

CANADIAN SOCIETY OF SOIL SCIENCE SOCIÉTÉ CANADIENNE DE LA SCIENCE DU SOL

## CSSS Newsletter

June 2003

#### PRESIDENT'S MESSAGE

This is my third message as the President of the CSSS. Thanks to e-mail your Council now conducts most of its business and discussions in a very efficient manner with little if any cost to CSSS. I admire the conviction of all my colleagues Martin, Ed, Craig, Denis, Marie-Josée, Frank, and Vimy for their entirely voluntary work. I also want to especially thank Steve Sheppard for his outstanding work which makes our job much easier; we always ask his opinion whenever we need it. Those that will no longer be in the Council after the annual meeting in Montreal are Denis Angers and Marie-Josée Garand. Craig Drury resigned earlier in the year so that he could run for President. As President, I wish to very much thank these colleagues for their work on Council and their voluntary service provided to CSSS.

Retiring Council members will soon be replaced by several members of our Society. We now have a new Secretary, Dr. Gary Parkin, faculty member at the University of Guelph. We are all very pleased that he has accepted the offer, this is a very important position in the Council and with his ability we are convinced that he will do a great job. He has already started working on the Council as this position became vacant during the year. Dr. Don Flaten from the University of Manitoba will be our next Treasurer. Don is an Associate Professor in the Department of Soil Science. We have another young member on the Council, Dr. Joann Whalen, joining us as the new Eastern Councillor; she is an assistant professor at McGill University. Vimy Glass expressed interest to serve as Graduate Student Representative for a second term. You can see that we now have several very dynamic and young new Council members.

This year we had three candidates for the President-Elect position. They were Drs. Craig Drury, Research Scientist with Agriculture & Agri-Food Canada (AAFC), Harrow, Ontario; M. Anne Naeth, Professor and Associate Dean (Academic) at the University of Alberta in the Faculty of Agriculture, Forestry and Home Economics, and Gerry Neilsen, Senior Research Scientist at the Pacific Agri-Food Research Centre in Summerland, British Columbia. We are extremely pleased with their intention and convinced that the Council will be in good hands for several years.

One of the concerns that I had as President was to improve the selection criteria of the CSSS awards. Both the increase in student activity in CSSS and number of members applying for awards has necessitated that CSSS have a better and more equitable selection criteria. Ed, as President-Elect, took his job very seriously and worked with the members of the Awards Review Committee: Gerry Coen, John Dormaar, and Eric Beauchamp who are all former Presidents of our Society. I am immensely thankful to our former Presidents for their efforts together with Ed that made it possible to achieve the objective.

We had a smooth transition to install the new Editor of our Journal, CJSS. Those of you who are subscribing to CJSS must have noticed that Martin Carter, our Past-President is now our Journal's Editor for a three-year term. Martin was Associate Editor of the Journal for a long time and currently serves as Editor of two other international journals. We are sure that he will do his best to increase the international reputation of our Journal. We hope that Martin will be able to encourage more Special Issues that has the potential to increase the impact factor of the Journal.

Now we are preparing our agenda for the Annual Meeting in Montreal. Drs. Denis Angers from your Council and Jim Fyles from McGill University are doing their best to make sure that we have a very successful Annual Meeting. I invite you to participate and enjoy the city of Montreal at the same time.

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# Montréal 2003

### CSSS 2003 in Montréal, don't miss it!

You are interested in soil science, agronomy, and mycorrhizae then this year's meeting is a must. For four days (10-13 August), the CSSS will be meeting with the Fourth International Conference on Mycorrhizae (ICOM4) and the Canadian Society of Agronomy (CSA). The meeting will be held at the Conference Centre of the International Civil Aviation Conference Centre in downtown Montréal.

### Conference highlights

- The Conference will start with registration and a welcoming reception on Sunday evening (10 August).
- All technical sessions will take place over the next two days (11-12) August). Be ready for long and exciting days with symposia, oral presentations, and posters. More than 170 volunteer papers and posters in soil science and agronomy will be presented.
- Several symposia will focus on mycorrhizae. The symposium on "Mycorrhizae and Soil Quality" will be of special interest to CSSS members.
- All Posters will be on display for two days; one-hour poster session (authors present) will take place on each day with no symposium or technical sessions at the same time.
- The annual business meeting will be held on Tuesday morning (12 August) at 11:00 a.m.
- An Agronomic and Soil Tour and a Forest Soils Tour will end the Conference on the last day (13 August).
- Two social events are planned. Wines of the World on Monday night will be a unique opportunity to taste wines from several countries. Awards will be presented at the joint CSSS-CSA Banquet on Tuesday night, which will take place in the historic Old Montréal.

