

Photo: Leigh Ayres  
(BugEye Best Photo 2021)



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# **ENTOMOLOGICAL SOCIETY OF ONTARIO**

## **SPRING NEWSLETTER**

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**Jennifer Gixti**  
Science communicator

Favourite insect:  
"Cuckoo bees, especially *Epeolus*."



**Alexandre Loureiro**  
Grad student, U Guelph

Favourite insect:  
"Without question, the leaf-cutter ant."



**Kathryn Galang**  
Grad student, York U  
Favourite insect:

"Bumble bees  
(fuzzier the better)."



**Simran Bahia**  
Grad student, York U

Favourite insect:  
"*Bombus* (bumble bees)!"



**Alyssa Stephens**  
Grad student, U Waterloo

Favourite insect:  
"Fuzzy bumble bees"



The communications committee is always looking for more photos and opportunities to promote Ontario scientists studying entomology. If you have questions, photos, or social media post ideas, please email them to Jennifer Gixti at [esocomms@gmail.com](mailto:esocomms@gmail.com).

[ESO Facebook](#)

[Twitter channel](#)  
([@EntSocOnt](#))

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We are the Entomological Society of Ontario. The oldest entomological society in Canada (est 1863). We study the [#insects](#) and other arthropods of Ontario.

📍 Ontario, Canada 🌐 [entsocont.ca](https://entsocont.ca) 📅 Joined October 2015

216 Following 1,259 Followers



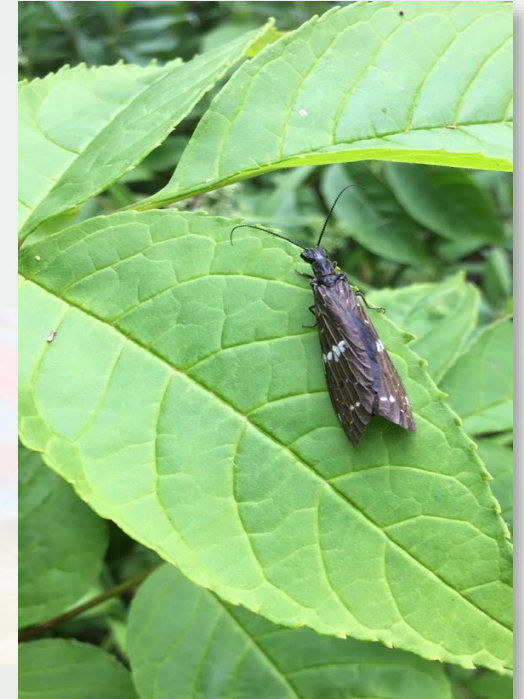


We are now a year into a pandemic. If you had asked me a year ago, I would not have thought we'd still be dealing with lockdowns, stay-at-home orders, or field hospitals. As vaccines arrived, I, like many, felt hopeful that we had moved past the worst that COVID had to offer. However, we find ourselves battling to protect our most vulnerable from COVID as new variants sweep through our province. Inevitably, our science takes a back seat to the needs of public health measures. I've struggled to maintain field sites, laboratory experiments, and provide meaningful work for staff impacted by building closures. I know many of our membership, particularly our students, are suffering under these continued restrictions.

I do take solace in the arrival of spring and with it the objects of our collective passion. While we are still unable to gather to celebrate all things buggy, be sure to look for opportunities to fuel your entomological passion. We are lucky! Insects are everywhere. Explore your backyard and local parks – what little legged wonders can you find just steps from your house? I encourage our members to participate in community science initiatives such as iNaturalist ([www.inaturalist.org](http://www.inaturalist.org)) or eButterfly ([www.e-butterfly.org](http://www.e-butterfly.org)) to document their observations. These platforms allow members to contribute to our collective knowledge of insect biodiversity within our province. Participants can become involved with regional projects, such as ones focused on documenting biodiversity in Ontario Parks or the Moths of Ontario. So even with lockdowns and stay at home orders, we can join virtually to revel in our local insect life and collectively improve our understanding of Ontario's insect fauna.

I look forward to seeing the gradual change from winter to spring (although this can be a fitful process in Northern Ontario). As we emerge from our winter diapause, we will start to see the life around us and remember why we choose to call ourselves entomologists. Be healthy. Be safe.

