



ISTRO INFO

**A Publication of the
International Soil Tillage Research Organization**

December 2007

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ISTRO INFO – December 2007

With only a couple of days left in the year, this message probably will not reach most of you until 2008. I certainly hope that you had a very Merry Christmas and are looking forward to a prosperous and joyful new year. With the beginning of 2008 we are rapidly approaching our 18th ISTRO triennial conference which will be held June 15-19, 2009, in Izmir, Turkey. In this issue of ISTRO INFO you will find a tentative list of the themes for the conference so that you can begin planning for the topic under which you will want to submit your registration and abstract. Be sure to watch for more information from our conference President, Professor Engin Cakir, during the next few months.

This year, corn and soybean harvest went quite well in the Midwestern U.S. with yields being closely related to the seasonal weather patterns. Some portions of the U.S. Corn and Soybean Belt had low yields because of severe drought stress, while other portions had timely rainfall and near record grain yields. Prices are also very high because of the increased demand for corn grain as a source of ethanol. For 2008, I would like to share information on how the bioenergy emphasis is affecting various countries where ISTRO members are located. If you would like to share your perspectives, positive or negative, please send them to me (doug.karlen@ars.usda.gov) as a Word file whenever you can. I think it would be interesting to learn how this is affecting soil management factors such as crop rotations and tillage choices in various countries.

For 2008, I also want to challenge everyone who receives a copy of ISTRO INFO to pass it on to at least one other student or professional colleague and to encourage them to consider joining our organization. Be sure to let them know of the many activities that are available through our Branch Chapters and Working Groups. As always, if you would like to translate this newsletter into other languages for better communication, please feel free to do so.

Doug Karlen

Assistant Secretary General

18th Triennial Conference Themes

The 18th Triennial Conference of the International Soil Tillage Research Organization (ISTRO) will be held June 15-19, 2009 in Izmir, Turkey. The Conference Themes under which oral and poster presentations will be organized are tentatively planned to be:

1. Conservation tillage, direct seeding and no-till applications
2. Sustainable forest management
3. Rehabilitation of degraded areas
4. Soil compaction: Causes, effects, and control
5. Soil dynamics & traction
6. Soil Management as a tool to reduce erosion, nutrient leaching and greenhouse gas emission
7. Production of bio-fuel
8. Soil biological quality & health

It is anticipated that the registration fee will be 350 Euro and will include the welcome reception, banquet dinner, and a special boat trip for sight-seeing, visiting, and relaxation. The expected hotel rates will be approximately 60 Euro for one person sharing a room with another person or 80 Euro for a single room. Negotiations are also underway with the hotel to establish a family rate.

EUROSOIL 2008

Soil – Society – Environment is the theme for the 2008 Eurosoil Congress that will be held at Technical University, Vienna, Austria, on 25 – 29 August, 2008. The Congress will feature approximately 30 symposia, 10 workshops, 24 technical excursions, and 2 social events. It is being organized cooperatively by the national soil science societies of Austria, Croatia, the Czech Republic, Hungary, Slovenia, Slovakia, and Switzerland. It is being supported by the International Union of Soil Science Societies (IUSS), Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Vienna Convention Bureau, Vienna Medical Academy, Austrian Airlines, and Austrian Federal Ministry for Science and Research. For detailed information about the scientific

and organizing committees, registration and abstract deadlines, registration fees and other details, please see the Congress website at: <http://www.ecsss.net>

Registration Category	Until Jan. 31, 2008	February 1 through May 31, 2008	After May 31, 2008, and onsite
Regular participants	EUR 250.-	EUR 300.-	EUR 350.-
Student	EUR 100.-	EUR 150.-	EUR 200.-
Accompanying persons	EUR 55.-	EUR 55.-	EUR 55.-

How Has ISTRO Influenced Soil and Tillage Research?

