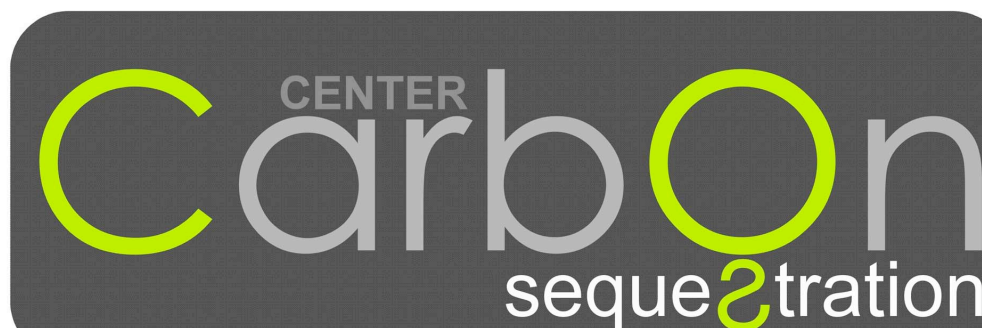




Summer 2010

Newsletter



Dr. Dennis Garrity of World Agroforestry Centre (ICRAF) Visits the College of Food, Agriculture and Environmental Science

Presentation: Partnerships for Creating an Evergreen Agriculture in Africa for Food Security and Environmental Resilience

As Africa confronts the imperative of producing more food while combating the risks of climate change, hundreds of thousands of rainfed smallholder farmers in each of four countries (Zambia, Malawi, Niger, and Burkina Faso) have been shifting to farming systems that are restoring exhausted soils and are increasing food crop yields, household food security, and incomes. The presentation will review that experience, emphasizing a fresh approach through the integration of trees into these systems to create an Evergreen Agriculture; that is, an agroforestry-based conservation agriculture. The presentation will lay out some of the key research issues for prospective collaboration between Ohio State and The World Agroforestry Centre in this and related areas.



Dr Garrity is a systems agronomist whose career has been focused on the development of small-scale farming systems in the tropics. He has served for eight years as the chief executive officer of The World Agroforestry Center. Previously, Dr Garrity served as regional coordinator of the Center's work in Southeast Asia, and earlier headed the Agroecology Unit at the International Rice Research Institute in the Philippines. He currently chairs the Steering Committee of Landcare International, a community-based approach that fosters innovative solutions to natural resource management challenges.

Dr. Garrity developed agroforestry alternatives to slash-and-burn agriculture for South East Asia. He worked extensively on the development of conservation-oriented agroforestry systems for sloping uplands. He has been active in the development of institutional innovations related to farmer-led organizations in sustainable agriculture and natural resources management. Dr Garrity has a BSc degree in agriculture from Ohio State University, an MSc in agronomy from the University of the Philippines at Los Baños, and a PhD in crop physiology from the University of Nebraska.

Inside:

- **Dr. Dennis Garrity.....1**
- **Iceland Study Abroad.....2**
- **Visiting Scholars.....4**
- **19th World Congress of Soil Science8**
- **Green Revolution 2.0: Food + Energy &
Environmental Security.....10**

Carbon Management and Sequestration Center

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210 Kottman Hall

Columbus, OH 43210

colson.6@osu.edu (614) 292-9049

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C-MASC Graduate Students Study Abroad in Iceland

MELISSA HERMAN



I am very excited to be on the team from C-MASC to travel to Iceland this summer. This will be my first visit to Europe, as all of my previous travels have been to Latin America or East Africa, so I am very excited for the opportunity to travel in Iceland and experience this unique culture. Our trip will also include a 5-day backpacking tour (another first!) through a national preserve in Central Iceland. My study will examine soil nutrient pools in relation to vegetative succession along the glacial chronosequence in front of Skaftafell glacier.

JOSH BENISTON



I am looking forward to our summer 2010 study abroad program in Iceland. I am excited about both the educational and research programs that have been set up for us for our time there. Our trip in Iceland will begin with a 10 day stay at the Soil Conservation Service of Iceland. After leaving the SCS, we will be meeting our host, Professor Gudrun Gisladdottir, and we will be going for a 5-day field course on the ecology of the Icelandic landscape. The course will take place in Pjorsarver Nature Reserve in the Icelandic Highlands. My Icelandic friends say that Pjorsarver is a spectacular place, and that we are lucky to go there. I am really looking forward to both the program at the soil conservation service and the class at Pjorsarver. Our trip should be a great opportunity for us as students and researchers and it will be a great treat to spend time in the majestic Icelandic landscape.

NICK STANICH



This project includes hands-on training of how to measure different soil properties in rocky Icelandic Soil, introduction to the SCS Carbon Monitoring Program, and visits to farms that engage in SCS endorsed soil building practices and reforestation. The research will consist of measuring soil properties (soil carbon, nutrient pools, bulk density, infiltration, etc.) about a 120-year chronosequence of the glacier's recessional path to better understand soil evolution in recently de-glaciated Icelandic soil. When all the desired soil properties have been quantified, the geo-referenced soil organic carbon (SOC) data will be analyzed with geostatistical methods to create soil carbon prediction maps for the current spatial distribution of SOC and for the future development of SOC in Skaftafell soils as the glacier recedes with the advance of the current century.