**Amanda Roe**  
ESO President





## Laura Timms

### President-elect

I am Senior Specialist in the Ecology & Monitoring division at Credit Valley Conservation in Mississauga, ON – one of Ontario's 36 Conservation Authorities. In my job I analyze data from CVC's monitoring and inventory programs to develop tools and strategies for biodiversity conservation and management. This includes projects such as evaluating the influence of landscape context and patch size on ecological integrity, identifying forested areas of high and low climate vulnerability, and assessing and ranking local species of conservation concern. I also co-developed and am the scientific coordinator of the CVC Butterfly Blitz – currently running in it's third year.

I'm also an Adjunct Professor in the Daniels Institute of Forestry and Conservation at the University of Toronto, where I serve on graduate committees and supervise internships. I have spent time at the University of Guelph (BSc Hon 2001), Agriculture and Agri-Food Canada, the University of Toronto (MScF 2005, PhD 2010), and at McGill University as a postdoctoral researcher with the Northern Biodiversity Program. My research has focused on parasitoid diversity, invasive species, biological control, and conservation. I served on the Committee on the Status of Species at Risk in Ontario for one term.

A proud member of the ESO since 2002, I have previously served as Student Representative and as a Director (twice). One of the highlights of my involvement with both the ESO and the ESC was when I was invited to give the Heritage Lecture at the 150 th anniversary joint annual meeting in Guelph in 2013. Attending annual meetings is one of my favourite things to do – I love catching up with old friends and colleagues, meeting new ones, and hearing about amazing and inspiring science. I would be proud to be elected as President and would do my best to represent the membership and work to advance entomology in the province.





## Nigel Raine

### President-elect

I am the Rebanks Family Chair in Pollinator Conservation (Professor) at the University of Guelph. My work encompasses the behaviour, ecology and conservation of insect pollinators, and my fantastic team and I work extensively to understand the impacts of environmental stressors (such as pesticide exposure or habitat loss) on wild bees, butterflies and other insect taxa. Our work combines internationally excellent research and significant engagement with policy-makers and other conservation-relevant stakeholder groups. I feel it is extremely important to ensure the results of research are communicated to the relevant people who need to hear about it – particularly when almost all our funding comes from public money. To these ends I try to undertake as much extension work, community outreach and media engagement as possible.

The natural world has figured as a prominent passion throughout my life, and I've been lucky enough to spend more than two decades investigating insect pollinators and their intimate relationships with flowers on three continents. Before moving to Canada in 2014, I studied at the University of Oxford, worked as a postdoctoral researcher

at the University of Sheffield and Queen Mary University of London, and held my first faculty position at Royal Holloway University of London. I am elected fellow of the Royal Entomological Society and Linnean Society of London. I was recognized in 2014 as a World Economic Forum Young Scientist – one of 40 outstanding researchers under the age of 40, and was elected to the College of New Scholars of the Royal Society of Canada in 2017.

Although still a relative new-bee in Canada, it is a great privilege to stand for election for the Presidency of the Entomological Society of Ontario. Like all organisations, the ESO faces a number of challenges with the ongoing pandemic. I strongly support the decision for the 2021 ESO-ESC JAM to be held virtually in November. Hopefully we should be in the position to hold these meetings in person for 2022. This global pandemic has required us all to adapt and find new ways of living and working. This is a great opportunity to consider how such changes can be rolled over into the ESOs activities going forward. For example, should we consider offering hybrid virtual/in person annual meetings in future and how do we use such different approaches to ensure inclusive, equitable and safe spaces in our entomological community?

To find out more about research and outreach, you can visit my webpage (<https://1in3mouthfuls.org>) or follow me on Twitter (@NigelERaine)



## Scott MacIvor

### Director

Scott MacIvor is a community ecologist and assistant professor in the Department of Biological Sciences at the University of Toronto Scarborough. He is interested in plants, pollinators (especially bees), their interactions in cities and across different urban green spaces. His work aims to support applications in urban design and planning that enhances biodiversity conservation. He collaborates widely with NGOs, municipalities, architects, landscape practitioners, and local communities to implement research findings that engage the public and policy makers on the importance and benefits of insects in an urbanizing world.