You can get more information or register at: http://www.congresbcu.com/icom4/ang/general.htm

For more information: Denis Angers (angersd@agr.gc.ca) We hope to see you in Montréal!

### NEWS FROM CJSS

We are very privileged in Canada to have our own Soil Science journal. It is an important science arm for the CSSS and provides an excellent showcase for Soil Science conducted in Canada and elsewhere. Some recent developments and changes for the Canadian Journal of Soil Science (CJSS) are as follows:

- At the conclusion of 2002, Dr. Philippe Rochette (agro-meterology) and Dr. Ed Topp (soil microbiology) concluded their role
  as Associate Editors. I would like to thank them for their dedicated editorial work and contribution to CJSS.
- A recent motion passed by the SJC committee of AIC and CSSS Council approved the expansion of the number of Associate Editors from 12 to 15. This was done to reduce the editorial workload and also to allow the appointment of a few Associate Editors outside Canada. The latter development, possible due to manuscript consignment and transference by electronic means, will further the international profile of CJSS.
- In 2003 several new Associate Editors were appointed: Dr. Mike Beare (soil ecology and quality) from New Zealand, Dr. Bill Dubbin (soil pedology, mineralogy, and chemistry) from England, Dr. Mike Grevers (soil structural properties and tillage) from Saskatchewan, Dr. Frank Larney (soil conservation and management) from Alberta, and Dr. Leigh Sparrow (soil chemistry, trace elements and heavy metals) from Australia.
- A special issue of CJSS will be published shortly on Soil Biodiversity. This is an excellent contribution to Soil Science. A
  thank you is extended to the many involved in this special issue, but especially to Drs. Ed Topp and Catherine Fox.

As Editor I request and welcome input from CSSS members in the following areas.

- The journal uses color pictures on the front cover to illustrate various facets of Soil Science activity. If you have a suitable electronic image please and consider it suitable for the journal please send it to me for evaluation.
- Review papers are an important means of scientific communication, especially in the diverse area of Soil Science. If you have an idea or specific topic for a short review please let me know.
- The business of science and scientific paper publication cannot function without the work of editors and reviewers. If you
  would like to serve as a manuscript reviewer or Associate Editor please let me know.

I invite all CSSS members to find out more about CJSS by visiting the following web sites (<a href="www.nrc.gc.ca/aic-journals/cjss">www.nrc.gc.ca/aic-journals/cjss</a>)

Dr. Martin Carter Editor, CJSS (carterm@agr.gc.ca)

# **CSSS - Business Office**

### The CSSS Business Office:

- membership concerns
- · updated CSSS membership list
- CJSS journal subscriptions
- society publications.

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### ELECTION RESULTS

This year we are seeing significant changes on the CSSS Council. Joann Whalen was acclaimed Eastern Councillor and Vimy Glass will serve another term as Student Representative. Gary Parkin was appointed Secretary and Don Flaten Treasurer. As for the President-Elect position, for the first time in Council members' memory we had a tie for first place. Your Council has decided that another election for President-Elect will be held later in the fall.



## NEW COUNCIL MEMBERS

### Joann Whalen Eastern Councillor

Joann Whalen grew up near Saint John, New Brunswick and completed her post-secondary education at the Nova Scotia Agricultural College (B.Sc. Agr.), McGill University (M.Sc.) and Ohio State University (Ph.D.). She worked on nitrogen transformations as a postdoctoral fellow at Oregon State University and on phosphorus cycling and manure management as a research scientist with Agriculture and Agri-Food Canada. In 2000, she moved to Montreal to join the faculty at McGill University as an Assistant Professor.

She has authored or co-authored 22 scientific manuscript since 1996, and is kept busy supervising a growing research group that includes 3 M.Sc. and 4 Ph.D. students. Her research program focuses on the factors that influence nutrient cycling and losses from the soil-plant system at scales ranging from the rhizosphere to the field scale. She has a special interest in how soil biota, such as earthworms, can affect soil fertility and crop production. She has participated in workshops sponsored by Agriculture and Agri-Food Canada to identify priority research areas and is widely consulted by companies and individuals in the private sector on issues related to manure and nutrient management. She has also served as a consultant on soil quality issues for the US EPA since 1998.

Joann joined the CSSS as a student member in 1994. She feels that the support and encouragement she received from the CSSS community while a graduate student were pivotal in her choosing a career as a soil scientist. She is very pleased to have the opportunity to serve as your Eastern Councillor.



