Hey Dudes and Dudettes – If I had had time to update this column, here are a few things that have been on my mind lately that I’d probably would have liked for you to know about:

The SON Website is up and running

Wahoo! I hope that you noticed that our website was down for a while, but now it has been replaced with a brand new one (It hasn’t been hacked yet!)! The old one served us well, but had some vulnerabilities such that it made sense for us to build a new one from scratch. The new and improved website is up and functional. You have heard from us about renewing your membership. If you haven’t done so yet, please renew your membership, and while you’re at it, don’t forget to register for our joint meeting in Montreal. Parlez vous Frances! We really want you as a member of our society and, if possible, you can even make an effort to help in its efficient operation.

SON and ONTA – Montreal 2016

Ahh! I smell the wet ink on those large posters printed for our annual meeting, and I can imagine those power-point presentations coming together one slide at a time. I know that you have sorted out the story you’re going to tell at the SON meetings this summer in Montreal. Now is the time to submit your abstract and registration for our joint meeting with the Organization of Nematologists of Tropical America (ONTA). This meeting is a terrific opportunity to find out what is going on in our world of nematology. Without your participation and contributions, well, yeah, these potentially awesome meetings will pretty much suck. Cowabunga! That’s right! Your contributions to the scientific program – the symposia, poster sessions, contributed papers, and chit chat around the social functions are what make ours the best nematology meetings in the world. You know it’s
true. No two meetings are the same, but each one we’ve had has been an amazing synthesis of diverse ideas and applications. These meetings could be game-changers for you, don’t miss them! I am looking forward to seeing you all in Montreal. Como esta usted seniors and senioritas!

Become one of the Rich and Famous

Every single graduate student who applied for a travel award received one last year. Golly! No guarantees that we’ll have the same ratio this year, but if you’re a grad student and you’re reading this, step 1: Get stoked! Step 2: Start putting your science story together, Step 3: Get an abstract packaged up, Step 4: Apply for a travel award, Step 5: Gas up the moped or start shopping for good airfares! The call for applications are on the following pages of this edition of the Nematology Newsletter; don’t let this opportunity pass you by! (If you’re not a grad student, but you know one, start at step one, and then pass this on.)

¿Qué volá contigo?

SON has put in a bid to host the 2020 IFNS Congress. Cuba. You read that right. We’ve put in a bid to host the 7th International Nematology Congress, and we’re proposing to hold the meetings in Cuba. If it works out, we have a wonderful opportunity to buy some good cigars and to bring the world’s best and brightest together - to let science light a path forward in bridging historical divides and creating greater synergy amongst the world’s nematologists. Step one: Get stoked and get smoked!

SON + you = YOU

SON can play a big role in your career trajectory. (Hopefully upward!) It might just be bigger than you think. Take a trip back to the first time you gave a presentation at an SON meeting – do you remember who was in the audience asking questions? Of course you do. And do you remember getting chatted up by the silverbacks during the break, sitting next to one of your idols (i.e. Jon Eisenback) on a tour bus, holding your ground at your poster, commiserating with fellow grad students, staying up all night practicing your presentation, exchanging reprints, email addresses, business cards, and nema trading cards (see page 21). Now, just for kicks, start connecting the dots: Pull up your CV and highlight the coauthors on your papers and proposals and make note of all the links to the SON. Jot down the names of the folks (i.e. Paulo Vieira) who played a role in getting job interviews, wrote letters in support of your proposals, job applications, promotions, tenure, rank advancement, etc. For just about all the SON members I know, the list gets pretty big pretty fast*. If the SON played an important role in getting you where you are, or it is taking you where you want to be, please consider investing you time and talents in our organization. Serve on one or more of our standing committees. Organize a symposium at our meetings. Make a donation to the Cobb foundation. Help us grow this life-changing, planet-changing science machine! Stop using Methyl Bromide to slow down the global warming, and most of all, renew your membership in the Society of Nematologists!

Cheers and awesomeness,

Byron

*The reason for this can be derived in the parlor game I call “the 6-degrees of SON awesomeness”: Take any nematologist (i.e. Ernst Haekel - N. A. Cobb - Gotthold Steiner - Hedwig Hirschmann - Jon Eisenback), anywhere in the world, and in 6 steps or less you’ll find that they are linked to the SON. Go ahead, try it!
Call for Award Nominations for 2016

The Society of Nematologists recognizes individuals for scientific excellence and contributions to the science of nematology through several awards. A member of the society may nominate one candidate per year for each award. It is important that nominations provide a critical analysis of the nominee's contributions. The Honors and Awards Committee encourages members of the Society to actively seek candidates with outstanding records and nominate them for an appropriate award for the year of 2016. One or more candidates are chosen for each award.

Honorary Member Award is the highest honor bestowed by the Society. It is awarded for meritorious and superlative contributions to the science of nematology. The number of living persons in this category should not exceed 2% of the regular and emeritus membership, and the award is limited to one person per year.

Fellow of the Society is granted by the Society to a member in recognition of distinguished contributions to the science of nematology. No more than 0.4% of the living membership may be elected Fellow in any given year. This honor is bestowed upon a member who has excelled in areas of significant research, teaching, extension, administration, or through contributions in service to the Society of Nematologists or the science of nematology above and beyond that of most of its members.

The Syngenta Crop Protection Award is presented by Syngenta to a person who has made contributions in nematology, not previously recognized, which has led to significant advancement in agriculture. The contributions should have been made within the last 5 years and the nominee should be within 15 years of receiving a Ph.D. degree at the time of the award.

Teaching Excellence Award recognizes a SON member for excellence in teaching nematology. The nominee must have excelled in classroom teaching of a nematology course or through developing innovative nematology teaching materials for use in a classroom-setting (K-12, undergraduate or graduate level).

