WORLD ASSOCIATION OF SOIL AND WATER CONSERVATION

HOT NEWS

Issue 09, 2016

WASWAC HOT NEWS No. 09, September, 2016

Contents

Cover photo: Beautiful scenery in Fengning County, Hebei Province, China. This picture was photoed by Dr Huang donghao.

Editors: Dr. Du Pengfei, Contributors include Prof. Liu Cheng, Prof. Li Rui, and Dr. Amir Kassam.

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http://www.journals.elsevier.com/international-soil-and-water-conservation-research/

WASWAC Website: www.waswac.org

The Contribution of the Soil Science Societies to Scientific Knowledge, Education and Sustainablility

SESSION during the EGU 2017 General Assembly, April 23-28 2017, Vienna, Austria

SSS1 – History, Education and Society of Soil Science, Taxonomy

Division SSS – Soil System Sciences.

Contributions that show new educational approaches, cooperation with other disciplines and efforts to improve sustainability are of interest.

SSS1.8

The contribution of the Soil Science Societies to scientific knowledge, education and sustainability

Convener:

Sigbert Huber

Co-Conveners:

Saskia Keesstra , Li Rui , Carmelo Dazzi , Rainer Horn , Harold van Es , Andrew Sharpley

Abstract submission Ask them for the email addresses of the national (Carmelo has)

All scientific societies dealing with soil issues provide skilled knowledge on soils, their classification, evaluation, management and conservation as well as links to other sciences, for example geology, hydrology, microbiology, ecology and agricultural sciences. Processes in the soil, but also interactions with other media such as air and water as well as biota are among the key interests. As these complex issues and the importance of soil are not so obvious to all people international, regional and national Soil Science Societies have been engaged in education, in particular in the International Year of Soils 2015. This engagement shall be prolonged in the International Decade

of Soils 2015-2024, which was proclaimed by the International Union of Soil Sciences. The soil science societies shall work together and exchange ideas how knowledge about soils can be included into other sciences as well as in curricula of universities and schools. This knowledge is needed to answer questions related to sustainability and to achieve the UN sustainable development goals until 2030.

Contributions demonstrating good examples of capacity building, soil awareness and knowledge transfer to different target groups are welcome. In particular contributions that

- show new educational approaches,
- cooperation with other disciplines and
- efforts to improve sustainability

are of interest.

See here: http://meetingorganizer.copernicus.org/EGU2017/session/23790

ABOUT EGU GENERAL ASSEMBLY 2017

Aims & scope

The EGU General Assembly 2017 will bring together geoscientists from all over the world to one meeting covering all disciplines of the Earth, planetary and space sciences. The EGU aims to provide a forum where scientists, especially early career researchers, can present their work and discuss their ideas with experts in all fields of geoscience. The EGU is looking forward to cordially welcoming you in Vienna.

Deadlines

Abstract submission (deadline: 11 Jan 2017)

Support application (deadline: 01 Dec 2016)

Short course request (deadline: 20 Jan 2017)