### Vimy Glass Student Representative

I received my undergraduate degree (BSc) in Environmental Sciences from Acadia University, Wolfville, Nova Scotia. I completed my MSc in the Department of Environmental Sciences at the Nova Scotia Agricultural College (NSAC), Truro, NS in conjunction with Dalhousie University, Halifax, NS. The MSc research focussed on plant-water relations in the lowbush blueberry. As part of the MSc, I spent a semester at the University of Guelph performing a controlled

environment experiment in the Department of Plant Agriculture. Currently I am working towards a PhD from the University of Guelph (U of G) in the Department of Land Resource Science under the supervision of Drs. Claudia Wagner-Riddle, U of G and Rob Gordon, NSAC. My PhD research is examining greenhouse gas (GHG) emissions, specifically CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub> under a range of meteorological and physical conditions from constructed wetland systems treating dairy wastewater. In addition to the GHG measurements water samples are taken at the inflow and effluent sample locations regularly to ensure proper treatment of the wastewater. Soil samples are also taken each time the wastewater concentration rates change. At U of G, I am a graduate student representative on the Senate, Board of Graduate Studies and Graduate Students' Association. I am also a member of Canadian Society of Soil Science, Soil Science Society of America, American Meteorological Society, Canadian Society of Agrometeorology. As the CSSS Student Representative I hope the student members will take the opportunity to showcase their work.



### Gary Parkin Secretary

Gary is Assistant Professor (Soil Physics) at the Dept. of Land Resource Science, University of Guelph. He obtained a PhD from the University of Guelph in Soil Physics, focused on modeling water flow through soils. His current research interests are developing field methods to measure water content and contaminant transport in the field, modeling hydrologic water budgets and ground water contamination in rural areas. He is currently teaching courses in soil physics, groundwater, geostatistics, field techniques for environmental science students, and hydrology for agronomists. Gary is a member of Canadian Society of Soil Science, Soil Science Society of America, and American Geophysical Union.

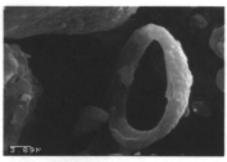


Don Flaten Treasurer

Don is an Associate Professor in the Department of Soil Science at the University of Manitoba, where he specializes in soil fertility and nutrient management. Prior to assuming a full-time academic position in the Department of Soil Science in late 1999, Don worked in the Faculty as Director of the School of Agriculture and as an Associate Dean. He also served as Acting Head of the Department of Soil Science from the spring of 2002 until spring 2003. Before joining the U of M, Don was the Provincial Soils Specialist for Saskatchewan Agriculture and he was also a District Agriculturist for Alberta Agriculture.



A nematode wrapped around a small twig.



The "noose" of a nematode-trapping fungus.



Close-up of mouth part on mite.

CSSS would like to thank Mara J. Johnson and Kate M. Scow, from the University of California, for their permission to use these photographs of soil organisms.

## SOIL QUALITY BOOKMARKS

## By Tom Goddard, Soil Conservation Specialist, Alberta.

Inserted in this newsletter is a soil quality bookmark from Alberta. This is one of the projects from the Alberta Environmentally Sustainable Agriculture program on soil quality monitoring. Extension and educating the public is an important component that we try not to lose sight of as we work on the other program components. We also have Canada's largest network of soil quality benchmarks and largest network of agricultural watersheds monitored for water quality. The public is not keen on reading the scientific literature so every year we try to invest in out-reach products and activities.

In Alberta there is one company that supplies book renewal bookmarks to all the public library systems. When you take a book out on loan you get a bookmark which has your library information on one side along with a date due stamp. The company sells the library coverage in time (months) and space (specific rural and urban library regions).

We purchased distribution rights to all rural libraries across Alberta for half the month of July. This amounted to 72,000 bookmarks! We figured that July would be a month when many school children would visit the library for some summer leisure reading. There were 210 libraries in 14 library regions. We designed the front of the bookmark and different versions of the backside were printed for the 14 individual library regions. An inexpensive add-on to our order was a fifteenth version of the backside, which displays our custom design. This is the version you have received.

Use it in good health, and then pass it on!

### Just Published

Special Issue of the Canadian Journal of Soil Science on SOIL BIODIVERSITY

# STUDENT NEWS

CSSS Book Awards Recognize Excellence in Soil Science

The following undergraduate students at universities across Canada recently received the CSSS Book Award.

