
◆ BULLETIN ◆

Winter 2005

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

Volume 23, Issue 4

USGS-UMR Research Team Investigate Impoundment Failure



Aerial photo of the upper reservoir at Taum Sauk after impoundment failure.

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The event of **December 14, 2005** near **Lesterville, Missouri**, was not nearly the scope of destruction resulting from the past hurricane season; nevertheless a tragedy, and certainly one of local significance. On the morning of December 14, 2005, sometime after 5:00 am the upper reservoir at **Taum Sauk** failed, allowing more than 1.5 billion gallons of water to careen down a small northwest-facing drainage towards Johnson's Shut-Ins State Park. Consultants working for the owners determined that a faulty shut-off valve allowed water to pour over the containment dam's concrete parapet wall and rock fill. This eventually weakened a northwest segment of the structure to the point of catastrophic failure.

The upper reservoir is located on top of **Proffit Mountain**, and was designed to store water for power generation during peak usage hours. During off-peak periods, the power company used the excess electricity to pump water from the lower Taum Sauk Lake to the upper reservoir. This has been an almost daily routine since the 1960s, the process of fill and release, except for maintenance periods during the 1990s when the structure was retrofitted with an impermeable liner.

A team of U.S. Geological Survey (USGS) and University of Missouri-Rolla scientists visited the site on December 15, 2005, to conduct forensic analysis of the failure and to map the affected area. The power company that owns the impoundment offered us only limited access to the location of the failure, the team was still able to access the effected area downgradient through **Johnson's Shut-Ins State Park**. What the team saw brought back memories of their recent work in New Orleans and the Louisiana Peninsula.

The destruction at the site was incredible. All of the trees in the path of the flowing water were stripped from the earth's surface; what remained were large rocks and exposed bedrock surfaces. Where the flowing water had reached fill material in the valley floor, large scour holes were created. The large flowing debris piles created by downed trees came to rest throughout

Continued on Page 4

Editorial Board

BJ Seaburn, Editor/Publications Manager
American Institute of Hydrology
300 Village Green Circle, Suite 201
Smyrna, GA 30080; Tel: 770-384-1634
Email: Bjesterstudio@aol.com

The AIH Bulletin is the official publication of
American Institute of Hydrology
300 Village Green Circle, Suite 201
Smyrna, GA 30080
Tel. (770) 384-1634 Fax (770) 438-6172
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	\$595	9½ x 7½"
1/2 page	\$349	9½ x 3½" (1 column)
1/2 page	\$349	4½ x 7½" (1 banner)
1/4 page	\$199	4½ x 3½" (1/2 column)
1/8 page	\$125	2¼ x 3½" (1/4 column)

Advertisers agreeing to publish an ad in three consecutive issues will receive FREE publication in the fourth issue.

Emails for the Executive Committee

M. Marino	mamarino@ucdavis.edu
P. Leahy	pleahy@usgs.gov
A. Laenen	alaenen@earthlink.net
S. Nix	snix@unf.edu
C. Fetter	cwfetter@aol.com
M. Aral	maral@ce.gatech.edu
E. Witt	ecwitt@usgs.gov
R. Hordon	hordon@rci.rutgers.edu
R. Bravo	rbravo@siu.edu
D. Glysson	gglysson@usgs.gov

Email / Web Page Addresses of AIH

AIH Office	AIHydro@aol.com
AIH Web Page	www.aihydro.org
AIH Web Manager	bjesterstudio@aol.com

PRESIDENT'S MESSAGE

I hope all AIH members had a happy and joyous holiday season. By now, many of us have been reminded to submit a recertification form by the end of the year one is required to be recertified. **Recertification instructions** can be found in our web site (<http://www.aihydro.org>) under **AIH Forms**. We look forward to receiving your completed recertification forms.

We are proceeding with the organization of our **25th Anniversary Meeting**, which will be held in Baton Rouge, Louisiana, during May 21-24, 2006, highlighted by an international conference. The theme of the conference is **"Challenges in Coastal Hydrology and Water Quality."** The technical program will include sessions on scientific and socioeconomic perspectives to environmental systems on coastal regions as well as on various aspects of the impact of hurricane Katrina on the Gulf Region. Conference chairs are Vijay P. Singh and Y. Jun Xu, of Louisiana State University. In addition, there will be a symposium addressing AIH's accomplishments during the past 25 years and making recommendations for the future. L. Douglas James, of NSF, is the chair of the symposium.

Prizes will be presented for the **Best Student Paper** and **Best Student Poster**. Also, the R. K. Linsley Award, C. V. Theis Award, and Founders Award will be presented to deserving colleagues. In addition, a new water quality award will be unveiled at the meeting.

In conjunction with our 25th Anniversary Meeting, we will have **three AIH review classes**: (i) AIH Fundamentals Review by Peter Black; (ii) Principles and Practice Review Class on Surface Water Hydrology by Song-Kai Yan; and (iii) Principles and Practice Review Class on Ground Water Hydrology by Peter Rzepecki. In addition, there will be three other classes: (1) MTBE and Other Fuel Oxygenates: Characterization and Remediation by Joseph Haas, (2) Hydrologic Field Methods for Surface Water by Rick Fielder and Kevin Labbe, and (3) Hydrologic Field Methods for Ground Water by John Moore.

