

Big data: The backbone of modern business p.20

Fleming College runs world-class ISO-accredited lab p.21

Keeping an eye on a growing problem with road salt p.25

The Ontario

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Technologist

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HELIPAD
saving lives
in Ontario

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Keeping an eye on the growing problem of road salt

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by *Lionel W.F. Rudd., C.E.T.*



Tracking the shape of things to come

Welcome to 2020! With every new year comes new things, some we look forward to, and others we don't. Often these are interesting or noteworthy things that keep us at the edge of our seat, cheering with excitement or taking us into a new frontier of technology. In 2020, this is the case with the Summer Olympics in Tokyo, the US elections, The Mars 2020 Mission, a total eclipse, the opening of the Yahoo! Time capsule and the next generation of video games all happening within the next few months. These are just a few of what to expect, but there are many other trends and events anticipated to shape the year ahead.

This year *The Ontario Technologist* will bring you engaging stories of interest and relevance to engineering technicians and technologists, touching on matters that impact our lives beyond and within the profession. In our first issue of the year, our cover story, "New high tech helipad saving lives in Ontario," takes you to Sunnybrook Hospital, where a newly designed helipad improves emergency connectivity and technology, so patients transported by air ambulance receive medical treatment more promptly. Also, in this issue, we tackle safety of another kind with

This year *The Ontario Technologist* will bring you engaging stories of interest and relevance to engineering technicians and technologists, touching on matters that impact our lives beyond and within the profession.

"Keeping an eye on the growing problem of road salt," which brings to our attention the harmful impact of salt on fresh water and wildlife, and presents remedies to combat this challenge.

What is the hype about big data? On page 20, "Big data: The backbone of modern business," explores just that and its role in finding insights for businesses. Also inside, Fleming College shows us what it takes to run a world-class ISO-accredited laboratory, National Engineering Month Ontario events are unveiled, and OACETT chapters share with us an array of events and activities.

Enjoy the issue!

Michelle

OACETT is dedicated to excellence in the engineering and applied science technology profession in a manner that serves and protects the public interest.



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The Ontario Association of Certified Engineering Technicians and Technologists, a self-governing, non-profit organization, maintains standards of excellence in the practice of engineering and applied-science technology in Ontario. Founded in 1957, the Association became provincially legislated in 1984, and has statutory powers and responsibilities.

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New Year 2020: Moving forward while honoring the past

As we begin a new year and decade, it's appropriate to look back at the technological changes that have happened worldwide since 2010. First off, it's incredible to think that at the turn of the last decade, we were introduced to the iPad, and mobile phones were becoming smart. Even more surprising, augmented reality and virtual reality, which were once referred to in science fiction novels and movies, are now widespread commercially available technologies. As exciting as this is, throughout this decade, we will reach new technological heights at an even greater speed, surpassing what we've witnessed.

Similarly, your Association has accomplished great feats over the past 10 years. Some of these achievements include introducing continuing professional development to ensure our members remain current and relevant in the workforce; growing our membership to more than 25,000; and, developing standards that are second to none.

A highlight from the past year was our notable Provincial Honours and Awards Gala, which celebrated 21 exceptional individuals in the profession and recognized the extraordinary things OACETT members accomplished. Five MPPs were among the industry and educational partners, and associations who joined OACETT in acknowledging the winners. These MPPs now have a greater understanding of how OACETT members impact the profession, and we're trusting this will help strengthen awareness in the provincial government about who we are and what we do.

Also, last year Larry Koscielski, C.E.T., Moranne McDonell, C.E.T. and Kathy Lerette, C.E.T., were nominated for Colleges Ontario's Technology Award,

and this past November I had the pleasure of presenting Kathy the award at the 2019 Premier's Awards.

Another noteworthy event was the exceptional national president's meeting I attended last year, which featured the presidents from nine provinces across the country. We discussed many common issues and strengthened our bond with our sister organizations.

As we proceed into the new decade, I am excited to lead OACETT with a renewed commitment to one national organization that will serve associate and certified members of the profession across Canada. I'm also looking forward to further implementing our new strategic plan, which is the basis of our operations, to ensure our members and stakeholders receive second-to-none services and standards.

This issue of *The Ontario Technologist* would not be complete without a mention of some of my New Year's resolutions. On a personal note, I am planning to do something new each month that I don't know how to do. Trying new things and challenging ourselves strengthens us. From an association perspective, my New Year's resolution is to ensure that we think outside the box to engage new members and ensure that as many new stakeholders as possible are aware of who we are and what we do. Our 2019 strategic plan ensures this resolution becomes a reality.

Best wishes to you and your family for the year ahead!

Should you have any questions or comments, please contact me at president@oacett.org. You can also follow me on Twitter @kim_kpickett. 

Kim Pickett, C.E.T., LET, is president of OACETT.



Letter to the President

Dear Kim Pickett,

I am so sorry I am late in returning my thanks to you and the Council of the Association for your kind words to me in regards to my 50 years as a member of OACETT. My son immediately took the fifty-year certificate and had it framed, and I have it in a very prominent place for all to see.

I am now in my 97th year, and as I look back over my working years, I felt that I got a lot more respect from the people I worked with and dealt with after I became a member of OACETT. I am very pleased that I get The Ontario Technologist six times a year as it keeps me up to date with what is happening in Ontario, where the members of OACETT are involved. I retired when I was 70, and over my working years, I was a carpenter, a building inspector

and advanced to the head of the building department. In my last 15 years, I was a councillor for The Ontario New Home Warranty Program.

When I receive The Ontario Technologist, I am always interested in the celebration of the 25, 40, 50 and 60 years of membership and look to see if any of the ones listed are people I know. A few months back, I was very pleased to see my grandson Matthew Thurston's name as a new member in a past issue.

Once again, thank you for my 50-year certificate. I am delighted to show it off and let people know that I am a certified technologist and proud of it.

Lorne Thurston

Celebrating 25, 40, 50 and 60 years of membership!

This listing represents those who reached their milestone between October 25, 2019 – January 10, 2020.

25-year members

- Gordon Andrew, C.E.T.
Franco Battista, C.E.T.
Denny Boskovski, C.E.T.
Patrick Cheung, C.Tech.
Remigius Fernandes, C.E.T.
David Fillion, C.E.T.
Egland Graham, C.Tech.
Fred Haeussler, A.Sc.T.
Diana Haslehurst, C.E.T.
Christopher Hemming, C.E.T.
John Kemp, C.E.T.
Vincent Ki, C.Tech.
Paul Kusiar, C.E.T.
Larry Lange, C.E.T.
Ross Mason, C.E.T.
John McIntyre, A.Sc.T.
Gregory McTaggart, C.Tech.
Christopher Micallef, A.Sc.T.
Gregory Miller, C.E.T.
Hitendra Mistry, C.E.T.
K Pattison, C.E.T.
Gaudencio Paz, C.E.T.
Richard Pedlow, C.E.T.
Sherry Perdue, C.Tech.
Fernando Perez, C.E.T.
Randy Pitts, C.E.T.
Krishna Steve Rambajan, C.Tech.
Douglas Reinecker, C.Tech.
William Rogers, C.E.T.
Dwayne Scheerer, C.E.T.
David Scott, A.Sc.T.
Ritchie Seeley, C.E.T.

- Kalman Shapiro, C.E.T.
Lisa Simkins, C.E.T.
Nate Simpson, C.E.T.
David Thompson, C.E.T.
Christopher Tye, A.Sc.T.
Steve Vass, C.E.T.
James Way, C.E.T.
Martin Williams, C.E.T.

40-year members

- Larry Abramovitz, C.E.T.
Paul Allore, C.E.T.
Francis Au, C.E.T.
Guy Bazinet, C.E.T.
Jonathan Brown, C.E.T.
Charles Cadogan, C.E.T.
Gordon Castle, C.E.T.
Armand Charlebois, C.E.T.
Glenn Charlesworth, C.E.T.
Robert Clark, C.E.T.
Karl Dren, C.E.T.
William Forster, C.E.T.
David Hawkins, C.E.T.
Gabriel Ippoliti, C.E.T.
Gerald Keogh, C.E.T.
Paul Kernohan, C.E.T.
Garry Kramer, C.E.T.
David Kramp, C.E.T.
Brad Mainse, C.E.T.
Alexander Moore, A.Sc.T.
Donna Morano, C.E.T.
Stephen Murphy, C.E.T.
Rosa Napenas, C.E.T.

- Richard Nellis, C.E.T.
David Parks, C.E.T.
Mahendra Prasad, C.E.T.
Joseph Ramolo, C.E.T.
Francesco Rao, C.E.T.
Mark Rogowski, C.E.T.
Terrance Sharp, C.E.T.
Leszek Sobolewski, C.E.T.
Edward Stark, C.E.T.
Henry Telfser, C.E.T.
Martin White, C.E.T.
David Youkhana, C.E.T.

50-year members

- Frank Baehr, C.E.T.
Donald Barr, C.E.T.
Donald Batstone, C.E.T.
John Bea, C.E.T.
Michael Brandon, C.E.T.
James Brown, C.E.T.
Terrance Cantlon, C.E.T.
Hon Chin, C.E.T.
Renzo Colautti, C.E.T.
James Cooper, C.E.T.
Ronald Cross, C.E.T.
Michael Davidson, C.E.T.
Harjeet Dhindsa, C.E.T.
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Edward Francis, C.E.T.
Wm Gall, C.E.T.
Clayton Gerling, C.E.T.
Peter Heynsbroek, C.E.T.

- Frank Higgins, C.E.T.
Samuel Hughes, C.E.T.
Myung Im, C.E.T.
Walter Isotalo, C.E.T.
Branka Jaukovic, C.E.T.
Rodney Kruger, C.E.T.
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Taras Romanowitch, C.E.T.
Phillip Russell, C.E.T.
J Saulnier, C.E.T.
Victor Sayewich, C.E.T.
Clayton Shillingford, C.E.T.
Donald Skidmore, C.E.T.
Lane Stevens, C.E.T.
Paul Suwinski, C.E.T.

60-year members

- Jack Lee, C.E.T.
Douglas McCallum, C.E.T.
Neil Fox, C.E.T.
Carl Seeley, C.E.T.
John Goede, C.E.T.
Kenneth Spero, C.E.T.
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Members on the move

Rosanna Baggs, C.E.T., OACETT president-elect, recently accepted a position as project manager, roads and highways at Morrison Hershfield in Ottawa. In her new role, Baggs provides planning, design and construction administration services for provincial and municipal infrastructure, highways, roadways, rail and transit projects. She previously worked for the City of Ottawa for over six years, holding various positions with the most recent as project manager, infrastructure approvals (transportation).

Jaeger P. Galicha, C.E.T., has a new role with Comtech Group Inc. as a senior scheduler, consultant to Metrolinx. Before joining Comtech, Galicha worked at Dufferin Construction Company for over four years as a partnership ventures lead planner/scheduler in civil/transportation infrastructure, where he collectively engaged with alternative delivery model projects for provincial and federally funded infrastructure programs.

Tim Gignac, C.E.T., recently started a new job with the Town of Innisfil as a senior engineering technologist. Before this, Gignac worked as a project technician at WMI & Associates Limited for more than nine years.

Lieutenant Colonel Charles Jansen, C.E.T., recently completed his post-graduate certificate in human resource

management at York University and accepted a new position with the City of Toronto as the director of the Office of Emergency Management. Jansen's new role requires him to review and update all of the City of Toronto's emergency plans and business continuity plans. Before this, he retired from the Canadian Armed Forces after forty years of service from his last post as the commanding officer of the 4th Canadian division headquarters in Toronto.

Frank Mesicek, C.E.T., recently accepted a position with Mohawk College as the director of facility operations. Prior to this, he was the director of building systems at the Plan Group. Mesicek has over thirty-three years of experience in the smart building systems industry and has worked for companies such as Johnson Controls, Siemens, and Honeywell. He currently volunteers as the research and sustainability chair of American Society of Heating, Refrigerating and Air-Conditioning Engineers Hamilton Chapter.

Shervin Reyhani, C.E.T., recently joined WoodWorks, a program of Canadian Wood Council, as a technical manager who advocates mass timber construction in commercial and industrial projects. Previous to this, Reyhani worked at Alpa Lumber Inc. for over sixteen years as the Truss and Engineered Wood products manager. His experience also includes four years at

Stoney Point, Ontario and twelve years at Gillies Lumber in Cambridge.

Braedan Robinson, C.E.T., now works for the County of Brant as an engineering technologist. Robinson previously worked at The City of Woodstock for almost five years as an engineering technologist and party chief surveyor. He has been employed in this profession since graduating from Mohawk College's civil engineering technology program in 2013.

