
BULLETIN

Summer 2002

"American Institute of Hydrology, the Society for Registered/Certified Hydrologists and Hydrogeologists"

Volume 20, Issue 2

2002 AIH INTERNATIONAL CONFERENCE AND ANNUAL MEETING Hydrologic Extremes: Challenges for Science and Management *Portland, Oregon October 13-17, 2002*

Coming soon, you will find the full agenda for the 2002 International Conference and AIH Annual Meeting on the web. You will find it by visiting the AIH web page at <www.aihydro.org> and clicking on the Fall 2002 Annual Meeting button. Here is the abbreviated version:

October 13, 2002 Sunday

1:00 – 5:00PM— **Workshop:** *Estimate of Parameters for Vadose Zone Models* Cost: \$100 Estimated.
Cost: \$100 including Monday Field Trip with equipment
2:00 – 5:00PM—**Workshop:** *Spatial Climate Perspectives: Climate Mapping with Hydrologic Applications*
Cost: \$40

October 14, 2002 Monday (Columbus Day)

9:00AM – 4:00PM— **Field Trip:** *History, Hydrology, and Geology of the Columbia Gorge*
Cost includes lunch: \$40
9:00AM – 1:00PM— **Field Trip:** *Vadose Zone Workshop* – continued from Sunday

Note: Look for Workshop and Field Trip info in other parts of this newsletter.

October 15, 2002 Tuesday

8:30 – 11:30AM—**Plenary Session**
—**A New Apocalypse: Floods, Droughts, and Turmoil of the 21st Century**, William Hooke, Sigma Xi Distinguished Lecturer, American Meteorological Society, past deputy director NOAA.
—**Western Water Law and the ESA: Managing Unnatural Hydrologic Extremes**, Martha Pagel, Schwabe, Williamson & Wyatt, Past Director Oregon Water Resources Department.

—**Drought Monitoring and Mitigation: Risk Management and Policy Trends in the United States**, Donald Wichita, Drought Mitigation Center, University of Nebraska, Lincoln, Nebraska.

11:30AM – 1:00PM— **Luncheon** with speaker:
—**Integrating Urban Floodplain and Hydrology Management As Urban Greeninfrastructure**, Mike Houck, Urban Naturalist, Audubon Society of Portland & Chair, Natural Resources Working Group, Coalition For A Livable Future.

1:00 – 5:00PM— **Climate Change** Titles include:
* Assessing Hydrologic Impacts of Climate Change at a Watershed Scale Connections between Pacific Ocean Variability and the Variability in Climate and Streamflow in the U.S. Pacific Northwest * An Era of Perpetual Change: Challenges for Water Resource Management in the 21st Century * Modeling Streamflows in Present and Future Climates -- Examples from Coastal British Columbia *

1:00 – 5:00PM— **Water Quality** Titles include:
* Extreme Event Impacts on Contaminant Sediment Stability * Understanding How Extremes Influence Water Quality: Experience from Forest Watersheds * Columbia/Snake River Temperature Total Maximum Daily Load *

1:00 – 5:00PM—**Ground Water** Titles include:
* The Role of Climate Variability on Recharge in the Great Basin * Challenges in Determining Contributions of Infrequent Streamflow Events to Ground-Water Re

Continued on page 10

Dr. Kirk Hatfield, Editor, Dept. of Civil Engineering, Univ. of Florida, 124 Yon Hall, Gainesville, FL 32611, Tel. (352) 392-9537 ext 1441, E-Mail: <khatf@ce.ufl.edu>.

Bruce L. Cutright, Principal, Kimley-Horn and Assoc., 8711 Perimeter Park Blvd., Ste. 6, Jacksonville, FL 32216, E-Mail: <bruce.cutright@kimley-horn.com>.

Mr. C. Robert (Bob) Aldwell, International Correspondent, Geological Survey of Ireland, Haddington Rd., Dublin 4, Ireland, Tel. (353-1) 671-5233, E-Mail: <aldwellb@tec.irlgov.ie>.

The AIH *Bulletin* is the official publication of the American Institute of Hydrology, 2499 Rice St., Ste. 135, St. Paul, MN 55113, Tel. (651) 484-8169, Fax (651) 484-8357, E-Mail: <AIHydro@aol.com>, Web Page: <www.aihydro.org>. Material published in this newsletter may be reprinted with proper attribution. AIH is a professional organization providing certification of competent professionals, in *all* fields of the hydrologic sciences. The Institute is dedicated to the advancement of hydrology and hydrogeology as a science and profession, and to the professional education and advancement of its members. Contributions and articles of interest to the general membership of AIH are welcomed and should be submitted to the AIH office. Advertisements should also be submitted to the AIH office.

