



# THE ESO Newsletter

December 2012

Volume 17, Issue 2

## ESO President's Message:



Although my term as President officially ended with our annual meeting at the end of September, it is my pleasure to provide a few updates on ESO activities for 2012. I am happy to report that the 149<sup>th</sup> Annual Meeting "The Good, The Bad, and The Wiggly" (details and program can be found online at <http://biodiversityinfocus.com/eso2012/>) was a success on nearly all fronts. The Bonnenfant Outdoor Education Centre in Dunrobin provided a relaxing venue where the 60 registrants and their guests were treated to three insightful plenary lectures, followed by a series of excellent student and regular member presentations and posters. The student awards were handed out at the Saturday evening banquet, which was followed by guest speaker Arthur V. Evans delivering his entertaining talk "Lust in the Dust – How and Why Insects and Spiders Do It". Although the weather was dry, a full moon and cool temperatures severely curtailed insect activity at the blacklight and sugaring stations, but a late night campfire was enjoyed by many who stayed on site. More importantly, in keeping with Camp Rules, none of the attendees ventured close to the water. I can't imagine that hippos and crocodiles pose much of a danger along the banks of the Ottawa River (but then I didn't have a hand in writing these camp

...continued on page 2...

## INSIDE

2012 Election Results	2
2012 Travel Award Winners	3
2012 President Prize Winners	4
2013 ESO Meeting Announcement	5
Photo Contest Results	7
Member Feature	8
Obituary: John Richard Vockeroth	9

## 2012-2013 OFFICERS OF THE ENTOMOLOGICAL SOCIETY OF ONTARIO

### President

Jeff Skevington – 613-759-1647  
jhskevington@gmail.com

### President-Elect

Jeremy McNeil – 519-661-3487  
jmcneil@uwo.ca

### Past-President

Bruce Gill – 613-759-1842  
bruce.gill@inspection.gc.ca

### Secretary

Nicole McKenzie – 613-736-3393  
nicole.mckenzie@hc-sc.gc.ca

### Treasurer

Shiyu Li – 613-694-2459  
sli@nrcan.gc.ca

### JESO Editor

John Huber – 613-759-1840  
john.huber@agr.gc.ca

### Librarian

Jim Brett – 519-824-4120 x4214  
jimbrett@uoguelph.ca

### Student Representative

Andrew Frewin – 519-824-4120 x53066  
afrewin@uoguelph.ca

### Webmaster

Morgan Jackson – 519-824-4120 x52582  
jackson@uoguelph.ca

### Newsletter Editor

Angela Gradish – 519-824-4120 x58810  
agradish@uoguelph.ca

### Directors:

#### 2011 - 2013

Rose Buitenhuis – 905-562-0320 x749  
rose.buitenhuis@vinelandresearch.com

#### 2012 - 2014

Christie Bahlai – 517-331-0499  
cbahlai@msu.edu  
Joel Gibson – 226-979-2560  
jfgibson@uoguelph.ca

#### 2013 - 2015

Sophie Cardinal – 613-759-1797  
sophie.cardinal@agr.gc.ca  
Brent Sinclair – 519-661-2111 x83138  
bsincla7@uwo.ca

rules), and since nobody tried to scale the high ropes course or the climbing wall (or if they did, at least they were not seen), Bonnenfant management had no complaints about their first-ever infestation of entomologists. In spite of reduced sponsorship revenues from previous years, the meeting met its financial targets, with a modest sweep net surplus of \$140. My thanks to all members of the organizing committee for their hard work, to Hume Douglas for serving as the designated beverage dispenser, to our sponsors, and to everyone in attendance, which collectively made this meeting a success.

The fall meeting was also a time for a few changes in personnel. I welcome Jeremy McNeil as the next President-Elect, Sophie Cardinal and Brent Sinclair as new Directors (2013 – 2015), and Andrew Frewin as the new Student Representative. Thanks to Simon Lachance and Ian Scott for completing their terms as Directors, and to Katie Marshall who wraps up her term as Student Rep. I also thank Hume Douglas for his three years of service as the ESO Representative to the Entomological Society of Canada, and welcome Patrice Bouchard, who has agreed to take over this role starting in 2013. Like all honour societies, the ESO relies upon its membership to fill all of these volunteer positions, so I hope that you will be willing to serve when called upon. I am certain that you will find the experience as enjoyable and rewarding as I have, over these past few years.