Website: [macivorlab.ca](http://macivorlab.ca)

GoogleScholar profile [here](#)





## Thomas Hossie

### Director

I am an Assistant Professor in Biology at Trent University broadly interested in population and behavioural ecology. I enjoy studying the natural world and whenever possible I try to help foster an appreciation and understanding of the animals and interactions the surround us. My research focuses on predator-prey interactions, where I use insects as either predator or prey (mostly Odonates or Lepidopterans). Specifically, I have studied the predatory behaviour of dragonfly nymphs, and how this is influenced by prey density, density of conspecifics, structural complexity in the environment, or availability of alternate prey types. I have also worked extensively on the ecology and evolution of eye-like markings (eyespot) which protect caterpillars from insect-eating birds, who misidentify them as dangerous snakes.

In my own community of Newcastle, Ontario I help advocate for insect conservation through community-led planting of pollinator-friendly wildflowers, reseeding old fields, advocating for changes to municipal mowing regimes, and by running monarch tagging event each September. Last year I participated in National Moth Week, and (pending possible COVID restrictions) I will be running a series of community events this year to promote community science and the wider appreciation of these magnificent insects. I would be excited to help the ESO promote insect science and education in academic and non-academic venues.



## Shannon McCauley

### Director

I am an Associate Professor in Biology at the University of Toronto Mississauga and have been at UTM since 2012. I completed my PhD at the University of Michigan where I began working with dragonflies (Odonata: Anisoptera) a group that is still central to my research. I study how freshwater insect communities are structured by both the processes occurring within habitats (primarily lakes and ponds) and by the processes acting to connect habitats especially dispersal. While I work primarily with dragonflies, my students have also worked with aquatic heteropterans, particularly backswimmers (*Notonecta spp.*), and caddisflies (Trichoptera). We use a wide-array of tools including comparative studies, long-term surveys, and experiments, to understand the forces structuring communities and how anthropogenic changes are restructuring these communities.

In addition to research on freshwater insect communities, I have a strong interest in understanding and addressing the barriers people experience in pursuing careers in ecology and entomology. From habitat loss to climate change, we are facing numerous environmental crises and we need all hands on deck. Anything that creates barriers to participation in environmental science fields, including entomology, is not only wrong but short-sighted as we need all the talent that a diverse pool of entomologists can bring to the field. A primary goal I have if elected to serve as a director for ESO is to help develop initiatives that are inclusive and engage a diverse community of entomologists.





## Erin Campbell

### Director

I was always fascinated by insects and evolution, but during my undergraduate degree I got unexpectedly hooked on molecular biology and systematics - particularly as they relate to characterizing the process of speciation. Since then, my research has focused on using new tools in genomics to explore how species form, and also to ask how genomic data influences our recognition of species as fundamental units of biology. Lucky for me that the unparalleled diversity of insects makes them ideal study organisms for such questions!

I conducted my PhD work at the University of Alberta on the molecular systematics of *Speyeria* butterflies, and then as a postdoc I worked on population genetics and genetic profiling of insecticide resistance in agricultural pests. I recently moved to Ottawa from Alberta to take a position as a research scientist in Entomology at the Canadian Food Inspection Agency. Much of my work in this position will be related to the development of genomic resources and molecular diagnostic tools for insect pests. I'm looking forward to exploring Ontario and its insect fauna, and look forward to joining the ESO!



## Vanessa Owen

### Student representative

I'm currently a Master's student at the University of Windsor studying the effects of volatile organic compounds on blow flies of varying species under the supervision of Dr. Sherah VanLaerhoven.

I am a passionate student with a love for all aspects of science. I love being able to put my all into research and find out cool new information regarding insects and how this information affects the field of forensic science. I am a lifelong learner and love trying new things!





## Matt Muzzatti

### Student representative

Hello ESO! I have been a member of this warm and welcoming society since 2015 when I attended my first-ever conference at the Queen's Biological Research Station AGM to present my undergraduate thesis. My extremely positive experience at my first scientific meeting encouraged me to pursue entomology as a career. Since then, I have earned an MSc at the University of Guelph and have started my PhD at Carleton University. For my MSc, I dabbled in integrated pest management and researched the insect-plant interactions between swede midge (*Contarinia nasturtii*) and canola under the supervision of Dr. Rebecca Hallett. Currently, I am co-advised by Dr. Sue Bertram and Heath MacMillan for my PhD research. I am focused on how to enhance body

size of the mass-reared decorated crickets (*Gryllodes sigillatus*) through macronutrient dietary manipulation and determining the inter-species interactions of crickets with novel pests of cricket farms.