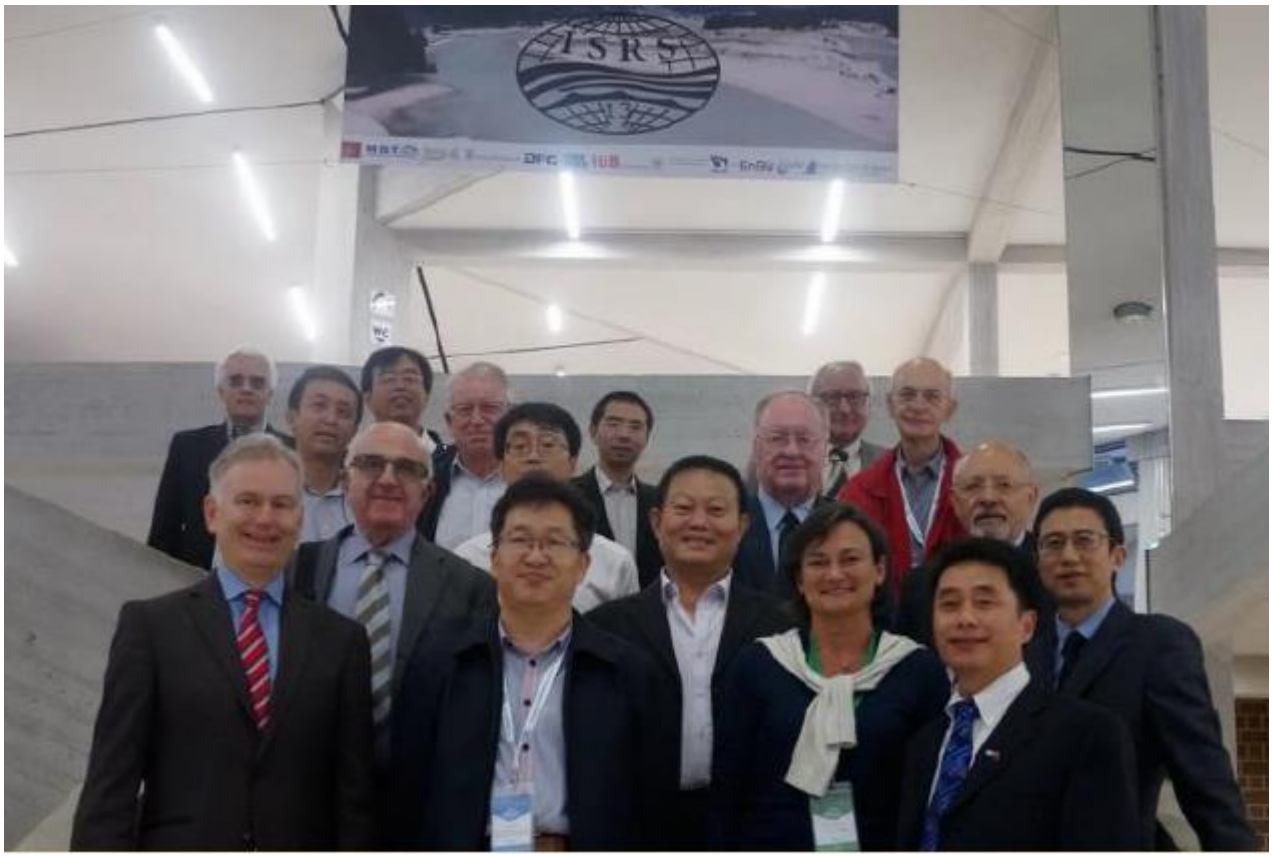
Townhall meeting request (deadline: 20 Jan 2017)

Sponsorship opportunities (for exhibitors only, deadline: 1 March 2017)

Details at: http://egu2017.eu/home.html

The Fifth WASER Council Meeting and Assembly were held in Stuttgart, Germany

The Fifth Council Meeting of the World Association for Sedimentation and Erosion Research (WASER) was held in Stuttgart, Germany on September 18, 2016. The Council Meeting was attended by 18 members representing both the Fourth Council and the newly elected Fifth Council, as well as several observers. Prof. Giampaolo Di Silvio, President of the Fourth Council, and Prof. Zhaoyin Wang, President of the Fifth Council, presided over the meeting successively.



A group photo

Approval of the nominations for the new Secretary General (Prof. Guangquan Liu) and the Executive Secretary General and Treasurer (Prof. Cheng Liu) was confirmed at the beginning of the meeting. Six reports were presented at the meeting. These included the President's report by Prof. Giampaolo Di Silvio; the Treasurer's report by Prof. Cheng Liu; a report on the nomination of Honorary Members by Prof. Des Walling; a report on the recent development of the "International Journal of Sediment Research" and the papers from the journal selected for Awards by the Editor

in Chief, Prof. Hongwei Fang; reports on the work of the Secretariat during the period 2013-2016 and the work plan for 2016-2019 by Prof. Guangquan Liu and an overview of the venue, sponsors and central theme of the forthcoming 14th ISRS (Chengdu, China, 2019) by Prof. Pengzhi Lin.