In other news, page charges were dropped this past year for the Journal of the ESO, so please submit some manuscripts to our Editor, John Huber, who is standing by to take your submissions. If you are a graduate student in Ontario studying entomology, you will not want to miss out on applying for the inaugural ESO Sesquicentennial Graduate Student Awards. Note: these awards celebrate the 150<sup>th</sup> anniversary of the ESO, not 150 year old grad students still trying to finish their degrees. The awards will be handed out at next year's ESC-ESO JAM in Guelph, October 20-23, 2013, a not-to-be-missed event. Details on applying can be found elsewhere in this Newsletter.

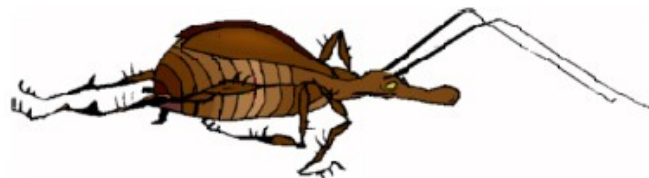
In very sad news, J. Richard (Dick) Vockeroth, a world respected Dipterist and former employee of Agriculture Canada at the Canadian National Collection, passed away on November 16<sup>th</sup> at the age of 84. Dick was a long time member and supporter of the ESO and his absence will be sorely missed by all who knew him. A memorial service was held in Ottawa on November 21<sup>st</sup> with

Jeff Skevington delivering a eulogy of his professional life. His obituary is reprinted on page 9.

Prior to transferring the reigns of power to incoming President Skevington on September 29<sup>th</sup>, the Presidential cockroach went into the Gill workshop for its 10-year warranty check-up. There were no signs of Ampulicid or Evaniid attack, and the missing antenna was fully repaired (see remarks by Hannah Fraser in the 2011 ESO Newsletter Vol. 16, No. 2). It should now be good for another ten years of service. It has been my pleasure to once again serve the Society, and I wish everyone a safe and productive winter (and may the *Boreus* be warned).

Yours in entomology,

Bruce D. Gill



## 2012 Election Results

The ESO is excited to welcome its newly-elected board members:

**Jeremy McNeil (President-Elect)**  
**Sophie Cardinal (Director 2013 - 2015)**  
**Brent Sinclair (Director 2013 - 2015)**  
**Andrew Frewin (Student Representative)**



## Departing Board Members

The ESO also would like to thank its outgoing board members for their dedication and invaluable service:

**Hannah Fraser (Past-President)**  
**Ian Scott (Director 2010 - 2012)**  
**Simon Lachance (Director 2010 - 2012)**  
**Katie Marshall (Student Representative)**

Also, a big thank you to **Hume Douglas**, ESO Representative to the ESC, for his years of service, and welcome to **Patrice Bouchard** as the new ESO Representative!



# 2012 ESO AGM Travel Award Winners



## Miles Zhang



Miles Zhang receiving his award from ESO President Bruce Gill. Photo: Morgan Jackson.

**An integrative approach to distinguishing taxonomically challenging microhymenoptera using Eurytomidae (Hymenoptera: Chalcidoidea) associated with cynipoid galls on rose. (Y.M. Zhang, M.W. Gates, J.D. Shorthouse; oral presentation)**

Miles Zhang completed his B.Sc. in zoology at University of Guelph, and has just recently defended his MSc thesis at Laurentian University. His research focuses on the taxonomy and systematics of Canadian eurytomids associated with cynipid rose galls. These galls are susceptible to attack by various hymenopteran parasitoids, the most common of which are members of the family Eurytomidae. Because of their small size, sexual dimorphism, morphological plasticity and poorly known biology, species identification of eurytomids is often uncertain. Miles used a combination of morphological, mitochondrial DNA cytochrome *c* oxidase I (*COI*), ecological and geographical data to test species limits. *COI* sequences identified one species of *Tenuipetiolus* and seven species of *Eurytoma*, all associated with galls induced by *Diplolepis* in Canada. Inconsistencies were observed when compared to morphospecies, including four haplogroups within the genus *Eurytoma* that were overlooked by morphological studies. An identification key along with (re)descriptions of all identified species was provided. Miles will be starting a Ph.D. at the University of Manitoba in January of 2013 working on the taxonomy of a group of yet-to-be-determined ichneumonids.

## Thomas Onuferko

**Temporal variation in pollinator abundance and diversity: the restoration ecology of a Niagra bee community. (T.M. Onuferko\*, R.L. Cordero; M.H. Richards; oral presentation)**

I have always been interested insect biology but did not consider pursuing a career in this field until taking a third year entomology course at the University of Ottawa. Now I am in the second year of my Master's program at Brock University where, under the supervision of Dr. Miriam Richards, I study temporal variation in a local bee community. To effectively determine the true population status of a bee community, we need to understand long-term trends of temporal variation. My aim is to know if bee abundance and diversity are more stable than they would appear over a few years as a result of high interannual variability. I also want to know if there are specific patterns of temporal variation in bee abundance and diversity in habitats undergoing succession compared to stable bee habitats. For my project, I am identifying 9 years of collected but largely unprocessed bee specimens and analyzing trends in variation between low disturbance sites and rehabilitated sites undergoing natural succession. The rehabilitated sites are within the Glenridge Quarry Naturalization Site; a UNESCO designated World Biosphere that was a municipal landfill prior to being restored as a grassy meadow in 2000 and 2003. At the ESO 2012 annual meeting, I presented preliminary data showing trends in abundance and diversity that suggest it takes about three years for a bee community to reach its carrying capacity. When complete, this will be the first study of its kind and one of the few that sampled an entire bee community consecutively for more than a few years.



Thomas Onuferko receiving his award from ESO President Bruce Gill. Photo: Morgan Jackson.





# 2012 ESO AGM President's Prize Winners



## Laura Hewitt

**Determining the better thrips predator: the effect of seasonal variability on predatory mites in ornamental greenhouse IPM. (L. Hewitt, C. Scott-Dupree, L. Shipp, R. Buitenhuis; poster presentation)**

Laura Hewitt completed a B.Sc. in environmental biology at the University of Guelph with an undergraduate thesis on the production and distribution of woody biomass for energy production. She is currently in her final year of the School of Environmental Sciences M.Sc. program at the University of Guelph where she has spent the past two years studying greenhouse integrated pest management.

Western flower thrips, *Frankliniella occidentalis* (Thysanoptera: Thripidae) are a major pest in commercial greenhouse production. *Neoseiulus cucumeris* and *Amblyseius swirskii* are two species of predatory mites commonly used as biological control agents for thrips control. Laura is investigating the impacts of the seasonal climatic variables: temperature, light intensity and photoperiod on the efficacy of these predators in lab bioassays. She is also conducting greenhouse studies to determine the efficacy and longevity of mite populations when applied to an ornamental crop. Laura's 2012 ESO poster summarizes the differences in mite efficacy in summer and winter greenhouse conditions. It is Laura's hope that a greater understanding of seasonal effects will aid in the improvement of recommendations for year-round thrips control in greenhouses.



Laura Hewitt receiving her award from ESO President Bruce Gill. Photo: Morgan Jackson.

## Crystal Ernst

**Seasonal patterns in the structure of epigeic beetle assemblages in two subarctic habitats of Nunavut, Canada. (C.M. Ernst and C.M. Buddle; oral presentation)**

Crystal Ernst is a Ph.D. candidate (Entomology) at McGill University in the Department of Natural Resource Sciences. Previously she completed her B.Sc. and M.Sc. in Biology at Carleton University, where she studied plant-insect interactions, primarily in the context of biological invasions. Her current work focuses on arthropods in Arctic Canada, a region of tremendous social and ecological significance facing various environmental threats. Despite the fact that arthropods are critical components of northern ecosystems and provide many important services, they are poorly understood. The overarching objective of her research is to examine patterns in the food webs and functional structures of ground-dwelling arthropod assemblages in northern Canada. Using a comprehensive approach including field studies, morphological taxonomy and molecular techniques (stable isotope analysis, DNA barcoding), she hopes to determine how feeding groups, trophic levels and individual species assemble under given sets of spatial and environmental conditions. Beetles serve as the principal model taxon in her research. Her presentation at the 2012 ESO AGM described a study that examined seasonal patterns in the functional structure of beetle assemblages in two subarctic habitats, and was based on two months of field work conducted in Kugluktuk, Nunavut.



Crystal Ernst receiving her award from ESO President Bruce Gill. Photo: Morgan Jackson.



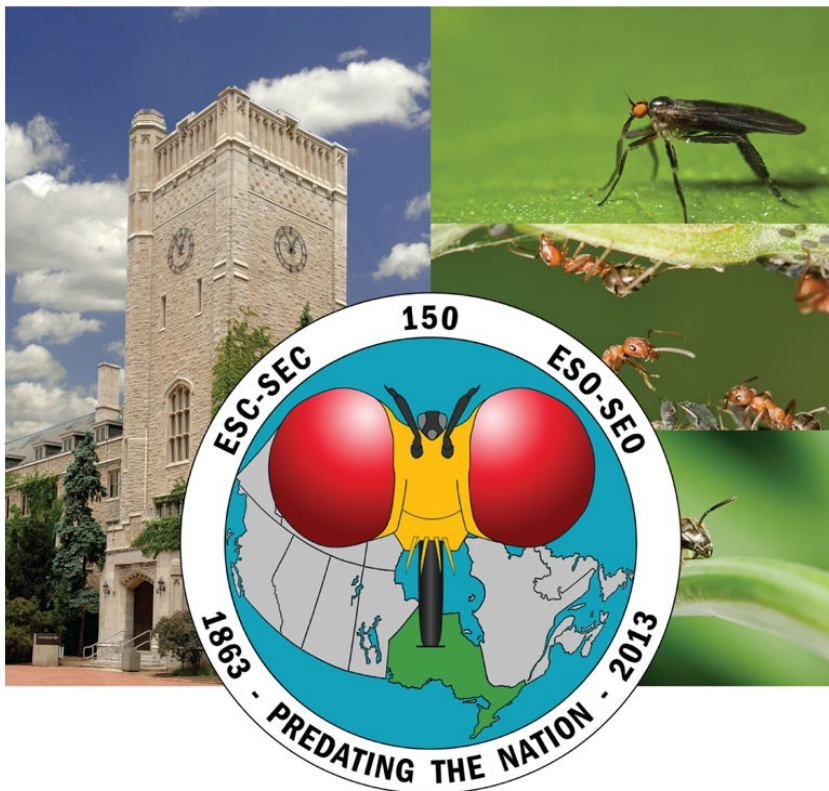
**Joint Annual Meeting  
of the  
Entomological Society of Canada  
and the  
Entomological Society of Ontario**



**October 20 - 23, 2013  
Guelph, Ontario**

**Celebrating 150 Years of the ESO!**

**Please join us  
Oct. 20–23, 2013, Guelph ON**



**ESC–ESO JAM 150**

**Theme: Predating the Nation -  
A Sesquicentennial  
Celebration of Entomology in  
Canada**

---

**Plenary Speakers:**

**Dr. Brian Brown  
Natural History Museum of  
Los Angeles County**

**Dr. Owain Edwards  
CSIRO Australia**

**Dr. Laura Timms  
McGill University**

**Dr. Alex Wild  
University of Illinois and  
Scientific American**

---

**And a new annual ESO student  
scholarship will be presented at  
the 2013 JAM for the first time!  
See p. 6 for details.**



# Entomological Society of Ontario

FOUNDED 1863

## ESO Sesquicentennial Graduate Student Awards

This is a new award from the Entomological Society of Ontario, to be presented yearly at the annual meeting of the Society. It is to be awarded to Ontario graduate students in recognition of achievements and excellence in the discipline of Entomology. The award, in honour of the 150<sup>th</sup> anniversary of the ESO, will be first presented in Guelph, Ontario in October 2013 at the Joint Annual Meeting of the Entomological Societies of Canada and Ontario. The awardees will be evaluated by a committee composed of entomologists from academia, government, and industry. Applications for the award must be submitted each year by July 1<sup>st</sup>, to allow time for the selected students to prepare an abstract on their research that will be distributed at the meeting. A single award of \$1500 will be presented; however, in the event of a tie, this amount will be split between the two top applicants. Recipients will be encouraged to attend the ESO annual meeting, provide a poster or oral presentation of their research, and receive their award during the banquet ceremony. This award will not replace the President's Prizes or ESO travel awards, but will constitute additional recognition of the high calibre of the research conducted by Ontario graduate students.