Simiane Grégoire-Valentini - Université Laval
Sara Harrison - University of British Columbia
Shelagh Torrie - University of Saskatchewan
Dominik Rudecki - University of Northern British Columbia
Eartha Dupuis - University of Alberta
Robert Prévost - McGill University
Sara Forbes - University of Guelph
Paula Picton - University of Manitoba
Chantal Stumborg - University of Saskatchewan

The purpose of the award is to recognize an undergraduate student demonstrating excellence in Soil Science. The award consists of the Soil and Environmental Science Dictionary published jointly by the CSSS and CRC Press.

Well done and congratulations!

Ed Gregorich CSSS Awards Committee Chair

### SOIL AND ENVIRONMENTAL SCIENCE DICTIONARY

The Soil and Environmental Science Dictionary has received favourable reviews in several publications. A recent review in the Journal of Environmental Quality (Vol. 31, July-August 2002: page 1410) concluded that: "This dictionary should serve as a valuable reference for anyone who deals with multi-disciplinary soil and environmental issues: scientists, students, teachers, environmental managers, regulators, consultants, and policymakers."

The dictionary is published by CRC Press in conjunction with the Canadian Society of Soil Science is available to CSSS members at a 50% discount off the price (\$69.95 USD). Members can order the dictionary directly from CRC Press (see details below). To ensure they receive the discount CSSS members will need to mention the promotional code 281BC no matter what method they use to order the book.

CRC Press 2000 N.W. Corporate Blvd. Boca Raton, Florida 33431-9868 Tel: 1 800-272-7737

Fax: 1 800-374-3401 email: orders@crcpress.com

# Graduate Student (M.Sc.) Opportunity

### Factors Regulating Vigorous Emissions of N2O During Freezing and Thawing of Soil

A graduate student opportunity exists in the Department of Soil Science at the University of Manitoba, Winnipeg, Manitoba, Canada (http://www.umanitoba.ca/faculties/afs/soil\_science/), to determine factors regulating emissions of N<sub>2</sub>O from freezing and thawing soil. The prospective student can expect to learn how to design laboratory and field experiments and employ a variety of techniques to measure N<sub>2</sub>O fluxes as well as microbial and chemical processes impacting upon carbon and nitrogen cycling in soil. This project is part of a larger effort among the Soil Microbiology Laboratory and a multidisciplinary group of researchers at the University of Manitoba examining ways to mitigate greenhouse gas emissions from agricultural soils. The prospective student will have interests in microbial and chemical processes affecting nitrogen cycling in soils as well as in instrumentation. A stipend is available starting September 2003. Interested students holding scholarships are encouraged to apply as a stipend top-up is available. The University of Manitoba is a comprehensive university within one of Canada's largest cosmopolitan cities. The Department of Soil Science is one of Canada's most complete departments of Soil Science. It has a young and motivated faculty with expertise in the key areas of Soil Science regarding agriculture and the environment. Prospective students should contact Dr. Mario Tenuta (tenutam@ms.umanitoba.ca) at the University of Manitoba.

# GRADUATE STUDENT OPPORTUNITY:

### Respiration Processes Following Fire in The Canadian Boreal Forest

A graduate student opportunity exists in the Department of Renewable Resources at the University of Alberta, Edmonton, Alberta (<a href="http://www.rr.ualberta.ca/">http://www.rr.ualberta.ca/</a>), to investigate respiration processes following fire in the Canadian boreal forest. This project is part of the FLUXNET-Canada network, a network of university and government researchers investigating the influence of climate and disturbance on carbon cycling in forest and peatland ecosystems (<a href="http://www.fluxnet-canada.ca/">http://www.fluxnet-canada.ca/</a>). The prospective student will have interests in ecosystem function, carbon dynamics, and factors governing respiration processes (soil biodiversity and organic matter chemistry). The project will include field and laboratory work associated with carbon flux towers and chamber respiration measurements, and is linked to ongoing research at the Canadian Forest Service's Northern Forestry Centre (<a href="http://nofc.cfs.nrcan.gc.ca/">http://nofc.cfs.nrcan.gc.ca/</a>). A stipend is available starting July 2003. Prospective students should contact either Dr. Brian Amiro (<a href="http://nofc.cfs.nrcan.gc.ca/">http://nofc.cfs.nrcan.gc.ca/</a>) at the Canadian Forest Service or Dr. Sylvic Quideau (<a href="https://sylvic.quideau@ualberta.ca/">sylvic.quideau@ualberta.ca/</a>) at the University of Alberta.

