6 brand new and 9 fully renovated classrooms equipped with state of the art technologies
- 5 new interview rooms with smart capabilities
- A brand new and expanded Bloomberg lab
- Expanded executive boardroom, meeting rooms and offices

See Goodman School of Business Timeline on page 18

Goodman School of Business **Timeline**



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Homecoming — a hit with — ALUMNI

By Erin Court

IN TRUE BADGER FORM, more than 1,000 alumni, donors and friends braved rain, and some lightning, to reconnect with old friends and return to Brock University for Homecoming Weekend Sept. 16-18.

The popular weekend got off to a good start when the Badgers men's hockey team defeated the Guelph Gryphons and took back the Steel Blade in front of a massive hometown crowd at the Meridian Centre in downtown St. Catharines.

Other highlights of the weekend were the tailgate Alumni Pub Night, class and department reunions—including 50th anniversary celebrations for Classics and Bioscience—and a rainy Red Dinner.

Perhaps one of the most prestigious events held annually during Homecoming is the Alumni Recognition Reception, in which alumni across Brock faculties are honoured for their extraordinary successes and inducted into an elite group of Distinguished Alumni.



BROCK UNIVERSITY TETT

A group of international students joined the Brock University team for the Terry Fox Run Sunday, Sept. 18, 2016.

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Brock's Goodman School of Business offers an MBA experience you can customize. This career-ready degree prepares graduates – like Tashfin – for success in the world of business.

Tashfin learned by doing with the Goodman MBA. He participated in experiential learning, co-op opportunities and served as President of the Goodman Graduate Business Council. Before launching his career in banking, Tashfin was inducted into Beta Gamma Sigma, a prestigious international academic honours society, in recognition of his academic achievements.

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Goodman School of Business Brock University

Goodman grad sees big future in big data

By Jane Van Den Dries

REGAN FITZGERALD (BA '13, MBA '16) has started her career in the world of big data thanks to a unique specialization offered at Brock's Goodman School of Business.

After graduating this summer from the Goodman MBA with a concentration in business analytics, Fitzgerald started working at PepsiCo Foods Canada as a consumer insights analyst.

Fitzgerald, who graduated from Brock with an undergraduate degree in psychology, found her way to the MBA after working with marketing professor Antonia Mantonakis in the consumer cognition and perception lab.

"That's where I really began to see the overlap between psychological principles and consumer behaviour or marketing," said Fitzgerald.

"I discovered that what I had learned in my undergrad was applicable in the business world. From there it really inspired me to take that next step in my career and pursue the MBA," she said.

What's unique about business analytics is that for me, it used the statistical skills and research methods I had used in psychology and paired it with business acumen to help managers solve real problems."

- Regan Fitzgerald

Fitzgerald sees the MBA business analytics concentration as a way to align analytical skills with business expertise and leadership skills.

A career in business analytics is an inviting one for Fitzgerald, who explains that the software she learned at Goodman and the skills she developed as a student provide value to managers who want to make sound, data-driven business decisions in a world where every event, action and keystroke is a data point that can be analyzed and capitalized upon.

"What's unique about business analytics is that for me, it used the statistical skills and research methods I had used in psychology and paired it with business acumen to help managers solve real problems," she said.

The business analytics concentration is bolstered by the new interdisciplinary Centre for Business Analytics which started operations this year and will build on the University's capabilities to bring together various fields within the world of big data and further data-driven research.

Led by Professor Anteneh Ayanso, it will partner with external organizations and software and application providers to maximize their impact and has already developed a relationship with SAS, a leading analytics software provider that is widely used in the field.

"It is critical for Brock to keep up to the pace of the fast-moving business world and to respond to marketplace needs through our research and student training efforts," says Barry Wright, Interim Dean of Brock's Goodman School of Business. "This Centre will allow the University to do just that."







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Brock-led team discovers how to test Earth's prehistoric air

By Cathy Majtenyi

A BROCK UNIVERSITY-LED international research team has discovered a new way of measuring past oxygen levels on Earth: by tapping into the actual air that existed almost a billion years ago.