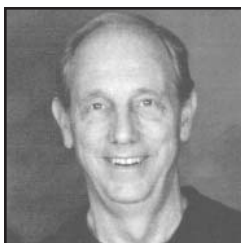
Two tours have been organized: (1) **Tour of New Orleans** to learn about flood damage, levee system, and pumping stations, and (2) **Tour of the Old River Control Structure** to learn about the Mississippi River diversion and the Atchafalaya Swamp.

I look forward to seeing all AIH members at our 25th Anniversary Meeting in Baton Rouge. A registration form is located on page 7.

Miguel Marino
AIH President

Nominations for AIH Officers

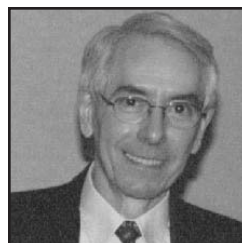
AIH Bylaws stipulate that the President Elect automatically becomes the new President. The President becomes the Past President. The term of elected office is two years. Only the General Secretary and the Treasurer are allowed to succeed themselves in elected office.



President

Mr. Antonius Laenen

Consulting Hydrologist (Ret. USGS)
5732 N.E. Siskiyou Street
Portland, OR 97213
Phone: (503) 253-7213
Fax: (503) 251-3470
Email: Alaenen@earthlink.net

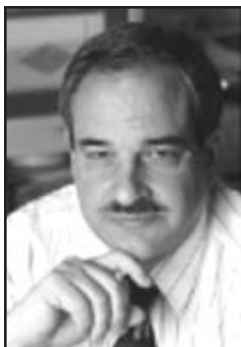


Past President

Dr. Miguel Marino

University of California
139 Veihmeyer Hall (LAWR)
Davis, CA 95616-8628
Phone:
Fax:
Email: mamarino@ucdavis.edu

The Nominees for elected office in AIH during the administrative term beginning January 1 2007 and ending on December 31, 2008, are:



President-Elect

Dr. Miguel A. Medina, Jr.

Professor of Civil & Environmental Engineering
Pratt School of Engineering
Duke University

Biographical Note:

Miguel Medina is Professor of Civil and Environmental Engineering, Duke University, and has been a registered Professional Hydrologist since 1983, as well as the AIH Vice-President for Institute Development from 1998 to 2000. Most

recently he served as the Chairman of the 2006 R.K. Linsley Award Committee. Professor Medina has conducted funded research in hydrologic and water quality mathematical modeling for the U.S. Environmental Protection Agency, the National Science Foundation, the Office of Water Research and Technology, the U.S. Air Force, the U.S. Army Waterways Experiment Station, the Naval Oceanographic Office, DuPont Engineering, the U.S. Geological Survey, the North Carolina Water Resources Research Institute, and the State of North Carolina. His current research focuses on flow and solute transport surface/ground water interactions. The results of his research are reported in such journals as *Advances in Water Resources*, *Ground Water*, *Water Resources Research*, *Journal of Contaminant Hydrology*, *Journal of Hydrology*, *Applied Mathematics and Computation*, *Journal of the American Water Resources Association*, *Computing in Civil Engineering*, *Journal of Water Resources Planning and Management*, *Journal of Environmental Engineering*, *Hydrological Science and Technology*, and *Environmental Health Perspectives*. He was named External Evaluator of the UNESCO International Hydrological Programme from 2002 to 2004. Miguel Medina is also a former President of the Universities Council on Water Resources, Inc. and the North Carolina Section of the American Water Resources Association, and former Director of the Center for Hydrologic Sciences at Duke University.

Goals:

Miguel believes that AIH, with its unique membership blend, can:

1. assume a greater leadership role towards promoting a better understanding of the complex interactions across phases of the hydrologic cycle; and
2. in parallel, more aggressively seek to increase the registration of professionals with very sound technical backgrounds, both nationally and internationally. A strategy to accomplish these goals needs to be developed, and this effort will require the enthusiastic participation of our membership, which includes many distinguished individuals from academia, government and private practice.



Vice President for Academic Affairs

Dr. Stephan J. Nix

Director, Division of Engineering
University of North Florida
4567 St. Johns Bluff Road, South
Jacksonville, FL 32224
phone: 904-620-1390
fax: 904-620-1391

Biographical Note:

Dr. Nix was born in Forest, Mississippi, and grew up in Homestead, Florida. He received the Bachelor of Science in Engineering Sciences (1974), Master of Engineering in Environmental Engineering Sciences (1976), and Doctor of Philosophy in Environmental Engineering Sciences (1982) from the University of Florida. Dr. Nix served on the faculty of Syracuse University from 1983 to 1994 and the faculty of the University of Alabama from 1994 to 1997. In 1997 he was appointed Professor and Chair of Civil and Environmental Engineering at Northern Arizona University, where he remained until 2001. From 2001 to 2004 Dr. Nix served as Professor and Founding Chair of Civil Engineering at Florida Atlantic University. In August 2004 he was appointed Professor and Director of the Division - of Engineering at the University of North Florida.

Dr. Nix is the author of over 80 publications on urban water resources, environmental systems, and computer modeling. He has been a consultant to several municipalities on wet weather flow management. He has also conducted research for a number of agencies including the American Water Works Association Research Foundation, Niagara Mohawk Power Corporation, Alabama Power Company, the US Environmental Protection Agency, the Arizona Department of Environmental Quality, and the National Science Foundation.

Dr. Nix is an active member of several organizations including the American Society of Civil Engineers (held several offices in the Syracuse Section), the American Water Resources Association (served as national President in 1997), the Water Environment Federation, the American Institute of Hydrology, the Florida Engineering Society, and Sigma Xi.