### CSSS—ONLINE

See the CSSS web site homepage, http://www.csss.ca for Newsletters, Council, Business Office, Annual Report, Events Page, Careers, Student, CSSS '03, important Links, Information and details for application for CSSS Awards and CSSS Travel Awards and much more. Remember this is your Society's website. You can help keep it current! Send information via e-mail to Frank arney, CSSS Western Councillor (larney@agr.gc.ca)

# The Calendar — Forthcoming Meetings:

July 13-18, 2003

Organic Phosphorus 2003

Monte-Verita, Ascona, Switzerland

www.nwisrl.ars.usda.gov/OrganicP2003

July 14-18, 2003,

16th International Conference of the International Soil and Tillage Research

Organization (ISTRO)

The University of Queensland

Brisbane, Australia

www.aghort.uq.edu.au/staff/jtullberg/index.html

July 20-24, 2003

10th North American Forest Soils Conference, Sault Ste. Marie, ON

http://www.fs.fed.us/forestsoilsconference.

July 21-23, 2003

Western Canada Agronomy Workshop,

Univ. of Saskatchewan, Saskatoon, SK

www.cfi.ca

July 26-30, 2003

8th International Meeting on Soil with Mediterranean Type of Climate

www.enameknes.ac.ma/8thIMSMTC

August 4-7, 2003

Dynamic Cropping Systems: Principles, Processes and Challenges

Bismarck, ND

www.mandan.ars.usda.gov

August 10-13, 2003

CSSS Annual Meeting joint with the Canadian Society of Agronomy and the 4th

International Conference on Mycorrhiza

Montréal, Québec

www.congresbcu.com/icom4

August 17-21, 2003

Canadian Fertilizer Institute, 58th Annual Meeting

Kelowna, BC

www.cfi.ca

August 17-23, 2003

4th International Symbiosis Society Congress,

Saint Mary's University, Halifax, NS

http://people.bu.edu/dzook.

August 17-22, 2003

7th International Conf. on Diffuse Pollution

Dublin, Ireland

www.ucd.ie/-dipcon/dipcon.htm

September 14-17, 2003

8th Symposium on Biogeochemistry of Wetlands,

Gent, Belgium

http://fltbwww.rug.ac.be/isofys.

September 21-26, 2003

2nd Int. Symp. on Phosphorus Dynamics in the Soil-Plant Continuum.

Tel: (514) 398-7943

Perth, Australia

www.agric.uwa.edu.au/soils/P\_symposium/index.html

September 21-28, 2003

XII World Forestry Congress

Québec City, QC

www.wfc2003.org

September 24-26, 2003

13th Annual National Conference, Composting Council of Canada

London, ON

http://www.compost.org/conf2003\_main.html

September 26 - October 1, 2003

4th International Crop Science Congress

Brisbane, Australia

www.cropscience2004.com

September 29—October 3, 2003

Environment and Human Health, Hangzhou, China

www.sepu.net/ic/symposium-2.htm

October 6-10, 2003

Int. Conf. on Mechanisms and Regulation of Organic Matter Stabilisation in

Soils.

Munich, Germany

www.wzw.tum.de/bk/hk

October 11-14, 2003

International Symposium on Trace Elements and Health Micronutrients in

Agricultural Soil and Water Conservation Society Annual Conference,

Spokane, WA

www.swcs.org.

October 12-16, 2004

3rd International Nitrogen Conference

Nanjing, China

www.issas.ac.cn/n2004

October 21-24, 2003

18th Annual International Conference on Contaminated Soils, Sediments and

University of Massachusetts, Amherst, MA

www.UMassSoils.com.

November 2-6, 2003

ASA/CSSA/SSSA Annual Meetings

Changing Sciences for a Changing World: Building a Broader Vision.

Denver, CO

www.asa-cssa-sssa.org/anmeet.

November 19-21, 2003

Conference on Water and Society: Needs, Challenges, and Restrictions Vienna,

Email: whalenj@nrs.mcgill.ca

robert.jandl@fbva.bmlf.gv.at.

February 17-19, 2004

41st Annual Alberta Soil Science Workshop

Lethbridge, Alberta

www.soilsworkshop.ab.ca

August 3-4, 2004

Soil Classification 2004

Petrozavodsk, Russia

biology.krc.karelia.ru/soil04

September 20-26, 2004 12<sup>th</sup> International Meeting on Soil Micromorphology

Adana, Turkey

ziraat.cu.edu.tr/imm

The CSSS Newsletter is published three (Fall, Winter and Spring) times per year. Contributions from members are welcome. Please send contributions by email to the Eastern Councillor:

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