The Fifth WASER Council Meeting

(The meeting; Prof. G. Di Silvio delivering his President's Report; the new President Prof. Z.Y. Wang chairing the meeting and discussions; Secretary General Prof. G.Q. Liu presenting the Secretariat Report; IJSR Editor in Chief Prof. H.W. Fang reporting the award papers; Representative of the Organizing Committee of the 14th ISRS, Prof. P.Z. Lin reporting preparations for the Symposium.)

The meeting received the result of the poll for the election of members to the WASER Council for 2016-2019, and noted additional Council members, including the automatically Co-opted Members

(Prof. Giampaolo Di Silvio and Prof. Ulrich Zanke), a Co-opted Member (Prof. Des Walling) and an Ex-officio Member (Prof. Hongwei Fang).

The meeting also formally noted the award of Honorary Membership of WASER to Prof. Chih Ted Yang (USA), as reported by Prof. Des Walling, Past President; and the three papers nominated for the 2016 Awards for Distinguished Contributions to Sediment Research, representing the best papers published in the International Journal of Sediment Research (IJSR) between 2013 and 2015, as reported by the Editor in Chief, Prof. Hongwei Fang.

Issues related to the future development of the Association, changes to the statutes, recruiting of members, revised membership dues, the IJSR impact factor and the co-sponsoring of international conferences were also discussed.

The Fifth WASER Assembly was held during the 13th International Symposium on River Sedimentation (ISRS 2016) in Stuttgart, Germany on September 22, 2016. The new President Prof. Zhaoyin Wang chaired the Assembly and delivered a speech. He reviewed the establishment and development of the Association and indicated that sediment research was entering a new era, having shifted its focus from emphasis on the mechanics of sediment transport and fluvial processes to the integrated management of erosion and sedimentation, with ecological aspects of sediment transport processes and fluvial morphology and the social, economic and political aspects of sediment management becoming increasingly important. He believed that sediment research had a bright future and that the Association would become increasingly attractive to scientists and engineers, by virtue of its multidisciplinary focus.

Awards including Honorary Membership of WASER and the 2016 Distinguished Contributions to Sediment Research Awards, awarded for the best papers published in IJSR during the period 2013-2015 were announced at the Assembly. Past Vice President Prof. Chih Ted Yang (USA) received Honorary Membership of the Association in recognition of both his outstanding contribution to sediment research and his important service to the Association. Three papers with first authors of Prof. Xixu Lu (Singapore), Ms. Shang Qianqian (China) and Mr. Moritz Thom (Germany) received awards for Distinguished Contributions to Sediment Research.

The Fifth WASER Assembly

(The Assembly; New President Prof. Z.Y. Wang delivering his speech; Past President Prof. Des Walling announcing the award of Honorary Membership to Prof. Chih Ted Yang; Past President Prof. G. Di Silvio handing the Honorary Membership plaque to Prof.Matt Romkens, who received it on behalf of Prof. Yang)

In addition, the 13th International Symposium on River Sedimentation (ISRS2016) was held at the University of Stuttgart, Germany from September 19-22, 2016 with the main theme “Sediment on the Move - Innovative Management Strategies in Riverine Systems: From Old Problems to New Solutions”. About 300 participants from over 51 countries and regions attended the Symposium. The Symposium was organized by the University of Stuttgart, sponsored by the International Research and Training Center on Erosion and Sedimentation (IRTCES) and the World Association for Sedimentation and Erosion Research (WASER), and co-sponsored by UNESCO, UNESCO-IHP-ISI, IAHR, etc.

Secrets of life in the soil

Diana Wall has built a career on overturning assumptions about underground ecosystems. Now she is seeking to protect this endangered world.