NOMINATION INSTRUCTIONS:

The nomination packet must be submitted by June 1, 2016. Any member of the Society may submit nominations, and the nomination process are performed in confidence. Each nomination packet should include the following:

1. Statement: This should include the nominee's name, educational background, current and previous positions, and contributions to nematology and agriculture in the scope of the particular award. The statement must also explain and document the significance of these contributions. Each statement must be double-spaced and no more than 4 pages long.

2. List of publications: A listing of publications separated into the following categories: a) peer-reviewed journal publications, b) book chapters or reviews, and c) other publications such as bulletins, laboratory manuals, extension publications, etc. The publication list must be single-spaced.

3. Letters of endorsement: Besides a cover letter, each nomination should also include two letters of endorsement. The letters should be addressed to Tesfamariam Mengistu, Chair of the Honors and Awards Committee. Electronic submissions are preferred. Send Word or PDF documents to Inga Zasada at inga.zsada@ars.usda.gov.

NOMINATIONS MUST BE RECEIVED BY JUNE 1, 2016
Nathan A. Cobb Student Travel Awards

The Nathan A. Cobb Foundation is pleased to request applications for three graduate student travel awards to attend the 2016 Society of Nematologists (SON)/Organization of Nematologists of Tropical America (ONTA) meeting in Montreal, Canada. Each award will be in the amount of $700 (USD).

1. Two awards are from the General Fund. These awards are not restricted to a discipline, and the application is open to all students.

2. A third award is from the Entomophilic Nematology Endowment. The student’s presentation must be on research involving entomophilic/entomopathogenic nematodes.

For more information about these endowments, see the N.A. Cobb Nematology Foundation web site: http://www.crec.ifas.ufl.edu/societies/nacobb/projects.shtml.

Submission/Eligibility guidelines (abstract, cover letter & application):

- An individual must submit an abstract and make a presentation (oral or poster) at the meeting. The guidelines for abstracts are available on the Society of Nematologists (SON)/Organization of Nematologists of Tropical America (ONTA) meeting web site: http://soilecology.ca/SONONTA2016/.

- Cover letter (no more than 1 page) stating the rationale and overall goals of the research and the hypothesis being tested.

- Complete the application form (see next column). Membership in the Society of Nematologists (SON) is not required, and an award may be given to an individual more than once.

Submit cover letter, abstract, and awards application as a single PDF document via e-mail to:
Inga Zasada
inga.zasada@ars.usda.gov

All submissions must be received by April 15, 2016

LATE APPLICATIONS WILL NOT BE CONSIDERED

The Honors and Awards Committee will evaluate the requests and make award announcements by April 30, 2016

Cobb Graduate Student Travel Award Application Form

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Bayer Graduate Student Travel Awards

The Society of Nematologists 2016 Local Arrangement Committee has received $5,000 from Bayer to support student travel to the SON 2016 Meeting in Montreal, Canada. Ten awards of $500 (USD) each will be provided to students presenting papers (oral or poster presentations) at the meeting. The guidelines for abstracts are available on the Society of Nematologists (SON)/Organization of Nematologists of Tropical America (ONTA) meeting web site: http://soilecology.ca/SONONTA2016/.

Submission/Eligibility guidelines:

• Full-time student status or completion of graduate degree requirements no more than 12 months before the meeting.

• Submission of abstract to the SON/ONTA Meeting.

• Cover letter (no more than 1 page) describing your research and why you want to attend the SON/ONTA meeting.

• Submission of the completed application form (see next page), cover letter, and a copy of your abstract.

Both SON and ONTA students are eligible for this award.

Submit cover letter, abstract, and awards application as a single PDF document via e-mail to Inga Zasada inga.zasada@ars.usda.gov

All submissions must be received by April 15, 2016

LATE APPLICATIONS WILL NOT BE CONSIDERED

The Honors and Awards Committee will evaluate the requests and make award announcements by April 30, 2016

Bayer Graduate Student Travel Award Application Form

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<td>Major Professor's E-mail</td>
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<td>Have you attended previous SON meetings?</td>
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<td>Have you ever received a SON travel award?</td>
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XVI. A Letter from Mr. Turbevil Needham, 
to the President; concerning certain 
chalky tubulous Concretions, called Malm: 
With some Microscopical Observations on the 
Farina of the Red Lily, and of Worms dis-
covered in Smutty Corn.

S I R,

Read Dec. 22. 1743.

Though you desired me, when I had 
the Satisfaction of waiting upon 
you at London some Weeks ago, to commit to Wri-
ting the Observations I had made upon that chalky, 
alkalizate Substance, which they here apply to Manure, 
and call Malm; yet I purposely deferred complying 
with my Engagement, till a Review of some Parti-
culars, which I had before observed but slightly; as 
well as some additional Remarks, which I have since 
made, should enable me to give in a more satisfactory 
Account, than I could engage to do at that time. 
This Bed of Malm lies in a Valley, at the Foot of a 
long Ridge of chalky Downs; extends from Win-
chelsey, where it begins, as I have been informed, 
almost due South, about Four measured Miles; the 
Breadth not above a Quarter of a Mile; and Depth, 
at a mean Computation, about Five Foot. It is used 
in Manure for the same Purposes as Chalk is, but an-
swers the Intent much better. It rises up in one con-
tinued Bed, almost to the Surface; where a thin Layer 
of common Earth but just hides it in all Places, where con-