Sen Thabendran, C.E.T., recently joined Kiewit as a quality assurance inspector for the Ottawa Light Rail Transit (LRT) project stage two. Prior to this, Thabendran worked as a quality coordinator at Crosslinx Transit Solutions for over two years working on the Eglinton LRT Project in Toronto.

What's new?

We want to hear from other members who have recently changed jobs, received a promotion or an award, or completed an educational program. Make sure your fellow OACETT members read about it in *The Ontario Technologist*. Promote your success – send your submissions to the editor at editor@oacett.org.



NEW CPD CYCLE: JAN 1, 2020 - DEC 31, 2022

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- all members who were certified in 2016
- all members who were certified in 2019

QUESTIONS? WE'RE HERE TO HELP.

Contact Elizabeth at 416-621-9621 x240 or cpd@oacett.org.

Calendar of Events

February 23 – 26

Ontario Good Roads Association Conference

Fairmont Royal York, Toronto
www.ograconference.ca

February 26 – 27

International Conference On Water Management Modeling

Courtyard by Marriott, Toronto
 Brampton Hotel
www.icwmm.org

March 13 – 15

Green Living Show

Metro Toronto Convention Centre,
 Toronto
www.greenlivingshow.ca

March 13 – 22

National Home Show Toronto

Energare Centre, Toronto
www.nationalhomeshow.com

March 26 – 27

The 2020 Value of Biogas East Conference

Marriott Hotel, Downtown CF
 Toronto Eaton Centre
www.biogasassociation.ca/vob2020/page/venue_east/

April 19 – 22

Ontario Transportation Expo

The International Centre,
 Mississauga
www.ote.ca

April 24 – 26

Muskoka Builders Association Home and Cottage Show

Gravenhurst Centennial Centre,
 Gravenhurst
www.discovermuskoka.ca/events/

April 26 – 28

Water Environment Association of Ontario Technical Symposium

Sheraton Centre Hotel, Toronto
www.weao.org



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Professionalism and code of ethics: The cornerstone of OACETT membership

by Barbara Chappell

Being professional is an integral part of being an OACETT member. I am usually very impressed with the members I encounter every day, and I have been extremely impressed with some of the CPD members who have chosen to take to ensure ongoing competence and professionalism. Thank you to the majority of members who have embraced what it means to be a professional, and who realize the importance of putting us in step with most professionals, not only in Canada, but around the world. Lifelong learning is a necessity, and thankfully, for all of our well-being, most of you already do it.

Therefore, it was disappointing recently to encounter some disturbing unprofessional behaviour – a cheating incident on the Professional Practice Exam (PPE), and a recent increase in rude behaviour directed against staff, usually from those who don't agree with our academic standards or requirements. *As a reminder, OACETT's minimum academic standard for certification is the equivalent*

to a two-year (typically technician) and three-year (typically technologist) diploma from an Ontario post-secondary engineering technology or applied science program from publicly funded community colleges, governed by the Ministry of Colleges and Universities, or other Canadian programs using the national standards of our accreditation partner, Technology Accreditation Canada. If required, missed academics are assigned.

Some people think that OACETT's standards do not apply to them. We allow for alternate ways to achieve our standards; but the standards themselves cannot be changed for just one person – otherwise, what would it mean to hold our designations? This being said, we don't ignore member concerns or inquiries, and members are treated respectfully. In return, please communicate and treat our staff with respect.

Detailed information is available on our website, clearly outlining what the requirements are to meet our standards. I encourage all applicants and members to become

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familiar with them, as well as the ongoing requirements to remain an OACETT member.

One of the incidents has resulted in a complaint made against the member, which will be going forward to the Complaints Committee. This incident prompted me to review the Code of Ethics and Rules of Professional Conduct, and what it means to treat others with integrity, and professionalism.

Our Code is not to be taken lightly; it is the cornerstone of what separates you from others. You agree to abide by it when submitting your OACETT application – don't forget this. Employers value and are looking for ethical behaviour - the traits embodied in the Code. Employees who do the right thing where safety, the environment, their co-workers, and their organization are concerned are valued. Abiding by anti-harassment, anti-bullying and anti-violence legislation, and ensuring safe and fair workplaces are required. Do you stand up for others? Treating others with respect and with integrity, in the professional manner expected from an OACETT member, extends beyond the in-person encounter and extends to everyone. How do you treat the person on the other end of the phone, across the counter, at the drive-through window, at the receiving end of an email, tweet or social media post?

So what happened with the case of cheating on the PPE? An ad hoc committee of the IETO board struck for that purpose, composed of the chair and vice-chair of IETO, and the public representative on the IETO board, heard the case. I was there to present OACETT's position regarding the cheating event, as was the acting director of IETO. In making their determination, the committee took into account the member's cooperation in admitting the cheating activity, and their remorse, and barred them from re-writing the PPE for six months. Also, they must complete a case study, satisfactory to me, demonstrating the application of ethics when faced with a difficult situation.

The complaint brought against the member who was verbally abusive to multiple staff is in its early stages, and updates will be provided in future issues of this magazine. If interested in finding out more about OACETT's complaints and discipline processes, visit the About Us section on www.oacett.org.

As I further consider the importance of our Code of Ethics and professionalism, I would like to hear what being a certified professional means to you. Write to me at registrar@oacett.org, and I may include your thoughts in a future article on professionalism. ☰

Barbara Chappell is OACETT Acting CEO and Registrar.

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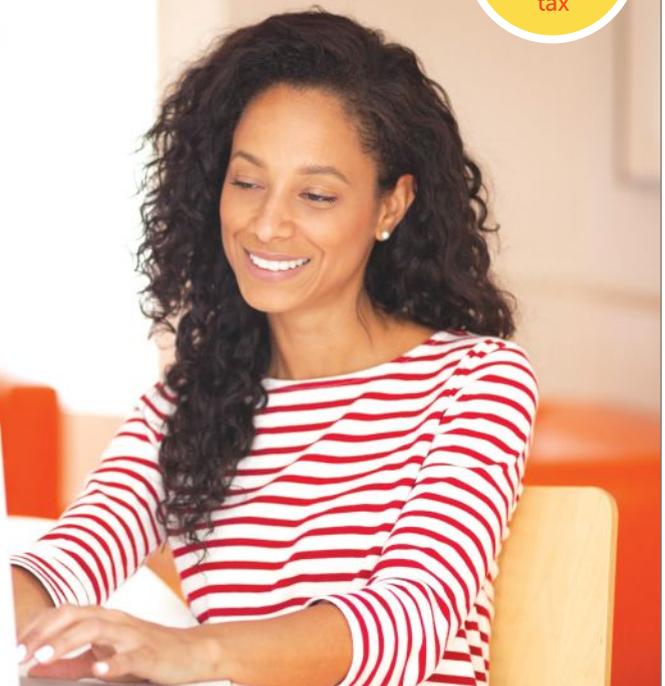
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Fletcher Foundation more than halfway to its \$200,000 fundraising goal

by Michelle Malcolm-Francis

Thanks to your kind contributions, the Fletcher Foundation's Matching Donation Program has boosted financial support for deserving technology students on the road to a promising career in the engineering technology profession.

Over the past year, the Foundation raised more than \$46,000, increasing the total funds received to over \$130,000. The \$46,000 surpassed the annual target, which was reached after OACETT matched your donations twofold and tripled the impact of your gift.

"This is good news!" said Bob Jameson, C.E.T., Fellow OACETT. "Helping students achieve their academic goals means everything to the Fletcher Foundation trustees, and through the Matching Donation Program, this is even more possible."

The Matching Donation Program supports exceptional technology students by contributing to education and sponsoring educational initiatives like Fletcher's Enhanced Student Educational Experience Program.

"Helping those who want to make a difference not only benefits the recipients, it also advances the engineering technology profession," added Jameson. "That's the power of the Matching

Donation Program. So, if you haven't donated or are not a regular donor, we urge you to give in 2020."

In 2019, technology students benefited from Fletcher Foundation bursary programs when they received the OACETT Technology Award, which entitled them to a \$1,000 scholarship.

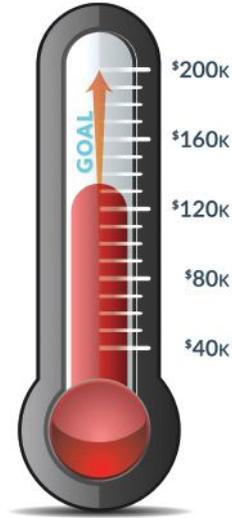
Enhanced Student Educational Experience Program

Besides the OACETT Technology Award, many students have benefited from the Enhanced Student Educational Experience Program. In 2019, Niagara College and Northern College's proposals were approved by Fletcher trustees, with each college receiving \$10,000 to fund programs or scholarships that advance the learning/education of engineering technology students.

Niagara College established a much-needed scholarship to support students in its photonics, electrical and electronics engineering technology programs who want to undertake an additional year of study to obtain an Ontario College Advanced Diploma in technology. This scholarship encourages students in a two-year program to pursue further education to

THE FLETCHER FOUNDATION FIVE-YEAR FUNDRAISING GOAL

JANUARY 1, 2017 - DECEMBER 31, 2021



avoid a future skills gap in Niagara's industries. Furthermore, the award, named OACETT and Welland Hydro-Electric System Corporation Scholarship, provides financial assistance to students who have a monetary barrier to pursuing the third year of study.

Similarly, Northern College created a student bursary that is made available annually to a deserving student upon graduation from any mining or mining services related program.

YOU GIVE

FLETCHER FOUNDATION

WE MATCH TWOFOLD YOUR IMPACT IS TRIPLED

Give to the Fletcher Foundation's Matching Donation Program today, and your donation will help engineering technology and applied science students achieve success.

Let's build futures together, one donation and one student at a time.

DONATE NOW

fletcher@oacett.org • www.oacett.org/fletcher

The college also pledges to support students in mining STEM fields by providing access to state-of-the-art facilities and industrial expertise.

Generation Award

Once a year, the Fletcher Foundation gives \$1000 to a child, grandchild or spouse of an OACETT member. In 2019, three applications for the bursary met the criteria for the Genera-

tion Award. Trustees gave the award to all three applicants. The recipients of the award are as follows:

- Joelle Doorenspleet
Biomedical Engineering Technology
Centennial College
- Aubrey Guevarra-Jongsma
Civil Engineering Technology
Fanshawe College

- Taha Mohammed
Transportation Engineering
Technology, Mohawk College

Congratulations to the Generation Award, the OACETT Technology Award and the Enhanced Student Educational Program recipients. We look forward to your contributions to the applied science and engineering technology profession. 🏆

Conestoga College’s Fletcher Scholars program presents scholarships to women in technology

by Julie Beckstead

Five deserving women in engineering technology programs at Conestoga College received scholarships for the 2019/2020 school year as part of the college’s Fletcher Scholars’ program, which is in the second of a three-year commitment from the Fletcher Foundation.

OACETT is proud to support this program, as it reflects the values of our women in technology initiatives. The Fletcher Scholars host events for women in technology and participate in outreach events to encourage girls’ interested in STEM fields. Some barriers to women’s participation in STEM fields include lack of knowledge about opportunities in the profession, and lack of mentorship and support, which the Fletcher Scholars aim to help resolve through their work.

They held a networking event for women in technology on November 13 at the Doon Campus, which provided great opportunities for students, professors, and industry professionals to meet. Four Conestoga graduates now working in the engineering technology field, including Tiffany Best, C.E.T., the Women in Technology representative of OACETT’s Grand Valley Chapter, spoke on a panel about their experiences, paths to success, and offered valued advice for current students. The



This year’s Fletcher Scholars pose with Julia Biedermann of Conestoga College. From left to right: Sasha Malesevic, Soveigh Brasseur, Julia Biedermann, Abby Hanley, Tina Rahimi and Alyssa Atkins.



The Fletcher Scholars and panelists at their event, seated from left to right: Molly Bouchard, Pam Tolton, C.E.T., Heather Brown, C.Tech., and Tiffany Best, C.E.T. Standing from left to right: Sasha Malesevic, Tina Rahimi, Alyssa Atkins, Abby Hanley and Soveigh Brasseur.

Scholars used a fun icebreaker game to get everyone involved and gave out prizes to the winners.

Keep an eye out for future events from this year’s Fletcher Scholars; we

would love to get even more OACETT members involved. 🏆

Julie Beckstead is program and chapter advisor at OACETT.



BLACK HISTORY MONTH: Celebrating past and present engineering talent

by Konstantine Kallianteris

PHOTO: © mario beauregard / Adobe Stock

Every February, Canadians celebrate the many achievements of Black Canadians who have done so much to make Canada the culturally diverse and prosperous nation it is today.

This month is a time to learn more about these Canadians and their many contributions to the settlement, growth, development and diversity of Canada. In honour of Black History Month, OACETT is showcasing members and pioneers in science and technology. These outstanding individuals have made significant contributions to their profession through their work, achievements and civic service.

OACETT members shaping the engineering profession



Clive Banton, C.E.T.

Clive Banton, C.E.T., was born in Jamaica and moved to Canada in 1968. Shortly after arriving in Canada, he studied electrical engineering design technology at George Brown College. While at George Brown, an engineering consulting firm that was recruiting students and holding inter-

views on-campus took a particular liking to Clive and hired him as a drafter. With a desire to gain hands-on experience, he went on to work for a construction company.

Today, Banton works as a senior electrical designer/fire detection specialist at the IBI Group. In this role, he has many different responsibilities, which include assisting in the planning and designing of complex electrical systems, acting as a project lead, working on-site as a contract administrator, and reviewing contract documents, all while mentoring young engineering technology professionals. Banton is currently working on the Eglinton Crosstown LRT project. He credits hard work, a willingness to adapt to change and to learning new things outside of his job for his long, successful and evolving career.

An OACETT member for over forty-years, Banton was introduced to the Association as a student. He applied for membership and earned his C.E.T. designation soon after graduating.

“The certification helped me earn a higher salary as a new graduate,” says Banton. “I have also been assigned specific projects as our clients like to work with designated professionals.”

Membership also provided networking opportunities through OACETT chapter initiatives such as National Engineering Month (NEM), where Banton has served on the Toronto East Chapter’s organizing committee for close to 15

years. Since the first time he participated in NEM, he has been hooked on volunteering for OACETT and has become involved in other chapter initiatives and served as vice-chair and chapter chair.

When asked what advice he has for young people looking to enter the engineering technology field, Banton says, “You should keep your options open by taking a wide academic stream of high school courses. This will give you a chance to choose between college or university after you graduate. When choosing an engineering technology discipline, prioritize programs that offer co-op/internship placements as hands-on experience outside of the classroom allows you to jumpstart your career.”

As a Jamaican-born Canadian, Banton relates well with newcomers and internationally trained professionals pursuing a career in the engineering technology field. Offering words of encouragement, he says, “Stay positive and don’t get discouraged. Learn the Canadian codes and standards, network, and get involved with OACETT. Find out what you need to get certified and put in the effort to achieve it. Get your certification; it will pay-off in the end.”



Cylma Foxton, C.E.T.

Cylma Foxton, C.E.T., was born and raised in the Commonwealth of Dominica and migrated to Canada in 1998 in pursuit of better employment opportunities, education, and believe it or not a change in weather. As the senior environmental health and safety advisor at ENGIE Services Inc.,

Foxton’s responsibilities include project management, training, program development, and compliance requirements. She is also a part-time professor at Seneca College.

Driven by a sense of personal and professional satisfaction, she is passionate about making a difference in people’s lives and successfully meeting organizational goals and objectives.

“One of the most important things you can do, regardless of where you are in life, is to make a difference in the world. Every one of us has a platform. It may be the job you have; it may be your role in your community or even in your family. It changes over time and looks different for every individual, but we all have one. Use your platform – however large or small – to make a difference,” says Foxton. In 2013, Foxton received OACETT’s Women in Technology award and served as Toronto East Chapter vice-chair from 2005 – 2010.

Makeda George, C.E.T.

Makeda George, C.E.T., migrated to Canada from Saint Lucia to pursue higher education in 2011. Upon graduating from Niagara College’s construction engineering technology program, she decided to call Canada home



as it provided better career opportunities, healthcare, and the promotion of multiculturalism. Since 2015, she has been at Reft-ech International Inc. in project engineering and estimating.

George joined OACETT after learning that the Association advocates for engineering technicians and technologists, and that a designation could help advance her career.

“I became certified because I knew that having the C.E.T. designation would make me more marketable when job searching. Joining the Association would also help me with networking, professional development, and give me that ‘safety net’ that would advocate on my behalf if necessary,” says George.

Networking within the Association led to her becoming involved with the OACETT Hamilton Chapter, where she currently serves as chapter chair. When asked what professional accomplishment she is most proud of, George says, “Taking on the role of the Hamilton Chapter chair as a young black woman. It felt great knowing that my chapter colleagues supported me, believed that I possessed the qualities to lead them, and this encouraged me to run for the position. We do not have many actively involved women in OACETT, and I believe that by taking on this role, it will encourage other young women to pursue leadership roles. Some women may believe it’s not possible to be in a leadership position, but I’m telling you it is if you put in the hard work and earn your colleagues’ respect.”

Past engineering pioneers



Elijah McCoy, Canadian-American inventor and engineer

Elijah McCoy was born and raised in Colchester Township, Ontario. His parents, George McCoy and Mildred Goins arrived in Canada by way of the Underground Railroad in 1837. His father was awarded 160 acres of farmland after serving in the Canadian military. At

the age of fifteen, McCoy left for Edinburgh, Scotland, to apprentice for five years as a mechanical engineer before returning. Finding it difficult to secure work in his field, he moved to Ypsilanti, Michigan, to work as a fireman for the Michigan Central Railroad. During that era, steam-powered engines experienced consistent mechanical problems as industrial lubricants would quickly wear-off, resulting in overheating and machinery corrosion. Locomotives were forced to stop frequently as firemen such as McCoy tended to the



CALL FOR VOLUNTEERS

Help defend the professional standards of your association

The Institute of Engineering Technology of Ontario (IETO), OACETT's registration and certification body, is seeking members for its complaints committee.

The committee is responsible for considering complaints made against our members and determining whether disciplinary action should be considered or if the complaint is unwarranted. To qualify as a complaints committee member, you must meet the following criteria and conditions:

- Certified member in good standing for five-plus years
- Mid to senior-level managerial experience
- Passion for defending OACETT's Code of Ethics and Rules of Professional Conduct
- A time commitment to, on average, two-three remote meetings annually

INTERESTED? Please send your resume and a brief personal introduction to registrar@oacett.org.

IETO operates under the principles of fairness, transparency, objectivity and impartiality. We welcome applications from all qualified members with an interest to serve. IETO has a goal of gender and ethnic governance diversity as outlined in the OACETT 2019-2023 strategic plan which is available at www.oacett.org.



engine, squirting oil onto its axles, gears, and levers — a time-consuming process that delayed many passenger and freight trains. It was here that McCoy developed his first of fifty patents, the “oil-drip cup,” which administered a fixed amount of lubricant into the engine through a spigot. In July 1872, he filed his first patent on the drip cup, registered under the title “Improvement for Lubricators in Steam Engines.” The innovation spread rapidly through the railroad business, as it enabled locomotives to work without interruption.

Source: <https://www.thecanadianencyclopedia.ca/en>



William Peyton Hubbard, Canadian inventor and politician

William Peyton Hubbard was Toronto's first Black elected official, serving as alderman, controller, and periodically as acting mayor. During his time in office, he campaigned to form the Board of Control, an elected body. He was also a leading figure in the push for

public ownership of hydroelectric power that contributed to the establishment of the Toronto Hydro-Electric System. William Peyton completed an apprenticeship in 1861 and started working as a baker going on to invent the Hubbard Portable Oven, which his brothers later turned into a successful business. A 1900 advertisement touted the oven as “practically fire-proof” and much smaller than standard brick ovens, revolutionizing the industry.

Source: <https://www.thecanadianencyclopedia.ca/en>

Black Arts & Innovation Expo (BAIE) 2020

February 29, 2020 | 2:00 PM – 8:00 PM EST

York Mills Gallery, North York • <https://excelovate.com/baie/>

This one-of-a-kind event defines a new way of celebrating Black History Month with attention placed on remarkable achievements by bringing together leading corporations, entrepreneurs, artists and innovators in order to promote diversity and inspire excellence in Science, Technology, Engineering, Arts and Mathematics (STEAM).

Konstantine Kallianteris is digital marketing specialist at OACETT.



NEW CPD AUDIT BEGINS

The end of another year means the beginning of a new Continuing Professional Development (CPD) audit. **This audit affects all members belonging to the 2017 – 2019 cycle. If you were certified in 2016 this means you!**

CPD is a mandatory component of OACETT membership. Check your email in the new year to see if you have been selected.

LEARN MORE AT WWW.OACETT.ORG/CPD.

National Engineering Month 2020 is almost here!



by Devlin Williams

It's that time of year again. National Engineering Month (NEM) Ontario is in March! NEM Ontario connects students, professionals and organizations through hundreds of events across the province. Engaging and thought-provoking events are hosted by diverse organizers, including members of the Ontario Association of Certified Engineering Technicians and Technologists (OACETT), Professional Engineers Ontario (PEO), and the Ontario Society of Professional Engineers (OSPE).

This year's events will be unified under a new direction focused on furthering three strategic priorities: lifelong learning, ethics and EDI (equity, diversity and inclusion). These priorities will guide a variety of events including design challenges, networking sessions, and panel discussions. Every year hundreds of volunteers generously contribute their time and energy to support events in their local communities; from students looking to gain gratifying volunteer hours to experienced professionals seeking life-long learning opportunities. Join our community and help make NEM a success!

Interested in getting involved? Reach out to your local OACETT chapter and sign up to be an event volunteer! Bring your family and friends to events throughout March and share your passion for engineering and engineering technology. To stay up-to-date on all NEM Ontario news, follow us on social media at @nemontario on Twitter, Facebook and Instagram and use the hashtag #NEM2020 to share content.

Continue reading for some of the exciting events hosted by OACETT chapters during NEM 2020. Please visit nemontario.ca for an up-to-date event list.

NEM 2020 Ontario Event Highlights

OACETT Chapter Events

● DURHAM

Scientists in the Mall

**March 14, Pickering Town Centre
1355 Kingston Road**

Scientists in the Mall introduces science and engineering to the public. The benefits of a professional career in engineering technology will be showcased through hands-on activities and displays.

For more information, contact Oleksandr Kushnarenko, C.E.T., at 647-479-7819 or okushnarenko@oacett-durham.org.

Get Your Skate On

500 Victoria Street West

Durham Chapter hosts a free skating event. Members and the public are encouraged public to come out, meet us and learn about NEM and engineering technology.

For more information, contact Oleksandr Kushnarenko at 647-479-7819 or okushnarenko@oacett-durham.org.

● GEORGIAN BAY

National Engineering Month-Simcoe 2020

**March 7, 9:00am - 3:00pm
Georgian College, Building N
(1 Georgian Drive)**

Join the Georgian Bay Chapter for a day of competitive events for students from grades four to eight, including bridge building, a catapult competition, electric motor boat building and interactive displays. The displays include A.M. radio crystal set construction, a 3D printer and robotic club displays.

For more information, contact Charlie Mauceri at 705-229-4038 or cmauceri158@gmail.com.

● LONDON

GETSET2020

**March 7, 9:00am - 3:00pm
Scouting headquarters
531 Windermere Road**

Guides and Scouts explore alternate energy, and participate in tech talks, interactive displays and a popsicle bridge building contest.

For more information, contact Vince Le Faive, C.E.T., Fellow OACETT, at vince.lefaive@live.com.

● PETERBOROUGH

Gripper moves objects

**March 4, 9:00am - 2:00pm
Evinrude Centre**

Peterborough Chapter hosts a challenging event that requires participants to design a gripper that will be made and tested for functionality. The objective will be to pick up various objects and place them in a specified location.

For more information, contact Diane Northey, C.Tech., at 705-930-7707 or denorthey@gmail.com

● QUINTE

NEM2020 Open House & Symposium

**March 11, 6:00pm - 8:30pm
15 Tripp Blvd.**

OACETT Quinte Chapter invites all grades 7-12 students, parents and teachers from local schools to participate in their symposium. Local professionals from various industries will discuss their projects, careers, education and answer questions. Displays, project boards, samples of work, devices and equipment will show the various things applied science and engineering ➤



technology professionals are involved in with the field.

For more information, contact Dennis Martin at (613) 848-9875.

● RENFREW COUNTY

Ottawa Valley Hyperloop Education Program

February 23, 11am - 12pm
Arnprior District High School

A series of conferences on "Hyperloop Technology" in French and English, depending on the audience. We plan to have three schools host the conferences across Renfrew County.

We are getting full support from TransPod to deliver this year's program.