Goals:

1. improve the efficiency of the certification process while maintaining high standards,
2. prepare a review packet for the AIH certification examinations, and
3. develop a program of direct communications with hydrology professors and programs at universities to promote the H-I-T path to certification.

Continued on Page 8



the park and up against the downstream side of the highway N bridge over the Black River. The USGS streamflow gage located on that bridge was damaged by the debris flow about the time the water moved through, providing the scientists with an approximate time for the event. Whereas the Shut-Ins Park received the most damage, private property located northwest of the Park became a debris field for trees, brush, and building materials. The Park Ranger's home was in the direct energy path of the flowing torrent and was completely destroyed—all that remained was the foundation. The Ranger and his family miraculously survived by riding on the debris pile to the waters edge.

Although the team had limited access to the site, they were able to collect high-water data from the perimeter of the Park and obtain breach geometry. The failure calculations are based on data provided by the dam owners, the approximate time when the USGS streamflow gage stopped operating, and the breach geometry. Data indicate that it takes about 9.5 hours to fill the reservoir at an estimated average inflow rate of 6,000 cubic feet per second (cfs). The impoundment was not constructed with a spillway or other overflow management system; therefore, water began flowing over at least three segments of the impoundment when it reached capacity on December 14, 2005. Within 4 minutes of overtopping at an estimated 900 cfs flow rate, the northwest segment of the dam failed by erosion of the rock fill, causing undermining and collapse of the 10-foot high concrete parapet wall opening a 600- by 10-foot hole. This initial failure quickly destroyed the remaining structure allowing the contents of the impoundment to careen downgradient towards Johnson's Shut-in State park. It is estimated that the entire impoundment drained within 12 minutes at an average flow rate of about 278,000 cfs.



As a public service, images collected during this preliminary investigation have been posted at a reduced resolution at <http://mcmcweb.er.usgs.gov/mcgsc/>. All images posted here were taken by our team with permission from the land owners and the Missouri Department of Natural Resources to enter the effected area. Permission was granted so our team could do engineering and scientific studies to help learn and analyze the extent of the damage, and how to mitigate future disasters. Much of the data our team collected is time sensitive and perishable; therefore, the need for action is very soon after an event occurs. The team's efforts were supported through funding and direction provided by the **USGS Geographic Analysis and Monitoring Program** in cooperation with the **University of Missouri, Natural Hazard Mitigation Institute**.

Ermitt C. Witt III, P.H.
Director, Mid-Continent Geographic Science Center
Dave Hoffman, P.E., P.G.
UMR Natural Hazard Mitigation Institute



American Institute of Hydrology 25th Anniversary Meeting

& International Conference

on

“Challenges In Coastal Hydrology and Water Quality”

May 21 - 24, 2006

Baton Rouge, Louisiana, USA

CONFERENCE INTENT

More than half the world's population lives within a distance of 100 km from the coastline, and this number is expected to increase by 25% in the coming two decades. The population growth and urbanization have largely altered the natural pathways of coastal waters that are vital to the coastal environment. As most of the water on land surface enters into the oceans, man's activities in both coastal and inland watersheds have led to increased loading of sediment, toxic substances, nutrients and pathogens with subsequent eutrophication, algal blooms, and hypoxia. Climate change has led to the rise in sea level with loss of coastal wetlands and to increased saltwater intrusion. The recent tsunami in the Indian Ocean has again alarmed man's vulnerability to nature. World's coasts are facing increasingly serious environmental challenges, while it is not clear how to fully measure the complexities of coastal systems.

This conference aims to provide an international forum for the dissemination and exchange of information in coastal hydrology, hydraulics and water quality. The conference will stimulate interdisciplinary research, education, management, and policy making from physical, biogeochemical, and socioeconomic perspectives related to complex environmental systems in coastal regions. Discussions will also take place on hydraulic engineering and structures in coastal areas, which are frequently densely populated or sites of major industrial development. The topic of coastal petroleum and land subsidence will also be addressed.

CONFERENCE VENUE

The conference will be held at:

Holiday Inn Select & Executive Center
4728 Constitution Avenue
Baton Rouge, Louisiana

The conference rate will be \$81 plus tax (USD) per night, for single or double occupancy. Rooms must be reserved before **April 19, 2006** by directly calling:

800-678-4065 or 225-925-2244
Online at www.holiday-inn.com (Code C94)

**Please indicate that you are participating in the AIH Conference,
Block Code C94.**

WHO SHOULD ATTEND

This conference is recommended for scientists and engineers in all fields of the hydrologic sciences, government officials with environmental responsibilities, land-use planners, students of

hydrology, hydrologists wishing to become registered, and all other persons dealing with water-related issues. This conference will provide a forum for discussion and exchange of information on a broad spectrum of areas in hydrology, hydrogeology, water-quality, water resources, planning and management, aquatic and marine biology, and climatology.