"There was a lot of debate as to what the oxygen content was 800 million or more years ago," says Professor of Earth Sciences Nigel Blamey. "We've come up with a direct method of analyzing the content of those trapped fossil gasses in the atmosphere and found that the oxygen level was approximately half of what it is today."

Up until now, through indirect methods, scientists estimated that oxygen comprised a



Brock University Earth Sciences professors Uwe Brand, left, and Nigel Blamey in the lab.

high of just two per cent of the Earth's atmosphere 800 million to one billion years ago.

But the team found that the average oxygen content of the Earth's atmosphere was 10.9 per cent, more than five times greater than previously thought and about half of today's oxygen level.

"This will give us a better understanding of how life evolved," says Professor of Earth Sciences Uwe Brand.

The team, consisting of research partners from the United States, Scotland, France, Australia and China, collected samples from across the globe of a mineral called 'halite,' which is the natural form of table salt; its chemical name is 'sodium chloride.'

Within the halite are tiny microscopic bubbles called "inclusions." Scientists discovered that some of these bubbles may contain atmospheric gasses, but the bubbles were too small to examine.

But Blamey was able to do so, thanks to highly specialized equipment that his then-PhD advisor David Norman built in the 1970s. In the early 2000s, Blamey and Norman revamped the machine, which consists of a sophisticated vacuum system attached to an instrument called a quadrupole mass spectrometer.

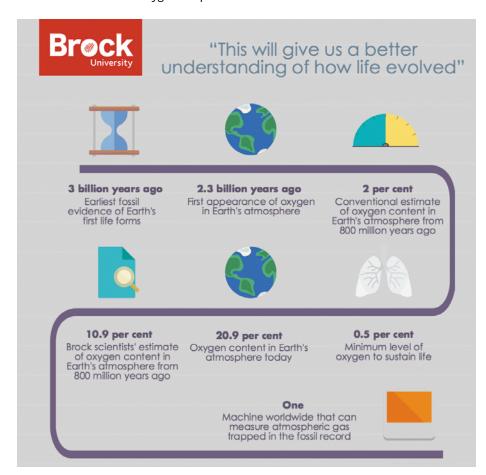
To measure what is inside the bubbles, Blamey places a halite sample in a vacuum chamber and crushes the sample into small pieces. As the samples are broken, the trapped fossil gas is drawn into the highly-sensitive quadrupole mass spectrometer, which is able to read and analyze the gas content and composition.

"It's a direct measurement of the atmosphere of that time, not an interpretation," says Brand, adding the presence of Earth's other two major atmospheric gasses—nitrogen and argon—can also be determined.

This new method, and the subsequent findings, have huge implications for how we understand the development of life on Earth.

"Our finding answers one big question, did life come first or atmospheric oxygen; it is the latter," says Brand.

"Now the next thing is for paleobiologists to look for the organism that gave us this kick in oxygen," at that time, he says.



From educational arena to **NHL** arena

By Dan Dakin

IT WAS AS A TEENAGER that Brad Rossen (MBE '16) came to the realization that he would never play in the National Hockey League. But it was far from a dream destroyed. Instead, Rossen set his sights on getting into the off-ice side of the sport, and in August, his dream came true.

The 24-year-old Port Hope native was hired by the NHL's Arizona Coyotes as its Director of Statistical Analysis, a newly created position that points to the emerging role of big data in professional sports.

"I'll have to admit, it can be pretty surreal sometimes," Rossen said from his office in Glendale, AZ. "Since I was 14 years old and realized I wasn't going to be good enough to make it here as a player, it has been my goal to find another way to earn my way into this world."

The channel was data, and Rossen specifically picked Brock University for his Master of Business Economics because of its renowned co-op program.

"I was pretty aggressive in the pursuit of getting the co-op experience that I wanted," he said. "I wanted to use contacts at Brock to get opportunities that I couldn't have otherwise gotten myself."