Shortly after including Dr. Mary Beth Kirkham's summary of ISTRO conference activities in the June 2007 issue of ISTRO INFO, I was contacted by Professor A. Canarache from the Research Institute for Soil Science, Agrochemistry, and Environment Protection in Bucharest, Romania. He asked if he could also share his perspectives on the "Changes in soil tillage research during ISTRO life: Contribution of ISTRO meetings and publications" with our readers. He had originally intended to present his views at the 17th Triennial meeting in Kiel, Germany, but had to withdraw because of personal illness. A copy of Professor Canarache's paper will be posted on the ISTRO website which can be accessed at: <http://www.istro.org>. Once again, I would encourage anyone who wishes to make comments either on Professor Canaache's paper or other issues of general interest to ISTRO members to please submit your materials to me whenever you can. I view these types of exchanges as being very good for building discussion bridges among the many members of ISTRO. Please consider sharing your views and opinions at any time.

International Conference on Risks in Agriculture

The Estonian Branch of ISTRO, along with the Estonian Research Institute of Agriculture (www.eria.ee) and in collaboration with the Scientific Creative Association “SCA Ecofiller” and the Nonprofit Organization Estonian Excellence Centre for Rural Development, is pleased to invite all members of ISTRO to participate in an international conference entitled “Risks In Agriculture: Environmental and Economic Consequences” that will be held on June 8 – 10, 2010, in Tallinn, Estonia. The motto for the Conference is that “Proper Management of Agriculture Benefits the Environment.” English will be the official language. The conference will deal with large scale topics that are related to risks in agriculture, including effects of weather, soil compaction, weeds, diseases, vermin, and other factors. There will be three main sessions – crop production, weather conditions and soil properties, and sparing management – with presentations on the complex character of the machine-soil-plant system, alternative energetic systems, adapted tillage systems, and evaluations of environmental and economic consequences. There will also be a post-conference tour designed to call attention to the specific character of Estonian climatic-soil conditions, farm types and various field experiments. For delegates, guests, and children a program of cultural and historical visits in Tallinn and the surrounding countryside will be provided. Travel to Tallinn is feasible by direct flight, bus, train, and boats from Helsinki or Stockholm. For those interested in receiving the second announcement about this conference, please contact Dr. Edvin Nugis (edvin.nugis@eria.ee) by January 15, 2008.

ISTRO Supports Soils Exhibit

The International Soil Tillage Research Organization (ISTRO) has added its support to the Smithsonian Soils Exhibit by making a \$10,000 contribution toward the project. In a press release, Dr. H. Allen Torbert, ISTRO treasurer, stated that ISTRO members are eager to see the soils exhibit become a reality. He was quoted as saying “while it is true that the very existence of the world’s population depends on soil, there is an ever-increasing proportion of people who know nothing about soil. The Smithsonian Soils Exhibit is an opportunity to convey to millions the enormous importance and the intense

complexity of soil in ways that will be interesting to everyone.” It is important to ISTRO that the general public be educated on the importance of soils. The Smithsonian Soils Exhibit will provide a unique opportunity to accomplish this by reaching millions of visitors each year.

Torbert cited the National Museum of Natural History’s “unequaled possibilities” to promote soil science and to further the understanding that soil is a vital resource for the world. “I believe that it is incumbent on all of us who understand our dependence on soil to support, both personally and professionally, educational efforts such as the Smithsonian Soils Exhibit,” says Torbert. “We look forward to the successful debut of the exhibit.” The Smithsonian Institution’s National Museum of Natural History has developed a web page about the soils exhibit as part of the Institution’s “Planned Exhibitions” which can be seen at <http://forces.si.edu/soils/>.

EGU Hosts Session On Diffuse Reflectance Spectroscopy

The European Geosciences Union (EGU) is planning a session dedicated specifically to “Diffuse Reflectance Spectroscopy in Soil Science and Land Resource Assessment” for their next General Assembly on one day between April 13 and 18, 2008, in Vienna, Austria. The objective for this session of is to bring together soil and land resource scientists working with vis, NIR, and mid-IR diffuse reflectance spectroscopy. The conveners’ (César Guerrero, Abdul M. Mouazen, and Raphael Viscarra Rossel) goal is to provide an opportunity to share experiences, establish current knowledge, describe the many applications, present recent advances, and discuss future possibilities for research and adoption of the techniques described below.