Rachel Cernansky

Nature 537, 298–300 (15 September 2016) doi:10.1038/537298a

Benjamin Rasmussen for Nature

Diana Wall wields a coring tool in the grasslands of northern Colorado.

Wall, a soil ecologist and environmental scientist at Colorado State University in Fort Collins, has come to this site about an hour east of the campus to collect data for one of her latest experiments. She and her colleagues are creating an artificial drought in a patch of grassland by covering it with temporary shelters. They expect that predatory nematodes will die or enter a type of suspended animation, leaving the parasitic nematodes that prey on plants to dominate the ecosystem. “How do plants respond below-ground to drought?” she wonders.

Wall has been asking — and answering — similar questions about soil for decades. She has become one of the most celebrated and outspoken experts on the hidden biodiversity in dirt, having studied soils and their inhabitants in nearly every corner of the world. She has a special fondness for Antarctica, which she has visited almost every year since 1989. It was there that she and a colleague made a landmark discovery, demonstrating that the soil in one of the driest spots on Earth is home to some animal life and not sterile, as many had thought.

The same drive to challenge orthodoxy also helped her to advance in a field in which women were

once rare. “Many times, I felt like I was hitting the glass ceiling and got discouraged,” she says, before emphasizing how things have improved. “Today, I love seeing so many women in Antarctic and other research.”

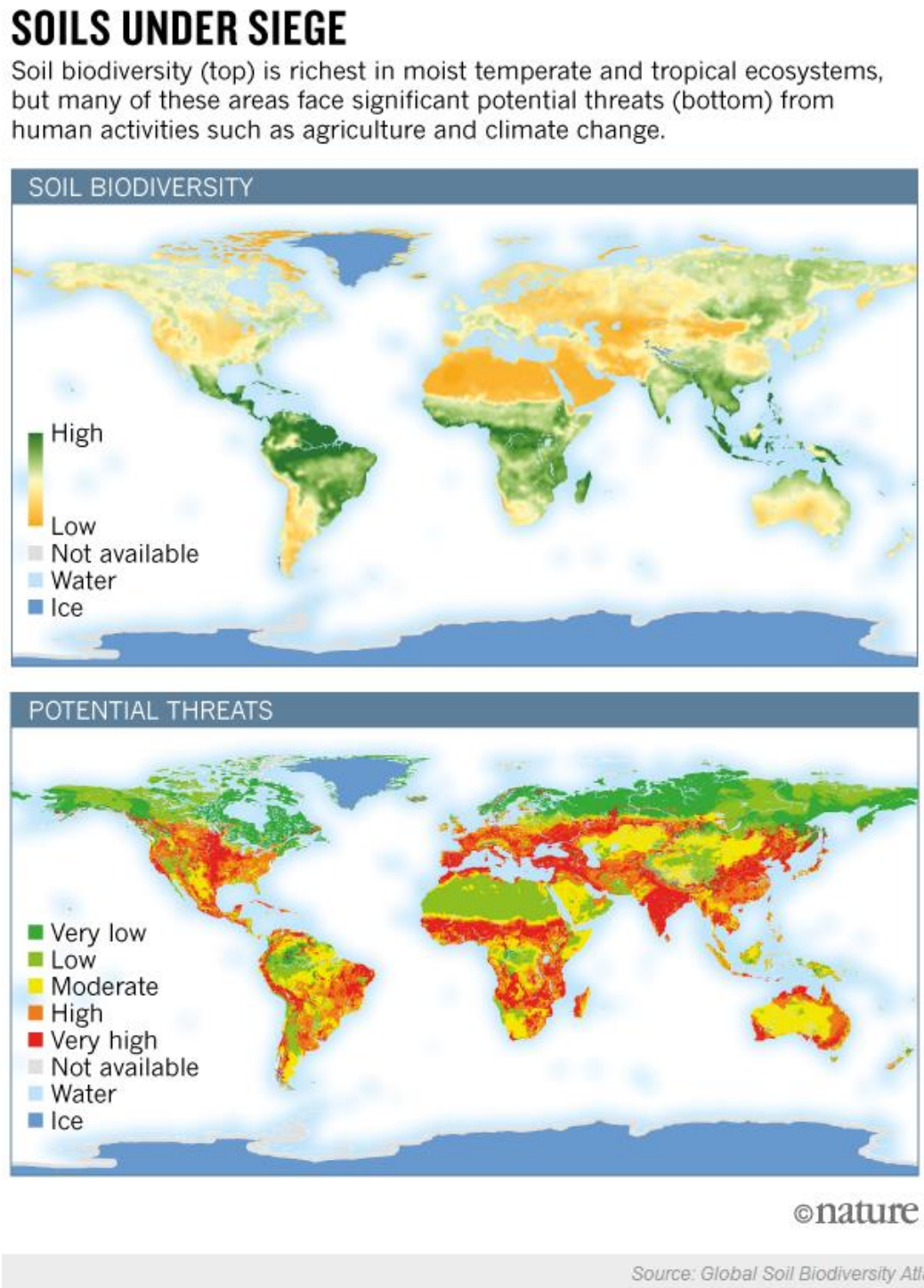
Alongside her own experiments, Wall has become an ambassador for soil science and conservation — at a time when soil ecosystems are being devastated by forces such as erosion, pollution, pesticides and climate change. Soil degradation over the past two centuries or so has released billions of tonnes of stored carbon into the atmosphere, and this discharge could accelerate, speeding up climate change. Beyond that, says Wall, the threats to soil could jeopardize food production, water quality and the health of humans, plants and animals. The current path, she says, “leaves our terrestrial biodiverse world as we know it very uncertain”.