For more information, contact Laurence Robitaille, C.E.T., at 613-585-1131 or laurencerobitaille@hotmail.com.

● SAULT STE. MARIE

Sault Ste. Marie Engineering Month Event

March 7, 10:00am - 3:00pm
293 Bay Street

The Sault Ste. Marie Chapter is running a series of engineering outreach activities in various local schools leading up to the mall event. On March 7, the chapter will host their annual engineering day at the mall. The event includes engineering displays from local businesses, a team math challenge, colouring contests, robotics displays and more!

For more information, contact Tasha Pilon, C.E.T. at pilon.tasha@gmail.com or 705-257-7423.

● THUNDER BAY

Engineering Design Challenge

March 6, 9:00am - 2:00pm

PACI Building, 401 Red River Rd

Thunder Bay Chapter hosts an engineering design challenge that has participants competing in a competition that requires them to build a launcher and receiver out of a few basic materials.

For more information, contact Phil Riegle at 807-629-6210 or philip.riegle@tetrattech.com.

● TIMMINS

PI Day 2020

March 11, 11:30am - 3:00pm

Northern College, Timmins Campus

College students, OACETT members, faculty members and other volunteers participate in an amazing treasure hunt. Participants, in teams of two, are challenged to solve mathematical problems quickly at various stations around Northern College without the use of technology. After completion of five main challenges, teams are ranked by time and awarded prizes.

For more information, contact Charles Boulet, C.E.T. at 705-267-1188 or charlesboulet2017@gmail.com.

Dream Big and Build Bigger at the Library

March 21, 2:00pm - 4:30pm

Timmins Public Library, 320 Second Ave.

Timmins Public Library, in partnership with the OACETT Timmins Chapter, is celebrating National Engineering Month with a screening of the IMAX production film "Dream Big: Engineering our World." After the screening, there will be a panel discussion with local engineers and engineering technicians/technologists, followed by a group building challenge using Makedo tool kits.

For more information, contact Melissa Morin at 705-360-2623 ext. 8531 or melissa.morin@timmins.ca.

● WINDSOR

Job Preparation Event

March 7, 10:00am - 4:00pm

St. Clair College

Guest speakers talk about generational differences in the workforce, provide resume and interview tips/advice, help students market themselves by offering free professional headshots, connect students with professionals, organizations

[OACETT, PEO, OAA, OAAAS, etc.] and job search tools such as CTEN.ca.

For more information, contact Scott Rivard, C.E.T. at 519-990-8649 or scott@zonengineering.com.

College Challenge Events

● DURHAM COLLEGE

Durham College's School of Science and Engineering Technology Mechanical Engineering Network Event for Students

2000 Simcoe Street North

Durham College's School of Science and Engineering Technology Mechanical Engineering Network Event is a networking event open to all students and alumni attending the college. The event will also include a presentation on ethical leadership and what this means to Durham College students as future leaders in the engineering field.

For more information, contact Lorie Blundon at 905-721-2000, ext. 6552 or lorie.blundon@durhamcollege.ca.

● GEORGE BROWN COLLEGE

Line Following Robot Race

March 2nd, 11:00am - 2:00pm

160 Kendal Ave.

George Brown Robotics Club hosts a robot competition that requires participants to follow a path and obstacles throughout the race.

For more information, contact Ashrafah Bhuiyan at 647-537-8264 or tanim4u@gmail.com.

● MOHAWK COLLEGE

Skills for tomorrow, today!

135 Fennell Ave. West

Local high school students visit different labs around Mohawk College

and participate in hands-on activities that give them exposure to various STEM fields. Students get a certificate of completion at the end of the event.

For more information, contact Phil Bromley at 905-379-1277 or phil.bromley@mohawkcollege.ca.

WIT Speaker & Networking Event
March 11, 135 Fennell Ave. West

A speaker and networking event focused on sustainability, co-hosted with Mohawk College's Women in Trades and Technology.

For more information, contact Phil Bromley at 905-379-1277 or phil.bromley@mohawkcollege.ca.

● HUMBER COLLEGE

Humber College Outreach Event

March 20, 6:00pm - 8:00pm
205 Humber College Blvd.

A series of workshops for middle school students. Participants are provided with a prototype and will build an electronics project that they can take home.

For more information, contact Brendan Woo at 647-898-4003 or bdwoo95@yahoo.ca.

● SENECA COLLEGE

The Living City: Designing Urban Resilience

March 26, 9:00am - 3:00pm
1750 Finch Ave. East

For this event we will explore the role that living systems play in our urban environment. Industry professionals from conservation authorities, municipalities, engineering/consulting firms, and NGOs will be invited to educate students about incorporating green spaces into urban planning and design to ensure resilience in the face of climate change. They will present their work in this field, participate in a panel discussion, and lead students through an interactive workshop.

For more information, contact Lindsay Janik at 416-890-9291 or ljanik@myseneca.ca.

● SENECA COLLEGE

Progressive Engineering Practice - Networking Session

March 10, 6:00pm - 9:00pm
Steam Whistle Brewery
255 Bremner Blvd.

An evening mixer and networking event with members of the engineering community at the Steam Whistle Brewery. Participants mingle with industrial representatives, tour the plant and share their career experiences and learn about sustainable techniques

currently being used at Steam Whistle and by the industry at large.

For more information, contact Peter Angelo at 416-491-5050, ext. 33762 or peter.angelo@senecacollege.ca.

Building Communities Conference

March 16, 9:00am - 2:00pm
1750 Finch Ave. East

The Building Communities Conference speakers discuss membership with a professional engineering association, their experiences in the engineering field, and provide recommendations to students entering the engineering workforce and ways that the engineering community can be improved.

For more information, contact Renique Samuel at 647-671-5741 or senecacivilsociety@senecacollege.ca.

● ST. CLAIR COLLEGE

Light but Strong Structures

March 28, 10am - 2:00pm
2000 Talbot Road West

Using only pre-cut foam core pieces and straight pins, participants build a three-dimensional structure to support the weight of a steel pail and increasing amounts of sand.

For more information, contact Allison Kidd at 519-564-6330 or akidd@mnsi.net.



ATTENTION EMPLOYERS AND HR LEADERS
IS YOUR TEAM ON TRACK?



DO YOU HAVE QUESTIONS ABOUT OACETT'S CPD REQUIREMENTS?

WE WANT TO HELP YOU ACHIEVE CPD COMPLIANCE.

Many of your existing activities may already qualify!
 Contact Elizabeth at cpd@oacett.org or (416) 621-9621 x240.

Big data: The backbone of modern business

In the 21st century, big data has emerged as one of the most disruptive forces in the marketplace, causing businesses to develop new technologies, skills and tools to drive innovation.

As a society, we've now entered an era where devices, products and services are connected and interact with each other, which generates massive amounts of data. This large volume of information (structured and unstructured), often referred to as "big data," uncovers trends and reveals hidden patterns, unknown correlations, market trends, customer preferences and internal processes, all of which help businesses make more informed decisions. While this is most often associated with digital marketing and social media research, the truth is big data touches many industries and a wide variety of applications.

Many organizations are turning to data-driven solutions to solve issues that affect productivity, influence capital project outcomes, reduce risk and increase customer value. To achieve this, these same organizations are modernizing their operating model with more sophisticated data analytics applications and initiatives. In 2016, Skanska, a construction and development company, began using sensors to track employee, equipment and material movement. This initiative revealed that workers on-site were walking up to six miles a day to procure equipment and materials. Using this data, they recognized the value in reconfiguring their job sites and daily workflow to save time and, ultimately, money.

Whatever the industry, big data requires an advance process framework to store and manipulate information that outpaces traditional data processing, which is not able to handle complex, voluminous and faster data sets. This adjustment to a new way of doing things has prompted a process evolution. And, within the next five years, organizations must revolutionize their existing systems – and learn what works and what doesn't – to stay competitive in the marketplace.

Every project an organization undertakes involves collecting, organizing, and analyzing significant amounts of data while simultaneously juggling other business priorities. These projects require a familiar eye for detail that only modern data management can provide. For example, building information modelling uses data analytics and network collaboration to create more efficient processes. JE Dunn Construction partnered with Autodesk to build LENS, a real-time system



Many organizations are turning to data-driven solutions to solve issues that affect productivity, influence capital project outcomes, reduce risk and increase customer value.

that uses data-driven predictive modelling to create a custom visualization technology. LENS speeds up the design process by allowing owners to see the project design, thus driving changes in the early design stages and avoiding wasted time.

Depending on the organization, the data measurement and management will vary based on their industry, workflow and processes. Parameters such as scale, materials, and subcontractors can also vary significantly from project to project, making it difficult to establish benchmarks. However, this common problem can be avoided by looking at what you already

have, which is often in isolation by the business department or division which collected it. A recent report from Fails Management Institute revealed 30 per cent of North American companies are using applications that don't integrate with one another. The report also showed that unstructured data captured from materials such as blueprints, timecards, emails and PDFs are leaving 49 percent of firms to transfer data manually between applications. With an updated data system, organizations will find they have a lot more data than they realize, everything from finances to accumulated summaries from previous projects.

The best way to leverage data that is collected or archived is to conduct a proper audit of the organization's analytics. This audit will uncover critical insights that accelerate, affirm and improve the decision-making process, refining daily operations and helping the organization reach its annual targets. Plus, data analytics helps project teams evaluate market conditions, portfolio composition and individual project performance.

Finally, organizations should think about their company culture, and the way information flows, from marketing insights to day-to-day processes. It's a common problem where experience is valued over empirical data, yet the experience can degrade over time, leading to a breakdown of internal infrastructure. Finding out where and how information is stored may prove difficult, but is essential in preventing information paralysis.

The realization that records are information, all information is data, and that all data can be organized, and ultimately interpreted to find new insights will help companies to embrace process evolution, impacting their bottom-line profits.

Nick Rayner is a contributor for The Ontario Technologist magazine.

No small feat: Fleming College runs world-class ISO-accredited laboratory

If you've ever been audited, whether for tax, health and safety, or environmental purposes, you likely understand the daunting trial of having to reconcile your every deed and decision with records, transcripts and other evidence that attest to your accountability and integrity. Now, multiply this general level of rigour by 1,000 to get an idea of what it takes to obtain and maintain the International Standard Organization (ISO)/International Electrotechnical Commission (IEC) 17025 status for laboratories.

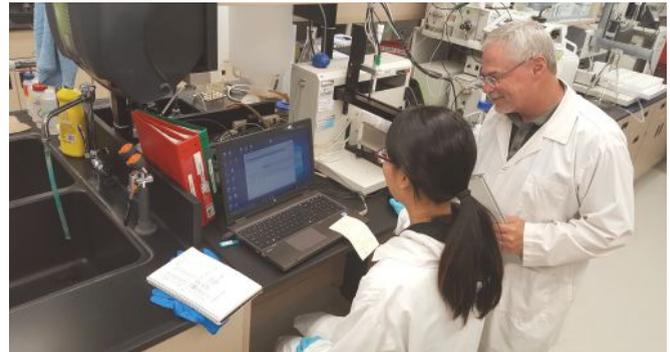
ISO/IEC 17025, the international standard for analytical laboratories, is the standard to which most laboratories must hold accreditation to be deemed credible by Canadian regulatory authorities. Accreditation is a means of determining the technical competence of laboratories to perform specific types of testing. Accreditation to ISO/IEC 17025 provides formal recognition that a laboratory operates a quality management system that is technically competent, thereby providing a ready means for customers to identify and select reliable testing and measurement services able to meet their needs.

Fleming College is one of only a handful of colleges in Canada with an ISO/IEC 17025 accredited analytical laboratory, a course of action pursued by the College in response to demand from industry partners hailing primarily from the water technology sector. Becoming accredited meant that top quality validation and verification services could be offered to these partners as a complement to the research and development services already afoot.

Usually reserved for commercial laboratories having the means and capacity to run an accredited lab, this is no small feat for a college. Fleming College's laboratory, located in the Centre for Advancement of Water and Wastewater Technologies (CAWT) and equipped with an exceptional range of tools and instrumentation for chemical and microbial analyses, was successfully audited for conformity to the newest release of ISO/IEC 17025 in spring 2019. Accreditation was evaluated and conferred by the Canadian Association for Laboratory Accreditation known as CALA.

But conformity evaluation is just the tip of the iceberg. According to Marcus Sheppard, a laboratory technologist for the CAWT, "Achieving and maintaining ISO status isn't just about passing an audit. Lab staff have to understand and carry out hundreds of procedures and methods related to document control, traceability, materials handling, inspection, preventative action, training, risk assessment, internal audits and more." Sheppard further commented that "We have to practice this level of diligence daily – keeping logs for everything we do. It takes a lot of time, effort and communication."