TECHNICAL PROGRAM

- Plenary Opening Session, Central Theme: The Mighty Mississippi and Coastal Louisiana - Past, Present and Future
- Hydrologic and Coastal Processes
- Hydrological Pathway from Terrestrial to Coastal Ecosystems
- Large River Engineering and Management
- Fluvial Processes and Sedimentation
- Flood Control and Disaster Assessment
- Surface and Ground Water Interaction in Coastal Regions
- Fresh Water Resources and Saltwater Intrusion
- Eutrophication and Hypoxia in Coastal Waters
- Coastal Erosion
- Coastal Wetlands and Floodplains
- Coastal Wetland Restoration
- GIS Applications in Coastal Hydrology Studies
- Extreme Weathers
- Socioeconomic Impacts of Extreme Weathers
- Potential Global Change Effects on Coastal Water Resources
- Coastal Water Quality and TMDLs

EXHIBITORS

Exhibit booths will be located in conjunction with poster presentations and break refreshments. This will guarantee direct access to the professionals who are actively employed in the field of hydrology. For information on displaying your product or service at this conference, please contact the AIH office directly at **770-384-1634** or send an email to AIHydro@aol.com.

! Important Notice about Venue !

All members are asked to book their hotel reservations for our 2006 Conference in Baton Rouge, Louisiana, directly through the hotel, Holiday Inn Select Executive Center, and avoid any internet travel providers. AIH will not be given credit towards its master account commitment should you book your room outside of the hotel. This is part of the way that AIH can contain its expenses for conferences. Make sure you identify yourself as a participant of the American Institute of Hydrology's conference. Thanks for your cooperation.

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PROPOSED FIELD TRIPS

- Tour of New Orleans
- Tour of Old River Control Structures

SHORT COURSES & REFRESHER CLASSES

- **Hydrogeologic Field Methods - Ground Water**

Instructor: Dr. John Moore, P.H.G

Cost: AIH Members \$150, Non-Members \$175, Students \$50

Sunday, May 21, 2006 from 8:00 AM to 5:00 PM

Includes guides for site investigations and report preparation. The objective of this course is to present current standards methods, and guides for planning and undertaking hydrogeologic field investigations. The guides were developed to produce uniform and high quality data. The course will focus on field methods to define environmental site characteristics. The course emphasizes conceptual models, water level measurements, well inventory, well drilling, aquifer tests, computer programs, sample collection, project planning, and report preparation.

- **Hydrogeologic Field Methods - Surface Water**

Instructor: Kevin Labbe, YSI/Son Tek

Cost: AIH Members \$150, Non-Members \$175, Students \$50

Sunday, May 21, 2006 from 8:00 AM to 5:00 PM

This course will consist of class room presentations and field demonstrations. The instructor will demonstrate the application of the principles and methods used in surface water hydrology and water quality monitoring. Students will be introduced to some of the most advanced field techniques and current technology equipment.

- **AIH Fundamentals Review Class**

Instructor: Dr. Peter Black

Cost: All Participants \$100.00

Sunday, May 21, 2006 from 8:00 AM to 5:00 PM

In the Fundamentals Refresher Course, participants will review the type of testing, and will practice working example questions. There will be a study guide for each student. The instructors will explain the structure and organization of the test. They will also answer questions and work with the participant to complete example questions.

- **Principles and Practice Review - Ground Water**

Instructor: Dr. Peter Rzepecki

Cost: All Participants \$100

Sunday, May 21, 2006 from 8:00 AM to 5:00 PM

In the Ground Water Refresher Course, participants will review the type of testing, and will practice working example questions. There will be a study guide for each student. The instructors will explain the structure and organization of the test. They will also answer questions and work with the participant to complete example questions.

- **Principles and Practice Review -- Surface Water**

Instructors: Dr. Song-Kai Yan

Cost: All Participants \$100.00

Sunday, May 21, 2006 from 8:00 AM to 5:00 PM

In the Surface Water Refresher Course, participants will review the type of testing, and will practice working example questions. There will be a study guide for each student. The instructors will explain the structure and organization of the test. They will also answer questions and work with the participant to complete example questions.

- **Methyl-Tert-Butyl Ether (MTBE) & Other Fuel Oxygenates: Characterization and Remediation**

Instructors: Joseph Haas, Michael Hyman and Eric Nichols

Cost: All Participants \$350

Thursday, May 25, 2006 from 8:00 AM to 5:00 PM

Solutions via Applied Science Associates has designed this full-day training course to enhance your professional awareness of all technical issues related to acute impacts of MTBE and OFO's. A balanced program offering both theoretical and tested field based examples covering site characterization, remediation and technology implementation. This course has been approved by several state boards of engineering and geology in fulfillment of eight continuing education units (CEUs). You will receive detailed exposure to tested advanced strategies for employing specific methods, processes and technologies for the assessment and remediation of acute environmental impacts stemming from the release of oxygenated motor fuels. The course will be 8 hours on Thursday, May 25, 2006 and cost \$350. If you are interested in this course, please let us know by contacting AIH at the numbers listed below or send an email to aihydro@aol.com or svasa@globalhydroserv.com, or contact J.E. Haas at (631) 673-9544.

AIH Certification Examinations - AIH will administer examinations to pre-approved candidates on Thursday, following the close of the Annual Meeting. No other testing venue will be available for this test. Anyone planning to take an AIH certification examination in May 2006, must plan to take the test in Baton Rouge on May 25, 2006.