Advertisement Rates are as follows:

SPACE	RATE	SIZE
1 page	\$525	9½ x 7½"
1/2 page (1 column)	\$275	9½ x 3½"
1/2 page (1 banner)	\$275	4½ x 7½"
1/4 page (1/2 column)	\$135	4½ x 3½"
1/8 page (1/4 column)	\$ 85	2½ x 3½"
Business Cards,	\$225 members,	
non-members annual	(4 issues)	

E-Mail for the Executive Committee

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PRESIDENT'S MESSAGE

Get Involved

Through this communication, I am urging your involvement in shaping the future of AIH. We need your help in increasing the AIH membership. Currently, our membership is quite low at about 1000-1200 and this number has not been on the rise for quite some time. I am greatly concerned about it and would like to see this number to increase several fold in the next few years. Some people estimate that there are about 20,000 practicing hydrologists in the United States alone. Some even argue that this number might be as high as 50,000, depending on who is counting and who is counted. The point is that there can little dispute that the current membership represents only a very small fraction of the potential membership. Given the role of water in our daily lives and that of water resources in societal development, the number of people involved in different facets of water resources and in turn hydrology is unquestionably huge. The question then arises: Why are we having such a low membership? Are we not doing what we ought to be doing? Are we doing what we ought not to be doing? Is AIH serving or not serving its membership well? Are we not marketing the value of AIH to the practicing hydrologists or water resources professionals? Is our mode of operation at AIH in tune with today's demands? Is membership getting its money's worth? There are many such and related questions that need to be answered. We, therefore, need your help in helping us better do what we are doing, not do what we should not be doing, better define what we ought to be doing, and better define our agenda for the next year and the years ahead. For the immediate future, I urge you to recruit at least one member. If every member succeeded in recruiting one member, the membership will double next year. And if we continued on this path for a couple of years, we will have a more respectable membership base. More importantly, AIH should be what its our membership expects it to be and should do what its membership wants it to do. Every member should feel proud of his or her membership in AIH. This is your organization and we in the executive committee are only here to serve you. If we cannot serve you the way you should be served then we should not exist as a committee. This is the bottom line.

To increase the membership, we are trying to simplify the registration and examination procedures. We are also working toward establishing more student chapters, more state sections, and international sections. However, we need volunteers to take charge and play a leadership role in accomplishing all of these and more. Another issue of great importance is: Should we introduce new membership categories or remain only a registration society? In the months ahead we want to deliberate on this issue.

This year we will have election of the new executive committee. We are fortunate to have an excellent slate of candidates. In the next month or so you will be receiving ballots. I urge you to vote. It is important that you exercise your franchise.

In closing, please remember that AIH is your organization. If I or anyone of executive committee members can help in anyway, please feel free to contact. My e-mail is: cesing@lsu.edu and my office phone is: (225)-578-6697. I would love to hear from you.

—Vijay P. Singh, President

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Books by AIH Members

Conservation of Water and Related Land Resources, Third Ed., *Peter E. Black* (1481-H) and *B. Fisher*, 2001, 536 pp. Lewis Publishers. To order: www.crcpress.com

Waterbody Hydrodynamic and Water Quality Modeling, *John E. Edinger* (253-H), 2002, 215 pp. ASCE Press. To order: www.pubs.asce.org

Groundwater and the Environment, *I.S. Zektser* and *Lorne G. Everett* (164-H,836-HGW), 2000, 192 pp. Lewis Publishers. To order: www.crcpress.com

Stormwater Collection System Design Handbook, *Larry W. Mays* (757-H), 2001, McGraw-Hill. To order: www.mhorder.com/storm202.html

Snow and Glacier Hydrology, *P. Singh* and *Vijay P. Singh* (336-H), 2001, 756 pp. Kluwer Academic Publishers. To order: E-mail: kluwer@wkap.com

First Joint Examination with Wisconsin given on May 10, 2002

The first examination for Fundamental and Ground Water Principles and Practice or Surface Water Principles and Practice exams were given on Friday, May 10, 2002.

We had 6 AIH candidates sitting for the examinations. 3 candidates for the Fundamental Hydrology Exam, 2 for the Surface Water Practical Exam, and 1 for the Ground Water Practical Exam. There were no candidates this time for Wisconsin.

The next examination is set for Friday, November 8, 2002.

Nominations for AIH Officers, 2003—2005

The ballots will be sent out to all Professional Members in good standing on June 30, 2002. This means if your 2002 dues are paid, you will receive a ballot. If you do not receive a ballot by mid-July, and believe your dues are paid for 2002, please contact the AIH office. The ballots will be mailed out by first-class mail, so they will be forwarded on to you, and if you note that the ballots were forwarded on, please contact the AIH office with your current address. When you receive your ballot, please note that they are due back in the AIH office no later than September 4, 2002.

The nominees for each office are listed in alphabetical order.

President-Elect

Miguel A. Marino

A member of AIH since 1990 (872-HGW), Marino is Professor of Hydrologic Sciences, Civil & Environmental Engineering, and Biological & Agricultural Engineering at UC Davis. His major areas of interest are subsurface and surface hydrology, mathematical modeling, simulation and optimization of hydrosystems.