continual Cultivation has not superinduced a new 
Soil. Horsetail, and a Species of Wild Trefoil, 
grows out of it very plentifully, especially the first, 
which sink their fibrous Roots to a considerable 
Depth in it: The whole Bed consists of separate de-
tached Pieces, in the Nature of those which you have 
by you, and of several Dimensions, as those are, 
mostly long and tubular; some few round, with a 
small Cavity in the Centre, others quite flat, and 
some, as it were, excavated on one Side, as if the 
chalky Laminae had extended themselves round a Piece 
of Bark; but all of them hollowed within, agreeable 
to their exterior Shape, except very few. I believe 
it may be asserted, with some Confidence, that this 
Valley formerly was over-run with Wood, if not wholly, at least for some considerable Length and 
Breadth: Wild Boars Tusks, which are known by 
their Length; Stags-horns, and a Flint-knife, which 
have been found buried to some Depth, in the Malm, 
seem to evince as much. That Trees of considerable 
Dimensions have grown in it, is very evident; for, 
in a Drain, which they have lately made to convey the 
Water from the main River to the adjacent Meadows, 
Trees of a vast Size may be seen, at Two or Three 
Feet Depth, in no small Number, retaining both Shape 
and Substance in some measure, though much decayed, 
and not so compact and solid in those Parts, which have 
been exposed to the Water; these lie out of the Verge 
of this Bed of Malm, and are not consequently affected 
by it. Now I am much inclined to think, that 
these Trees, together with the rest of the Wood, 
might, by Age, and some Accident combining with it, 
have fallen; the upper most might have served to bury 
the
the rest, and preserve them from a more immediate Decay, by cutting off their Communication with the exterior Air. Rains, in Process of Time, must have washed off from the adjacent Hills to some certain Distant, and deposited in the neighbouring Valley, but mixt with other heterogeneous Substances, as decayed Wood, Earth, &c. a Quantity of chalky Particles, sufficient to involve, by a continual Addition of new Laminae, Roots, Trunks, Branches, Twigs, and the broken Extremities of Twigs; and tending continually to form Masses resembling the supposed Particulars. I don't now imagine, tho' I once thought so, that these chalky Particles have penetrated the Wood itself, and converted it into its own Substance, in the Nature of ordinary Petrification, except here and there some few particular Pieces: but I rather suppose, that the Pieces of Wood have been invested continually by additional Laminae; that the first Laminae must have adapted itself to, and assumed the exterior Shape, whether smooth or knotty, of the included Wood; that the others have proceeded accordingly; that the Extremities have gradually rounded themselves; and that in the Interim, till they were wholly closed, the included Wood has been infensibly attenuated by the passing Moiture, and, Particle by Particle, either entirely, or in Part only, wasted away. And, though it may be objected against this Supposition, that some Pieces are entirely solid, as one of those two large Pieces is which you have by you, and has the Refemblance of White-thorn; yet these are but rarely found, and may very well be supposed to have been a Species of Wood of a more solid and durable Contexure; which might consequently

sustain any considerable Attenuation by Water, long enough to permit the chalky Particles to penetrate, fix, and convert it into its own Substance: while other Woods, less tenacious, infensibly waste, and are carried off by the insinuating Liquid, together with the chalky Particles, which they not only could not arrest, but prevented effectually, by a Blending and Interposition of their own Parts, from adhering to each other. ———The Reasons, why I apprehend the Process of the Whole to have been in the manner described above, and answerable to my Supposition, are, first, the close Vicinity, I may almost say, Contaet of the chalky Hills, upon which this Bed of Malm attends throughout the whole Line, and no farther. Secondly, That this Malm is an Alkalize Bady, in a Degree something inferior to Chalk, as I found upon a Trial, some time ago, by putting equal Portions of each into equal Quantities of double-distilled Vinegar, and measuring the Height of the Fermentation in a long cylindrical Glaas. Thirdly, The Reasons, which I gave above, for supposing that this Valley formerly has been over-run with Wood. Fourthly, The Disposal of the several detached Pieces of Malm, which lie in all manner of Directions. Fifthly, The Resemblance which they bear to Roots, Trunks, Branches, Twigs, &c. Sixthly, Some additional Observations, which I have made since my Return from London, and those, I think, are almost decisive. In the Hollow of some of the oblong tubular Pieces, which were closed at both Ends, upon breaking them open, I found the Remains of the included Wood attenuated to a mere Thread, which, though extremely tender, I could plainly discover to be Wood, both by
its exterior Appearance, as well as by rubbing in my Hand, in order to try if it would colour it, as decayed Wood, that has imbibed Moisture, will do. Within the Lamina of several, I found a fair Impression of Leaves, in no small Number, and with little Trouble: The Leaves I knew not, as not being very familiar in the Vegetable World, though they appeared to me much to resemble White-thorn-leaves in their Shape, differing in this alone, that the Impression of the fore Part of the Leaf had many small indented Cavities, equal in Size to a Pin's Point, which had been formed by small Protruberances in the Leaf itself. Some Pieces I found quite flat, as if the chalky Lamina had involved a Chip, and the Cavity consequently went off insensibly less towards each Extremity. Others I found, whose Cavities at the Extremities were irregularly shaped, agreeable to the jagged Ends of broken Sticks. Some, in fine, I found excavated on one Side, and convex on the other, as if the Lamina had surrounded a Piece of Bark. These are the chief Observations which I have hitherto made, and which, I hope, are sufficient either to fix the Point where I have placed it, or to enable you to draw better Consequences; a Communication of which, at your Leasure, would please me much more than my own Supposition does, and in some my past Obligations. I cannot say, that I am so thoroughly satisfied with what I have advanced, as to judge it unquestionable; though I am sensible, that the finding of several Maltes of Malm, the Structure of which is not reducible to, nor explicable by, this Scheme, is no Objection to it; because, as every one knows the Tendency which chalky Particles have to dispose themselves in Lamina; so these Lamina may involve Bodies of different Kinds, as Parts of the fibrous Roots of Weeds, small Seeds, or the like; may assume their Shapes, increase continually in Bulk, and insensibly raise the Height of the Bed, where they are first formed. Perhaps an Examination of those Pieces of Malm, which you have by you, may enable you to form a Better Judgment of the Whole. I beg Leave to add a few Particulars relating to some microscopic Discoveries I have lately made. Upon viewing an Infusion of the Farina Facundans of the Lilium rubrum flore reflexo in common Water, I thought I perceived some Alteration in several of these minute Bodies, as if the outward Shell or Husk had, at a small lateral Office, shed a long Train of Globules adhering to each other, and enveloped in a filmy Substance. I, immediately upon this, applied some fresh Farina, adapted my Microscope before-hand, with the Tip of my Brush dropped a small Globule of Water upon the Object, and in a few Seconds, I plainly perceived a Rope of exceeding small Globules to be ejaculated with some Force from within, and connoting itself from one Side to the other, throughout the whole Line, during the time of Action, which does not last above a Second or Two, and is to be expected from a few only of these farinaceous Globules. These emitted Particles are very different from the small Globules of Oil, with which the Farina of the Lilly abounds; for these diffuse themselves equally on all Sides, while those, on the contrary, go off in one continued Train, like the ejected Pulp of a roasting Apple; and are involved in a filmy Substance, as the Eggs of some aquatic O o o o 2
aquatic Insects are. I have since chosen the Farina of a Pompion to repeat this Experiment upon, which is not of an oily Nature; and, upon account of its Size, may be conveniently observed with the Second Magnifier, where I have the Advantage of a larger Field. I viewed some few of these also out of the many farinaceous Globules, which were within the Area of my Microscope, with the same Success, and yet greater Pleasure: For I could plainly perceive, during the time of Action, by Two or Three lucid Specks in the Centre of the Globule, which continually shifted their Places, an intine Commotion within the farinaceous Corpuscle, and a stronger Excitation of the emitted Particles. Mr. Chambers says in his Dictionary, that no Alteration has been observed upon the Infusion of the Farina in Water: But this, I apprehend, is owing to the Observer’s not being ready with his Microscope, and present at the time of Action, which is almost instantaneous; and, as the Orifice at which these Particles emerge, is but small, it produces no very sensible Alteration in the Globule itself.