...3...



ICELAND

Photos By Mellissa Herman



Visiting Scholars

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DR. IBRAHIM ORTAS

Cukurova University
Faculty of Agriculture
Department of Soil Science
Adana, Turkey

Visiting Scholar C-MASC July 2010- January 2011

RESEARCH INTERESTS:

- Optimizing growth of crops with soil biodiversity, soil organisms, including mycorrhizal fungi, increasing soil quality and soil fertility.
- Biological properties of soil, phosphorus, and mycorrhizal fungi and its involvement in nutrients cycling, plant nutrient uptake especially for horticultural crops (vegetables, fruit trees, annual and cereal plants), transport, nutrient deficiencies, and mechanisms involved in adaptation of plants to abiotic stress factors.

PROGRAM OF STUDY AT C-MASC:

To improve and to understand the methods and the knowledge to measure and calculate soil and plant C turnover rates, and to develop sustainable soil C management strategies for agricultural and forest ecosystems to maximize soil resilience under adverse or gradually changing environmental conditions. My goal is to enhance the knowledge and research experience in the field by attending research and education programs at OSU/C-MASC.

Visiting Scholars Continued... ...5...



DR. HALLI PARAMESWARAPPA MAHESWARAPPA

Principal Scientist (Agronomy)
Central Plantation Crops Research Institute
(Under Indian Council of Agricultural Research)
Kasaragod-671 124, Kerala, India.



RESEARCH INTERESTS:

- Management of coconut based cropping system under integrated nutrient and organic nutrient management
- Organic production of coconut based medicinal plants under zero tillage
- Coconut based fruit crops production system
- **PROGRAM OF STUDY AT C-MASC:** Studying the effect of amendments and erosion on fractionation of particulate and non-particulate organic C pool under fine, mixed, Aeric Ochraqualf soil



DR. V. SRINIVASAN

Senior Scientist

Indian Institute of Spices Research
(Indian Council of Agricultural Research)
PB. No. 1701
Marikunnu PO, Calicut, Kerala – 673 012, India

RESEARCH INTERESTS: Studying the nutrient release under integrated nutrient management system and its influence on crop uptake for developing nutrient recommendation for major spices; Soil test based crop response approach for targeted yield production of spices like ginger and turmeric; Studies on organic farming using composts, bio-agents and botanicals and its influence on soil quality, nutrient dynamics and crop quality on major spice crops for developing a package for organic cultivation of spice crops.

PROGRAM OF STUDY AT C-MASC: Studying the influence of different amendments and erosion levels on particulate and non particulate C pools.

...6...

SYMPOSIUMS SUMMER 2010



19th World Congress of Soil Science
Soil solutions for a changing world
BRISBANE AUSTRALIA 1 – 6 August 2010



On behalf of the Australian Society of Soil Science Inc., to introduce the *19th World Congress of Soil Science* to be held at the Brisbane Convention and Exhibition Centre, 1 to 6 August 2010. The Congress, held every four years, presents a global forum at which all those involved in Soil Science can meet with scientists, researchers, academics and professionals to discuss and find Soil Solutions for a Changing World. Please take the time to experience the best of what Queensland has to offer. Brisbane, the capital of Queensland, is a modern, sophisticated city of more than 1.6 million people. Queenslanders enjoy a safe and friendly lifestyle and you will appreciate the reasons why our state is a great place to live, a great place to do business and a great place to visit.

Details of the 19th World Congress of Soil Science will be regularly updated on this website; please check back often or register your interest to participate and we will keep you informed. Our Congress Committee is a totally committed group of professionals who are hard at work to present an outstanding conference. We look forward to welcoming you in 2010 to what we are confident will be the best ever World Congress of Soil Science.

The Congress will throw open its doors to the public on Wednesday afternoon. The afternoon will feature a number of free events that will explore soils in the political sphere, soil in art and the relationship between soils and human beings. A series of lectures from notable scientists, policy makers and science communicators looking at whether Australia needs a national soils policy and how soil conservation policies are being implemented around the world.

Public panel discussion on the topic "Can mining and agriculture co-exist" - chaired by ABC Science commentator Bernie Hobbs. The winners of the inaugural national School Soil Science Awards will also be presented during the afternoon.

For more information please visit <http://www.19wcss.org.au/index.php>

...7...

Soil – The Living Skin of Planet Earth



The soil forms the outer skin of the land masses of Planet Earth. This thin veneer of living material is sometimes only a few centimetres thick and rarely thicker than two or three metres, but it has critical influence on what happens on the surface of the Earth. Soil is our life-support system. It provides anchorage for roots; holds water long enough for plants to make use of it; and holds nutrients, making them accessible to support life. It's home to myriad micro-organisms, that accomplish suites of biochemical transformations from fixing atmospheric nitrogen to the decomposition of organic matter, and to armies of microscopic animals - as well as earthworms, ants and termites that graze upon roots, other organisms and organic matter. Most biodiversity is in the soil, not above ground.