To date, he has supervised 26 Ph.D. and more than 50 M.S. students. He received BS (62) and MS (65) degrees from New Mexico Institute of Mining and Technology and PhD (72) from UCLA. He is an honorary member of ASCE and AWRA, a fellow of AGU and AWRA, and a member of IAHS, AAAS, Sigma Xi and the New York Academy of Sciences. A recipient of numerous awards, he has authored/coauthored more than 300 papers and reports. He has served on various editorial board of journals in hydrology, water resources and irrigation, including the editorship of ASCE's Journal of Water Resources Planning and Management. He has also served on the AIH Board of Registration.

Candidate's Goals:

1. Increase the AIH membership by promoting state and student sections and by encouraging cooperative programming and strategic partnering at national and international levels with a number of organizations.
2. Promote the sponsorship of AIH activities (e.g., awards) by private corporation and governmental agencies.



The new Officers will be introduced at the 2002 Annual Meeting at the Sheraton Hotel in Portland, Oregon.

Vice President for Academic Affairs

Alexander H.D. Cheng

A member of AIH since 1995 (HGW1086), Cheng is Professor and Chair at the Department of Civil Engineering, University of Mississippi. Prior to the current position, he was a faculty member at the University of Delaware (1985-2001), Columbia University (1982-85), and Cornell University (1981-82). He received his B.S. degree



(1974) from the National Taiwan University, M.S. (1978) from the University of Missouri at Columbia, and Ph.D. (1981) from Cornell Univ. His research are in areas of groundwater saltwater intrusion, mechanics of porous materials, and numerical methods. He is the author of the book *Multilayered Aquifer Systems—Fundamentals and Applications*, 2000. He has also co-edited the book *Seawater Intrusion in Coastal Aquifers—Concepts, Methods and Practices*, 1999, with Jacob Bear and others. He has published more than ninety journal papers and seventy conference papers. He co-organized six international conferences; two of which he co-founded: the *First International Conference on Saltwater Intrusion and Coastal Aquifers—Monitoring, Modeling, and Management*, Essaouira, Morocco, 2001; and the *First Biot Conference on Poromechanics*, Université catholique de Louvain, Belgium, 1998. He is an Editor of the journal *Engineering Analysis with Boundary Element* (Elsevier), and the Editor-in-Chief of the book series *Progress in Water Resources* (WIT Press). He was the winner of the *Walter L. Huber Civil Engineering Research Prize* (1994) given by the American Society of Civil Engineers, and the *Basic Research Award* (1994, 1999) administered by the U.S. National Committee for Rock Mechanics, National Research Council.

Candidate's Goals:

1. Contact and request the academic members of the AIH to engage in student mentoring activities, encourag-

ing them to join as student members and to take the HIT exam early.

2. Double the number of student chapters (currently 5).
3. Run a rigorous certification program to raise the prestige of the certified professionals.

Yoram Eckstein

I believe that AIH should strengthen its presence at university campuses, and promote student participation in AIH affairs. I intend to encourage and help with organization of student hydro-clubs at various campuses, as a mean for recruitment of new members, and promotion of *esprit de corps* among the hydrology/hydrogeology students in the academic community.



Vice President for Institute Development

Donald E. Barbe'

Dr. Barbe' has been a member of AIH since 1993 (1020-H). He joined the Civil & Environmental Engineering faculty at the University of New Orleans in 1990 after 15 years in private practice. During his professional practice, he not only supervised technical activities as chief engineer, but also held executive positions in engineering management. Currently, he teaches engineering courses in hydraulics, hydrology, water quality modeling, and project management. Dr. Barbe' is a member of the Honor Society of Phi Kappa Phi, ASCE (Fellow), AWRA, AGU, IWRA, IAWQ, as well as AIH. He has served on several committees for ASCE and AWRA. Dr. Barbe' is a registered professional engineer in the states of Louisiana and Mississippi.

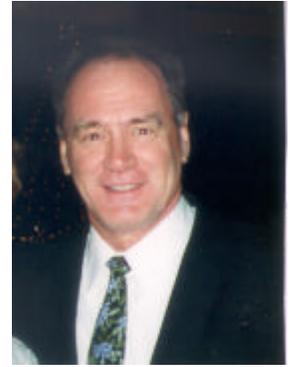


Candidate's Goals:

1. Long term planning to keep dues stable.
2. Policies to encourage professional recognition of AIH membership.

John D. Powell

A member of AIH since 1993 (1033HG), John Powell is the Manager of the USGS Dept. of Defense Environmental Conservation Program. John has been with the USGS since 1978 where he has managed many Projects targeted at Geochemistry and ground-water contamination issues. Prior to that John was a park naturalist, intelligence officer in the U.S. Army, a high-school teacher, and a geology instructor at a community college. John holds a Bachelor of Science Degree from the University of Maryland and a Master of Science Degree from the George Washington University. John has been active in the AIH as a member of several organizing committees for past annual meetings and served as general chairperson for the 1999 annual meeting in San Francisco, CA.