Upon opening lately the small black Grains of smutty Wheat, which they here distinguish from blighted Corn, the latter affording nothing but a black Dust, into which the whole Substance of the Ear is converted; I perceived a soft white fibrous Substance, a small Portion of which I placed upon my Object-plate: It seemed to consist wholly of longitudinal Fibres bundled together; and you will be surprised, perhaps, that I should say, without any the least Sign of Life or Motion. I dropped a Globule of Water upon it, in order to try if the Parts, when separated, might be viewed more conveniently; when, to my great Surprize, these imaginary Fibres, as it were, instantly separated from each other, took Life, moved irregularly, not with a progressive, but twisting Motion; and continued so to do for the Space of Nine or Ten Hours, when I threw them away. I am satisfied they are a Species of aquatic Animals, and may be denominated Worms, Eels, or Serpents, which they much resemble. This, if considered, will appear to be something very singular: But I have since repeated the Experiment several times, with the same Success, and gratified others with a Sight of it. I hope these few Discoveries will prove as agreeable to you, as they were to him, who begs Leave to subscribe himself,

S I R,

Your most obedient humble Servant,

Turbervill Needham.

ERRATA.

In No. 468. p. 374. l. 22. for nor ever read but: And ib. l. 23. for even read ever.
No. 470. p. 551. under the Crown, for E. L. read E. L.

N. B. At the End of No. 465. after p. 188. Two Leaves were cancelled; and therefore No. 466. begins at Page 193. and not with 189.

N. B. The spare Titles to No. 446. and to No. 467. may be cancelled.
The Society of Nematologists and Organization of Nematologists of Tropical America will be hosting a joint meeting in 2016. We are just beginning planning a great conference for July 17-21, 2016 in Montreal Canada fitting for the meeting of the Americas. The meeting kicks off with registration and a social on July 17, followed by two days of technical programs, a 1 day tour, and then closes with a one day technical program and awards banquet on July 21.

The Chair of the technical program committee is headed by Patricia Timper (patricia.timper@ars.usda.gov) for SON and Ignacio Cid del Prado Vera (icid@colpos.mx) for ONTA. The technical program planning will occur later this year.

The local arrangement committee is headed by Benjamin Mimee (benjamin.mimee@agr.gc.ca), Guy Belair (guy.belair@agr.gc.ca), and Mario Tenuta (mario.tenuta@umanitoba.ca). These three have already started planning a great conference.

Please visit the meeting website often for updated information: http://soilecology.ca/SONONTA2016/Program/index.html.
Position Announcements

A 24-month postdoc position is available at INRA (France) to study genome evolution in RKN.

Root-knot nematodes (Meloidogyne spp.) cause billions of € of economic loss to the world agriculture every year. These nematodes show an intriguing diversity of reproductive modes ranging from «classical» sexual reproduction to fully asexual reproduction. Curiously, the most devastating species are those that reproduce without sex and without meiosis. Furthermore, despite absence of sexual reproduction, these species are able to adapt and brake plant resistance.

The project aims at understanding how an asexual animal can be a more efficient parasite than its sexual relatives.

We have sequenced the genomes of three asexually-reproducing root-knot nematodes at high coverage and completeness. Genomes of two sexual relatives are publicly available for comparative genomics analysis.

The main goals of this postdoc project will be to:

- assess the level of heterozygosity within and between isolates of parthenogenetic root-knot nematodes using PoolSeq approaches.
- identify differences at the whole genome level between virulent isolates and their avirulent progenitors using GWAS.
- assess the rates of accumulation of mutations per generation and use molecular clock to date the age of asexuality in these species.

We seek a highly motivated young or independent researcher with a good background in comparative and population genomics and skilled in computational biology / bioinformatics. A PhD in the relevant topics will be requested. The candidate is expected to bring GWAS, variant-calling and molecular dating skills and expertise to our research team. The candidate will be the principal investigator in this project and is expected to show good autonomy and skills for oral and written communication.

Geographical mobility will be important too as the postdoc will have the opportunity to present the obtained results in international conferences.