I am currently serving my first year as co-chair of the Entomological Society of Canada's Student and Early Professionals Committee (ESC SEPAC), and if elected to be an ESO Student Rep, I will work towards cultivating a deeper relationship between the provincial and federal societies with the goal of improving the student experience at annual general meetings. ESC SEPAC is currently developing a mentorship program between students and faculty, and if successful I believe a similar program could be modeled by the ESO to connect aspiring student entomologists with established experts for guidance in career development. My own positive experience at my first meeting in 2015 is one I hope to replicate for other students to help inspire and encourage them to continue sharing their entomological research in a safe and nurturing environment.





## Linley Sherin

### Student representative

Hello members of the ESO! My name is Linley and I am currently a master's student within the Lyman Entomological Museum at McGill University. My work at the Lyman is focused on the evolution of parasitoid flies, but I have broad interests in all things insect related. Though I am not currently studying in Ontario, I have been a member of the Entomological Society of Ontario since attending the Annual General Meeting in 2017 (my first conference ever!). That AGM was my first introduction to the kind and welcoming ESO community and left me both excited and inspired to pursue entomological research in the future. At the time, I was a student at the University of Guelph entering my third

year, and I was fortunate enough to spend my final years at Guelph working on several projects spanning butterfly conservation, pollinator ecology, and fly taxonomy before accepting a graduate position at McGill.

Since becoming a master's student, I have worked hard to involve myself in the broader academic community. I am currently a student representative for the McGill Graduate Society as well as the Quebec Centre for Biodiversity Science (QCBS). Through the QCBS, I coordinate a series of workshops that teach R skills to graduate students and promote peer skill-sharing across institutions. As a student representative for the ESO, I would love the opportunity to give back to the society which has contributed so much to my development as a scientist. My priorities would be to use my previous experience to encourage junior scientists to get involved with the ESO and to promote peer-networking and skill-sharing throughout the existing ESO student network. Thank you so much for your consideration!





# The 2021 ESC/ESO JAM will be virtual!

## *Strength in diversity*



**Date: Monday, November 15 to Thursday, November 18, 2021**

Strength in Diversity. The insects are among the most diverse group of organisms on the planet, and entomologists are applying an increasingly diverse toolkit to advance knowledge on a diversity of topics in the field. We are keenly aware of the declines in the diversity of insects that threaten vital ecosystem functions, human health, and our economy. We are also becoming increasingly aware of systemic barriers that preclude many from studying and practicing entomology, threats that likely impact the productivity and ingenuity of entomological research in Canada. Our goal for the 2021 JAM – Strength in Diversity - is to showcase state of the art entomological research on a diversity of taxa, ecosystems and disciplines, and to collectively discuss solutions to enhancing equity and diversity in Entomology.

**Keynote speakers:** Claire Kremen (UBC)  
Amanda Moehring (UWO)  
Jayne Yack (CarletonU)  
Lisa Myers (YorkU)

Details on registration and abstract submission will be announced within the next few weeks. You can also check the [ESO website](#) for updates.





# We're back... Virtually!



Sunday, August 22<sup>nd</sup>, 2021  
Join us online for a 'buzzing' good time!



['Guelph Bug Day'](#)



[@GuelphBugDay](#)



[@guelphbugday](#)



**YouTube**

<https://bit.ly/35Xo5Pt>



ONTARIO  
AGRICULTURAL COLLEGE





# COMPETE IN THE BUG EYE PHOTO CONTEST!

All Ontario residents, including international students living in Ontario, are eligible to submit photographs!