While external accreditation audits must take place every



Gordon Balch, research scientist, works alongside laboratory technologist Livia Li to interpret results in Fleming College's analytic lab.

two years, ISO/IEC 17025 also requires regular internal auditing to ensure ongoing technical competence and adherence to the quality management system. Like all ISO standards, it calls for continual improvement and the expectation that researchers and technicians are up-to-date on relevant scientific and technological advances. Dr. Hong Zhang, a quality specialist at the CAWT, plays a central role in this process by ensuring that all laboratory protocols and quality control procedures are implemented and followed during daily operations. She says, "The aim is to implement a quality system that ensures our ability to produce valid results consistently."

At any given time, staff must be able to demonstrate that internal verification procedures are being followed. For example, proof that equipment such as flowmeters, thermometers, balances, pumps and even tape measures have undergone daily, monthly or quarterly third-party calibration testing. Proficiency testing is an equally important component of accreditation. This means that every six months, the lab receives four unknown concentrations of each accredited testing parameter, which translates to 408 individual tests carried out twice per year, over and above the regular project load of the laboratory.

A laboratory's ISO/IEC 17025 status signifies its compliance with an internationally recognized standard and increases customer confidence. The level of competence and care Fleming College's CAWT lab has taken to maintain its standards is worthy of praise and accolades. However, the real reward is what the lab has offered its research partners; the unbiased guarantee that their results will be reliable, credible and of a quality comparable with the calibre of the laboratory itself. 

Joelle Levesque is marketing and communications coordinator for the Office of Applied Research and Innovation at Fleming College.

New high tech HELIPAD saving lives in Ontario



Sunnybrook Hospital redesigns air ambulance landing system to improve emergency connectivity and technology

BY BF NAGY

Heading to the summer cottage is a hallowed tradition for many Ontario residents, but one weekend in 2003, it turned into a life-changing experience for Sarah Ginn. Along with her sister and their two boyfriends, they were involved in a head-on collision on a highway in Kawartha Lakes. Tragically for Ginn, her seat-belt malfunctioned, resulting in her head smashing into the windshield, her brain being injured, and her lungs collapsing.

She was carefully removed from the wreckage by paramedics, crumpled and bleeding, and transported by helicopter to Sunnybrook Hospital in North York. From the beginning and for several months while she lay in a coma, medical professionals doubted that she would make it. But Ginn beat the odds, and 16 surgical operations later, she survived more or less intact. She spent years on speech, cog-



The new helipad at Sunnybrook Hospital, North York, Ontario. Pilots have to land a 50 foot helicopter on a pad measuring 75 ft. x 75 ft.

nitive and physical therapy, and today is relatively healthy, working in the medical field as a holistic nutritionist.

She was on hand last October at a special event at Sunnybrook to celebrate the completion of its new helipad. Ginn told reporters in attendance that she would never have survived if it weren't for the exceptional efforts of emergency service professionals, the Ornge emergency helicopter service, and the Sunnybrook helipad.

“Transporting an injured patient isn’t easy, whether a helicopter is involved or not”

When we suffer catastrophic injuries like Ginn did, getting immediate medical help is paramount, and sometimes that help is a long way off. Transporting an injured patient isn't easy, whether a helicopter is involved or not. If one is needed, it adds to the challenge of providing immediate support, safety and comfort, and not

allowing the trip to make the injuries worse.

One of the problems that affected Ginn's case is that the old helipad is located about a kilometre from the doors to the hospital's trauma unit. That may not seem too far, but it's enough to require an ambulance ride. Plus, not only is it potentially a bumpy ride in poor weather up a hill, the patient then has to be removed carefully from the ambulance again, all while trying to save precious minutes.

In 2013, Sunnybrook's planning department decided that the existing helipad was not ideal. When the M-Wing was first built, the structural design initially included strength and other provisions to permit adding a new rooftop pad when funds became available. Donors stepped up, and a new helipad project was initiated.

“We had to do quite a number of internal and external consultations,” says Ziya Cetin, Helipad project manager. “Internal stakeholders included trauma unit personnel, infection, fire safety, plant facilities and others. To do the actual planning, we worked with aviation consultants, architects, structural, building envelope, acoustic-vibration consultants, experts on wind studies, mechanical and electrical engineers.”

“We receive about 250 air ambulances each year”

It took five years to plan, design and tender the project before construction could begin in the summer of 2018. Cetin and his team had to consider safety, weather conditions, and the risks associated with landing a helicopter on a

roof. And, it's not an occasional occurrence. “We receive about 250 air ambulances each year.”

The platform measures 75 ft. x 75 ft., and the helicopters used by Ontario's Ornge rescue service are about 50 ft. long. The primary rotor diameter is about 45 ft. Pilots have to be very precise when landing, sometimes in high winds or snowy weather. The Ornge helicopters weigh about 15,000



Locating cranes was challenging because hospital operations continued during construction.



The helipad is built to support 35,000 lb vehicles.

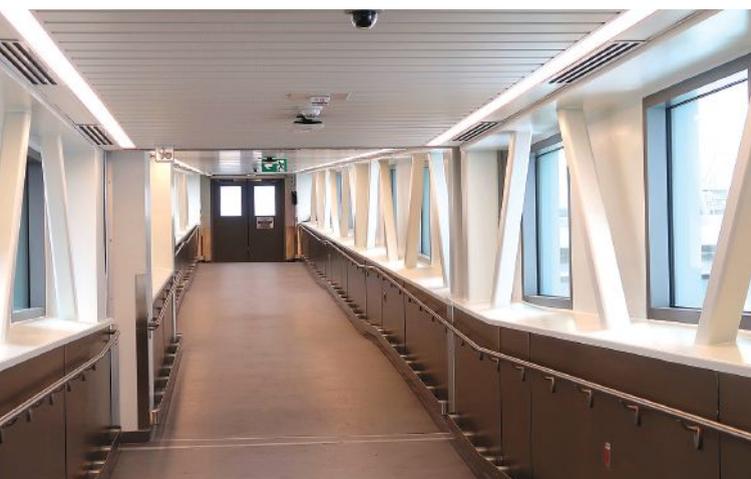
lbs., including a couple thousand attributed to approximately 400 gallons of fuel.

The new helipad is designed for up to 35,000 lbs. of weight, which would accommodate sizable military search and rescue machines. It has a snowmelt and water/oil drainage system, unlike the old helipad, which must be cleared by snowplows. It's also equipped with extensive, sophisticated fire safety technology. “We wanted to plan with an abundance of caution to ensure everyone is protected during complex landings,” says Jeremy Bullen, C.E.T., helipad manager at Sunnybrook. “We also had to ensure that a building full of thousands of patients and medical people would be as safe as possible at all times.”

The helipad has snow and moisture sensors to activate the heating system and a closed-circuit camera system allowing hospital staff to check the helipad, elevators, and the route to the hospital's trauma centre. The helipad and walkway stay free of ice and snow via underside heated glycol lines. It has two oscillating fire suppression nozzles to spray foam in case of emergency, and the aluminum deck



Helipad project manager Ziya Cetin (left) and helipad manager Jeremy Bullen, C.E.T.



The weather protected corridor from the helipad to the elevators.

A sophisticated fire suppression system is among the numerous safety features of the new helipad.



slopes in one direction and has extruded grooves to direct any fuel spill to fuel separators located below the structure. There are five-foot safety nets all around the pad, 32 green perimeter lights and eight floodlights.

“When a helicopter lands, the patient’s stretcher can be moved quickly down a short ramp into an enclosed corridor to the elevators,” says Bullen. Sunnybrook personnel meet with the air ambulance crew at the closed walkway. One of the two elevators serving the helipad is put on service, dedicated to the incoming patient (The other is an emergency backup). The elevators enable quick and efficient access to the trauma bay, critical care, operating suites, high-risk birthing and premature newborn critical care.

“The elevators enable quick and efficient access to the trauma bay”

“The new helipad eliminates one stage in the process of getting a patient from the scene of an accident to the emergency services unit,” says Bullen. That could be the difference between life and death for some patients. “Also, landing on the rooftop pad is safer than on a ground-mounted one. More things could

potentially go wrong down below, and it is located right next to a building, meaning it does not offer a 360-degree approach the way the new rooftop helipad does.”

The road between the old helipad and the hospital emergency entrance might also pose some problems, given that it is a two-way artery used by hospital personnel and patients for numerous purposes. “In general, the new helipad is safer and faster,” says Bullen.

Asked about his C.E.T. designation, Bullen says becoming certified through OACETT was valuable. “The report-writing process of the certification process helped me, especially in my current position. I have to prepare reports and correspondence for supervisors, other departments, governments and so on. I also went to one of the OACETT report writing seminars. I completed my Technology Report in January of 2016, and passed the PPE in September of 2017.”

“The report-writing process of the certification process helped me, especially in my current position”

“The organization provides benefits like discounts on insurance, access to continuing education and the annual conference, and my C.E.T. designation serves as a symbol of my dedication to professional development. I have been a member of OACETT since October of 2012.”

OACETT is proud to have him as a member, and we can take comfort knowing that capable people like Jeremy Bullen (and Ziya Cetin) are working hard to improve the management of emergency services for people in Ontario. ☰



PHOTO: Willowpix / iStock / Getty Images Plus / Getty Images.

Keeping an eye on the growing problem of road salt

Strategies to curb the harmful impact of salt on fresh water and wildlife

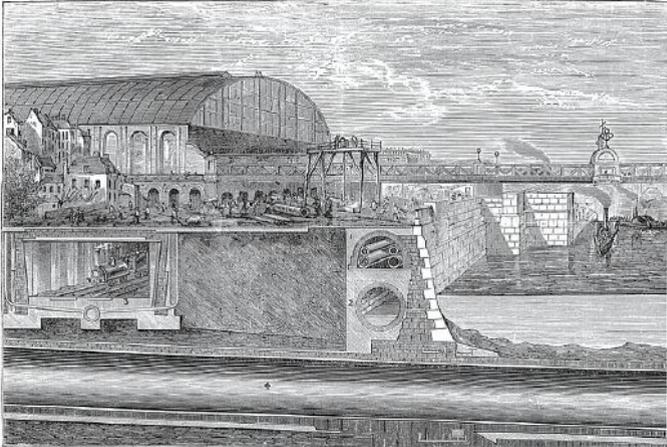
BY LIONEL W.F. RUDD., C.E.T.

For many years, salt has been a low cost and efficient way to melt ice and snow on roads, parking lots, driveways, paths and highway systems, or anywhere else ice poses a hazard. Even though, it is used as a safety mechanism for motorists and pedestrians, salt poses a threat to our natural environment when it enters our water systems.

After repeated applications of ice melting salt, over a period of years, salt-loaded runoff often builds up and remains in streams, rivers, lakes, aquifers and soils, which contaminates these water systems. Once in solutions, salt water (brine) cannot be filtered out or easily removed. Also, when salt infiltrates our natural environment, it tends to compound and accumulate which also poses a threat to humans, wild life, vegetation and can affect agriculture and reliable sources of potable drinking water.

Once the salt enters the water system it is not readily removed or diluted by rain and runoff, but instead tends to increase in concentration. Therefore, there is an urgent need to protect our fresh water from further contamination.

A method to mitigate salt contamination from fresh water is to prevent salt from entering our systems in the first place. One solution to prevent salt (brine) from entering our waterways and aquatic systems is to use control, diversion and capture methods.



SECTION OF THE THAMES EMBANKMENT, 1867.
Showing (1) The Railway. (2) The Low-Level Sewer. (3) The Metropolitan District Railway. (4) The Pneumatic Railway.

Schematic of Joseph Bazalgette's proposed sewer collection system for London, England.

City of London sewer contamination and overhaul

Over 150 years ago, in London, England, an event called The Great Stink emptied and drained untreated sewage and runoff from ditches, crude piping systems, enclosed streams, small rivers and paved roadways into the River Thames. The sewage contamination triggered a cholera outbreak and other deadly diseases. During the hot summer of 1858, The Great Stink's toxic odour also forced the shut down of the British Parliament.



PHOTO: © ChiccoDodiFC / Adobe Stock



Sewage treatment plant in London, England.

Engineer Joseph Bazalgette, tasked with fixing the contamination problem, designed and built an intricate and integrated system of underground sewer tunnels and collections pipes which collected the raw sewage and drained it into the Thames Estuary away from the City of London and into the sea. This system was completed in 1875 and consisted of a series of collection infrastructure and pumps.