Applicants must submit a CV, a 500-word (1 page) summary of their research, and the names and contact information of two personal references. To be eligible, applicants must be registered at an Ontario university, or have completed a postgraduate degree at an Ontario university after January 1<sup>st</sup>, 2013. Applicants pursuing graduate studies on insects, spiders, ticks, mites, or related arthropods will be considered. The award recipient(s) will be evaluated based on the following criteria:

- Innovation, creativity, and potential impact of the research
- Publications
- Other evidence of research activity, such as presentations at meetings and grant proposals
- Honours, awards, and achievements
- Referee's statements

**The deadline for award submission is July 1<sup>st</sup>, 2013.** Further information on application and evaluation will be posted on the ESO website, including an on-line application form.





## ESO BugEye Photo Contest: 2012 Winners

The ESO would like to thank the participants of the 2012 BugEye photo contest. Once again, we received many amazing arthropod shots! Below are the first place winners from each of this year's categories.



**Ontario Insect: Michael Battenburg**



**Kids Under 13: Skye Earley**



**Ontario Resident: Michael Battenburg**



**Open Category: Crystal Ernst**



## Featured ESO Member: Lindsay Crawford

I have a BSc in Conservation Biology and I am currently a PhD candidate working with Dr. Nusha Keyghobadi at Western University. As well, I am part of the collaborative graduate program in Environment and Sustainability at Western. As long as I can remember biology has always been my favourite subject in school and I can remember having ambitions of becoming a marine biologist or a veterinarian. In high school I knew that I wanted to go into a career in biology, although perhaps because of the high school curriculum and the popularity of shows such as ER I was more interested in medical science. That all changed after taking my first course in Ecology and Evolution taught by the late entomologist Dr. Terence Lavery. I quickly realized that I found ecology fascinating and I decided to change the focus of my undergraduate degree. In particular I was really taken with conservation genetics and the idea that you can use molecular markers to help provide insight into various aspects of a species' biology, in particular those aspects that may be difficult to study using traditional field methods.

Through experiences such as taking a field course in southern Ireland and conducting an honours thesis project, I knew that I enjoyed research and wanted to pursue a graduate degree. In my final year Dr. Nusha Keyghobadi [Canada Research Chair in Landscape Genetics] joined the Biology department at Western, and had a project available on the conservation genetics of an endangered British Columbian population of the Mormon metalmark butterfly (*Apodemia mormo*). It was the perfect opportunity, and just like that I became a graduate student and a butterfly enthusiast!

Now in the final year of my PhD, my thesis has evolved considerably from when I first started. My project primarily falls within the fields of conservation genetics and landscape genetics of butterflies, with particular emphasis on understanding the genetic consequences of habitat loss and fragmentation. However, I have broad interests in insect conservation and the evolutionary ecology of dispersal in fragmented landscapes and my thesis also explores the trade-offs of flight-associated morphology in relation to landscape structure, and the effects of non-lethal sampling methods used in genetic studies on the survival and reproductive behaviour of butterflies. I have worked with many butterfly species during my degree (from the families Lycaenidae, Nymphalidae, Pieridae, and Riodinidae) in a variety of very different habitats, from the arid river valleys of Okanagan, British Columbia, to the black-fly infested peatlands of Algonquin Provincial Park, Ontario. My thesis work has allowed me to develop skills in population genetic and spatial analysis, as well as in conducting mark-release-recapture studies, flight and reproductive behavioural experiments, and morphological analyses. As I move forward in my research career, I would like to complement my PhD work by studying the evolutionary changes in dispersal ability of species in response to ecological change, using a combination of molecular and traditional field methods.