More details, including information on how to apply, and on the salary are available at this URL: [http://edanchin.free.fr/index.php/component/content/article/52-postdoc](http://edanchin.free.fr/index.php/component/content/article/52-postdoc)

Where's the vulva on this perineal pattern of a root-knot female? Apparently this female forgot to switch on a few key genes in her development.
Nematologists in front of an elk antler arch in Jackson, WY. From left to right: Leslie Park (U Idaho), Vivian Blok (James Hutton), Inga Zasada (USDA-ARS), Jon Pickup (SASA), Benjamin Mimee (Ag Canada), Dee Denver (OSU), Louise-Marie Dandurand, Bertrand Contina (U Idaho), Aida Duarte, Rinu Kooliyottil (U Idaho), and Xiaohong Wang (USDA-ARS).

Globodera Alliance (GLOBAL) Annual Meeting

The first meeting of the Globodera Alliance (GLOBAL) occurred in Jackson, WY on Jan 17-19, 2016. GLOBAL is comprised of scientists from the University of Idaho, Cornell University, Oregon State University, USDA-ARS, Agriculture Agri-Food Canada, James Hutton Institute, and INRA. In 2015, the project “Risk Assessment and Eradication of Globodera spp. in U.S. Potato Production”, under the direction of Dr. Louise-Marie Dandurand (University of Idaho) and Dr. Inga Zasada (USDA-ARS), received funding from USDA-NIFA-AFRI Global Food Security program. Potato is the world's most important non-grain crop, and overall third most important food crop, and the United States ranks fifth in global production. Potato cyst nematodes, Globodera rostochiensis and G. pallida, are globally important pests of potato and can result in up to 80% reduction in yield of potato. The continued presence of G. rostochiensis in New York, the unexpected appearance of G. pallida in Idaho in 2006, the recent discovery of the new species Globodera ellingtonae in Oregon and Idaho in 2012, and the emergence of a new pathotype of G. rostochiensis in New York, all highlight the threat that this group of nematodes poses to the multi-billion-dollar U.S. potato industry. The goals and objectives of this project are to:

- Use a genomics approach to improve diagnostics and to characterize pathogen virulence and host resistance for development of resistant cultivars, and for detection and identification of effector genes and broader genetic variability in Globodera across its geographic range.

- Identify potato germplasm conferring resistance to three species of Globodera in new breeding lines for development of economically viable potato varieties.

- Work closely with stakeholders and policymakers to co-develop science-based agricultural approaches to deal with the threat of Globodera and implement sustainable, environmentally sound agricultural practices for potato production in the context of Globodera risk management.

Nematologist and members of SON involved in GLOBAL include: Louise-Marie Dandurand (University of Idaho), Xiaohong Wang and Inga Zasada (USDA-ARS), Dee Denver (Oregon State University), Benjamin Mimee (Agriculture Agri-Food Canada), Vivian Blok and John Jones (James Hutton Institute), and Eric Grenier (INRA).

Students and post-doctoral scholars involved with GLOBAL include: Rinu Kooliyottil, Aida Duarte, and Bertrand Contina (University of Idaho)

Nematologists and members of SON serving as advisory board members to GLOBAL include: David Chitwood and Andrea Skantar (USDA-ARS), Jon Pickup (SASA), James LaMondia (CAES), and Russ Ingham (OSU).

Want more information? Visit our website at https://www.globodera.org
Greetings HelmSoc Members!

Please join us for the 715th meeting of the Helminthological Society of Washington on Friday evening, 6 PM, April 22 through Saturday April 23 at George Washington University (GWU) in Washington, DC. Our keynote speaker Friday night will be Dr. William C. Campbell, the 2015 Nobel Laureate in Medicine or Physiology.

All information including how to register and submit abstracts (email or snail mail), times and locations, hotels, and online payment of registration fees are available at the following link:

https://smhs.gwu.edu/hawdon-lab/helmsoc-spring-meeting

All attendees must register to attend the meeting due to security at GWU.

Abstracts are due by March 25, early registration is due by April 1, and the last day to register is April 15.

Students are encouraged to come and compete in the the Stirewalt-Lincicome student paper competition with cash prizes for the top presentations.

New members can also join HelmSoc and immediately receive member registration rates via our online payment system, so please pass the link on to interested colleagues and students.

I hope to see you all there.

Sincerely,
Ashleigh Smythe
Corresponding Secretary-Treasurer
The Helminthological Society of Washington

email: smytheab@vmi.edu
phone: 540-464-7934
website: http://web.vmi.edu/asmythe/Default.asp

Meetings of Interest to Nematologists:


June 12-17, 2016: 33rd Brazilian Meeting of Nematology. Petrolina, PE, Brazil http://www.nematologia2016.com.br/

July 17-21: Joint Meeting of the SON and ONTA. Montreal, Québec, Canada http://soilecology.ca/SONONTA2016/index.html


July 24-28: The International Congress on Invertebrate Pathology and Microbial Control and the 49th Annual Meeting of the Society for Invertebrate Pathology. Tours, Loire Valley, France http://www.sipweb.org/meetings.html

July 30 – August 3, 2016: APS Annual Meeting. Tampa, FL, USA http://www.apsnet.org/meetings/annual/Pages/default.aspx

August 10 - 13, 2016: The 13th Chinese Nematology Symposium, Kunming City, Unnan Province, China

August 22 - 26, 2016: The 27th International Colloquium on Soil Zoology and 14th International Colloquium on Apterygota, Nara, Japan http://soilzoology.jp/icsz_ica2016/abstracts-submission/

SUBMISSION OF ABSTRACTS

Deadline April 15, 2016

SUBMITTING YOUR ABSTRACT

• Abstracts for all ONTA and SON oral and poster presentations should be submitted via the SON website http://www.nematologists.org/.

• Your abstract will be limited to 500 words written in English or Spanish.

• Abstracts must be received by April 15, 2016.

• If you are not able to submit your abstract(s) via the SON webpage, please send your abstract in a PC compatible format as an e-mail attachment to: Patricia.Timper@ars.usda.gov

GENERAL INSTRUCTIONS

• Abstracts must be received by April 15, 2016.

• Abstracts will be presented in a program booklet that will be distributed at the meeting. This version is unedited; therefore, you are requested to have your abstract reviewed by two colleagues before submission.