Bazalgette's plan introduced the three embankments to London in which the sewers ran—the Victoria, Chelsea and Albert Embankments.

Since then, Bazalgette's sewer system has been expanded and now incorporates a modern effluent processing system. In fact, the original tunnels are still in use and require little or no maintenance. Bazalgette's use of a special portland cement, known for its strength and reliability for brick work, accounts for the considerable longevity of the system.

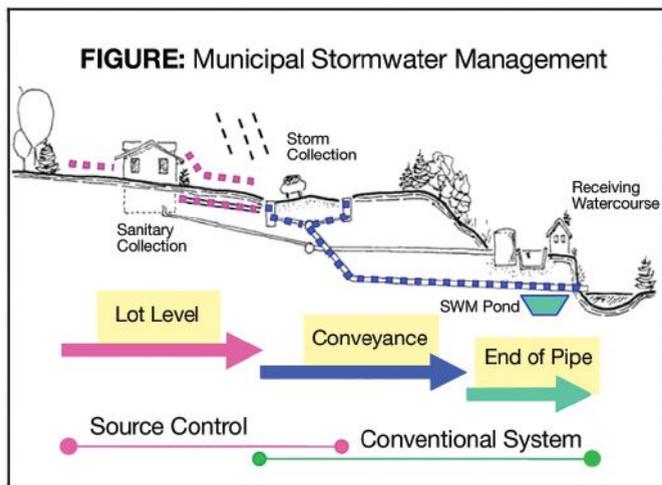
In modern day Ontario, most communities have twenty-first century sewer systems and effluent disposal plants. However, nearly every community has a parallel storm sewer system that collects rain, and surface and storm runoff water which most of the year is salt laden. This salt contaminated water empties directly and indirectly into the environment through drainage or seepage which of course ultimately causes the problems of salt contamination.

Curbing salt contamination in Ontario

Ontario's ready-made storm sewer systems and networks are in need of upgrades and modifications that capture up to 100 percent of storm and runoff water. This can be readily achieved by sealing ditches, culverts, paving and sealing driveways, proper and appropriate design and paving of parking lots, as well as other means of capturing runoff water.

Parking lots, driveways and sidewalks where salt contaminated vehicles are prevalent should be paved, and all drained water should be routed into aptly designed drainage systems and catch basins. Ideally, all ditches and culverts would be sealed to prevent seepage so that the runoff water can be captured and disposed of through a storm sewer collection system.

Like raw sewage, storm water can be collected in strategically placed collection tanks, lagoons and specified ponds. In these collection sites, the process of eliminating the water and separating the salt happens in the speci-



Example of how rain and runoff water travels in an urban setting.

cally designed catchment tanks and holding lagoons. This is achievable using some fairly simple strategies:

1. Evaporation

Evaporation is one of the simplest methods of reducing salt contamination. This process involves heating water to the point when the water evaporates and requires energy supplied by photovoltaic cells, wind turbines or electrical power from the grid. Open air evaporation could be used in certain circumstances to create a concentrated brine. When and where available, natural gas can be utilized.

2. Electrolysis

Electrolysis is a viable option when an electric current is able to pass through the brine which helps to separate two components of water (hydrogen and oxygen) into their respective gases and then vents them into the atmosphere. The hydrogen could be captured and used as an energy source.

Once a desirable brine liquor solution is achieved at the right concentration, it can be dealt with as follows:

- a) The brine can be stored in tank storage areas ready to be used for ice melting at a future date.
- b) The brine concentrate can be pumped into sealed impervious ponds to allow the water to naturally evaporate until the salt crystals form. At which point the salt crystals can be gathered and preserved for future use as ice melt at any other industrial process.

When salt dries on our roadways, pathways and driveways it can turn to dust and blow around and spread in the form

of very fine particles. This is almost impossible to control, with the exception of using an industrial scale vacuum or a dust suppression mechanism.

Salt dust when mixed with rainfall is at higher risk of entering soils and lake systems. It is recognized that some plants and organisms can ingest, digest and process salt in a limited fashion. These are mostly found in open marshes. Unfortunately, municipalities and property owners tend to either drain or fill in marshes. This practice should be stopped to allow nature to dispose of some of the salt contamination that cannot be readily captured.

The salt mining industry is ideally placed to operate and sustain the salt collection systems. This would be an economic benefit to the industry. Instead of operating costly mining plants, they could recycle the salt collection product and re-sell it as an income generator. As an added bonus, there might be an opportunity to capture rogue elements (gold and other precious metals) flushed into storm water systems that might have some value.

Like the River Thames in London, England, that ended up a cesspool for all the effluent of the city's sewage, we cannot allow further salt contamination of our fresh water. The cost would be unusable and undrinkable fresh water coupled with horrendously costly solutions.

Unfortunately, there are few options other than to use salt as a de-icing agent. One suggestion commonly involves using organic materials. Once these products end up in our stream, rivers, lakes and waterways they act as nutrients that boost growth of unwanted organisms — another contamination challenge. 

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PROXY

NOTICE OF ANNUAL MEETING OF MEMBERS

In accordance with By-law 19, Section 7, Subsection 7.1, notice is hereby given to certified members of the Ontario Association of Certified Engineering Technicians and Technologists of the annual meeting to be held:

Saturday, May 30, 2020 from 10:00 a.m. to 11:30 a.m.

at the Sheraton Centre Toronto Hotel, 123 Queen Street West, Toronto, ON, M5H 2M9

for the purpose of:

- approval of 2019 year-end Financial Statements
- the appointment of auditors for the year 2020
- and other such business as may properly be brought to the attention of the said annual meeting of members.

Debbie Marrocco, Secretary

NOTICE TO:

The voting (certified) members of the Ontario Association of Certified Engineering Technicians and Technologists.

Registered members of the Association in good standing may exercise their voting rights under Section 9 of the Ontario Association of Certified Engineering Technicians and Technologists Act and, by means of proxy, appoint a person as their nominee to attend and act at the Annual Meeting of Members in the manner, to the extent and with the power conferred by proxy. Only voting members are entitled to complete a proxy form; nominees must also be certified members in good standing.

The proxy form below will give your nominee permission to vote on all questions raised at the Annual Meeting. If you wish to limit your proxy to one or more questions, or to instruct your nominee as to the manner in which your vote is to be cast, you must so indicate in writing at the bottom of the proxy form.

In accordance with By-law 19, a proxy shall be in writing and shall be acted on only if it has been deposited at OACETT's office (10 Four Seasons Place, Suite 404, Etobicoke, ON M9B 6H7) or with the Secretary of the Association, not less than forty-eight (48) hours prior to the day of the meeting or any adjournment thereof. A proxy shall expire at the close of the meeting for which it was intended, or at the close of any adjournment thereof. A proxy may be revoked by an instrument in writing executed by a member or by his/her attorney authorized in writing and deposited either at the Association's office, or with the Association Secretary at any time prior to the start of the meeting, or any adjournment thereof, at which the proxy is to be used. The proxy is revoked upon either of such deposits.

Sincerely,

Debbie Marrocco, Secretary

ONTARIO ASSOCIATION OF CERTIFIED ENGINEERING TECHNICIANS AND TECHNOLOGISTS PROXY

The undersigned certified member of the Ontario Association of Certified Engineering Technicians and Technologists hereby appoints

_____ of (city/town) _____

(if no other name appears, the OACETT President) as the nominee of the undersigned to attend and act at the Annual General Meeting of Members of the said Ontario Association of Certified Engineering Technicians and Technologists to be held at The Sheraton Centre Toronto Hotel, on the 30th day of May, 2020 at 10:00 a.m. and at any adjournment or adjournments thereof in the same manner, to the same extent and with the same power as if the undersigned were present at the said meeting or such adjournment or adjournments thereof.

Dated at (city/town) _____, this _____ day of _____, 2020.

Name of Certified Member

Membership Number of Certified Member
(PLEASE PRINT)

Signature of Certified Member

Email, mail or hand deliver the OACETT proxy form to Debbie Marrocco, secretary at dmarrocco@oacett.org or 10 Four Seasons Place, Suite 404, Etobicoke, ON M9B 6H7.

All proxies must be dated and signed by the voting member or his or her attorney, authorized in writing.



October 2019

Associate Members

Kevin Allen
Ashish Kumar Bishnoi
Javaun Bogoros
Xiaomei Chen
Yang Cheng
Joshua Drakes
Darcy Herbert
Sara Jose
Harpreet Kaur
Isaac Lovell
Sangeeta Manhas
Bo Chen Mi
Mineshkumar Patel
Nawreen Pervin
Nathan Rous
Gurpreet Singh
Daniel Stevens
Garrett Thomson
Afif Abdul Wahab

November 2019

Certified Engineering Technologists

Laurie Andrews, C.E.T.
Adil Ansari, C.E.T.
Todd Beattie, C.E.T.
Rattandeep Bhatiani, C.E.T.
Amit Bhogal, C.E.T.
Trevor Black, C.E.T.
Nathan Blackmore, C.E.T.
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Dylan Walt, C.E.T.
Cameron Yates, C.E.T.
Hussein Yusufali, C.E.T.

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Aaron Shedlosky, C.Tech.
Aaron Snyder, C.Tech.
Natalie Tupper, C.Tech.
Gabriel Vorcaro, C.Tech.
Jamie Woodley, C.Tech.
Jason Zatulsky, C.Tech.

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Mukhtadir Ahmed
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Gabriela Moncada Turcios
 Miguel Morales Mejia
 Caleb Mote
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 Pramod Mundargi
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 Hakan Ozalp
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 Axil Patel
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 Malay Patel
 Zachary Pearson
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 Dilbagh Singh
 Navjot Singh
 Sukhpreet Singh
 Rashanpreet Singh
 Blair Smith
 Stefanie Spitzig
 Hardik Suhagiya
 Taib Syed Khalid
 Robel Tadesse
 Gurvinder Thandi
 Samjhana Thapa

Kevin Theodore
 Kien Tran
 Dylan Watt
 Braiden Weston
 Riley Whelan
 Korie-Ann White-Dixon
 Brittany Wilson
 Scott Wood
 Evan Youkhana
 Mingming Zhang

Existing Members in Road Construction

Certified Technician
 Meagan Bergman, C.Tech., rcji

Graduate Technicians

Michael Conrad, rcji
 Kurt Penney, rcji
 Nawreen Pervin, rcji

Graduate Technologist

Lionel Bagues, rcji

New Members in Road Construction

Certified Engineering Technologist
 Rosanna Baggs, rcji

Graduate Technologist

Kamal Nasser-Khah, rcji

December 2019

Certified Engineering Technologists

Chris Audet, C.E.T.
 Jason Bedi, C.E.T.
 Hiteshkumar Bhambhi, C.E.T.
 Chad Carruthers, C.E.T.
 Paul Czovek, C.E.T.
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 Rizwan Issani, C.E.T.

Alexander Juby, C.E.T.
 Sahil Kakkar, C.E.T.
 Vivek Kaler, C.E.T.
 Brett Kelch, C.E.T.
 David Lampman, C.E.T.
 Cameron Maclean, C.E.T.
 Asif Mahmood, C.E.T. rcji
 Tiberiu Marginean, C.E.T.
 Paul Marjin, C.E.T.
 Ian Munro, C.E.T.
 Cassidy-Lynn Ogilvie, C.E.T.
 Daniel Parent, C.E.T.
 Inkun Park, C.E.T.
 Yuniel Perez Rodriguez, C.E.T.
 Dean Pilon, C.E.T.
 Michael Popovich, C.E.T.
 Scott Reddick, C.E.T.
 Behzad Roshdieh, C.E.T.
 Louis Edric Santos, C.E.T.
 Peter Seguin, C.E.T.
 Ryan Sholdice, C.E.T.
 Lincoln Sterling, C.E.T.
 Joseph Taormina, C.E.T.
 Peter Thwaites, C.E.T.
 Neeraj Ubhe, C.E.T.
 Emanuel Vasiliev, C.E.T.
 Carlos Vinueza, C.E.T.
 Anil Kumar Vrindavan Raman, C.E.T.
 Brad Watson, C.E.T.
 Justin Westberg, C.E.T.
 Richard Wood, C.E.T.

Certified Technicians

Scott Armstrong, C.Tech.
 Syed Azim, C.Tech.
 Martha Barkman, C.Tech.
 Roman Barrett, C.Tech.
 Harjinder Bhullar, C.Tech.
 Steven Bittner, C.Tech.
 Scott Cameron, C.Tech.
 Zachary Casey, C.Tech.
 Sze Dao Chang, C.Tech.
 Jason Charles, C.Tech.
 Amy Chau, C.Tech.
 Dominique Chevalier, C.Tech.
 Robert Chiarcos, C.Tech.
 Kevin Cruz, C.Tech.
 Andrew Currell, C.Tech.
 Ryan Evans, C.Tech.
 Roderick Goit, C.Tech.
 Timothy Hajnal, C.Tech.