The efforts of Wall and other scientists to raise the profile of soils have been making an impact. The United Nations declared 2015 the International Year of Soils, and in May, Wall travelled to Nairobi to launch the Global Soil Biodiversity Atlas — a compendium of information developed by a team of more than 100 scientists, which she helped to lead.

In 2001, she started a global, multiyear project to measure the impact of soil animals. Her team sent mesh bags filled with hay to colleagues at more than 30 sites around the world. Placed in various locations, the bags attracted worms, beetles and other types of soil invertebrate, while control bags excluded them. Wall's team then analysed the carbon content in each bag and compared the rates at which the organic matter decomposed with and without the soil animals. The results supported Wall's point: soil fauna increased decomposition rates significantly in many regions4. A follow-up study5 found that excluding soil fauna reduced decomposition rates by a global average of 35%.

Those studies helped to convince researchers to pay more attention to life in soil (see ‘Soils under siege’). “We now understand how key these organisms are to many ecosystem processes,” says Amy Austin, an ecologist at the University of Buenos Aires.

David Montgomery, a geomorphologist at the University of Washington in Seattle, says that Wall has inspired many other researchers in their science and outreach on topics important to society. “We need more first-rate scientists willing to speak in those arenas.”



Wall joined Colorado State University in 1993 to become director of the institution's Natural Resource Ecology Laboratory. There, colleagues say, she attracted interdisciplinary, accomplished scientists, which elevated the stature of the lab both on and off campus. She now serves as founding director of the university's School of Global Environmental Sustainability.

Details at: http://www.nature.com/news/secrets-of-life-in-the-soil-1.20575

COMMING MEETINGS

21st Century Watershed Technology Conference and Workshop

This is the fifth of a series of highly successful international conferences organized by ASABE and The IKIAM University. Over the last decade there has been a maturing of watershed science with new research findings and modeling approaches. These new solutions have resolved many of the problems that first faced watershed managers in dealing with water quality and quantity issues, but there are also emerging impediments to watershed assessments and achieving water quality goals. This international conference 21st Century Watershed Technology: Improving Water Quality and Environment will look at emerging problems and new solutions to managing watersheds to meet water quality and quantity standards.

Note: The conference proceeding will be distributed at the conference and will be archived at ASABE site. Also, the selected papers, presented at this conference will be published at ASABE Transactions.