## Instructions:

- Images must be of insects or closely related arthropod species (mites, spiders, etc).
- All submissions must be digital files, and may be either 'landscape' or 'portrait' in orientation.
- Submit the image file by creating a digital file that is the equivalent of 7.5 inch by 10 inch (19.5 cm by 25.4 cm), at 300 dpi, formatted as a jpg.  
Images from film must be digitally scanned and then edited to 7.5 inch by 10 inch, at 300 dpi.
- Create a filename using an appropriate title, underscore, your last name, underscore, first initial (e.g. dragonfly\_smith\_j.jpg).
- Include a short description of your entries (where they were taken, why you like them, etc.)
- Indicate whether:
  1. your photo is of an Ontario insect
  2. you are a child under the age of 13
  3. you would like to be considered for the People's Choice Award.
- Photographic enhancement is allowed as long as it is something that could also be achieved in a real darkroom with a color or black & white negative (e.g. adjustment of contrast, color enhancement, cropping, etc.). However, very dubious enhancements will be negatively scored.



**2020 Best Ontario Insect & People's Choice:**  
Rory Wills

## Instructions (continued):

You may submit up to 3 unique images, but can only win one prize plus the People's Choice Award. The best pictures submitted will be selected by judges and entered into the People's Choice Award competition. The selected pictures will be posted on the ESO website and/or on a photo sharing website such as flickr for the community to vote on. The pictures will also be displayed at the Annual Meeting of the Entomological Society of Ontario. If you do not wish for your pictures to be posted in such a way, you can choose to not participate in the People's Choice Award. Copyright for the photo remains with the photographer, but use must be granted for ESO promotional material.

### BugEye Prize Categories:

- Best photo (\$50)
- Best photo of an Ontario insect (\$50)
- Best photo by a junior entomologist under 13 (1<sup>st</sup> \$25, 2<sup>nd</sup> \$20, 3<sup>rd</sup> \$10)
- People's Choice Award (\$50)

**Open to all Ontario residents, no entry fee**

**Submission deadline: September 30, 2021**

**Submit photos to: [esophotos@gmail.com](mailto:esophotos@gmail.com)**

**Winners announced: October 22, 2021 (at the virtual ESC/ESO JAM)**



### The judging criteria will be based on:

- a) image composition
- b) visual impact of image
- c) subject interest
- d) sharpness of subject
- e) difficulty of image acquisition
- f) lighting



**2020 Best Photo: Leigh Ayres**



# What's happening at the Toronto Entomologists' Association (TEA)?

We're a club of about 150 mostly amateur entomologists. We are based in Toronto, but 2/3 of our members are located elsewhere in the province. Student [memberships](#) are free.

Here are some recent club activities:

- In February we published an online [Ontario moth checklist](#). For each of the 3,250 species, links are provided to the relevant iNaturalist page, BugGuide page, and Moth Photographers Group page. Also shown are the number of iNaturalist records (research-grade only) and the page number in the Peterson Field Guide.
- In March we held a Student Symposium by Zoom. Eight Ontario graduate and undergraduate students presented [10-minute talks](#). At this event, we announced two \$800 [Glenn Richardson Research Awards](#). The winners were graduate students Sara Khan of Carleton University and Kelly Murray-Stoker of the University of Toronto.
- Our winter speakers (see Zoom [videos](#)) were: Clement Kent of York University on rewilding urban areas to benefit swallowtail butterflies; Andrew Bennett of the CNC on the new Hymenoptera checklist, ichneumonid natural history and aquatic wasps; and Morgan Jackson of McGill University on how citizen science and social media have influenced entomology.
- In April the TEA established a Twitter account (@OntarioInsects) and put up a [Facebook page](#). Follow us!

This summer, if COVID permits, the TEA will have field trips in the greater Toronto area and butterfly and odonate counts around the province. Also this summer, efforts to re-introduce the endangered Mottled Duskywing butterfly (*Erynnis martialis*) to the Pinery will be made by an academic team supported by NSERC. This is not a TEA activity, but TEA president Jessica Linton is project manager.

# Toronto Entomologists' Association



Author: Alan Macnaughton  
TEA vice-president & ESO treasurer  
[info@ontarioinsects.org](mailto:info@ontarioinsects.org)

# GRADUATE STUDENT POSITIONS



Drawing by David Beresford

## **MSc – Exploring the insect microbiome to fight crop disease**

Agriculture and Agri-Food Canada (Harrow, ON)

Application deadline: January 2022 (start: April 2022)

Details: please contact [Lauren Des Marteaux](#)

## **MSc / PhD – Mitigation and management of Cry1F resistance in European corn borer in Canada**

School of Environmental Science, University of Guelph (Guelph, ON)