• Abstracts for oral and poster presentations will be published in the Journal of Nematology. This version is edited before it is accepted for publication. The abstract may be returned to the author for revision.

• If you do not attend the meeting, your abstract will not be published. Please inform the Program Chairs if you need to withdraw your abstract for any reason. Patricia.Timper@ars.usda.gov or Ignacio Cid del Prado Vera icid@colpos.mx

• Time for oral presentations = 12 minutes, plus 3 minutes for discussion.

• Presentations should be in English or Spanish.

• An LCD projector will be available for oral presentations. A laptop and an LCD in a preview room will be available, and presenters should bring their talks prepared in Powerpoint or Powerpoint-compatible format. All talks will need to be preloaded before the beginning of the session.

ABSTRACT FORMATTING INSTRUCTIONS

• The abstract should be in 12-pt font (a Times font is preferred), single spaced and with left justified margins.

• Abstracts can be written in English or Spanish.

• Capitalize the abstract title.

• Include the full name of the first author (last name, first name).

• Additional authors should be listed by initials followed by surname.

• All authors should be listed using bold print.

• List author addresses immediately after list of authors. Use superscript numbers to clarify authors and addresses.

• Start the abstract on the line following the line with the last author’s address.

• Indent the first line of the abstract 5 spaces.

• Scientific names should be italicized but omit taxonomic authorities and references.

• Abstracts are limited to 500 words including title, authors, and addresses.

SAMPLE ABSTRACT

RESILIENCY OF A NEMATODE COMMUNITY AND SUPPRESSIVE SERVICE TO TILLAGE AND NEMATICIDE APPLICATION. Timper, Patricia1, R.F. Davis1, and G. B. Jagdale2. 1USDA ARS, P.O. Box 748, Tifton, GA 31793, 2Plant Pathology Dept., University of Georgia, Athens, GA 30602.

We hypothesized that populations of predatory and omnivorous nematodes would be slower to recover from conventional tillage and nematicide application than other nematode trophic groups, and that lower populations of predators and omnivores would lead to greater survival and reproduction of plant-feeding nematodes (i.e., pest resurgence). A field study was conducted from 2008-2010 with two tillage regimes (strip and conventional) and two nematicide treatments (the fumigant 1,3-dichloropropene and a no-nematicide control) with six replications. Soil samples were collected pre-fumigation, post plant, and mid season during each year. Tillage had little impact on the nematode community, but 1,3-D reduced numbers of all trophic groups compared to the control at post plant and mid season. Omnivores and predators were not severely impacted by the nematicide treatment; populations of both groups repeatedly recovered by the following spring from the yearly application of 1,3-D, with the exception of predators in 2008. We
used two bioassays to measure the suppressive service of the soil community: one determined survival of the reniform nematode (*Rotylenchulus reniformis*) and the other reproduction of *Meloidogyne arenaria* on peanut. Survival of *R. reniformis* was greater in defaunated compared to native soil indicating that the soil contained organisms that consumed nematodes. Application of 1,3-D led to an increase in survival of the *R. reniformis* from 53% in the control to 78% in treated plots at post plant, and from 55% in the control plots to 66% in treated plots at mid season. Likewise, reproduction of *M. arenaria* was greater in soil treated with the nematicide. At post plant, survival (%) of *R. reniformis* was negatively correlated with abundance of predators + omnivores. Organisms other than nematodes were likely involved in the suppressive service. This was particularly evident at pre-fumigation, when survival of *R. reniformis* was lower in plots previously treated with 1,3-D than in control plots. The nematicide may have altered the soil community to allow a fungal, bacterial, or invertebrate antagonist of nematodes to increase in abundance.

### INSTRUCTIONS FOR POSTER PRESENTATIONS

Each poster will be given a number and allotted a space 90 cm wide x 110 high (or 35 inches x 43 inches). The spaces will be numbered ahead of time so that you will know where to place your poster. Pushpins will be provided for mounting the poster.

Indicate the title, and name(s) of author(s) at the top of your poster so that it may be identified easily; the lettering for this heading should be at least 1” (30.5 cm or 72 points) high.

As a general guideline, text and illustrations should be comfortably read from a distance of 3 to 4 feet (or 1 m), so make them large enough to be seen clearly. Charts, drawings, photographs and illustrations might well be similar to those used in making slides and more heavily drawn. Simple use of color can effectively add emphasis. Your poster should be printed on lightweight materials that could be supported by pushpins. Hand-lettered material is generally unsuitable for professional and effective poster presentation. Typed material should use the largest font possible, but at least 30 points in size. Illustrated materials should be kept simple. It also might be useful to have small copies of the poster for handouts, and a tablet of suitable sketch paper as well as a felt marker to use in discussion and further illustration.

### Call for Papers

The Society of Nematologists (SON) and the Organization of Nematologists of Tropical America (ONTA) announce their joint meeting to be held at the Montréal Marriott Château Champlain in downtown Montréal, Canada from Sunday, July 17 through Thursday, July 21, 2016. The banquet will be Thursday evening and tours are planned for all day Wednesday. Members and non-members of ONTA and SON are invited to submit abstracts of papers they intend to present either as a poster or an oral presentation or, if an invited speaker, as a contribution to one of the symposia. Abstracts can be in English or Spanish. For all types of presentations, abstracts must be received on or before the deadline: Saturday, April 15, 2016.

The Program and Abstracts booklet will be prepared from the abstracts received and will be handed out at the meeting registration desk. In addition, all abstracts will be accessible on the meeting website and published in the Journal of Nematology. Participants must have their abstracts reviewed by two colleagues before submitting the abstract via the SON website (http://www.nematologists.org/).

Instructions for submitting abstracts and further information about the meeting can be accessed from the meeting website at: www.soilecology.ca/SONONTA2016/.