The use of visible (vis), near-infrared (NIR) and mid-infrared (mid-IR) diffuse reflectance spectroscopy (DRS) in soil science and land resource assessment has attracted much attention over the last ten years. This is reflected by the large numbers of papers on both vis-NIR and mid-IR in the scientific literature over this period. Soil vis-NIR and mid-IR techniques are integrative in that they contain information on both organic and inorganic soil composition, which make them particularly useful for determining various physical, chemical and biological soil properties. Advances in chemometrics and computing power

have allowed scientists to extract such information from the spectra by the modeling of complex relationships that exist in these data. DRS has some important advantages over conventional soil analysis. For example, the techniques are non-destructive, they are highly reproducible, they are rapid, cost effective, easy to operate, a single spectrum can produce information on various soil properties, small quantities of sample are needed for analysis, they require minimal sample preparations, and they do not require the use of environmentally harmful chemicals. Hence, the techniques can be also used to provide quantitative information for input into environmental and soil process models and digital soil mapping.

Specific topics to be addressed in this session will include:

1. Provision of soil information for soil resource assessment and mapping
 - a. Laboratory-based vis-NIR and mid-IR DRS for rapid estimation of soil properties (chemical, physical, biological)
 - b. Proximal and remote soil sensing (i.e. field based) using vis-NIR and mid-IR frequencies
 - c. Estimation of soil organic carbon (type, quality and quantity)
 - d. Estimation of soil mineral composition
 - e. Soil classification by vis-NIR and mid-IR DRS
 - f. Quantification of environmental impacts on soils, e.g., soil degradation and rehabilitation
 - g. Precision agriculture
 - h. Biogeochemical processes in soils
 - i. Characterization of composting and organic wastes
2. Technical aspects
 - a. Evaluation of the effect of sample preparation on measurement accuracy
 - b. Global vs. Local calibrations for soil properties
 - c. What is possible and what isn't
 - d. Calibration transfers
 - e. Quantifying uncertainty in models and predictions
 - f. Chemometrics

- g. Data mining
- 3. Instrumentation
 - a. laboratory spectrometers
 - b. portable spectrometers

If you are interested in presenting a paper in this session, the deadline for abstract submission is 14 January 2008. For more information about the EGU meeting or to submit an abstract, please see the following links:

European Geosciences Union (EGU): <http://meetings.copernicus.org/egu2008/>

Sessions in the Soil System Sciences section of the EGU:

http://www.cosis.net/members/meetings/programme/view.php?m_id=49&p_id=313

Abstract Submission:

http://www.cosis.net/members/meetings/programme/view.php?m_id=49&p_id=325

ISTRO Working Group (WG) Information

Are you interested in becoming more active in one of ISTRO's Working Groups?

Currently there are five active groups. Each is open to anyone who wishes to participate and offers many unique opportunities to build friendships, share research discoveries, and learn from each other. Below is the contact information for each of the current groups:

<p>WG A: Soil Structure Bev Kay and Alvin Smucker (Chairs)</p> <p>Alvin Smucker Crop and Soil Science Department Michigan State University Plant and Soil Science Building East Lansing, MI 48824-1325 USA Tel 517 355-0271 ex. 1251 Fax 517 355-0270 smucker@msu.edu</p>	<p>WG B. Subsoil Compaction Jan van den Akker (Chair)</p> <p>ALTERRA Wageningen UR P.O. Box 47 6700 AA Wageningen The Netherlands</p> <p>Tel +31 317 486519 Fax +31 317 419000 e-mail: janjh.vandenakker@wur.nl</p>
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<p>WG F. Visual Soil Examination and Evaluation David McKenzie (Chair) Brian Murphy (Secretary) David C. McKenzie Principal Soil Scientist E.A. Systems Pty. Ltd. PO Box 2171 Orange NSW 2800 AUSTRALIA</p> <p>phone: 02 6361 1912 mobile: 0428 259 124 fax: 02 6361 1913 email: david.mckenzie@easystems.com.au</p>	<p>WG H. Tillage Erosion Tom Schumacher & Goswin Heckrath (Chairs) David Lobb (website) Tom E. Schumacher Professor Soil Physics, Conservation & Management Plant Science Department 247A NPB Box 2140C South Dakota State University Brookings, SD 57007 USA Voice (605) 688-4762 FAX (605) 688-4452 thomas.schumacher@sdstate.edu</p> <p>Website www.tillage-erosion.org</p>
<p>WG K. Controlled Traffic Farming (CTF) Tim Chamen (Chair)</p> <p>Tim Chamen Controlled Traffic Farming (CTF Europe) Ltd Church Close Cottage Maulden Bedford MK45 2AU UK Tel: +44 (0) 1525 405121 Mob: +44 (0) 7714 206048 URL: www.controlledtrafficfarming.com E-mail: info@controlledtrafficfarming.com E-mail: Tim.Chamen@btclick.com</p> <p>website www.controlledtrafficfarming.com</p>	