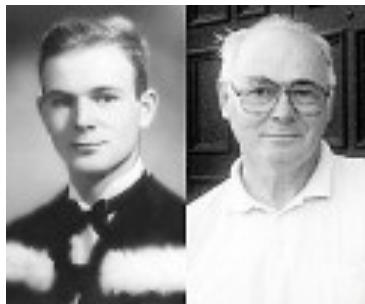




# John Richard Vockeroth Obituary

VOCKEROTH, John Richard ("Dick")

Richard left us peacefully in his sleep on Friday, 16 November 2012 at the age of 84. He was born in 1928 to John Henry and Adelheid (née Müller) Vockeroth. Predeceased by his wife Ann (née Glew), he is survived by his devoted sons Adrian (Nicole Johnson) of Gatineau and David (Miyuki Kamitsuma) of Maple Ridge, B.C., by his dear brother Robert (Erie, née Holmes) of Burnaby, B.C. by his loving grandchildren Matthew, Emilie, Sean, Sarah and Kai and by many nieces and nephews. Having earned the Governor General's award for the highest grade point average of any high school student in Saskatchewan, he studied at the University of Saskatchewan before receiving his doctorate from Oxford University in 1953. Richard gained international recognition during his lengthy career as an entomologist with Agriculture Canada and was appreciated by the worldwide scientific community. In 1997 he received the C.P. Alexander Award as the greatest living North American dipterist. His kindness and generosity are exemplified by the time that he devoted to many charities. The Vockeroth family would like to thank the many caregivers and medical staff who attended to Richard's needs these past few years. A Memorial Service will be held at the Central Chapel of Hulse, Playfair & McGarry, 315 McLeod Street (at O'Connor) on Wednesday, November 21st at 11:30 a.m.



## Submit Your Next Manuscript to JESO

Consider submitting your next manuscript to JESO.

Instructions to authors are available on-line at [www.entsocont.ca](http://www.entsocont.ca)

**\*\*As of 2011, page charges in JESO have been waived!\*\***

Electronic submissions should be directed to:

John Huber  
JESO editor  
[john.huber@agr.gc.ca](mailto:john.huber@agr.gc.ca)

## Upcoming Entomological Meetings

**Toronto Entomologists' Association: "Exploring Arctic Ichneumonid Communities with the Northern Biodiversity Program"** Laura Timms, January 26, 2013, 1:15 p.m., 206 Victoria College, University of Toronto

**Toronto Entomologists' Association: "Leaf-mining Insects"** William D. McIlveen, February 23, 2013, 1:15 p.m., 206 Victoria College, University of Toronto

**Toronto Entomologists' Association Student Insect Research Symposium**, March 23, 2013, 432 Ramsay Wright Bldg, University of Toronto (see page 10 for more details)

## New ESO Membership Renewal Option!

Do you often forget to pay your yearly ESO membership dues (hint, hint, the start of 2013 and a new membership season will soon be upon us)? Are you a long-time devoted member of the ESO? Based on member feedback, we've created a NEW membership dues option that will be available for 2013:

**A one-time payment of \$150 to secure a 5 year membership!**

Coming soon to the PayPal payment method and ESO registration form; both are available via the ESO website.

For all membership and payment options, please visit [www.entsocont.ca](http://www.entsocont.ca) to pay via PayPal or mail your invoice and payment to:

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

**Student, amateur and retired** memberships in Canada are free but **must be renewed each year!** Free memberships may be renewed

electronically by sending an email to

Nicole at:  
[nicole.mckenzie@hc-sc.gc.ca](mailto:nicole.mckenzie@hc-sc.gc.ca)

## ESO Committees

**ESO Regional Rep to ESC:** Patrice Bouchard - 613-759-7510, patrice.bouchard@agr.gc.ca

**JESO Editor:** John Huber - 613-759-1840, john.huber@agr.gc.ca; Jess Vickruck (Technical Editor) - 905-688-5550 x3956, jvickruck@gmail.com

**Outreach:** Christie Bahlai - 517-331-0499, cbahlai@msu.edu; Angela Gradish - 519-824-4120 x58810, agradish@uoguelph.ca; Sophie Cardinal - 613-759-1797, sophie.cardinal@agr.gc.ca

**Nominations:** Bruce Gill - 613-759-1842, bruce.gill@inspection.gc.ca

**Website:** Morgan Jackson (webmaster) - 519-824-4120 x52582, jackson@uoguelph.ca; Sigrun Kullik - 519-829-9041, kullik.sigrun@gmail.com; Hume Douglas - 613-759-7128, douglash@inspection.gc.ca; Joel Gibson - 226-979-2560, jfgibson@uoguelph.ca