CONFERENCE PLANNING COMMITTEE

- Vijay P. Singh, Louisiana State University
- Y. Jun Xu, Louisiana State University
- Pinki Diwan, LSU Foundation
- Toni Smiley, BRACVB
- Pat Leahy, USGS
- Miguel Marino, UC, Davis
- Larry Rouse, Louisiana State University
- Daniel Thomas, Louisiana State University
- Clinton Willson, Louisiana State University

Advisory Committee:

- Dr. L. Douglas James
- Dr. Alex Zaporozec
- Dr. Vijay Singh
- Dr. Ken Brooks
- Dr. Joe Rosenshein
- Dr. Gerald Seaburn

Organized with the cooperation of:

LSU
Louisiana State University



Registration Form



American Institute of Hydrology 2006 Annual Meeting & International Conference "Challenges in Coastal Hydrology and Water Quality" May 21-24, 2006 Baton Rouge, Louisiana

PLEASE CHECK ONE:

AIH Member Non-Member Conference Participant

FULL REGISTRATION:

Includes admission to all conference sessions, final program, Awards Dinner, Proceedings copy, breaks, planned luncheons and receptions.

AIH Members & Participants	\$350 (by 3/15/06)	\$450 (after 3/15/06)	\$ _____
Non-Members	\$395 (by 3/15/06)	\$495 (after 3/15/06)	\$ _____

ONE DAY REGISTRATION:

Includes admission to all conference sessions, final program and breaks on the day for which the participant is registered.

___ Sunday	___ Monday	___ Tuesday	___ Wednesday
AIH Members & Participants	\$150 (by 3/15/06)	\$175 (after 3/15/06)	\$ _____
Non-Members	\$160 (by 3/15/06)	\$185 (after 3/15/06)	\$ _____

STUDENT REGISTRATION:

Includes admission to all conference sessions, final program, breaks and receptions.

AIH Members & Participants	\$25 (by 3/15/06)	\$30 (after 3/15/06)	\$ _____
Non-Members	\$25 (by 3/15/06)	\$30 (after 3/15/06)	\$ _____

ACCOMPANYING PARTNER:

Includes admissions to breaks and Awards Dinner (Does not include admission to the conference sessions.)

Name: _____

AIH Members & Participants	\$35 (by 3/15/06)	\$40 (after 3/15/06)	\$ _____
Non-Members	\$40 (by 3/15/06)	\$45 (after 3/15/06)	\$ _____

MEALS FOR ONE DAY, STUDENT, PARTNER/SPOUSE AND GUESTS:

Monday Luncheon	\$25 (by 3/15/06)	\$30 (after 3/15/06)	\$ _____
Monday Awards Dinner	\$40 (by 3/15/06)	\$50 (after 3/15/06)	\$ _____
Tuesday Luncheon	\$25 (by 3/15/06)	\$30 (after 3/15/06)	\$ _____
Wednesday Luncheon	\$25 (by 3/15/06)	\$30 (after 3/15/06)	\$ _____

PROCEEDINGS:

Additional Copies	\$60	\$ _____
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TOTAL AMOUNT DUE:

\$ _____

HOTEL DURING MEETING:

CANCELLATION POLICY:

- Before March 15, 2006 - Registration Fee, less \$50.00
- Between March 15, 2006 and April 15, 2006 - 50% of Registration Fee
- After April 15, 2006 - No refund allowed

Cancellation must be received in writing at AIH Headquarters by dates

★ SPECIAL OFFER TO NON-MEMBERS ★

AIH will waive your Membership Application Fee (a \$75 Savings!) For Non-members attending with a Full Registration. Your application must be received at AIH within 60 days from date of the conference. Applications available at Conference Registration desk or Online at www.aihydro.org.

REGISTRATION INFORMATION

Name: _____

Title: _____

Company: _____

Address: _____

City: _____

State _____ Zip: _____

Country: _____

Phone: _____

Fax: _____

Email: _____

Please send information on Short Courses to me? ___ YES ___ NO

PAYMENT METHOD

Full payment must accompany completed registration form.

Check:

Payment made by check (Only U. S. Dollars, drawn on a U. S. Bank) payable to AIH Conference.

Check No: _____

Purchase Order No: (if applicable) _____

Credit Card: (check one)

___ Visa ___ MasterCard
___ Amex ___ Diner's

Card No: _____

Expiration Date: _____

Cardholder Signature: _____

Date: _____

Please return this completed form with full payment to:



AIH Conference Headquarters
300 Village Green Cir., Suite 201
Smyrna, GA 30080, USA
Tel: (770) 384-1634
Fax: (770) 438-6172
Email: AIHydro@aol.com

Organized with the cooperation of:





Vice President for Institute Development
T. Allen J. Gookin, P.E., L.S., P.H.

Biographical Note:

Mr. Gookin is a graduate engineer from Arizona State University with Distinction. He has worked as Chief Financial Officer for Gookin Engineers, Ltd. for his professional life, specializing in providing expert witness services in issues concerning water rights, flood control, and groundwater-surface water interactions. He is an acknowledged expert in the Arizona legal concept of

subflow and is the developer and co-author of the Court-approved "Call System" computer program utilized to operate the Gila River in Arizona. Mr. Gookin is a registered civil engineer in Arizona, California, and Nevada. He is also a registered land surveyor in Arizona.

Goals:

I came into the American Institute of Hydrologists by recruitment from another member. I believe that development can occur primarily by member recruitment and will recommend the development of an incentive system to encourage membership recruitment. My specific goal will be to create a rank of fellow for those who have provided valuable assistance to the American Institute of Hydrologists through recruitment and/or service to the Institute.