Candidate's Goals:

1. To increase membership.
2. To increase student enrollment.
3. To reach out to all those who require or may soon require certification within their respective States and encourage them to join AIH.
4. To work with the board to find a meaningful roll/membership for water professionals interested in joining AIH, but having no need for certification

Vice President for International Affairs

Rolando Bravo

My desire for the AIH is to achieve a level that the professionals in the area of water resources could recognize as a prestige not only nation wide but also in the international arena. I strongly believe that AIH could reach the international arena through the advance technology of communication and offer the transfer of technology and professional collaboration among associates. More than never our nation needs to recognize that although our knowledge and experience is pretty broad



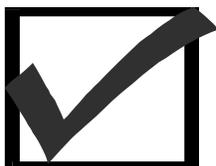
sometimes we need the participation of professionals that had gained a lot of practical experiences in difficult circumstances in other places of the world. I hope that my participation in the AIH Executive Committee will promote the enrollment of more international members and I will work towards the planning of international activities such as workshops and seminars and why not may be a meeting of AIH abroad.

Chin-Fu Tsang

Dr. Chin-Fu Tsang (1030-HGW) a member since 1993, is a Senior Staff Scientist in the Earth Sciences Division, Ernest Orlando Lawrence Berkeley National Laboratory.

His Research interest includes flow and transport in stochastic porous media and fractured media, coupled thermo-hydro-mechanical processes in fractured rock, and advanced well tests analysis and borehole testing methods. He is the author or co-author of more than 300 scientific publications, including about 102 invited papers and presentations, over 100 articles in refereed journals and close to 100 other technical reports and conference papers. In addition, he is the co-author or co-editor of eight books and two Journal Special Issues. Dr. Tsang has been very active professionally worldwide. For example, he was a reviewer for the FEBEX project, a joint Spanish-Swiss experiment at the Grimsel Underground Laboratory, funded by CEC, ENRESA and NAGRA. He was a special invited speaker to address the French National Assessment Commission in Paris, and to address the Russian Academy of Sciences, Division of Geology, Geophysics, Geochemistry and Mining Sciences, in Moscow. For the last ten years, he has been the Chairman of Steering Committee of the DECOVALEX Project, an eight-nation cooperative research program on coupled processes, based in Stockholm, Sweden. He was an invited speaker in many international conferences, including being a keynote speaker in the conferences in Loen, Norway; Hyderabad, India; Stuttgart, Germany; Capetown, South Africa; and Wuhan, China.

Picture not available



**Be sure to vote
and return your
ballot promptly.**

General Secretary

James F. Cruise

Dr. Cruise is Professor of Civil and Environmental Engineering at the University of Alabama in Huntsville, Huntsville, AL. Prior to coming to Huntsville, Dr. Cruise served as Assistant and Associate Professor in the Civil and Environmental Engineering department at Louisiana State University. Prior to his service at LSU, he was employed by the United States Army Corps of Engineers for eight years in the fields of hydrology and hydraulic design. Dr. Cruise is a fellow of the American Society of Civil Engineers and the Indian Association of Hydrologists, and is a member of the American Geophysical Union and the American Water Resources Association. He has been a licensed Professional Engineer in the state of Virginia since 1978.



Candidate's goals:

- 1. Increase the public awareness and prestige of the institute through expanded public relations efforts.*
- 2. Increase membership and diversity of the institute.*
- 3. Work to increase acceptance of AIH licensure by state and federal agencies for professional positions within the field of hydrology and hydrogeology.*

Marshall E. Jennings

Marshall E. Jennings has been a member of AIH since 1983 (83-H-133) and served as AIH Treasurer from 1993-95. He is currently President, Texas Section AIH. Mr. Jennings has 40 years experience in hydrologic science and retired from U.S. Geological Survey after 36 years as a Research Hydrologist – Surface Water. Since 1998, Mr. Jennings has been Assistant Director and Hydrogeologist, Edwards Aquifer Research and Data Center, Southwest Texas State University. At Southwest Texas State University, he has become extremely involved in Texas groundwater issues, research and technology, especially in the threatened Trinity aquifer of Central Texas. He is a Fellow, American Society of Civil Engineers and American Water Resources Association.



MEMBERSHIP ACTIVITY

Candidate's Goals:

1. Promote AIH growth by increasing national, student, and international membership through strong State Section activities.
2. To continue effective administrative support for the AIH Executive Committee as well as work toward sound AIH funding beyond member dues; strong AIH publications of professional meetings; varied relationships with other hydrologic organizations, including joint meetings; and recognition of AIH certification vis a' vis state hydrology certification.

Treasurer

Robert M. Hordon

Robert M. Hordon has been a member of AIH since 1984 (384-H). He received his BA in 1959 from Brooklyn College, and his MA and Ph.D. from Columbia University in 1965 and 1970, respectively. He is currently a faculty member at Rutgers University in New Brunswick, New Jersey, teaching courses in physical geography, hydrology, and water resources management. His major areas of research are water supply, groundwater yield estimation, and hydrologic data analysis. He has authored numerous publications in the field of water resources and hydrology and has served on many advisory committees for the Dept. of Environmental Protection of the State of New Jersey. He is a member of AGU, the New Jersey Section of the American Water Resources Association, and Sigma Xi. Germane to the candidacy for Treasurer, he has recently been re-appointed for another term as a member of the Finance Committee of the Association of American Geographers.