**2013 AGM:** Hannah Fraser - 905-562-1674, hannah.fraser@ontario.ca; Joel Gibson - 226-979-2560, jfgibson@uoguelph.ca; Gary Umphrey - 519-824-4120 x53288, umphrey@uoguelph.ca; Angela Gradish - 519-824-4120 x58810, agradish@uoguelph.ca; Jeff Skevington - 613-759-1647, jhskevington@gmail.com; Morgan Jackson - 519-824-4120 x52582, jackson@uoguelph.ca; Cynthia Scott-Dupree - 519-824-4120 x52477, cscottdu@uoguelph.ca; Gard Otis - 519-824-4120 x52478, gotis@uoguelph.ca

**Finance:** Bruce Gill - 613-759-1842, bruce.gill@inspection.gc.ca; Hannah Fraser - 905-562-1674, hannah.fraser@ontario.ca; Shiyu Li - 613-694-2459, sli@nrcan.gc.ca; Nicole McKenzie - 613-736-3393, nicole.mckenzie@hc-sc.gc.ca

**New Member Contact:** Nicole McKenzie - 613-736-3393, nicole.mckenzie@hc-sc.gc.ca; Rose Buitenhuis - 905-562-0320 x749, rose.buitenhuis@vinelandresearch.com; Sophie Cardinal - 613-759-1797, sophie.cardinal@agr.gc.ca

## Message from the Secretary

### Online Voting Success:

This was the first year that a majority of the election ballots were sent out electronically. All eligible voting members were sent an e-mail with an individual voting link specific to their e-mail address. The members who requested a paper version of the Newsletter and all of the ESO Fellows were mailed a paper ballot. The ballot return rate for this year's election was 40% for the traditional paper ballots and 55% for the electronic ballot. In comparison to other years the voter response has improved with the electronic system (return rates were 34%, 40% and 33% in 2009, 2010 and 2011 respectively). So thank you for helping to make the ESO online voting option a success! If you have any comments or concerns about the voting system please do not hesitate to let me know.

### Update on Changes to the Constitution and Bylaws:

To allow for online voting to occur as an option for ESO elections, a change to the constitution and by-laws was required. Thank you to those members who attended the Annual General Meeting at Brock University in 2011 and voted on the proposed changes. As an update, the changes were accepted and a new version of this document will be available on our website shortly.

Thanks,

Nicole McKenzie  
ESO Secretary  
nicole.mckenzie@hc-sc.gc.ca

---

## Toronto Entomologist's Student Research Symposium and Research Grant

**Student Insect Research Symposium:** Every year in March, we hold our annual Student Symposium at the Ramsay Wright Zoological Building at the University of Toronto. The next symposium will be held March 23, 2013. Graduate students, senior undergraduates and postdoctoral fellows are eligible to present either a talk or a poster. Everyone is welcome to attend. The audience is a good mix of professional and amateur entomologists who provide a large forum for the students. Abstracts (250 words) will be published in our news journal, Ontario Insects. Longer reports are optional. Students interested in participating should contact Doug Currie, academic co-ordinator of the symposium at c.currie@utoronto.ca with a provisional title. He will discuss whether a talk or poster is feasible. We aim for 6 talks and 10 posters and would like to cover a broad range of topics. Slots for the talks often fill up quickly. Talks will be limited to 10 minutes plus 5 minutes for questions. Posters must be of reasonable size - 3 to 4 feet - and be capable of being attached to the walls without damaging them. Abstracts of the talks and posters (250 words) will be published in the TEA newsletter Ontario Insects. Deadline for applying to participate in the symposium is early March of every year. (date TBA, see: [www.ontarioinsects.org](http://www.ontarioinsects.org))

**Travel Grants:** TEA travel subsidy to the symposium - limited budget is available. Eligibility: To be awarded to graduate or undergraduate student(s) studying insects at an Ontario university and presenting a talk or poster at the TEA Symposium that are travelling to the symposium from outside the Greater Toronto Area. Application (Word or pdf): must include a detailed list of expected travel costs. Deadline for application: early March. (date TBA, see: [www.ontarioinsects.org](http://www.ontarioinsects.org)).