Schedule:

Saturday Dec. 3: Workshops

Sunday Dec. 4: Workshops & Preliminary Welcome

Monday Dec. 5: Introduction, Keynote Speaker, followed by Concurrent Sessions in the afternoon and poster presentation

Tuesday Dec 6: Keynote Speaker, Conference Sessions & Conference Dinner

Wednesday Dec. 7: Keynote Speaker, followed by Conference Sessions

Thursday and Friday Dec. 8-9: Field trips

Details at: http://www.watershedtech.org/

1st World Conference on Soil and Water Conservation under Global Change (CONSOWA)

Sustainable life on earth through soil and water conservation

NEW DEADLINES:

For short abstract submission:
15 January 2017
For early registration:
30 January 2017

NEW SPONSORS:

European Geosciences Union
International Union of Soil Science

NEW DISCUSSION SESSIONS:

Discussion session 1:
Analysis and recommendations to change present limitations for the study and research of soil and water degradation processes and in the application of prevention and remediation practices.

Discussion session 2:
Analysis and setting the challenges and required achivements in the next decade, to prevent and counteract the previewed effects of global changes on soil and water degradation processes and effects on food and water supply for the increasing world population and the environmental degradation and natural disasters.

Argentine farmer fights for no-till agriculture

By Maria Kalaitzandonakes

Maria "Pilu" Giraudo, third from left, and 13 other farmers from around the world visited an Iowa corn and soybean farm on Tuesday morning and learned about the farm's cover cropping and soil management practices. (Photo by Maria Kalaitzandonakes)

DES MOINES, Iowa — About 40 years ago Maria "Pilu" Giraudo's father began to notice his soil eroding. He and neighboring farmers tried tirelessly to reverse the damage. After some years and many, many trials and advice he reduced and then stopped tilling, rejuvenating the tired soil. Yesterday, Giraudo received the Kleckner Award, an annual recognition given by Global Farmer Network to a farmer who shows leadership and vision, for her work in promotion of no-till agriculture in Argentina.

Tilling, digging rows into the soil by hand or with machinery, is an age-old method used by most of the world's farmers, but agricultural advocates like Giraudo are attempting to change this practice and trade it in for something more sustainable. No-till farming may be that mtehod. Farmers can grow crops without disturbing fields and incorporate the leftovers from the last harvested crops.

The United States Department of Agriculture's Economic Research Service said in a no-till farming practice report published in 2010 that tillage practices reduce the soil's carbon levels, increase water pollution and increase farmer's energy and pesticide use.

Giraudo is a fifth generation farmer from central Argentina. She and her family produce soybeans, wheat, barley, sorghum and livestock on 9,800 acres. As an agronomist, she consults with farmers who collectively own about 50,000 acres in Argentina. In June, she took her fight from the farms to the government when she accepted a new role coordinating policies for sustainable development in

the Ministry of Agroindustry for Argentina.

"When you become a farmer you realize that you have a responsibility and a commitment not just to produce food, but also to take care of the environment and human health," Giraudo said. "We need to use all the tools to help us meet this commitment. No-till is crucial not only for this generation, but for the next generation; It interrupts the cycle of soil deterioration."

Farmer and Missouri Department of Agriculture Director, Richard Fordyce, said using no-till practices is often a financial decision, as are most choices on the farm. No-till means less gas used going over the fields, less time tilling and less expensive inputs to replace nutrients in the soil. The Conservation Technology Information Center, an organization that works with more than 100 universities, reported that no-till or minimal tillage saves farmers an average 3.5 gallons of fuel per acre.

Fordyce converted his soybean and corn farm in Bethany, Missouri to no-till about 15 years ago.

"The proof is in the pudding — or in the fields I guess," Fordyce said. "There soil is healthier and there is less nutrient-rich soil particles being washed away and causing problems."

"We want everyone to join us in the commitment to this mission," Giraudo said.