Kevin Hobe, C.Tech.
 Rudy Ignace, C.Tech.
 Ali Imanov, C.Tech.
 Amanpreet Kaur, C.Tech.
 Andrew Kearns, C.Tech.
 Thomas Kewell, C.Tech.
 Alexander Klarenbeek, C.Tech.
 Douglas Larocque, C.Tech. rcji
 Adrianna Lawlor, C.Tech.
 Brian Lingelbach, C.Tech.
 Shantel Maloney, C.Tech.
 Simbarashe Mapungwana, C.Tech.
 Tyler McQuillen, C.Tech.
 Stephen Midlige, C.Tech.
 Eric Miron, C.Tech.
 Melinda Morris, C.Tech.
 Taylor Mrasek, C.Tech. rcji
 Uttam Neupane, C.Tech.
 Andrew Newman, C.Tech.
 Duane O'Connor, C.Tech.
 Andrew Okolisan, C.Tech.
 Bernard O'Neil, C.Tech.
 Denton Panoringan, C.Tech.
 Chintankumar Patel, C.Tech.
 Milan Pavlovic, C.Tech.
 Sarah Pickles, C.Tech. rcsi
 Abdullah Qureshi, C.Tech.
 Touseef Qureshi, C.Tech.
 Andrew Ricci, C.Tech.
 Wesley Risto, C.Tech.
 Matthew Rodrigues, C.Tech.
 Michael Ross, C.Tech.
 Akash Roy, C.Tech.
 Tyler Rudnicki, C.Tech.
 Fadi Shami, C.Tech.
 Corey Sparks, C.Tech.
 John St. John, C.Tech.
 Olivia Tai, C.Tech.
 Milad Tousi, C.Tech.
 Christopher Trudell, C.Tech. rcsi
 Justin Weber, C.Tech.
 Danielle Williamson, C.Tech.
 Jeffrey Wong, C.Tech.
 Saurabh Nair, C.Tech.
 Brandon Neven, C.Tech.
 Oleksii Pasichnyk, C.Tech.
 Janaani Pathmanapan, C.Tech.
 Stephanie Pesheau, C.Tech.
 Neil Petty, C.Tech.
 Matthew Porter, C.Tech.

David Eric Rocheleau, C.Tech.
 Andrew Ryan, C.Tech.
 Ashishkumar Shah, C.Tech.
 Vern Shaver, C.Tech.
 Aaron Shedlosky, C.Tech.
 Aaron Snyder, C.Tech.
 Natalie Tupper, C.Tech.
 Gabriel Vorcaro, C.Tech.
 Jamie Woodley, C.Tech.
 Jason Zatulsky, C.Tech.

Associate Members

Jalal Ahmed
 Mukhtadir Ahmed
 Alexander Aiello
 Harib Ali
 Austin Altenburg
 Karan Amin
 Rogelio Angco
 Mohannad Arafeh
 Ikuesiri Awharen
 Allen Baker
 Nicholas Barrett
 Sverre Barr-Klouman
 Charles Belfontaine
 Manoj Bhatia
 Cameron Brunet de Rochebrune
 Susan Bull
 Samuel Carson
 Harendra Chaudhari
 Megan Clarke
 Jessica Colbridge
 Chad Coxon
 Marco D'amore
 Garion Davey
 Michel De Bie
 Nicholas de Henestrosa
 Leonn De Paula Ledoux
 Flavius Dehel
 Purvi Desai
 Alexa Disher
 Elizabeth Dixon
 Rinzing Dorji
 Steven Draker
 Aaron Elsby
 Stuart Ferguson
 Jonathan Ferrier
 Ricardo Figueroa
 Gregory Fluit
 Patrick Gauthier
 Nimya George

Robert Gibson
 Yadvinder Gill
 David Gillen
 Mitchell Gualtieri
 Masoud Haghdoost
 Kelly Hobb
 David Howes
 Alicia Jakaitis
 Ridham Jindal
 Kirill Kapuka
 Mohammed Khan
 Seonmi Kim
 Julian Legault-Seguin
 Taylor Lerock
 Yaron Levgooren
 Ryan Lilley
 Jingke Liu
 Muneeb Mahmood
 Suveer Manj
 Aryn McGaw
 Hesam Mobini
 Gabriela Moncada Turcios
 Pramod Mundargi
 Saif Myageri
 Hardeepkumar Patel
 Dustin Pennings
 VanHoc Pham
 Stéphanie Pharand
 Fernando Pureza
 Dylan Quigley
 Keith Reid
 Jessica Ricklefs
 Ali Risan
 Maria Cristina Rodrigo
 Kieran Rouleau
 John Sarantakos
 Akif Sarosh
 Vishrut Shah
 Parthiban Shanmugaraj
 Saman Shegeft
 Lucas Shelton
 Satwinder Singh
 Duncan Snider
 Rassle Solaiman
 Stephen Stamcoff
 Brian Sturm
 Geoffrey Torneros
 Sumedha Uniyal
 Matthew Vanderspank
 Kaileigh Vautour
 Quang Duy Vu
 Raymond Walker

Guohua Wang
 Shining Wang
 Jessica Weller
 Orville Wentworth
 Bradley Wyllie

Existing Members in Road Construction

Certified Technicians

Ian Chornoby, C.Tech., rcji
 Robert Dewasha, C.Tech., rcji
 Philip Pimento, C.Tech., rcji
 Willard Tait, C.Tech., rcji

Graduate Technologists

Tarek Abuteen, rcji
 Robert Eda, rcji
 Andrew Galway, rcji
 Mohammed Khan, rcji
 Daniel Stencill, rcji

New Members in Road Construction

Graduate Technologists

Daljit Kumar, rcji
 Brock Paquin, rcji

In Memoriam

Staff and members of OACETT send their sincere condolences to family and friends of the following members. They are remembered.

- Steven M. Agora, C.E.T
- Agustin Almario, C.E.T.
- William Drake, C.E.T.
- Anthony Elias
- Murray Hall, C.E.T.
- Neil Kangas
- Blair Kingsbury, C.E.T.
- Paul Lambert, C.E.T.
- Koon K. Ng, C.E.T.
- Richard A. Rogers, C.E.T.
- Joseph Schweizer, C.E.T.

Grand Valley Chapter members practice the Art of Crucial Conversations

by Julie Beckstead



Alvin Pilobello leads chapter members through a workshop on “The Art of Crucial Conversations.”

On November 20, the Grand Valley Chapter hosted a successful CPD event on “The Art of Crucial Conversations,” led by Alvin Pilobello, the founder of Mindspace Impact.

Pilobello guided members through the external (verbal, body language) and internal (mindsets, attitudes) emotional intelligence skills that play a big part in how people engage and captivate people in our professional and personal lives. Pilobello says people are judged based on the impact of their communication, not necessarily the intention of what they meant to say, which is why what we say (verbal), how we say it (body language), and what we think when we say it (mindsets) are important. All of those facets communicate something to our audience, and consequently affect how they receive the message. Communication is a crucial aspect of leadership, so continual improvement in the art of conversations inevitably enhances leadership skills as well.

In the workshop, members learned the importance of building awareness of themselves and others in high-stress situations. Internal emotional intelligence skills are important because they affect the external output of verbal communication and body language.

Pilobello discussed how everyone will inexorably encounter discomfort in conversations. For instance, individuals might have differing views on how to solve a problem. This is where self-awareness plays a key role, when it is important to consider what perspectives you might be blind to, and how you can be more inclusive of others’ creative efforts. Self-awareness is particularly useful for engineering technology professionals who facilitate meaningful conversations to develop innovative solutions for various

stakeholders such as designers, engineers, operators, the public, municipalities, politicians, and many others.

Participants in the workshop learned to apply self-awareness effectively to create meaningful conversations with people, especially in crucial situations, and learned mindset-shifting techniques to listen effectively, even when feeling disengaged, triggered or uninterested.

Members learned that once you understand self-awareness, you can take more ownership by using this awareness to get your intentions and message across in a conversation. For example, to facilitate a conversation where you are open and want to convey that you support another participant in the conversation, you can be mindful if you are subconsciously mirroring their body language.

Pilobello is not your typical PowerPoint presenter. He uses experiential activities to empower participants to identify and apply lessons directly to their individual contexts and work situations. Through small-group discussion formats, and big-group sharing, participants learned from the wealth of wisdom and experiences of everyone else as well.

Pilobello spent his first 10 years of his career in the civil engineering infrastructure world, in construction, asset management, and stakeholder engagement. He started Mindspace Impact in 2018 to pursue his passion to help evolve the leadership capacities of professionals who need to rely on more than just technical expertise. He discovered this desideratum when leading volunteers for a water industry professional association in Canada and the United States.

Julie Beckstead is chapter and program advisor at OACETT.

Eastern Region

Kingston Chapter



St. Lawrence College students attend the Kingston Chapter's billiards tournament networking event.



Albert Paschkowiak, C.E.T. (right) presents Sheldon Bannister, C.E.T. (left) with his milestone pin and certificate.

In November, the Kingston Chapter hosted a billiards tournament networking event for various technical programs at St. Lawrence College. More than 40 students from the civil, energy systems, instrumentation, and wind turbine technician programs, as well as St. Lawrence College professors, OACETT members, and industry professionals attended the event.

The chapter also held its annual awards dinner on November 29, to celebrate 25, 40, and 50-year members, which the chapter executives, members, and St. Lawrence College students attended.

Bruce Fudger, C.E.T., is Kingston Chapter chair: kingston-chapter@oacett.org

Lanark/Leeds/Grenville Chapter

The Lanark, Leeds and Grenville (LLG) Chapter would like to congratulate Andrei Farcasiu for receiving the chapter's education bursary. Andrei is enrolled in the architectural conservation and sustainability engineering program at Carleton University, and has a keen interest in engineering and how OACETT membership benefits its members. He has participated in chapter events and various tours from a young age which encouraged him to pursue a path in engineering technology.



Andrei Farcasiu, recipient of the chapter's education bursary.

On September 28, the chapter toured the Tweed facility in Smiths Falls. 20 members and guests learned about various components in the production of marijuana, and the extensive testing that takes place at the Smiths Falls facility. The attendees also gained insight into what is on the horizon for this exciting market. Employing 1400 people, Tweed is a major employer and they welcome tours at their visitor center. Stay tuned for more exciting events being planned for 2020. Remember to live, learn and grow with your LLG chapter.



Chapter members and guests tour the Tweed facility in Smiths Falls.

Robert Wright, C.Tech., is Lanark/Leeds/Grenville Chapter chair: leeds-chapter@oacett.org

Ottawa Chapter

The Ottawa Chapter held a holiday gathering and winter chapter meeting at the Barley Mow in Westboro, on December 4. The event also was an opportunity to collect toys and donations for the CTV Ottawa Toy Mountain gift collection. More than \$100 was also collected and used to buy additional toys.

Upcoming events

Join us at our Ottawa Chapter awards dinner at Algonquin College's Restaurant International in late February to honour members who have reached a milestone of 25, 40, 50 or 60 years of membership.

Adrian Meunier, C.E.T., rcji, is Ottawa Chapter chair: ottawa-chapter@oacett.org



Horseshoe Region

Niagara Chapter



From left to right: Scott Barbacki, C.Tech., Jessica Garrett, Denise Van Osch, C.E.T., Gilles Laroche, C.E.T., and PASB councillor Sal Ingraldi, C.Tech., at OACETT's awards gala.

The Niagara Chapter had its first Women in Technology networking event on August 14, at the Jackson Triggs Winery in the heart of Niagara's wine country. Mireille Groulx, C.E.T., Women in Technology director for the Niagara Chapter, led the initiative, and created the joint event with the Hamilton and Peel chapters. It was a great start to developing inclusive environments that foster growth and inspire women to learn from and mentor others. Various studies show that women are leaving science, engineering, trades and technology careers at a much higher rate than men, and many who do cite an unwelcoming workplace culture as a factor in their decision. A diverse workplace is well-rounded and proactive with leaders of both sexes using the following attributes to bring out the best in their staff: empowerment, accountability, humility and courage. Through collaboration and partnerships, our goal is to create more inclusive



Students at the GoGeomatics networking event.

environments that will highlight women's often untapped potential, equip them with strategies for coping with social identity threats, and empower men to become effective allies for equality. We are looking for member sponsorship to further this endeavour. For more information, contact Niagara Chapter chair Tom Ziemkiewicz, C.Tech.