Students should note that all student papers submitted for judging must be clearly designated as a Student Oral Paper Presentation or Poster on the appropriate menu button.
News from Japan - Koichi Hasegawa’s Lab

Since 2011, I have been a lecturer and principal investigator of the Department of Environmental Biology from Chubu University (Japan), studying the mechanism and evolution of symbiosis. My basis is nematology but current laboratory projects are expanding to broader biological fields, and technology/methodology are also quite broad. Here I’d like to introduce our University, laboratory and some of our exciting projects.

Our campus is in Aichi prefecture that locates in the center of Japan, the 4th largest prefecture with a population over 7.4 million. Aichi is the heart of business & industrial network of our country, best known as an industrial powerhouse - Home of Toyota Motor Corp., Denso, etc. The Chubu (Central Japan) region accounts for approximately 60% of Japan’s trade. Easy to access to Tokyo (at around 1.5 hours) and to Osaka/Kyoto (at around 40 min) by bullet train “Shinkansen”. With the spirits of Monozukuri, the art of making things and the passion of research and creativity (Greater Nagoya Initiative), our University was born in 1964. The College of Bioscience & Biotechnology was established in 2001 as the 5th of our seven colleges, and since then about 110 undergraduate students are enrolling in our department every year.

One of our most favorite is the cockroach and parasitic nematode project, namely “Cockrome project”. Probably, almost all people know this unwanted creature but have never thought of their parasitic nematode. Thelastomatid parasitic nematodes inhabits in the intestine of many cockroach species exhibiting an obligate parasitic lifecycle absolutely depending on their hosts. Because cockroaches have survived since 350 million years ago without drastic change in their morphological pattern, it’s intriguing to examine the evolution of the mutual relationship between these parasites and hosts. This project extends to genetics, genomics, taxonomy, ecology and evolution, immunology, food science and IPM. Previously, everyone hated cockroaches, but now they are very happy to learn a lot of things from this lovely creature! Entomopathogenic nematode is also pretty attractive project. We have so much curiosity about how EPN has evolved to establish mutualistic relation with such extreme pathogenic bacteria Photorhabdus and Xenorhabdus. We’re looking for key molecules used for recognition of symbiotic partner and establishment of such relations using forward genetics.

Because we’re surrounded by such a rich industrial environment, almost all students can get jobs immediately after the graduation. Stated differently, only a small number of students in our department go to the graduate school to continue their research. Even in such environment, many members of my laboratory have won highly competitive JSPS fellowships and continued their research. JSPS offers fellowships for PhD students (mainly domestic students), postdoc scientists (foreign and domestic students), and invited foreign researchers/professors (JSPS HP, http://www.jsps.go.jp/english/index.html). For foreign students that have obtained a master degree, it’s possible to apply for the MEXT fellowships to join my lab (http://www.g-studyinjapan.jasso.go.jp/). We must pass a competitive screening, however I would like to open our laboratory door for all highly motivated students.

Happy lab members holding gift books from Cuban colleague Jans Morffe. From left to right, Sota Ozawa, Kazuki Sato, Koichi Hasegawa, Cláudia Vicente, Yoriko Ikuyo.
Obituary for George Fassuliotis

Distinguished Nematologist, Plant Breeder, and Musician

Charleston - Dr. George Fassuliotis, 88, of Charleston and husband of Helen K. Fassuliotis, passed peacefully on Monday, August 17, 2015.

George Fassuliotis was born on June 7, 1927, in Brooklyn, NY to the late Costas and Maria Fassuliotis. One of his earliest recorded achievements was in 1941, at the age of 14, when he was presented the prestigious Haney Medal awarded by the School Art League of New York City. His music interests blossomed as a member of the Charleston Bouzoukia Orchestra from 1962 to 1975 and he led small groups performing at weddings, baptisms and many cultural events.

He enlisted in the US Marines in 1945, at the age of 17. He was first introduced to the Southeast, serving at both Parris Island, SC and Camp Lejeune, NC.

In 1959, he relocated to Charleston with his young family and concluded a 40 year career with the United States government as the Director of the USDA Agricultural Research facility in Charleston. He was also a past president of the International Society of Nematologists and hosted their national convention in Charleston, SC. He was an active member of the South Carolina Agricultural Society.

In his retirement, he mentored inner city children and may be remembered as a common sight, sitting on his beloved bench at the End of the Rainbow, Charleston, SC. He was fondly referred to as perhaps the most photographed curmudgeon in the world.

[Obituary Link]

Dr. George Fassuliotis (1927-2015)

Notice of the Passing of Bill Mountain

William B. (“Bill”) Mountain had a long and distinguished history of service to Canada, including a significant impact on research in nematology. Bill was born in Kamsack, Saskatchewan, and raised in Stratford, Ontario. At nineteen, he volunteered to serve as a bombardier with the Royal Canadian Air Force from 1942 to the end of World War II.

After the war, he received a B.S. from the University of Western Ontario and a Ph.D. from the University of Toronto (1953) in plant pathology and mycology. His interest in nematology was enhanced as a postdoc at the USDA Nematology Laboratory at Salt Lake City, Utah training with Dr. Gerald Thorne. His earliest recognition as a nematologist came from his axenic culturing of Pratylenchus penetrans on callus tissue. It was a preliminary step to proving pathogenicity by standards acceptable to phytopathologists. He is best known for his leading research and multidisciplinary approach to resolving many of our nematological disease problems under both controlled and field conditions.

In 1964, he was appointed Director of the Vineland Research Station. Drs. Frank Marks, Theo Olthof, John Potter, John Townsend and Wade Johnson were all members of that group. Five years later, Mountain was appointed Director, Entomology Research Institute, Ottawa, to which the national nematode systematics group belonged. Drs. Roger Anderson; LY , Wu; Bruce Hopper and K.C. Sanwal were members of that group led by Roland Mulvey. Dr. Mountain served as an Assistant Editor for Nematologica from 1964 to 1968. He was a founding member of the Society of Nematologists (SON), and served the Society as an Executive Committee Member, Vice-President and was the President for the Society of Nematologists in 1964-1965.