Application deadline: None listed

Details: [MSc posting](#) [PhD posting](#)

## **MSc / PhD – Insect freeze tolerance**

Department of Biology, Western University (London, ON)

Application deadline: None Listed

Details: [Sinclair Lab](#)

## **PhD – Molecular mechanisms of insect thermal tolerance**

Carlton University (Ottawa, ON)

Deadline: None listed

Details: [MacMillan Lab](#)



## JOB POSTINGS



### **Postdoc – New threats from pest insects in the boreal forest of northwestern Quebec**

Concordia University (Montreal, QC)

Application deadline: None listed

Details: [Here](#)

### **Post-Doctoral Fellows: Honey Bee Health**

University of Saskatchewan (Saskatoon, SK)

Deadline: Open until filled

Details: [Here](#)

### **Research Scientist – Pollination (Agricultural Scientist)**

Grande Prairie Regional College (Grande Prairie, AB)

Deadline: None listed

Details: [Here](#)

### **Forest Technician**

Omineca Forest Resource Services Ltd. (Prince George, BC)

Deadline: None Listed

Details: [Here](#)

For more postings, visit the [ESC-SEC opportunities](#), [ESA careers](#), and [CSEE](#) pages.

# JOIN THE ESO BOARD!

The ESO society functions thanks to the help of the board! There are many different positions, and joining is a great way to make a difference to the society, work in a team, and gain public service experience in a relaxed, friendly atmosphere. Within the board you will also get the opportunity to join various committees for outreach, meeting planning, and more. Perhaps you have some new ideas or expertise that you'd like to bring to the society!

Each summer, the ESO members elect an incoming president, director, and student representative. The duration of these positions is as follows:

- President: 3 years (incoming, current, outgoing)

- Director: 2 years

- Student representative: 2 years

Interested members can send their photo and a short bio to Michelle Locke: [entsocont.membership@gmail.com](mailto:entsocont.membership@gmail.com)



Some of the current and past ESO board





## PUBLISH IN JESO!

The Journal of the Entomological Society (JESO) is the second oldest entomological journal in North America.

Papers on any aspect of entomology are accepted, and do not need to be restricted to Ontario! Both French and English manuscripts are welcome. At least one author must be a member of the ESO. To submit, please see the [Instructions for Authors](#) page.



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## MEMBERSHIP FORM

Just fill out this form (+ cheque or money order if required) and send to:

**Michelle Locke**  
Entomological  
Society of Ontario

Vista Centre, 1830 Bank St.  
P.O. Box 83025  
Ottawa, ON, K1V 1A3

### Type of membership requested

- |   |   |
|---|---|
| <input type="checkbox"/> Retired (free)         | <input type="checkbox"/> Student / Amateur (free) |
| <input type="checkbox"/> Regular (\$30)         | <input type="checkbox"/> Student / Amateur        |
| <input type="checkbox"/> Regular 5-year (\$150) | (International) (\$10)                            |

Name \_\_\_\_\_

Affiliation \_\_\_\_\_

Street Address \_\_\_\_\_

City, Province/State, Country \_\_\_\_\_

Postal Code/Zip Code \_\_\_\_\_ Telephone Number \_\_\_\_\_

Email Address \_\_\_\_\_

### (Optional) Background Information

Employment (Location/Subject area) \_\_\_\_\_

Entomological Interest \_\_\_\_\_

- ☐ Check if you would like to get more involved with ESO activities  
If so, how?

\_\_\_\_\_  
\_\_\_\_\_

## JOIN THE ESO!

Joining the **ESO** entitles you to an annual subscription of the **Journal**, receipt of up to three **Newsletters** each year, and attendance at the Society's annual meeting. It also provides an opportunity for you to meet and exchange information with other individuals involved in entomology throughout the province.

For ESO membership, complete the [Membership form](#) (also available on the ESO website)

**Canadian student, amateur, and retiree memberships** are **FREE!** Email the ESO for membership renewal (must be done each year): [entsocont.membership@gmail.com](mailto:entsocont.membership@gmail.com)

**Regular members:** A one-time payment of \$150 secures you a 5 year membership! For payment options, including PayPal, please visit [www.entsocont.ca](http://www.entsocont.ca), or mail your invoice and payment to: