

**S-1 News Vol. 9, No. 5
December 15, 2003**

PREFACE

This is the fifth S-1 Newsletter for the year 2003. The newsletter contains three sections: S-1 Member News and Announcements, Upcoming Meetings of Interest, and New Job Announcements. To have news and announcements included in future S-1 Newsletters, please send the text (either embedded in an e-mail message or as an attachment) to s-1@uidaho.edu. Newsletters (current and past) and other S-1 information are posted on the S-1 Web Page: <http://soils.ag.uidaho.edu/tuller/s-1/>

1) S-1 MEMBER NEWS AND ANNOUNCEMENTS

A) Glossary of Soil Science Terms

The Glossary of Soil Science Terms Committee was approved by the SSSA Board to transform the Glossary into a comprehensive "dictionary" type publication of terms used by soil scientist. The S5 division representative is proposing the addition of some 800 landform and geologic terms from the National Soil Survey Handbook. The Committee is asking that each division provide an equally comprehensive list of terms used by their division scientist for addition in the glossary. A quick perusal of the current glossary reveals that many common terms such as flow, drainage, and micropore are not included. A comprehensive dictionary of S1 Terms should not only include these common terms but terms such as stomatal resistance and senescence which pertain to evapotranspiration or terms such as mass transfer and physical nonequilibrium which deal with transport should also be included.

Please take the time to review the current Glossary on the SSSA web site and submit terms with suggested definitions to me for inclusion in the revision. The degree to which our discipline is represented in the comprehensive glossary is up to you-the member's actions.

Glenn Wilson, S-1 GSST Committee representative
gvwilson@ars.usda.gov

B) Nominations sought for S-1 Early Career Award

The division S-1 invites nominations for this award that recognizes scientists who have made an outstanding contribution in Soil Physics within six years after completing the Ph.D. degree. Principal criteria for the S-1 Early Career Award are:

1. Completion of Ph.D. degree in Soil Physics or closely related program within six years of the award date.
2. Active member of the Soil Science Society of America.
3. Evidence of quality teaching at the undergraduate and/or graduate levels if in a teaching position.
4. Evidence of effectiveness in extension and/or outreach activities.
5. Evidence of significant contribution of original basic and/or applied research in soil physics.
6. Contributions to the public, professional organizations and institutions.

Detailed instructions for nominating candidates may be found at <http://soils.ag.uidaho.edu/tuller/s-1/>. To apply, submit four copies of the complete nomination containing (i) nomination letter not to exceed two pages in length, (ii) supporting materials (see instructions for format) that document the nominee's qualifications, and (iii) three supporting letters not to exceed one page each. The deadline for receiving nominations is June 1, 2004. Mail nominations to Dr. A. W. Warrick, Chair S-1 Early Career Award, Department of Soil, Water and Environmental Science, 429 Shantz 38, U. of Arizona, Tucson, AZ 85721. Questions regarding the award may be directed to Art Warrick at aww@ag.arizona.edu or (520) 621-1646.

C) New issue of Vadose Zone Journal (VZJ):

The new issue of Vadose Zone Journal (VZJ) came out on November 15. The issue is by far the largest yet: 32 papers, including 4 reviews, comprising some 325 pages. Especially of interest should be a large special section with 22 papers on "Advances in Vadose Zone Measurement and Monitoring Methods" edited by Ty Ferre and Gerard Kluitenberg. Papers in this special issue address new technologies for nondestructive measurement of heat and mass transfer. The special section includes two review papers covering the use of time domain reflectometry and ground penetrating radar for soil water content measurements. In addition, Clarke Topp provided a unique historical perspective of the early days of time domain reflectometry. Other papers in this section detail the development and use of a wide variety of methods: ground penetrating radar, time domain reflectometry, dual-probe heat-pulse sensors, multifunction heat-pulse sensors, temperature profiling, air permeametry, vadose-zone fluxmeters, cone penetrometry, neutron thermalization, an automated chamber method for gas diffusion, and gradient and flux-plate methods for heat flux determination. The November issue also contains a somewhat unorthodox analysis paper by Art Corey and Auvermann on "Transport by advection and diffusion revisited." Some of you may want to check out that paper and see if you can agree (or disagree) with their analysis! Please visit www.vadosezonejournal.org for details. You can download pdf reprints of all papers in the November issue if you have a subscription (only \$50!) or, if not, for a one-time fee of \$15.