Specifically, the opportunity was a work placement at Stathletes Inc., a leading sport analytics firm based in St. Catharines. He worked for the company co-founded by John Chayka, who at 26, became the youngest general manager in NHL history when he was hired by the Coyotes in May.

The co-op turned into a full-time job as a statistics analyst at Stathletes, before Chayka handpicked him for the new position in Arizona.

"The co-op was primarily responsible for this opportunity," he said. "Without getting into (Stathletes), I don't know how I ever would have met (Chayka)."

Rossen admits he has long-term aspirations to one day follow in his boss's footsteps.

"(Being a general manager) is something I've thought about since I was a young kid. Growing up, not only did I have favourite players, but favourite sports executives, as well." he said. "For me, it's an exciting time, a great opportunity and there's a lot of work to be done in terms of getting to where I want to be career-wise. Right now, I'm focused on getting better in my current role each day so I can do my part to help the Arizona Coyotes have a successful 2016-17 NHL season and future seasons to come."

Julia Zhu, Associate Director of Brock's Co-op Programs, said Rossen's success story isn't unique — a large portion of co-ops turn into full-time employment.

She pointed to the MBE co-op program's strong conversion rate from co-op to full time with the same employer. That program sees more than 90 per cent of students successfully securing a full-time offer with their co-op employers upon graduation.

"Through our co-op pre-employment preparation training, students are equipped with the necessary tools and knowledge for career development," Zhu said. "They also gain an insight into the real work place by having opportunities to network with professionals in the workforce."

She said co-ops are like an on-the-job interview where students can showcase and demonstrate their hard and soft skills, make connections in the relevant fields and more importantly, to realize and develop their passion.

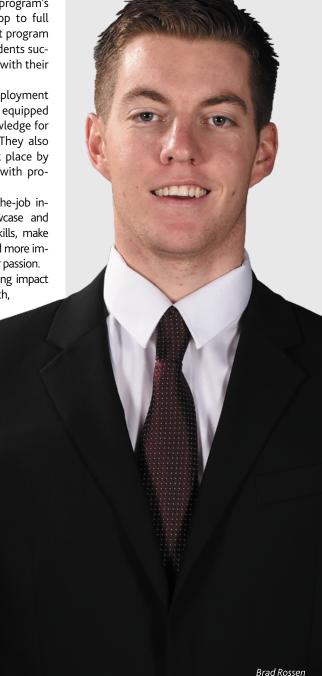
"Our co-op students make a lasting impact for the organizations they work with, which earns them a compet-

the time comes for the employer to hire full time," Zhu said.

itive advantage when

Brock Co-op Facts:

- Started in 1980 with Accounting
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- In the last 17 years, co-op has expanded to 39 programs at both undergraduate and graduate levels, with over 2,300 student enrolment
- There are more than 1,100 students on co-op work terms each year





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Art Bicknell (BSc '71) with scholarship recipient, Vincenzo Coia (BSc '11)

Bicknell's support will be part of his legacy

By Erin Court

MOTIVATED BY HIS OWN experiences at Brock University, Art Bicknell (BSc '71) has created a legacy that he hopes will inspire

As a student, Bicknell remembers a much different University than stands today. He appreciates that the continued growth around campus and the evolving learning and research wouldn't take place without donor support.

He was able to receive scholarships for each of his years at Brock and the impact was memorable to him, beyond his education and throughout his career.

"I would not have had a successful career if I did not receive scholarships during my time at Brock University," said Bicknell. "It seemed only fitting that I give to Brock so future generations will have the same opportunities."

As a result of Bicknell's annual support, there are now two scholarships that bear

Knowing that he wanted to ensure the awards continue to build and grow along with the institution, Bicknell made a further decision—to leave a gift directed to them in his will. This gift will ensure the scholarships continue to make the greatest impact possible and enable students to obtain a post-secondary education, and further research in the field of mathematics.

Bicknell has truly created a legacy at Brock, in both name and impact. His family name will live on and his generosity inspires past, current and future award recipients.









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