(Extracted from the obituary written by Dr. George Fassuliotis)

Dr. Bill Mountain (1922-2016)
Nematology Courses Announced

Nematology Courses in Wageningen 2016

In close cooperation with the Netherlands Food and consumer Product Safety Authority (former Dutch Plant Protection Services) and the Netherlands Institute of Ecology (NIOO-KNAW), the Laboratory of Nematology is offering a series of nematology courses. Hands-on practical training is a key element in all courses offered; we aim to teach you to-do-it-yourself.

All courses will be held at the Laboratory of Nematology. The course schedule is designed in such a way that courses - or modules - can be combined conveniently. By doing so we hope you will be able to learn the things you want to learn in an efficient time frame.

http://www.wageningenur.nl/en/Expertise-Services/Chair-groups/Plant-Sciences/Laboratory-of-Nematology/Education/Other-courses.htm

<table>
<thead>
<tr>
<th>Course</th>
<th>Date</th>
<th>Morning/Afternoon</th>
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<tr>
<td>Basic Course in Nematology</td>
<td>14 March - 1 April 2016</td>
<td>Afternoon</td>
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<tr>
<td>Introduction Molecular identification</td>
<td>31 March - 1 April 2016</td>
<td>Morning</td>
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<tr>
<td>Molecular Identification</td>
<td>4 April - 8 April 2016</td>
<td>Afternoon</td>
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<tr>
<td>Identification of plant-parasitic nematodes</td>
<td>6 June - 10 June 2016</td>
<td>Morning and Afternoon</td>
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<tr>
<td>Identification of terrestrial and freshwater nematodes</td>
<td>13 June - 24 June 2016</td>
<td>Morning and Afternoon</td>
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This high resolution mosaic photomicrograph of second-stage juveniles of soybean cyst nematode, *Heterodera glycines* and root-knot nematode, *Meloidogyne* sp. is a free resource from the Nematology Newsletter and the Society of Nematologists. You are welcome to download a full high resolution version of this photograph from the NNL dropbox website posted on the previous page. Please credit J. D. Eisenback if you want to use it on a website or in a publication.

https://www.dropbox.com/sh/myxf6ealwgw57fn/AAAmJv3ypBCHHUhb73kptGxv5a?dl=0
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Members: Byron Adams, Senyu Chen, Nancy Kokalis-Burelle, Koon-Hui Wang

We wish to express our gratitude to the following companies who support our society and contribute to its continued growth:

Dear Nematology Newsletter Readers and SON members:

Since students are the future of our discipline, please consider supporting the Nathan A. Cobb Nematology Foundation: http://www.crec.ifas.ufl.edu/societies/nacobb/projects.shtml. The foundation's primary purpose is to raise money to provide travel for students to scientific meetings. Please make a generous contribution to the Foundation with your tax-deductible contribution when you renew your SON membership at http://www.nematologists.org/products/.

The SON website is up and running and available for you to renew your membership dues for 2016. If you are not a member please consider joining our society online and pay your dues as soon as possible.

You can now generate donations to the Nathan A. Cobb Nematology Foundation every time you make a purchase through Amazon.com. It won't cost you anything! Amazon has created the AmazonSmile Foundation to support 501(c)3 organizations, and when you shop at AmazonSmile, they will donate 0.5% of the purchase price to the Nathan A. Cobb Nematology Foundation. Please bookmark the link http://smile.amazon.com/ (select Nathan A. Cobb Nematology Foundation) and support the future of nematology every time you shop at Amazon.

Jon Eisenback and Paulo Vieira, Editors — Nematology Newsletter

Please submit your contributions to the Nematology Newsletter at the following email address: nematology.newsletter@gmail.com

Most of the photographs and the classic reprint contained in this newsletter are available for download as high resolution images at the following URL: https://www.dropbox.com/sh/myxf6ealwgw57fn/AAAmjLy3ypBCHHUhb73kpGX5a?dl=0

Follow us on Facebook, Twitter, and YouTube by clicking on the appropriate logo.
Instructions: Print the front and back of these nematode trading cards on the same page, carefully cut them out, and share them with your students, family, and friends.

**Nematode trading cards**

**Henry Charlton Bastian**
A British physiologist and neurologist who had a keen interest in biogenetics. He believed that he had witnessed the spontaneous generation of life from non-living matter. In the nematological world, he is known for his monograph on the Anguillulidae, in which he described 100 new species of nematodes, mainly free-living forms.

**Emilio August Göldi**
Studied in Jena, Germany with Ernst Haeckel and accepted an invitation to work at the National Museum of Brazil. While in Brazil he described the genus Meloidogyne and its type species M. exigua, the coffee root-knot nematode. Dr. Göldi also established the connection between root-knot nematodes and vascular wilt fungal diseases.

**Melchior Treub**
A botanist to the Dutch West Indies (Indonesia) born in The Netherlands. His work with tropical flora in the botanical gardens at Bogor helped ensure an institution that continues to be of world renown. Treub discovered that the Sclerotium disease of sugarcane was caused by a root-knot nematode that he named Meloidogyne japonica.

**John Turberville Needham**
An English amateur scientist and Catholic priest, he discovered the first plant-parasite nematode, Anguina tritici on wheat. When he leased apart, he found microscopic worms and thought that he had proved spontaneous generation of life. These worms have the ability to become anhydrobiotic and thereby suspend their life until they become rehydrated.

**Ivan N. Filipjev**
A prominent Russian nematologist and the author of the first general taxonomic classification of nematodes, he published 40 papers on nematology and described more than 150 new species. Prof. Filipjev established the first nematode collection in Russia and was highly regarded. Unfortunately he was executed by the Stalin Regime for his “counter-revolutionary activities.”

**Nathan A. Cobb**
The father of nematology in the U.S. described more than 1,000 new species. He earned his Ph.D. in ten months at the University of Jena. He favored agricultural research in Australia. Dr. Cobb worked on the diseases of sugarcane in Hawaii and established the Nematology Research Division within the USDA at Beltsville, Md.