Future special sections will focus on subsurface flow/transport at DOE's INEEL site in Idaho (to appear in February 2004), colloid and colloid-facilitated transport (likely May 2004), and uncertainty in vadose zone flow and transport processes (resulting from an AGU symposium). You can access all of these papers and more next year for a very meager \$50 personal subscription. Even better, and if you have not already done so, I urge you to contact your library to get an institutional subscription (only \$300 for 2004). You can use for this purpose an online form at the top of the VZJ website (www.vadosezonejournal.org). Also, please continue to submit your papers to VZJ, and entice your friends and colleagues to do so. We can always use a few more good papers (including review papers). Thanks. Rien van Genuchten

D) Call for Abstracts "Large Scale Soil Moisture Remote Sensing":

With this announcement we invite the submission of abstracts for the "Large Scale Soil Moisture Remote Sensing Session" at the 2004 meeting of the European Geosciences Union in Nice, from 25 - 30 of April. The objective of the session is to bring together scientists from the active and passive microwave remote sensing community as well as scientists from adjacent fields such as hydrology, climatology and meteorology, to present international activities and research addressing soil moisture retrieval from coarse resolution remote sensing data. The session covers following issues: 1) A general introduction to relevant satellite missions; 2) The principals of soil

moisture retrieval from coarse resolution remote sensing data (active, passive and infrared); 3) Scale issues of soil moisture and other relevant processes; 4) Retrieval of root zone soil moisture; 5) Verification of derived products and relevant field experiments; 6) Application of coarse resolution soil moisture data, for example in climatology, meteorology, agronomy, hydrology and carbon balance research.

The rationale for this session is the launch of the Soil Moisture and Ocean Salinity Mission SMOS a passive microwave mission in 2006 and one year before, the launch of the Meteorological Operational satellite METOP with the active microwave system Advanced Scatterometer ASCAT onboard. Both missions will provide a flow of high quality coarse resolution data for monitoring large-scale variations of the surface soil moisture field.

For conference details please visit <http://www.copernicus.org/egu2004/>. Abstracts for the session can be submitted on-line at http://www.copernicus.org/EGU/ga/egu04/abstract_submission.htm. Deadline for abstract submission is the 11. January 2004. Klaus Scipal, Convener.

2) UPCOMING MEETINGS OF INTEREST (arranged by meeting date)

A) International Conference on "Finite-Element Models, MODFLOW, and More 2004: Solving Groundwater Problems" (Karlovy Vary (Carlsbad), Czech Republic, 13-16 September 2004). The FEM_MODFLOW conference aims at presenting cutting-edge development and practical application of groundwater models in all aspects of hydrological work. The conference is derived from and continues the productive MODFLOW conferences held by IGWMC in 1998, 2001 and 2003. In many countries, MODFLOW, the USGS modular three-dimensional finite-difference groundwater flow model, has become an important standard for groundwater modeling. Therefore, MODFLOW serves as a centerpiece for the recurring conference. However, the Conference Organizing Committee needs and encourages participation by users of all types of models in diverse applications, including those based on the finite-element technique and other approaches. The conference seeks to encourage understanding and appropriate use of the many widely used models. Most of all, the conference seeks to help solve groundwater problems. The conference includes keynote speakers on diverse topics, and contributed oral and poster presentations. Abstracts are due no later than February 29, 2004. For further information please visit: http://www.natur.cuni.cz/fem_modflow/

B) 9th ASCE Aerospace Division International Conference on Engineering, Construction and Operations in Challenging Environments (March 7-10, 2004, Houston, TX). The Aerospace Division of the American Society of Civil Engineers invites you to plan for and participate in their Ninth Biennial International Conference on Engineering, Construction and Operations in Challenging Environments. At this Conference, you will meet people from a variety of disciplines, and have ample enjoyable opportunities to discuss the confluence of engineering, construction, and operations in challenging environments that include planet Earth, Space, and other planetary bodies such as the Moon and Mars. One of the main goals of this Conference is technology transfer. Deadline for abstract submission is July 15, 2003. For further information please visit: www.asce.org/conferences/space04.

C) Gordon Research Conference- Flow and Transport in Permeable Media (July 11-16, 2004, The Queens College, Oxford, England). The Gordon Research Conference on "Flow and

Transport in Permeable Media” is a bi-annual conference focusing on the latest advances in flow and transport in porous media. The conference provides a stimulating and relaxed forum for an interdisciplinary exchange of ideas. Participants typically include hydrologists, chemical and petroleum engineers, environmental engineers, soil scientists, geologists, mathematicians, and physicists. In the spirit of the Gordon Conferences, the format is designed to encourage in-depth discussion, with a program of morning and evening invited lectures and open discussions. Free afternoons and evening social gatherings provide ample time for more informal interactions. Poster sessions form an important part of the meeting. For more information please visit: <http://www.hyd.citg.tudelft.nl/grc/>

D) Fifth European Conference on Geostatistics for Environmental Applications geoENV (Centre for Hydrogeology, University of Neuchâtel, Switzerland, on October 13-15, 2004). The Congress will be preceded by a two-day workshop, on October 11-12, 2004. The objective of the geoENV conference series is to bring together scientists from many different areas which share in common the application of geostatistics to environmental problems. A non-exclusive list of topics which are covered includes: Groundwater pollution and hydrogeology; Soil science, site remediation, industrial sites; Air monitoring; Spatiotemporal statistics; Climatology; Ecology, natural resources; Forestry, agriculture; Epidemiology, ecotoxicology; Biometry; and Remote Sensing. For further information please visit: <http://www.unine.ch/chyn/geoenv/welcome.html>.

3) NEW JOB ANNOUNCEMENTS

To review all announcements from the last six months please visit: <http://soils.ag.uidaho.edu/tuller/s-1/jobs.htm>

A) Assistant/Associate Professor - Environmental/Soil Physics (posted 12/15/2003). The Department of Plants, Soils and Biometeorology at Utah State University invites applications for a 75% research 25% teaching, tenure-track position. The successful applicant must possess a strong theoretical understanding of the soil/water/air system and demonstrate an interest in applying that knowledge in interdisciplinary environments at scales from the pore to the field or the watershed. Soil/environmental physics is an historical keystone of soil and environmental research at USU and collaboration with other environmental scientists, such as soil, plant, atmospheric, and water scientists and ecologists is expected.

The appointee is expected to develop a productive and externally supported research program that addresses fundamental processes affecting soil physical properties and quantifying impacts on fluxes of mass and energy through soils and other porous media. Areas of research might include, but are not limited to, transport of reactive compounds, gasses and energy in natural and manipulated environments; physics of soil water; electromagnetic field interactions with moist soil materials; and linking soil processes with hydrological, biological and meteorological processes and their impact on ecosystem function. Publication of research results in peer reviewed journal is required.

Teaching responsibilities include teaching a senior/graduate course in soil/environmental physics and a graduate course in unsaturated flow and transport. A key element of program viability is ability to recruit, support and mentor graduate students.

Requirements: A PhD in soil physics, environmental physics or a similar discipline at the time of hire is required and post-doctoral experience is desired. Evidence of an ability to conduct and

disseminate research and to work in an interdisciplinary environment is required. Excellent written, oral and interpersonal communication skills are also required. Experience in teaching at the college level and in writing grant proposals to support scholarly activities is desired. To be considered at the associate professor level, the candidate must also have a record of excellence in research with an established research agenda as evidenced by a strong publication record and a record of grants or contracts. Candidates for the associate professor level must have a record of excellence in teaching.

The appointment is negotiable and may be either a nine or eleven month basis. Salary and benefits are competitive. A letter of interest, official copies of transcripts, vitae, and contact information for three references should be sent to

Lynn M. Dudley,
Chair Soil Physics Search Committee
4820 Old Main Hill
Utah State University
Logan, UT 84322-4820
Email: Lynn.Dudley@usu.edu
Phone: 435-770-0367

Electronic applications will not be accepted. The review of applications will begin March 1, 2004 and will continue until the position is filled. The target date for hiring is July 1, 2004.

Utah State University is an affirmative action/equal opportunity employer, sensitive to the needs of dual-career applicants. The University was recently chosen as a National Science Foundation ADVANCE Gender Equity Program recipient, and is dedicated to recruiting stellar candidates from a diverse pool including women, minorities, veterans and people with disabilities. USU is in Logan, a semi-rural city in an Alpine mountain valley with a community of 100,000, offering ample opportunities for family-friendly professional life. Ski resorts, lakes, rivers, and mountains in the area make it one of the finest outdoor recreation environments in the nation.

B) Assistant Professor of Forest Watershed Science (posted 12/09/2003). Tenure-track position, nine-month, in the Department of Environmental Science, Policy and Management, Division of Ecosystem Sciences and the Agricultural Experiment Station at the University of California, Berkeley, available July 1, 2004, pending budgetary approval. The appointee will be expected to develop a nationally-recognized research program in forest watershed science. Potential areas of research include but are not limited to understanding effects of changing climate, land use, and management practices on the hydrologic cycle, nutrient cycling, stream habitat quality, soil erosion processes and forest resources. This position provides a focal point for the diverse faculty at Berkeley with interests in water resources. The appointee will be responsible for teaching and research in forest watershed science. Specific responsibilities involve teaching an undergraduate and graduate course in forested watersheds as well as participation in other environmental science courses. Applicants must have a Ph.D. degree in an appropriate field, such as forestry, ecosystem sciences, geography, watershed hydrology, riparian ecology, civil engineering, or a related field. The successful candidate must have an outstanding record of scientific accomplishment and a strong commitment to both undergraduate and graduate teaching. A curriculum vitae, copies of recent publications, statements of research and teaching interests, and three letters of recommendation should be sent to: Chair, Forest Watershed Scientist Search Committee, Division of Ecosystem Sciences, 150 Hilgard Hall,

University of California, Berkeley, CA 94720-3110. The deadline for receipt of applications is January 16, 2004. For more information visit our website at <http://www.cnr.berkeley.edu/departments/espm/watershed> or call 510-642-8051.

C) Assistant Professor, Flow and Transport Modeling, University of Colorado, Boulder (posted 12/09/2003) The Department of Civil, Environmental and Architectural Engineering invites applications for a tenure track position in its Water Resources group. The specific area targeted in this search is: Numerical modeling of flow and transport processes in surface or subsurface water systems. The Department anticipates hiring at the assistant professor level. Applications at all levels may also be considered from outstanding applicants and/or those who would strengthen the Department's diversity. Responsibilities include teaching at the undergraduate and graduate levels and development of a strong externally funded research program. Candidates must demonstrate a strong, broad background in modeling flow and transport processes in natural systems. We are especially interested in candidates whose research emphasizes high-performance computation and/or interdisciplinary themes related to chemical and biological processes. An earned Ph.D. in Civil Engineering or related field is required. Information on the water resources and environmental engineering programs can be found at the Department's website: <http://civil.colorado.edu/>. A resume, brief statements of teaching and research interests and names of at least three references should be sent to: Chair, Water Resources Search Committee, Department of Civil, Environmental and Architectural Engineering, University of Colorado, Boulder, CO 80309-0428. Review of Applications will begin on February 15 and continue until the position is filled. The University of Colorado at Boulder is committed to diversity and equality in education and employment.

D) Assistant Professor---Water Resources & Salinity Management (posted 12/02/2003). The Agricultural Research and Extension Center at El Paso invites applications for a faculty position in the area of Water Resources and Salinity Management at the Assistant Professor level. This is a full-time, 100% research position with the Texas Agricultural Experiment Station, The Texas A&M University System. The successful candidate will develop and lead a research program in water resources and salinity management applicable to the Rio Grande basin and similar arid-climate and salt affected regions. Research interests include one or a combination of the following: soil-water salinity interactions, irrigation management, water reuse and saline water disposal and spatial sciences. This position joins a growing faculty in water resource management and will be a critical team member collaborating with existing programs in salinity, hydrology, environmental microbiology, water conservation and water policy. Requires a Ph.D. degree in soil sciences, agricultural engineering, water management or closely related field. For a position description and Center information go to <http://elpaso.tamu.edu/Research>. To apply: send cover letter, vitae, statement of research interests, publication examples and arrange for three reference letters to be sent to: Dr. Ari Michelsen, Agricultural Research and Extension Center, Texas A&M University, 1380 A&M Circle, El Paso, TX 79927 or e-mail these materials to r-ontiveros@tamu.edu. Applications accepted until suitable candidate found. TAMUS is an equal opportunity affirmative action employer and committed to excellence through diversity.

E) Graduate Fellowships---UD Institute of Soil and Environmental Quality (posted 12/01/2003) The University of Delaware Institute of Soil and Environmental Quality (ISEQ) announces the immediate availability of two graduate fellowships. Each fellowship will provide \$17,000 per year for up to three years to support a M.S. or Ph.D. student advised by a faculty member affiliated with the ISEQ. Fellowships begin in the spring or fall semesters of 2004. Graduate fellows must conduct their research in an area directly related to the mission of the

ISEQ. Affiliated faculty and areas that will be supported are found on our website <http://ag.udel.edu/iseq/>. To apply for an ISEQ graduate fellowship, please submit the following materials via e-mail to ISEQ Director Dr. Tom Sims (jtsims@udel.edu) by Jan. 15, 2004 (for Spring, 2004) or by March 12, 2004 (for Fall, 2004): resume, undergraduate and graduate transcripts, GRE, TOEFL, statement of interest, and three letters of reference.

F) Assistant Professor--Water Resources (posted 11/06/2003) Tenure-track, full-time, 11-month position. The Department of Renewable Resources at the University of Wyoming is seeking candidates for an assistant professor, tenure-track, full-time faculty position. The position emphasis is 2/3 extension and 1/3 research with an expectation to implement a progressive state-wide extension program and complementary research program related to water resource quality and quantity issues relevant to the western U.S. The position requires development and implementation of water resource outreach programs that are coordinated with extension efforts of University of Wyoming and neighboring states. These efforts will require collaboration with individual citizens and appropriate city, county, state, and federal agencies and non-governmental organizations. A key component of the extension activities will be to provide educational programming for Extension Educators and clientele as requested regarding sound watershed resource management practices, emerging water resource issues, and public policy. There will be periods of extensive travel throughout the state, emanating from the UW campus. Research results and extension information will be expected to be published in appropriate outlets. Approximate starting date is May 15, 2004 or soon as practical. Salary and benefits are competitive and commensurate with qualifications. For more details regarding minimum and preferred qualifications visit the website: <http://uwyo.edu/RenewableResources>. The University of Wyoming is located in Laramie, WY, which has a population of about 30,000. Campus and community are surrounded by superb opportunities for outdoor activities. Please visit following website for more information about the community, region, and employment benefits. <http://uwadmnweb.uwyo.edu/hr>. Review of applications will begin by Jan. 6, 2004. For full consideration, applicants should submit a letter of application, curriculum vitae, course listings, statement of philosophy for research and extension goals, and contact information for three references to: Dr. K.J. Reddy, Associate Professor, Search Committee Chair, P.O. Box 3354, Department of Renewable Resources, University of Wyoming, Laramie, WY 82071; 307/766-6658; Fax: 307/766-6403; katta@uwyo.edu. University of Wyoming is an Equal Opportunity Employer.

G) Postdoctoral Research Associate (posted 10/30/2003). Soil Scientist, Agricultural Engineer, or Research Hydrologist. The USDA, Agricultural Research Service, Northwest Irrigation and Soils Research Laboratory in Kimberly, Idaho, is seeking a Postdoctoral Research Associate, (Soil Scientist, Agricultural Engineer, or Research Hydrologist). Ph.D. degree is required. Salary is commensurate with experience (\$47,110 to \$73,403 per annum) plus benefits. There are some citizenship restrictions. The Scientist will work individually or with a team studying the general problem of water quality in irrigated tracts in the western U.S. The specific research problem is to: (i) modify, calibrate and validate a simulation model to predict water quality in an irrigated tract, and (ii) evaluate the effect of selected conservation practices on return flow water quality in an irrigated tract using the modified model. Research will be conducted on the Twin Falls irrigation tract in cooperation with other scientists, and with private and public cooperators. Refer to www.afm.ars.usda.gov/divisions/hrd/hrdhomepage/vacancy/04039.htm for the full text announcement and for complete application instructions. Send application materials and references to Dr. D.T. Westermann, USDA/ARS, 3793N 3600E, Kimberly, ID 83341 or e-mail (dtw@nwisrl.ars.usda.gov). USDA/ARS is an equal opportunity provider and employer.

H) Associate/Full Professor - Water Management (posted 10/28/2003) This is a tenure-track position with primarily teaching duties (nine months) and excellent research opportunities (three months). General Description and Requirements: The Plant and Soil Science Department at Texas Tech University, Lubbock, Texas invites applications for a tenure-track faculty position in the area of Regional Water Management at the Associate/Full Professor level. Qualifications: The candidate must have an earned Ph.D. degree in Agronomy, Soil Science, Irrigation Science, Water Management, or a closely related field. Applicants must have the ability to communicate and teach in English; potential and/or proven ability to generate funding, conduct and publish high quality research; and citizenship or permanent residence status sufficient to allow acceptance of a full-time position in the U. S. Interest in and ability to contribute effectively to collaborative research efforts and work with undergraduate and graduate students is essential. Duties: The incumbent will teach and develop undergraduate and graduate courses related to regional water management, with emphasis on issues relevant to the arid and semi-arid portions of the Central U.S.; develop and lead multidisciplinary research programs aimed at optimizing the agricultural and urban use of precipitation and groundwater resources at the regional level; participate in and contribute to regional, State, and Federal working groups involving the development of water issue policies and initiatives. Salary will be commensurate with experience. Applicants should submit a statement of career goals, a resume, university transcripts and names of three individuals to contact for recommendations by Jan. 1, 2004 or until filled to Dr. Dick Auld, Department of Plant and Soil Science, Box 42122, Texas Tech University, Lubbock, TX 79409-2122; 806/742-2838; Fax: 806/742-0775; dick.auld@ttu.edu. Texas Tech University is an Equal Opportunity Employer, Affirmative Action Institution and supporter of the Americans with Disabilities Act. The vacancy position number is 2005 TLF 023.

I) Postdoctoral Associate - Watershed Hydrology (posted 10/21/2003) The successful candidate will conduct independent research in the area of watershed hydrology: (i) water flow & solute transport, (ii) erosion control practices, (iii) numerical modeling and (vi) spatio-temporal data analyses (GPS & GIS). Applicant should have experience in the use of laboratory analytical techniques, field research design and implementations, spatial and temporal data analyses, strong computer skills, capability to publish research findings in referee journals. Salary is commensurate with qualifications and experience. Initial appointment is for one year and renewal will be based on performance and availability of funds. Starting immediately. To apply, send (1) a cover letter of interest; (2) curriculum vitae, (3) transcripts; and; (4) names, addresses, fax and e-mail addresses of three referees; to Dr. Ali Fares, University of Hawaii Nat. Res. & Environ. Mgmt Department 1910 East-West Road Honolulu, HI 96822; 808/956-6361; AFares@Hawaii.Edu; For more information visit www.ctahr.hawaii.edu/faresa/. University of Hawaii is an equal opportunity employer.

APPENDICES

A) S-1 Contacts

Chair (04): David Radcliffe dradclif@arches.uga.edu

Chair-Elect (05): Gerard Kluitenberg gjk@ksu.edu

ASA and SSSA Board Representative (03-06) Glenn Wilson: gvwilson@ars.usda.gov

SSSA Journal S-1 Technical Editor: Sally Logsdon logsdon@nstl.gov

B) S-1 Working Groups and Committees

S-1 Program for 2004 ASA-SSSA Meetings (Seattle, WA, Oct. 31-Nov. 4): David Radcliffe

Kirkham Conference 2004 (Utah State): Wilford Gardner and Scott Jones

S-1 Early Career Award: Art Warrick, Per Moldrup and Jacob Dane