Different places – different soils

Soils vary from place to place – not randomly but in a systematic way: soils of the tundras are very different from those in the tropics, those of steeplands are very different from those of the plain, and they vary over short distances. As you move from hill crest to valley bottom you will often find soils which look different and, also, behave differently, for instance when we try to grow crops or build a road or house. This variability reflects the soil's unique position in relation to the other components of planet earth – at the interface between the atmosphere, lithosphere, hydrosphere, and biosphere.

<http://www.19wcass.org.au/index.php>

- **Different places – different soils**
- **Soil – a vulnerable resource**
- **Soil – the need for reliable information**

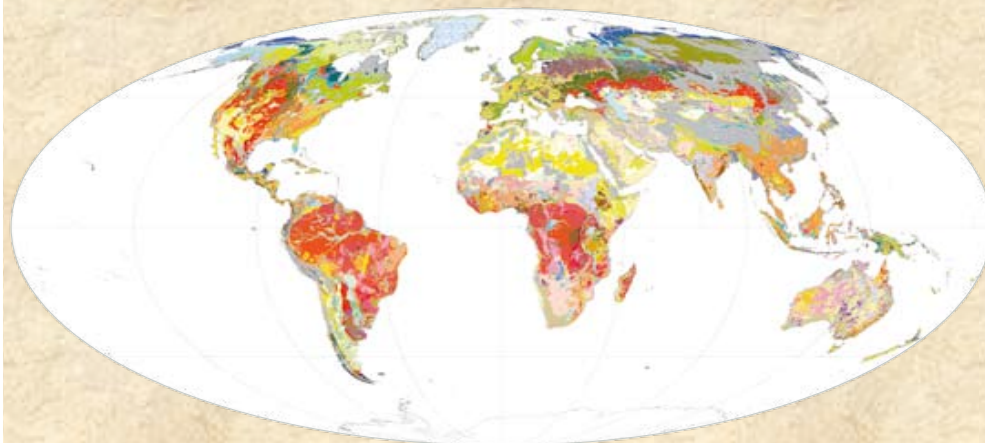
Soil – a vulnerable resource

Soils are vulnerable. The largest disruption and destruction is caused by humans. It is not a new phenomenon as soil degradation took place in the early civilisations in the basin of the Tigris and Euphrates. A major threat is soil erosion by which the soil is removed often exposing unweathered rock. Soil erosion arises from poor land management activities, for example cultivating steeply sloping land. The soil is an amazingly robust system within which many materials are broken down and made less harmful. This ability to 'clean up' materials has resulted in applications of waste organic and inorganic materials in to the soil system. If the amounts applied exceed the soil's capacity to break them down the soil will be degraded and its biological activity reduced. The most serious disruption of the soil is the sealing by buildings and infrastructure. This is common in many industrialised countries. Once sealed by tarmac or buildings the soil is essentially lost and unable to perform the functions we expect of it.

Soil – the need for reliable information

We are now able to access data about the surface of Planet Earth on a day to day basis with the increased availability of information from airborne or space-borne sensors together with the increased availability of software and computing power. There is no longer need to rely entirely upon information collected in the past and available in the form of printed maps and reports. This new information linked to developments in climate and land surface models are enabling soil scientists to make decisions about land use changes and their impacts, and to monitor and predict impacts of human actions. Soil scientists provide field calibration and testing of model outcomes and these new tools are able to guide land development and prevent soil degradation.

Soil Map of the World



ISRIC - World Soil Information
PO Box 353
6700 AJ Wageningen
The Netherlands
www.isric.org



International Union of Soil Sciences (IUSS)
www.iuss.org

...9...

American Society of Agronomy | Crop Science Society of America | Soil Science Society of America



Green Revolution 2.0: Food+Energy and Environmental Security

ASA, CSSA, & SSSA

2010 INTERNATIONAL ANNUAL MEETINGS

U.S. Canola Association Research Conference

October 31 — November 3, Long Beach, California

Annual Meetings Overview

...10...

Sunday, Oct. 31

- Opening Keynote, 6:00–7:00 pm
- Welcome Reception/Poster Sessions, 7:00–9:00 pm

Monday, Nov. 1

- Technical Sessions, 8:00 am–5:30 pm
- Poster Sessions/Social Hour, 4:00–6:00 pm
- SSSA Plenary/ Awards/ Reception, 5:00–7:30pm

Tuesday, Nov. 2

- ASA, CSSA, and SSSA 5K Run/Walk, 6:30 am
- ASA Breakfast/ Awards/Plenary, 7:30–9:30 am
- Technical Sessions, 8:00 am–5:30 pm
- Poster Sessions/Social Hour, 4:00–6:00 pm

Wednesday, Nov. 3

- CSSA Breakfast/ Awards/Plenary, 7:30–9:30 am
- Technical Sessions, 8:00 am–5:30 pm
- Poster Sessions, 2:30–4:30 pm
- Closing Keynote/Entertainment/Reception, 5:00–7:30 pm