Candidates' Goals:

1. Work closely with the other members of the Executive Committee on all aspects relating to the proper management of the financial affairs of AIH.
2. Explore opportunities that could lead to additional funding for AIH.

**Due date for ballots to be
returned to the AIH Office
is September 4, 2002.**

Applications Received

- Mary A. D'Aversa**, Dept. of Land Management, Eugene, OR (1438-H)
Robert G. Bruant, Jr., Dept. of Civil & Environ. Engineering, Princeton Univ., Princeton, NJ (1613-HWQIT)
M. Duane Mann, Anderson & Assoc., Inc., Blacksburg, VA (1614-H)
Robert A. Coffan, Cascade Earth Sciences, Medford, OR (1615-HGW)
Robert A. Coffan, Cascade Earth Sciences, Medford, OR (1616 H-WQ)
Robert A. Coffan, Cascade Earth Sciences, Medford, OR (1617-HG)
Levent M. Kavvas, Dept. of Civil & Environmental Engineering, Univ. of California, Davis, CA (1618-H)
Kevin L. Hoover, Gannett Fleming Sustainable Ventures Corp., Clearfield, PA (1619-H)
Paul J. Whalen, South Florida Water Management District, West Palm Beach, FL (1620-HWQ)

New Student Members

- Dawn S. Conley**, Portland State University, Portland, OR (343-S). (Roy W. Koch)

New Members

- Jolyne K.H. Lea** (1564-H)
Vladimir Yu. Smakhtin (1565-H)

New Member Addresses and Member Address Changes

Dr. Vladimir Yu. Smakhtin, Hydrology and Water Resources Scientist, IWMI, P.O.Box 2075, Columbo, Sri Lanka, Tel. + 94 1 787404, Fax + 94 1 786854, E-Mail: vsamakhtin@cgjar.org, (02-H-1564)

Peter W. Soltys, Law Engineering & Environmental Services, Inc., 7209 E. Kemper Rd., Cincinnati, OH 45249, Tel. (513) 489-6611, Fax (513) 489-6619, E-Mail: pwsoltys@lawco.com (96-H-1142) 110,147,171 G

Jeffrey D. Stoner, U.S. Geological Survey, 2280 Woodale Dr., Mounds View, MN 55112, Tel. (763) 783-3106, Fax (763) 783-3103, E-Mail: stoner@usgs.gov (84-HG-499) 167,121,138 P

Workshops Offered at the 2002 Conference in Oregon

Spatial Climate Perspectives: Climate Mapping with Hydrologic Applications

Date: Sunday, October 13, 2002

Time: 2 – 5 p.m.

Place: AIH International Conference, Portland Airport Sheraton, Portland, Oregon

Cost: \$40

Limit: 40 participants—Pre-registration is required

Leaders: Dr. Greg Johnson, Mr. George Taylor and Dr. Christopher Daly

CONTENT: This short course will focus on fundamentals of climate and how it varies spatially. Students will gain an understanding of climatological principles, including the major causative factors that influence spatial climate heterogeneity, on a variety of time scales. Climate mapping methodologies will be explored, including the principles and processes contained in the Parameter-elevation on Independent Slopes Model (PRISM) system, used for producing new climate maps and products for many parts of the world. The utilization of these climate map products in hydrologic modeling, hydrologic design and other hydrologic applications will be discussed.

GENERAL INFORMATION: Most elements of this short course have been presented to numerous groups, including National Weather Service hydro/meteorologists, agriculturists, the American Meteorological Society, and others.

ABOUT THE FACULTY:

Greg Johnson: Dr. Johnson has degrees in atmospheric science, and has a 22 year background in climatological monitoring, analysis and applications. For six years he was a research meteorologist with the USDA-ARS Northwest Watershed Research Center in Boise, Idaho. For the past five years he has served as Applied Climatologist for the USDA-NRCS National Water and Climate Center in Portland, and has served as Manager of the USDA's Climate Mapping Project, in conjunction with the Spatial Climate Analysis Service at Oregon State University.

George Taylor: George Taylor is the State Climatologist for Oregon and a faculty member at Oregon State University. Prior to joining Oregon State in 1989, Taylor operated an air quality consulting business in California and was employed by two other meteorological consulting firms. Taylor directs the Oregon Climate Service, the state's repository of weather and climate information. Mr. Taylor was recognized as a Certified Consulting Meteorologist by the American Meteorological Society in 1981. He has been active in the meteorological profession for 31 years.

Christopher Daly: Dr. Daly has degrees in atmospheric science and geography, and has a 24-year background in weather analysis and forecasting, air pollution meteorology, forest ecology, hydrology, mountain climatology, and the spatial analysis of climate. He is the pioneering developer of the PRISM climate mapping system. Dr. Daly has been at Oregon State University since 1990, and is currently director of the Spatial Climate Analysis Service, where he leads spatial climate mapping and analysis projects worldwide.