43rd Croatian & 3rd Intl. Symposium on Agriculture

ISTRO members and others are invited to participate in a conference that will be held at the Grand Hotel Adriatic in Opatija, Croatia, on February 18 – 21, 2008. The primary goal for this conference is to present to agronomists and the general public results of scientific and professional work of Croatian and international specialists addressing

agricultural production. Themes for the plenary lectures will include (1) Croatian agriculture, agricultural and rural policies – status and outlooks in the EU accession process, (2) Relations between Croatian and European agriculture, (3) Applicability of science in agricultural practice, and (4) Non-food agriculture including production of alternative energy sources. Registration for the conference is 80 Euro before January 15, 2008, and 100 Euro thereafter. For more information about the conference please see the website <http://sa.agr.hr>

Safety, Health and Welfare in Agriculture Conference

CIGR V and AIIA are pleased to invite ISTRO members to participate in an international conference on “Innovation Technology to Empower Safety, Health, and Welfare in Agriculture and Agro-food Systems” on September 15 to 17, 2008, in Ragusa, Italy. The program will include plenary, parallel oral, and poster sessions as well as a technical tour. Topics to be covered will include: (1) work safety in agricultural building, forest, and agro-food processes, (2) food safety and traceability, (3) pollution in field, greenhouses, and housing of animals, (4) assistive technology, (5) logistics in agro-food supply-chains, (6) agricultural mechanization and management, (7) prevention and risk analysis, work organization, system engineering, and health protection, (8) automation, robotics and remote controls, (9) machine milking and animal welfare, and (10) open topics. The technical tour will include all types of farms, wineries, dairies, greenhouses, packing-houses, nurseries, etc. The registration fee will be 320 Euro. Hotel information can be found on the conference website: www.ragusashwa.it. If you are interested in presenting a paper at the conference, please submit a short abstract by email before January 31, 2008, to: shortabs@ragusashwa.it. The two-page submission should include a title, author names and addresses, a 400 word or less abstract (including tables and figures), an indication of whether an oral or poster presentation is preferred, and to which of the above topics you prefer your presentation to be assigned. The conference language will be English.

Did You Get Your Membership Certificate?

ISTRO treasurer, Allen Torbert recently sent ISTRO Membership certificates to everyone who has paid their membership dues. The certificates were sent as pdf files attached to an email message. Each acknowledges the membership in our organization and gives the year through which membership dues have been paid. If you did not receive your certificate, please contact Allen at: atorbert@acesag.auburn.edu. Also, if your name is not spelled correctly or if you would prefer the certificate be worded differently (e.g. Initial, Middle Name, Family Name) please email Allen and he will gladly reprint your certificate. Finally, please be sure to ask your colleagues who are ISTRO members if they have received their certificates. Allen is still working to get everyone's correct email address in his database.

Final Comments

I certainly hope this issue of ISTRO-INFO finds that all of you had a successful 2007 and that you are excited about beginning a new year of research, teaching and outreach. I would also like to thank my Office Assistant, Becky Roland, for doing an exceptional job of maintaining the email list and getting the newsletter to you in a timely manner. To help make her job easier during the next year, please be sure to let her know if you are aware of any email addresses that have changed or if there are ISTRO members who are not receiving this newsletter.

I also want to encourage everyone to continue sending information for me to share with your fellow ISTRO members and to also share your copy of this newsletter with others who may be interested in ISTRO activities. Also, if there are specific types of items that you would like to see in future newsletters, please let me know. Information from ISTRO Branches and Working groups is always welcome. After all, a newsletter is only as good as the news it contains.

Doug Karlen

Assistant Secretary General