Vice President for International Affairs
Dr. Neven Kresic

Neven Kresic, Ph.D
Associate, Malcolm Pirnie, Inc.
Arlington, VA

Neven Kresic, Ph.D. is an Associate with Malcolm Pirnie, Inc. in the Arlington, Virginia, office (metropolitan Washington, D.C.), and serves as the corporate consultant for groundwater modeling. Dr. Kresic received his B.S. in hydrogeologic engineering, and M.S. and Ph.D. in

hydrogeology and geology from Belgrade University, former Yugoslavia. He is a professional geologist, professional hydrogeologist, and certified ground water professional with over twenty years of international groundwater and surface water-related consulting, research and teaching experience. Dr. Kresic taught at major universities in Europe and the United States, and was recipient of the Senior Fulbright Scholarship for research at the United States Geological Survey in Reston, Virginia. His areas of expertise include groundwater engineering, development and remediation, karst and fractured rock hydrogeology, and groundwater modeling.

Dr. Kresic served as Chair of the Continuing Education Committee of the American Institute of Hydrology, is a founding member of the Ground Water Modeling Interest Group sponsored by the National Ground Water Association, and a permanent member of the Karst Commission of the International Association of Hydrogeologists. Dr. Kresic is author of numerous papers and four books in the areas of hydrogeology and groundwater modeling.

Goals:

My goals for the position of VP for International Affairs, would be to:
1. Increase, or establish, presence of AIH in several key

international programs of scientific and institutional cooperation in various field of hydrology. Specifically, I would target the UNESCO's "International Hydrological Programme" and its various activities (sub-groups), and the UN "International Decade for Action - Water for Life, 2005-2015" program;

2. Promote and work on materializing the following idea: establish a stipend for bringing two or so young scientists (students) from abroad to our annual conference (and then advertise this through international channels)
3. Initiate a joint scientific committee with a European counterpart (first, and then expand to Latin America) that would work on preparing an academic workshop in Europe in two-to-three years, with the main topic on how to teach (with which tools, which topics, etc.) two key and basic academic "water" courses (one on surface water, one on groundwater) at international universities so that they are compatible and cover same topics of "global importance" (learning about and sharing the World's water resources, etc.)



Candidate for General Secretary

Mr. Emmitt C. Witt, III

U.S. Geological Survey
1400 Independence Rd., MS 319
Rolla, MO 65401
Phone: (573) 308-3679
Fax: (573) 308-3645
Email: Ecwitt@usgs.gov

Biographical Note:

A member since 2002 (1587 PHQW), Witt is the Chief of the USGS Department of Defense Earth Science Program. He has

more than 25 years experience as a USGS hydrologist conducting research in the areas of acid rain, stormwater runoff, organic geochemistry, watershed geochemical characterization, surface water modeling, isotope hydrology, and water quality network development. Witt received his BS from Old Dominion University in 1980, and MS from the University of Pittsburgh. He is an active member of the Society of American Military Engineers, the Army Engineer Association, and the Association of Old Crows. Witt currently is the Organizing Chair for the 2004 AIH annual meeting.

Goals:

1. Strengthen the overall image and membership of AIH.
2. Strengthen the membership in the water quality discipline.
3. Encourage and develop a certification program for hydrologic technicians.



Candidate for Treasurer

Dr. Robert M. Hordon

Water Resources Consultant
8 Dov Place
Kendall Park, NJ 08824-1347
Phone: (732) 297-8899
Fax: (732) 422-9284
Email: Hordon@rci.rutgers.edu

Robert M. Hordon has been a member of AIH since 1984 (#384H). 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

Meetings, Conferences and Courses

Association of Dam Safety Officials

April 5-7, 2006
Indianapolis, Indiana

Session Topics and Presenters: Midwest Regional Technical Seminar on "Safety Evaluation of Existing Dams" Instructors: Chris J. Veeseart, Douglas D. Boyer, and Jay N. Stalder, US Bureau of Reclamation. This seminar emphasizes the importance of periodic evaluation of the safety of existing dams, and provides specific information and guidance on the visual and instrumented monitoring of the various types of dams and their appurtenant structures. Failure modes analysis is stressed as the basis for an effective and efficient monitoring program. At the conclusion of the course, attendees will have a thorough understanding of the procedures and techniques essential to carrying out meaningful dam safety evaluations and monitoring, and should be able to apply these principles to improve their own effectiveness and the effectiveness of their dam safety programs. A comprehensive seminar notebook will be provided which will serve as a valuable dam safety reference.

Registration Fee: \$250 - \$300

Accommodations: TBA

September 10-14
Boston, Massachusetts

Session Topics and Presenters: Dam Safety 2006: ASDSO's Annual Conference Session Topics and Presenters: TBA. Over 700 attendees expected.

Registration Fee: TBA Exhibits & Sponsorships: TBA

Accommodations: Seaport Hotel and Convention Center. \$179 plus tax/night.

International Symposium on Hydrology and Management of Forested Wetlands

April 8-20, 2006
New Bern, North Carolina, USA

For more information contact:

Sharon McKnight at McKnight@ASAE.org

Subsurface Consultants & Associates, LLC (SCA) Training Courses

April 3 – 7, 2006
Houston, Texas

Fundamentals of Applied Geophysics with Tom Wittick
www.scacompanies.com/training/TrainingCourse.asp?CourseID=103

April 3 – 7, 2006
London England

Applied Subsurface Geological Mapping
www.scacompanies.com/training/TrainingCourse.asp?CourseID=2

April 3 – 7, 2006
Calgary, Alberta

Applied Subsurface Geological Mapping
www.scacompanies.com/training/TrainingCourse.asp?CourseID=2

AWRA's 2006 Spring Specialty Conference GIS in Water Resources IV

May 8-10, 2006
Houston, Texas

Early Registration Ends April 17!