Estimation of Parameters for Vadose Zone Models

Date: Sunday, October 13, Monday, October 14, 2002

Time: Sunday; 10:00 am to 4:00 p.m.; at the hotel

Monday; 9:00 am to 4:00 pm; field trip

Place: AIH International Conference, Portland Airport Sheraton, Portland, Oregon

Cost: \$100 Estimated

Limit: 30 participants; Pre-registration is required

Leaders: Dr. John Nieber and Dr. John Selker

CONTENT: This short course will consist of lecture and hands-on analyses on Sunday, and a field trip on Monday. The short course will focus on the mechanics of flow processes in the vadose (unsaturated) zone. The principles of soil physics (or multiphase porous media mechanics) as applied to vadose zone flow processes will be reviewed, with emphasis given to the practical application of those principles. Select methods of measuring vadose zone flow processes will be described. Measurements methods will be demonstrated on the second day of the workshop during the field trip. A few of the measurement methods will be demonstrated within the classroom on the first day of the short course. Participants will gain some of the practical knowledge of how to monitor vadose zone processes and measure vadose zone model parameters in addition to acquiring some knowledge of the theoretical background underlying vadose zone models.

GENERAL INFORMATION: Detailed typed notes will be provided to the participants. Application of the principles presented will be the emphasis of this short course. Therefore the lecture period on Sunday will be interrupted several times for problem solving activities.

ABOUT THE FACULTY:

John Nieber: Dr. John Nieber has degrees in Forest Engineering (B.S.), Civil Engineering (M.S.) and Agricultural Engineering (Ph.D), and has 22 years experience teaching in university settings. He has 25 years of experience in measurement and modeling of various aspects of vadose zone processes. He is currently a Professor in the Department of Biosystems and Agricultural Engineering at the University of Minnesota.

John Selker: Dr. John Selker has degrees in Physics (B.S.), and Agricultural Engineering (M.S. and Ph.D.), and has 12 years experience teaching in a university setting. He has 20 years experience in the development of sensors and instrumentation for industrial and scientific applications, and 12 years experience in measurement and modeling of vadose zone processes. He is the lead author of the book, *Vadose Zone Processes*. Currently Dr. Selker is a Professor in the Department of Bioengineering at Oregon State University.

Plan to attend the 2002 Annual Conference.

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2002 AIH International Conference and Annual Meeting

Scenic Columbia Gorge Field Trip on Monday, October 14

We are having "TWO FER ONE" field trip deal at this year's AIH Conference in Portland, Oregon. There will be a field trip on Monday, October 14, 2002 to the scenic Columbia River Gorge, east of Portland. The 8 AM to 4 PM field trip will focus on the geology and geomorphology of the Columbia River Gorge in the morning, and will focus on Lewis and Clark encampment site history in the afternoon.

The morning itinerary will include stops in the Portland basin and the western portal of the gorge to look at features left by the huge ice-age Missoula Floods as they poured out of the gorge, followed by views and vistas of geology, waterfalls, and early 20th century engineering works from the Historic Columbia River Gorge Highway as we work our way east on the Oregon side of the river. The final stop of the morning will be at Cascade Locks, where we will discuss the tremendous Bridge of the Gods landslide, a feature that "bridges" geology, human use, early exploration, and modern development of the Columbia River.

The afternoon will begin with an abbreviated tour of the second powerhouse of the U.S. Army Corps of Engineers Bonneville Dam on the Washington side of the river.

Next will follow a historical program that features visits to many of the approximate locations of the Lewis and Clark encampments in the Columbia Gorge and metropolitan Portland area. Sites include the many encampment locations from November 1 - 3, 1805 and March 30 to April 10, 1806. Included will be the approximate locations of the portage sites of the inundated Columbia Cascades near Bonneville Dam and Cascade Locks, Oregon, the Corps of Discovery stops at Beacon and Rooster Rocks, the extended hunting camp at Seal River (present-day Washougal River), their stay on Diamond Island (present-day Government Island), their Native American encounter at Image Canoe Island (present-day Hayden Island), and their closest encampment to Portland, across the Columbia at Frenchman's Bar, Washington.

Cost for the day-long tour, including lunch, is \$40, made payable to AIH when registering as a full-time participant or registering as a full-time student, \$45 if not registered for the conference.

—Richard Cassidy

News of AIH Members

Miguel A. Marino (872-HG), professor of hydrologic sciences and civil and environmental engineering at Univ. of California at Davis, is the recipient of the 2002 Warren A. Hall Medal of the Universities Council on Water Resources. Cited for his distinguished achievements in the field of water resources, the medal will be presented at the Annual Meeting of UCOWR in Traverse City, Michigan, July 23-26, 2002.

Organizing Committee is Planning for 2003

The Organizing Committee is planning the 2003 meeting which will be held in Atlanta, Georgia. The committee Chairman is Dr. William H. McLemore (600-HGW).

1:00 – 5:00PM—Ground Water (Continued)
charge in Arid Environments * Assessment of the Subsurface Movement of Water and Petroleum Hydrocarbons in Continuous Permafrost * Climate-Driven Fluctuations in Groundwater Head and Discharge in the Upper Deschutes Basin, Oregon * Holgate Lake: An Example of Ground-Water Flooding in Portland, Oregon * Effects of Drought on Ground Water in the Upper Klamath Basin, Oregon and California *

7:00 – 9:00PM— **Awards Banquet**
Presentation of the AIH C.V. Theis Award, Ray K. Linsley Award and Founders Award.

October 16, 2002 Wednesday

8:00 – 11:30AM—**Water Temperature I** Titles include:
* Challenges in Developing Water Quality Criteria for Temperature for the Protection of Native Salmonids * Hydrology and Climatic Cycles in Salmon Procedures for Reducing Uncertainty in Stream Temperature Data Collection * Mapping Stream Temperature Patterns: Implications for Water Quality Monitoring and Assessment * Translating Effective Stream Shade into Quantifiable Water Quality Management and Riparian Recovery * Comparison of Stream Heat Budgets for Reaches with Differing Riparian Vegetation and Substrates *

8:00 – 11:30AM—**Riparian Processes** Titles Include:
* REMM Model, Tracer Studies * Montane Wetland Hydrochemistry: Uinta Mountains, Utah * Riparian Soil Chemistry Controls on Phosphorus Release to Near-Stream Groundwater in an Urbanizing Watershed * Riparian -Wetland Soils * Geomorphology-Flood-Vegetation Interactions * Riparian Vegetation, Bank Materials, and Channel Change: A Willamette Valley Lowland Stream Case Study *

8:00 – 11:30AM—**Floods** Titles include:
* Spatial Distributions of Floods in the United States * Coastal Flood Studies in Puget Sound, Washington State, USA * Near-Real-Time Flood Inundation Mapping * Will the Real 100-Year Flood Plain Please Stand Up? * Causative Mechanisms of Peak Flows and Flood Frequency at Reynolds Creek, Idaho * Geologic Control of the Peak and Low Flow Regimes of the Willamette River and Tributaries, Oregon *

11:30AM – 1:00PM—**Luncheon** with speaker:
—**Urban Living with Peregrine Falcons and Other Wildlife**, Bob Sallinger, Audubon Society, Portland, OR

1:00 – 2:00PM—Poster Session

1:30 – 5:00PM **Water Temperature II** Titles include:
* Improvements in Stream Temperature Assessment * A Spatially Distributed Network-Based Model for Estimating Stream Temperature Distribution * Evaluation of Water Temperature Regimes in the Snake River using Transect Measurements and the RBM10 Model * The Bull Run

River-Reservoir System Model * An Empirical Predictive Stream Temperature Model for the Salmon and Clearwater River Basins, Central Idaho * Modeling Uncertainty – Quicksand for Water Temperature Modeling? *

1:30 – 5:00PM—**Channel Morphology** Titles include:
*Recent Advances in Sediment Routing: What it Says About Cumulative Watershed Effects and Dam Decommissioning *Understanding the Deschutes River, Oregon--Hydrology, Geology and Geomorphology * Channel Recovery from Extreme Disturbances, Mt. Pinatubo, Philippines * Virtual Climate Change: Morphological Channel Response to Human Induced Landscapes * The Linkage of Disturbance Frequency and Severity to Stream Behavior * Extreme Event Impacts on Contaminate Sediment Stability *

1:30 – 5:00PM—**Droughts** Titles include:
* Development of the Drought Monitor Index In Cooperation with USDA and NOAA * Managing Drought: National Policy, Regional and Local Implementation * Development of a Drought Mitigation Plan – Tampa Bay Water's Experience with an Exceptional Drought * Improving Catchment Water Yield Estimates in Remote Areas with Evaporative Enrichment of Deuterium and Oxygen-18 * The Importance of Droughts and Floods: A Case Study of Bear Creek, Oregon * Evaluation of Drought Impacts on a Freshwater Tidal Marsh Using Artificial Neural Networks *

4:00 – 6:00PM—Poster Session

October 17, 2002 Thursday

8:00AM – 12:30PM— **Klamath Basin – Endangered Species Issues** Titles include:
* Klamath Basin Project Operations and BOR's 2002 Biological Assessment * A Brief History of Upper Klamath Lake Suckers and their Management * The Role of Blue-Green Algal Blooms, Climate, and Lake Level in Fish Kill and Water Quality Dynamics in Upper Klamath Lake * Klamath Basin Water Conflicts: An Orgy of Promises Mother Nature Won't Let Us Keep * The Economics of Managing Water in the Klamath Basin * Streamflow Variability and Impacts on Fish Habitat, Samish River Watershed *