When her father changed his fields over to no-till, "many thought he was mad," Giraudo laughed, remembering. But now, many farmers are beginning to see no-till as a route for soil recovery in physical, biological and chemical ways. According to a study published in International Soil and Water Conservation Research in 2014, which looked at the changes in Argentine soil practice, no-till farming went from from just a few hundred thousand hectares in 1990 to more than 23 million hectares, or around 79 percent of the grain cropped area in 2010. Much of this change is attributed to the Argentina No Till Farmers Association, an organization that Giraudo was president of until April and has over 3,000 members.

Receiving the Kleckner Award and learning from the Borlaug Dialogues and the Global Farmer Roundtable has fortified Giraudo's belief in her mission."This award makes me stronger, gives me a lot of energy and I have one more thing I can show to convince people from every part of the world to work together and change things," Giraudo said.

Details at:

https://muearth.wordpress.com/2016/10/12/argentine-farmer-fights-for-no-till-agriculture-wins-kleckner-award/

VACANCIES

1. Post-doctoral position: Modelling yields and soil carbon processes in African croplands

Karlsruhe Institute of Technology

We seek to fill a post-doctoral position in the Plant-Atmosphere Interactions group at Karlsruhe Institute of Technology's Campus Alpin (IMK-IFU) located in Garmisch-Partenkirchen (http://www.imk-ifu.kit.edu/institute.php), Germany. The position contributes to the GIZ funded project Scaling up soil carbon enhancement interventions for food security and climate across complex landscapes in Kenya and Ethiopia. Expected starting date is February 2017.

Main tasks include

- To further develop and evaluate the dynamic global vegetation modelling framework LPJ-GUESS, especially with respect to modelling crop-yields and soil processes
- To explore the use of relevant input data on different spatial and temporal resolutions and to explore possible interactions with fine-scale models such as DNDC
- To perform model simulations and analyse outputs
- To contribute to the group's general activities (i.e. some teaching, and project administration)

We offer

Work in a multi-disciplinary and friendly research environment, well connected to international networks and activities. Salary will be equivalent to the public service TV-L EG13, depending on qualifications and experience. The appointment will be for up to 2.5 - 3 years.

Required qualifications

You will have a Ph.D. degree in a relevant discipline (e.g., meteorology, soil physics, environmental sciences), and strong, demonstrable skills in computer modelling and the analysis of large scale datasets. The main development language in C++, while other scripting languages are also used. You will need to have proficiency in the English language, both spoken and in writing. Willingness

to travel is essential.

Applications

Applications should be sent by email to Prof. Almut Arneth (almut.arneth@kit.edu) by 16 December 2016, quoting the reference number ACS-01. Please send a copy of your CV including a publication list, a short (1-2 page) letter of motivation and contact details for 2 referees. The motivation letter should clearly state your skills, and how you feel you could contribute to the main tasks.

Applications that are incomplete or do not address these criteria will not be considered.

KIT strives to achieve gender balance at all levels of employment. We therefore particularly encourage female candidates to apply for this position. With appropriate qualifications, applications from persons with handicaps will be treated with preference.

Details at: http://www.earthworks-jobs.com/climate/kit16111.html

2. 2 Postdoctoral positions in soil chemistry / environmental (bio)geochemistry

ETH Zurich
DUSYS
Department of
Environmental Systems Science

Our research group focuses on the biogeochemical cycles of essential and potentially toxic trace elements in the environment and their coupling with major elements such as carbon, iron, manganese, and sulfur. Currently, we focus on the behavior of chalcophile and/or redox-active elements (e.g., As, Se, Hg, Cr, Cu, Cd) in wetlands, river floodplains, mining-affected environments, and rice paddies. Our research is process-oriented, and includes both field and laboratory studies using natural samples and model systems. We use a variety of analytical techniques including XRD, XRF, ICP-MS, ICP-OES, FT-IR, TEM/SEM, and synchrotron X-ray techniques.

Depending on the candidate's background and interests and within the general scope of our group, the selected candidates will develop their own research projects under the supervision of Ruben Kretzschmar and Iso Christl. The postdoctoral positions are for two years (extension may be

possible) and can be filled within the first half of 2017. Outstanding candidates with at least 2 years postdoc experience may be appointable at the Senior Assistant (Oberassistent) level. Work-related interactions will be in English, but some knowledge of German would be an advantage.

The ideal candidate should possess a strong academic background in environmental geochemistry as well as a documented record of previous research accomplishments. Relevant experience in soil sciences, analytical chemistry, spectroscopy, mineralogy, electron microscopy, molecular biology, and/or biogeochemical modelling, are highly valued.

For further information about the group and position, please contact Prof. Dr. Ruben Kretzschmar by email kretzschmar@env.ethz.ch (no applications) and visit our website www.soilchem.ethz.ch/ .

We are looking forward to receive your

online application (https://apply.refline.ch/845721/4948/pub/1/index.html)

including an application letter, curriculum vitae including publication list, 1-page research statement describing your research interests and career objectives, and contact information for three references. Please address it to: ETH Zurich, Mr. Olivier Meyrat, Human Resources, CH-8092 Zurich. Application review will begin on December 1, 2016, and continue until the positions are filled.

Applications via email will not be considered.

Details at: https://apply.refline.ch/845721/4948/pub/1/index.html

WASWAC MEMBERSHIP APPLICATION/RENEWAL FORM (Issued 120501)

(For applicants from all countries)

Name: (Ms./Mrs./Mr./Prof./Dr.)..... Gender: □F □M

Institution:.....

Postal address:.....

State/Province:..... Zip/Postal code:..... Country:.....

Phone:..... Fax:.....

Emails (Please give at least 2 addresses to ensure uninterrupted contact): (1).....

(2)..... (3).....

My specialized field(s):.....

Please sign me up for the WASWAC membership in category*: □1(IM)□2(LM)□3(OM)□4(SM&GM)

Membership for the year(s)..... @US$..... = US$ .....

Donation for developing country membership, etc. US$ .....

Donation to the Moldenhauer Fund US$ .....

Total US$ .....

***Membership categories & rates** from July 18, 2005, amended March 3, 2007 and March 4, 2010.

1. IM (Individual membership): US$20 for 5 years for developing countries (In China, members pay 130 yuan RMB); US$40 for 5 years for developed countries and persons working in international organizations worldwide.

2. LM (Life membership): US$80 for developing countries (In China, members pay 520 yuan RMB); US$160 for developed countries and persons working in international organizations worldwide. Persons who have passed their 60th birthday pay only half of these LM rates.

3. OM (Organization membership): For universities, research and implemental institutions, government agencies, NGOs, societies, associations and international organizations, etc. Persons belonging to an Organization member will receive the same online products and services as the other two above categories: $100/year for an organization with up to 150 persons; $150/year for an organization with up to 300 persons: $200/year for an organization with up to 500 persons; and $10/year for an additional 100 persons or part thereof.

4. SM&GM (Student membership & Gift membership): US$5/year worldwide, to be purchased to give to colleagues, friends, students, etc.

For sending money by foreign wires through a bank, please give the following information to your bank:

Name of Receiver (A/C Holder's Name): World Association of Soil and Water Conservation

Bank Name and Address: China Construction Bank, Shoutinanlu Branch, Beijing, China, No. 9 Shoutinanlu Street, Haidian District, Beijing, P R China

A/C NO.: 1100 1042 7000 5301 6996

Message to write on the Bank Sheet: WASWAC Membership due for Ms./Mrs./Mr./Prof./Dr. ....., Country .....

NOTE: 1. Do not deduct the bank fee from the amount of money to send. **2.** For sending money by wire/bank transfer or check please add US$7 per transaction to compensate for the charge at the receiving bank in Beijing. This additional charge does not apply for **WESTERN UNION** or any payment of US$50 or more.