Technical Program Highlights: Forty-four oral technical sessions; Superior poster session; Plenary Speaker Michael Talbott, Director of the Harris County Flood Control District on integrating GIS with watershed modeling, flood control, environmental management, and infrastructure planning and maintenance; Exceptional field trip to TranStar -- the preeminent emergency management system. (Registration is Limited!)

For more information visit:

<http://www.awra.org/meetings/Houston2006/index.html>

AIH 25th Anniversary Meeting & International Conference "Challenges in Coastal Hydrology & Water Quality"

May 21-24, 2006
Baton Rouge, Louisiana

An international forum for information exchange and discussion on all aspects of hydrology, hydrometeorology, hydraulics and water quality issues pertinent to coastal processes and environment.

NALMS 2006: Making Connections - People, Lakes, Watersheds 26th International Symposium of the North American Lake Management Society

Hosted by: Indiana Lakes Management Society
November 8-10, 2006
Indianapolis, Indiana

Indiana has a long and rich history in limnology and lakes. The last glaciers, some 10,000 years ago, covered the northern third of the state with natural lakes. There are virtually no natural lakes in the southern two-thirds of the state but there are plenty of impoundments. Indiana's 1400 lakes over 5 acres in size include 8 Corps of Engineers projects (10m700-acre Monroe Reservoir is the largest in the state) and Lake Wawasee, at 2,600 acres, the largest natural lake in the state.

It is in recognition of this rich history that the theme of the 2006 NALMS International Symposium is derived. This Symposium will emphasize connections between natural lakes and reservoirs; between watersheds and lakes; and, of course, between people and lakes.

The Call for Papers is now available and can be found on the conference website at <http://www.nalms.org/>.

This year's Indianapolis, Indiana venue, known as the "Crossroads of America" provides an easy connection from anywhere. Please visit <http://www.nalms.org/> for complete details and information as they become available:

Registration materials will be available in June.

physical geography, hydrology, cartography, 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 has served on many advisory committees for the Department 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, the New Jersey Geological 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.

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.

Refresher Classes Now Being Offered

In response to many requests and suggestions for study materials to use in preparing for the AIH examinations, from past applicants and current members, AIH has developed Review Classes that will cover information about the examination and how to prepare for the test.

The classes are being offered for the first time as Refresher Classes on Sunday, May 21, 2006, as a part of the AIH Annual Meeting in Baton Rouge, Louisiana. The classes being offered are Fundamentals, Surface Water and Ground Water. Each class will provide a study guide of the materials expected to be addressed in the examinations. The classes are scheduled for all day Sunday, beginning at 9:00 a.m. and ending around 5:00 p.m. Each class will be held at the Louisiana State University campus and transportation will be provided from the Holiday Inn Select and Executive Center to Louisiana State University and return.

Anyone can attend these classes. You do not have to be scheduled to take the examinations to attend these classes. You may sign up for the classes if you want to refresh your skills in any of the topics. Moreover, you may use these classes for Professional Development Credits, as a member of AIH. They can also be used for continuing education credits in other recertification programs.

AIH will offer the Fundamentals Examination, the Principles and Practices-Surface Water Examination and the Principles and Practices-Ground Water Examination. If you are approved to take the Principles and Practice-Water Quality Examination, contact the AIH Headquarters at 770-384-1634, for additional information.

A Registration Form can be found at www.aihydro.org to reserve your place at one of the Refresher Classes. Please complete this registration and mail or fax the form back to AIH, along with payment. Please keep in mind that if there are not a sufficient number of people signed up for each class, AIH reserves the right to cancel these classes without notice. A full refund will be issued in the event that a class is cancelled.

If you have any interest in taking the review classes on Sunday, May 21, 2006, please call AIH at 1-800-930-4244 or 770-384-1634.

Remember you may attend the refresher classes, whether or not you are taking the exams.

Date Change for May 2006 Examinations

The Executive Committee for the American Institute of Hydrology (AIH) has approved a plan to offer our examination in conjunction with the 25th year anniversary meeting in Baton Rouge, Louisiana. The date for the next examinations is Thursday, May 25, 2006, after the close of the AIH Annual Meeting.

All candidates that have made application and have been approved to take the examinations for Hydrologist-In-Training or Professional Hydrologist are invited to take the exams on the new date. The May Exams will not be offered on the regular scheduled date. Moreover, the only location that the May 2006 exams will be offered is in the Baton Rouge, Louisiana, location on Thursday, May 25, 2006, at the Holiday Inn Select and Executive Center.

If you plan to take one of the examinations, please complete the Request for Examination form found at www.aihydro.org and submit it to the American Institute of Hydrology, 300 Village Green Circle, Suite 201, Smyrna, Georgia 30080., along with your examination fee. AIH will confirm that you are approved for the examination and arrange for the exams to be released to the Proctor. You will be notified that you are scheduled to take the test and get your additional logistical information about the test location.

If you cannot travel to Baton Rouge to sit for the examinations, please call us immediately so that we can help you decide your alternatives. The advantage of taking the exams in Baton Rouge, are the refresher classes being offered on Sunday, May 21, 2006, prior to our annual meeting. These classes are designed to help you prepare for the exams.

Three classes are scheduled to be given on Sunday, May 21, 2006, in Baton Rouge, Louisiana, as follows:

1. Fundamentals Examination Review
2. Principles and Practices - Ground Water Review
3. Principles and Practices - Surface Water

These classes can be used as Professional Development Credits for members of AIH. They can also be used as continuing education credits for other recertification programs.

However, you DO NOT need to be approved or scheduled to take any of these examinations to attend the refresher courses. You can register for these classes, if you want to refresh you skills in one of the above topics.

A Registration Form at www.aihydro.org to reserve your place at one of the Refresher Classes. Please complete this registration and mail or fax the form back to AIH, along with payment. Please keep in mind that if there is not a sufficient number of people signed up for each class, AIH reserves the right to cancel these classes without notice. A full refund will be issued in the event that a class is cancelled.

Job Postings

AIH will post job opportunities for hydrologists nationwide on our website.. For more information and ad rates please contact AIH Headquarters at Aihydro@aol.com or call **770-384-1634**.

Candidates looking for positions should frequently check our website for new opportunities.

www.aihydro.org

OUTREACH NOTICE - PLUMAS NATIONAL FOREST Quincy, California

The Plumas National Forest, Supervisor's Office, has the following vacancies currently open. These positions are permanent, full-time employment. Positions are being advertised interdisciplinary in professional series:

- Supervisory Biologist (0401) 1 position
- Supervisory Hydrologist (1315)
- Ecosystems Staff Officer, Interdisciplinary

If you have any further questions about these positions or the application process, please call one of the following Mt. Hough Ranger District personnel:

- Jim Pena, Forest Supervisor 530-283-7810 jpena@fs.fed.us
- Rob MacWhorter, Deputy Forest Supervisor 530-283-7810 rmacwhorter@fs.fed.us

Hydrologist (Engineer All Others-Advanced) ~ 2 Positions The State of New Mexico ~ Office of the State Engineer

These positions within the Hydrology Bureau will manage projects and perform technical evaluations in support of water rights administration and interstate stream compact compliance. These advanced level positions require professional expertise in the development of hydrologic models, characterization of hydrogeologic conditions, evaluation of well impacts, and surface water assessments.

Position qualifications include a MA/MS in engineering (water resource, civil, environmental, agricultural), hydrology, geohydrology, water resource mgmt &/or physical science, and five (5) years experience in any of these areas. Experience in project management is also highly desired. Salary range is \$43,064 to \$76,556. Position location is Santa Fe, NM.

Applicants must apply through the State Personnel Office. Please see website www.state.nm.us/spo/ for application and how to apply. Please refer to **TOOL#550-05-07-00-00-85** (working title Water Resource Master). Mail a copy of application with transcripts and resume to L. Haught @ OSE/ISC, Hydrology Bureau, PO Box 25102, Santa Fe, NM 87504-5102. Open 3/6/06 - 3/17/06.

The Office of the State Engineer/Interstate Stream Commission is an Equal Opportunity Employer.

Newly Certified Professionals

Name	Certificate No.
Daniel Lang Latham, New York	05-HG-1651
Charles Parrett Helena, Montana	05-H-1657
Darby Fuerst Monterey, California	05-H-1658
Scott Waltemeyer Albuquerque, New Mexico	05-H- 1660
John DeArment Missoula, Montana	05-H-1661
Thomas J. Osborne Billings, Montana	06-HGW-1662
Matthew P. Wickham Lakewood, Colorado	06-HG-1663
Song-Kai Yan Baton Rouge, Louisiana	06-H-1664
Morgan Ruark Charlotte, North Carolina	06-H-1665
Justin Ferris Palmer, Alaska	06-H-1666
Steven Deverel Davis, California	06-HGW-1667
David Bruner Eagen, Minnesota	06-HGW-1668

Associate and HIT

Brennon Schaefer St. Paul, Minnesota	06-HIT-045
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Congratulations and Best Wishes!



American Institute of Hydrology
300 Village Green Circle, Suite 201
Smyrna, GA 30080
Tel. (770) 384-1634, Fax (770) 438-6172
Email: AIHydro@aol.com Website: www.aihydro.org

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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 ID No. as **690339** with the rate code **BY**.

StormwaterAuthority.org Launches New Website

StormwaterAuthority.org is a resource of comprehensive and relevant information, news, events, and education on stormwater. The mission of StormwaterAuthority.org is to assist professionals on making educated and environmentally sound decisions about stormwater management and treatment.

For more information visit:

<http://www.stormwaterauthority.org>

Speakers Bureau

Following the disaster of Hurricanes Katrina, Rita and Wilma, AIH received several phone calls from news agencies - CNN and NPR - and several of the print media. The reporters were mainly interested in talking to experts on or off camera to gather information and become more knowledgeable of the causes and effects of these hurricanes. They also wanted to have access to experts living in the area to hopefully help them develop a story.

AIH wants to be able to respond to these requests. We want to be known as the "go to" organization for reporters to contact our experts in these areas.

To respond to this need, AIH has proposed to develop a Speaker's Bureau and solicit volunteers to offer themselves as "Experts" to a variety of groups, from small children to national news agencies. We would offer this service at no charge to the user, but with limited access (temporary password) to the Speaker Bureau Registry and the members in the Speaker's Bureau. AIH would provide access to our experts by using our already existing online Registry. With several modifications, AIH could implement the services without difficulty. Participating members would define their area of expertise and any limitations on the scope of their service.

You will be advised of this program as we develop it further. Your input at any time is welcomed and solicited.