8:00AM – 12:30PM—**Forest and Watershed Conditions**
Titles include:
* A National Study on the Ecological Consequences of Alternative Fuel Reduction Treatments * Lessons Learned about Watershed Assessments * Forests and Drinking Water in Oregon: Research Summary and Survey Results for Public Understanding * Annual Hydrologic Extremes in the Pacific Northwest Watersheds and their Exacerbation by Forest Harvest and Succession * Simulating the Impact of Road Construction and Forest Harvesting on Hydrologic * Yellowstone National Park Wildfires—Watershed and Biological Effects * Discriminating between Landslide Sites and Adjacent Terrain using Topographic Variables *

Continued on Page 11

AIH Response

8:00AM–12:30PM— **Mitigation and Modeling** Titles include:

*Integrated Reservoir System and Hydrodynamic Water Quality Modeling in the Puyallup River Basin, Western Washington * Use of Modeling to Provide a Framework for Conjunctive Administration of Surface and Ground Water in the Boise River Basin of Southwestern Idaho * Application of Artificial Neural Networks for Real-Time Simulation of Stream Flow * Restoration of Grey Stream at the Trans Alaska Pipeline Crossing near Valdez, Alaska * Restoration of Urban Drainage Systems for Flood Control, Water Quality and Habitat Enhancement * Modeling Support to Pleasant Valley, Oregon Concept Plan * GIS Supported Hydrology in a Small, Forested Karst Watershed *

12:30PM – 2:00PM—**AIH Business Luncheon**

Presiding: Vijay P. Singh, President
Introduction of the new Officers

—A. Laenen, Organizing Committee Chairman

A Letter from a Reader

To: AIH Bulletin

Re: Comments on Winter 2001 newsletter

I read the article "Needed:Hydrologists to Lobby for State Registration" that was in the winter newsletter with some dismay. The opening sentence said "Wisconsin has now accepted the AIH exam as the official State Exam for Professional Hydrologists!" Although I realize miscommunication was not intended, this statement implies that Wisconsin got the exam from AIH and does not correctly portray the relationship that Wisconsin had with AIH concerning the development and DONATION of the exam to AIH. A more correct head line may have been "Wisconsin Donates their Professional Hydrology Exam to AIH for their use in Wisconsin and other Interested States." Many, many volunteers donated their time and energy to the development of this exam, none more then Darwin Tichenor from the Department of Regulation and Licensing. I do not know if AIH used any of their resources other then members that were in Wisconsin, to complete the task analysis and other activities associated with the development of the examination. However, I would hope that in the future there is a more balanced recognition of the Herculean efforts that were predominantly completed by the Department of Regulation and Licensing staff and some of the most recognized psychometricians in the country, if this topic is written about in the future.

Thank you for your recognition of the efforts of these people in the future.

Joan E. Underwood, AIH # 993

It is gratifying that we occasionally get criticized for what has been written in our Bulletin. It shows that at least some of our membership is paying attention. We appreciate what Joan Underwood has brought to our attention and apologize for not giving more credit to the Wisconsin Department of Regulation and Licensing (DRL) and the many professional hydrologists, both within and outside AIH, that helped develop the examination. There is no denying that the development effort was something beyond what AIH could possibly muster within it's own organization, or without the payment of a considerable sum to a test consultant company. We owe the state of Wisconsin and their staff a debt of gratitude. A past article published in the Fall 2001 Bulletin draws attention to the cooperative effort of the examination development and an article by Darwin Tichenor is available on our AIH web page.

We recognize the stimulus and the effort extended by the Wisconsin DRL, the guidance of their psychometrician, Darwin Tichenor, and the donation of time by the many hydrologists in Wisconsin. Even though Wisconsin expended considerable time, expertise, and funds on the development of the test, it was done in cooperation with AIH, and with the knowledge that AIH would take over management of the examinations. In a memorandum of understanding, Wisconsin has given over the test to AIH for use in other states and in their state. It is AIH that has now taken on the administration responsibilities. Most of the test questions were solicited from AIH membership. It is in this spirit we have offered the statement that Wisconsin is now using the AIH test.

Since the article has been published, we have received offers from members in Virginia, Vermont, Colorado, and Arizona to help with promoting the examination for registration purposes in their respective states. I hope that more membership will come forward.

—A. Laenen



Be sure to include the 2002 AIH Conference and Annual Meeting being held in Portland, Oregon, October 12-17 in your fall plans.

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Look for the 2002 Annual Meeting program and International Conference on our website:
www.aihydro.org and press the meeting button

Remember the Alamo

Did you know that AIH receives a commission for all member rental of vehicles through Alamo Rent A Car? A 24-hour reservation is required and can be made by calling **1-800-354-2322** and request your membership I.D. No. as **93394** with the rate Code **BY**.

2002 AIH Member Registry

The 2002 Registry will be published again this summer. We need to have your current affiliation or company, work address, telephone and fax numbers, and your current e-mail address. We also need to have it current because we use third-class mail and the mail is not forwarded on like first-class mail. Send it in by e-mail or by mail or telephone.

Journal is now available on CD

The AIH journal, "Hydrological Science and Technology" is now available on CD. Contact the AIH office for further information by phone or e-mail.

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