It was a magnificent day for the Niagara Chapter's 12th annual golf tournament on August 23. 36 golfers came out to the beautiful Peninsula Lakes Golf Club in Pelham for a lighthearted day of fun and socializing. Thank you to all who contributed to the success of this event and to the generous donations from AECON, Associated Engineering, ICI, KiHL and Rankin.

On September 12, chapter members attended the GoGeomatics Niagara back to school meet up to network with students and industry professionals. The students were grateful for the networking opportunity, the gifts, and the meal sponsored by OACETT.



ATTRACT MORE MEMBERS TO YOUR CHAPTER EVENT!

How to plan a CPD event and get OACETT's approval

- 1) **Log-in at www.oacett.org**
- 2) **Go to Volunteers section** and click on Manuals, Guides, Policies and Handbook under the Volunteer only menu - select Chapter CPD Guidelines - confirm content/speaker align with OACETT's CPD program.
- 3) **Get your Chapter CPD Event Approval Form** located in the Manual, Guides, Policies and Handbook section. Complete and submit form to **Elizabeth at cpd@oacett.org** at least four weeks before event.
- 4) **Once approved, you are free to promote** it on your chapter webpage or send an eblast and post it on social media.

Horseshoe Region *(continued)*



Members after a great day of golf and dinner.

The chapter would like to congratulate Denise Van Osch, C.E.T., for winning the Distinguished Service Award at OACETT's provincial awards gala, for her tireless dedication to the Niagara Chapter and Niagara College, and especially her work with students and Women in Technology initiatives.

Tom Ziemkiewicz, C.Tech., is Niagara Chapter chair: niagara-chapter@oacett.org

Peel Chapter

The Peel Chapter held a CPD event on electrical safety and ground fault monitoring systems on November 20. Amir Mojtahed, M.Eng., managing director of Bender Canada Ltd. and Mervin Savostianik, P.Eng., product manager of Bender Canada Ltd., provided information on ungrounded, solidly grounded, and high-resistance grounded systems to about 70 members. They also spoke about how electri-



Peel Chapter members attend CPD session on electrical safety and ground fault monitoring systems.

cal hazards associated with ground faults and arc flashes impact safety, interrupt processes and damage equipment, and how individuals who work with electrical power systems can stay safe.

Attendees also learned about the advantages and disadvantages of each system and reviewed general practices and methods of system grounding. They reviewed the new changes to the 2018 Canadian Electrical Code, section 10, with respect to ground fault monitoring and high resistance grounding and how to satisfy the requirements of ground fault monitoring. The Peel Chapter would like to thank Peter Huang, C.Tech, Anil Kolassery, C.E.T., Adam Martin, C.E.T. and Jessie Wang, C.E.T., for their exceptional role in making this event a success.

Vinayak Patel, C.E.T., is Peel Chapter chair: peel-chapter@oacett.org



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Northern Region

Near North Chapter

Upcoming events

The Near North Chapter is co-hosting four National Engineering Month (NEM) events in March with the Gravenhurst Public Library. OACETT is funding a new 3D printer for the library and will host four events to introduce the equipment to the community, and how and what to use it for. The first event will be on Saturday, March 14 from 12:00 pm to 2:00 pm for all ages, and followed by a pizza party to celebrate Pi Day. The second event is during March break on March 18, from 5:30 pm to 7:30 pm for children aged six to ten. This is a "Thinkers and Tinkers" event showcasing the new printer with the theme "building." The third event held on March 25 from 4:00 pm to 5:30 pm is for girls six to ten years old. The final event for adults is

scheduled for March 31 from 5:30 pm to 7:00 pm. We would like to have some members help with these events. If you are interested, please contact Christine Johnston, C.E.T., at chris.cdservices@gmail.com for more information.

Volunteer opportunities

Are you looking for volunteer opportunities to add to your peer and professional interaction CPD requirements? The Near North Chapter is looking for volunteers for the First Teams (Lego and robotic teams) in the North Bay area. Volunteer opportunities include being a judge at the Big Robot Tournament on March 27. Register as a volunteer at firstinspires.org.

Sean Wilson, C.E.T., is Near North Chapter chair: nearnorth-chapter@oacett.org

Timmins Regional Chapter



Students participate in the first session of Science Timmins' workshops with the Arduino Starter Kits donated by OACETT.

Thunder Bay

Women in Technology
 Friday February 28
 7pm - Late
 Open to ALL Women, in the Arch./Eng./Const. and Design. Industry
 Tickets available through Eventbrite
 Tickets on sale until February 27
 \$30 / Ticket - Assorted Appetizers * Cash Bar
 For Cash tickets contact WIT Rep. Stephanie Pichon @ 807-621-4378

Women in Technology Engineering & Arch. 2020 Mixer & Social

Tony & Adam's

OACETT
 The Ontario Association of Certified Engineering Technicians and Technicians

Women in the Thunder Bay Chapter are encouraged to attend the upcoming networking event on February 28. Please purchase your tickets through Eventbrite at <https://www.eventbrite.com/e/women-in-technology-engineering-arch-mixer-and-social-tickets-74619720593>.

Scott van Teeffelen, C.Tech., is Thunder Bay Chapter chair: thunderbay-chapter@oacett.org



Charles Boulet, C.E.T., Chapter chair (left) presents Brandyn Dube, a third-year civil engineering technology student, with the OACETT Technology Award at Northern College's Timmins Campus.

This summer, the Timmins Chapter donated six Arduino Starter Kits to Science Timmins to help encourage young students to enhance their skills in the electronic field. In November, Science Timmins started organizing a series

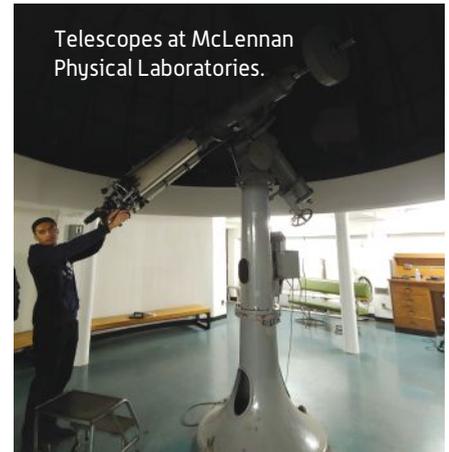
Toronto Region

of weekend workshops with the Arduino Starter Kits for eight individuals at a time, to maximize efficiency and understanding of electronic concepts and the workings of the Arduino Kits. Two students who participated in the first session of the workshops intend to use the Arduino Kits to launch their science projects at the local and the national levels. A retired teacher with a background in electronics leads the group and provides participants with down to earth instruction and opportunities to apply the Arduino circuit to practical applications in daily life.

Northern College hosted their annual fall bursary ceremony on November 20, where \$70,000 worth of bursaries were handed out to students. Brandyn Dube received a \$1,000 bursary as the recipient of the OACETT Technology Award. This award is provided annually to a deserving second or third year student from either of the three Northern College campuses (Timmins, Haileybury or Kirkland Lake), where they participate in one of the recognized engineering or applied science technology programs. The winner must be nominated by a professor and have outstanding team player qualities, a positive attitude, and seek innovative ideas and solutions within their program. The student must also exemplify “the key precepts related to integrity and professionalism in the practice of engineering technology.” The Timmins Chapter presented this award to Brandyn on behalf of the Fletcher Foundation. Stephane Brousseau also received a \$1,000 bursary from the Northern College Foundation funds as a result of volunteering efforts from Timmins Chapter volunteers with local bingos.

Charles Boulet, C.E.T., is Timmins Regional Chapter chair: timminsreg-chapter@oacett.org

Toronto Central Chapter



On November 7, members of the Toronto Central Chapter attended a public event; the University of Toronto Astro-Tour located at the Bahen Centre and McLennan Physical Laboratories at the University of Toronto St. George Campus. The evening started with a graduate student presentation on “The Expanding Tension in Modern Astronomy,” and was followed by a brief question and answer period. After, participants were guided to the top of the McLennan Physical Laboratories building where two telescopes were available for viewing. Interactive media on the World Wide Telescope, Oculus Rift virtual reality headset and 3D printed model telescopes were also on display.

Get involved with your chapter

The Toronto Central Chapter is currently seeking volunteers for the chapter executive. Last year, there was unusually low attendance at the annual chapter meeting, which resulted in a smaller than average group of directors on the executive. Anyone thinking about getting involved is strongly encouraged to reach out to the chapter chair at torontocentral-chapter@oacett.org. By volunteering on the executive, you get professional training and practice participating in meetings, as well as

developing your organizational skills by helping plan events. These are essential skills for everyone and it only takes a few hours a month to contribute. Check out our website at <https://www.oacettc.org/events.html> for examples of past chapter events.

Kevin Lima, C.E.T., is Toronto Central Chapter chair: torontocentral-chapter@oacett.org

Toronto West Chapter

Twelve participants from the Toronto West and Central chapters discussed energy efficiency of large buildings, specifically lighting conversion assessment, following a CPD presentation by Jason Wattleworth, C.Tech., on November 21 at Swansea Town Hall Community Centre in Toronto. Participants learned to analyze aspects of large building operations, including a lighting conversion example, and from this analysis could recommend changes complete with realistic capital expenditure proposals that include payback periods. These changes are designed to improve energy consumption within a large building.

Howard Gibson, C.E.T., is Toronto West Chapter chair: torontowest-chapter@oacett.org



Western Region

Chatham-Kent Chapter

Chatham-Kent Chapter members participated in a lunch and learn on November 8, on flood forecasting. The event was held in conjunction with PEO, and was well attended.

Chris Van Daele, C.E.T., is Chatham-Kent Chapter chair: chathamkent-chapter@oacett.org

Grand Valley Chapter

Upcoming event

The Grand Valley Chapter is planning to host a family hockey night with the Kitchener Rangers. We are reserving a block of 50 seats for members for Friday, February 21 against the Erie Otters. Keep your eyes on your inbox for how to obtain tickets. There will be a few prizes given away during the game as well.

Stay connected

Check out our website at <https://www.oacett.org/Chapters/Grand-Valley/Home> for the most up to date information from the Chapter including photos from previous chapter events.

Steve Cauduro, C.E.T., is Grand Valley Chapter chair: grandvalley-chapter@oacett.org

Grey-Bruce Chapter



Chapter members look on as Andrew Bellamy of the Ontario Clean Water Agency discusses the function of the Wiarton standpipe.

On October 5, 14 members of the Grey-Bruce Chapter toured the environmental facilities in Wiarton. The tour included visits to the surface-water treatment plant, standpipe, wastewater treatment plant and lagoons. This CPD event was organized by Lara Widdifield, C.E.T., and enjoyed by all who attended.

On November 14, chapter members along with special guests Michael Belmonte, A.Sc.T., RCDD, PASB western region councillor, and Christopher van Dop, C.E.T., IETO western region councillor, attended a chapter awards night and networking event in Mildmay.

Matthew Aston, C.E.T., LET, is Grey-Bruce Chapter chair: greybruce-chapter@oacett.org



Matthew Aston, C.E.T., LET, (left) presents Colin Saunders, C.Tech., with his past-chair certificate at the chapter awards night.

Windsor-Essex Chapter

Upcoming event

The 2020 Windsor-Essex engineering month luncheon will be held on Friday, March 27. The theme for this year's luncheon is engineering in agriculture.

For more information, please visit the engineering month luncheon website at windsorsexengmonth.com.

David MacKinnon, C.E.T., is Windsor-Essex Chapter chair: essex-chapter@oacett.org

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More than **40%** of OACETT members are leaders and decision-makers in their organization.



Nomination categories:

- **Blake H. Goodings Memorial Award**
(Members, Non-Members)
- **Distinguished Service Award**
(Members, Non-Members)
- **George Burwash Langford Memorial Award**
(Members)
- **Honourary Membership** (Non-Members)
- **Life Membership** (Members)
- **Outstanding Community Service Award**
(Members)
- **Outstanding Educator Award**
(Members, Non-Members)
- **Outstanding Technical Achievement Award**
(Members, Non-Members, Groups)
- **Publication Award** (Members, Non-Members)
- **Thomas William Hopson Memorial Medal**
(Members, Non-Members, Groups)
- **Student Award** (Members)
- **Young Professionals Award** (Members)

**First submission deadline
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– Pasha Mohammed, C.Tech., shift electrical technician, Mondelez and part-time instructor, Centennial College



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