

# AIH *news*

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*AIH is here to serve the profession and the members*

- **AIH** is the only organization that certifies professionals in the fields of surface water and groundwater hydrology, and water quality both nationally and internationally.
- **AIH** provides educational training venues to the professionals in the field of hydrologic sciences.
- **AIH** speaks to lawmakers on behalf of you and the profession as an advocacy institution.



**Inside this issue:**

AIPG 2011 ...	2
The Hydrographic Setting for Mercury ...	3
President's Corner... Oregon Water Conf..	4
World News ... WRR: Who is doing what	5
New Members.	6
Membership Information.	7
AIH Information. Hydrology Professionals.	8

## Former AIH President and Distinguished Hydrology Professor Retires from Academia

Miguel A. Mariño began his academic career as Assistant Professor of Water Science and Civil Engineering at the University of California, Davis in 1972. He rose to the rank of Professor of Hydrologic Sciences, Civil & Environmental Engineering, and Biological & Agricultural Engineering in 1980, earned Distinguished Professor status in 2003, and became Distinguished Professor Emeritus when he retired July 1, 2009. Among his many honors and awards are: American Society of Civil Engineers (ASCE) Richard R. Torrens Award (1986), Fellow of the American Water Resources Association (AWRA, 1995), ASCE Julian Hinds Award (1996), Distinguished Member of ASCE (1999), Fellow of the American Geophysical Union (2001), and Warren A. Hall Medal from the Universities Council on Water Resources (2002). He received his Ph.D. in Civil Engineering Systems from UCLA in 1972, under the direction of William Yeh. His teaching and research areas include: Environmental Hydrology; Fluid Transport Processes and Biogeochemical Transformations in Soils, Aquifers and Rivers; Planning, Design and Management of Subsurface and Surface Reservoirs and Irrigation Systems. His professional society affiliations are too numerous to list.

He was first author of *Seepage and Groundwater*, Elsevier (1982). Among his many editorships and co-editorships are: Editor, *Proceedings of the National Symposium on Groundwater Hydrology*, AWRA, 1967; Editor, *Journal of Water Resources Planning and Management* (ASCE, 1984-88); Editor, *Subsurface Flow and Contamination: Methods of Analysis and Parameter Uncertainty*, AWRA (1987); Co-Editor, *Integrated Water Re-*

*sources Management*, Publication No. 272, International Association of Hydrological Sciences (IAHS), Wallingford, U.K. (2001); Co-Editor, *Regional Management of Water Resources*, Publication No. 268, IAHS (2001) ; Co-Editor, *Sustainable Water Management Solutions for Large Cities*, Publication No.293, IAHS (2005); Associate Editor, *Hydrology Research* (2004-09), *Hydrological Sciences Journal* (1999-2005), *Journal of Water Resources Planning and Management* (1982-84), *Journal of Hydrologic Engineering* (1995-2000); Topical Editor, Groundwater, *The Encyclopedia of Water Science*, Marcel Dekker, Inc.(2000-09); member, Editorial Board of *Journal Aqua – LAC*, UNESCO (2007-08). He has published over 200 refereed journal articles in journals such as *Water Resources Research*, *Journal of Hydrology*, *Journal of Hydraulic Engineering*, *Journal of Water Resources Planning and Management*, *Journal of Irrigation and Drainage*, *Journal of Irrigation and Drainage Engineering*, *Environmental Modeling and Assessment*, *Ground Water*, *International Journal of Engineering Science*, *Journal of Environmental Engineering*, *Water Resources Management*, and the *Journal of Stochastic Environmental Research and Risk Assessment*. He was the U.S. National Representative to the International Association of Hydrological Sciences from 2003 through 2008.

Not only are his scientific contributions enormous, but he has also trained 26 Ph.D. students and 59 M.S. students: this might eventu-



ally become his greatest legacy as these hydrology professionals make their mark in our specialty! Among his former Ph.D. students are faculty members such as Slobodan Simonovic (University of Western Ontario, Canada), Gilles Patry (University of Ottawa, Canada), Hugo Loaiciga (University of California at Santa Barbara), and John Tracy (University of Idaho), who are in turn training another crop of advanced hydrology students at their respective institutions.

Miguel was President of AIH from 2005 through 2006: during his last year as President AIH celebrated its 25<sup>th</sup> anniversary. He presided over AIH exercising the diplomacy and civility that characterizes his personality and professionalism. He exhibited an uncommon humility for someone with his extensive professional achievements, and quiet understanding when there were events beyond his control. He will now have more time to devote to his family: his lovely wife Irma and daughter Raquel.

All of us at AIH congratulate him on his outstanding achievements, thank him for his stewardship, and wish him a relaxed retirement: he has earned it.

**AIPG 2011**  
 NATIONAL CONFERENCE - ILLINOIS  
*Geosciences: The Road to a Sustainable Future*  
 September 10-13, 2011  
 Bloomingdale, IL  
 CO-HOST: AIPG Section, LM-A&WMA  
 CO-SPONSOR: AIH

day conference includes technical presentations, nationally recognized keynote speakers, workshops, field trips, poster session, and an exhibit hall. The technical program offers a solid selection of multi-disciplined topics with a focus toward sustainability. The technical program includes five topic areas listed on the table below. In addition, six exciting field trips will include Lake Michigan coastal geology and development, regional quarry and mining trips, and field lectures covering geological, hydrological, and environmental engineering areas of interest. Continuing education credits will be offered for all technical sessions, workshops, and field trips. The exhibit hall will include an area for student posters, exhibitor booths for marketing products and services, and displays from conference sponsors. Additionally, trips to Chicago's Shopping District, Navy Pier, architectural tours, restaurants, and nightlife will be offered.

This 2011 American Institute of Professional Geologist (AIPG) 48<sup>th</sup> Annual National Conference is taking place September 10 to 13, 2011 at the Hilton Chicago - Indian Lake Resort located in Bloomingdale, IL (30 min from downtown Chicago and O'Hare International Airport). The national conference is being held jointly with the American Institute of Hydrology (AIH) and is co-hosted by the AIPG Illinois/Indiana Section and co-sponsored by the Lake Michigan Section of the Air and Waste Management Association (LM-

A&WMA). At this conference you will have the opportunity to increase your technical knowledge of current advancements in technology and practice methods, earn continuing education credits, and interact with fellow professionals from the consulting, municipal, industrial, regulatory, and academic communities. Together, we are working on creating a sustainable environment.

This year's conference theme is "**Geosciences: The Road to a Sustainable Future**". The four

Sustainability	Natural Resources Management	Energy	Environment & Technology	Climate Change
Green/Low Impact Development Practices (S1)	Brownfield Redevelopment (NR1)	Enhanced Oil Recovery, Exploration, and Production (E1)	Alternative Remediation Methods (T1)	Climate Change Impacts on Water Resources (C1)
Groundwater Supply, Aquifer Recharge Management (S2)	Economic Geology (NR2)	Gas Shales (E2)	Emerging Contaminants (T2)	
Water for Sustainable Agriculture (Including Groundwater) (S3)	Soil Conservation, Sediment Transport (NR3)		Coal Mining, Resource Development (E3)	Environmental Forensics, Isotope Geochemistry (T3)
	Water and Waste Management (NR4)	Groundwater, Surface Water Interaction (T4)		
Air Quality Issues (NR5)		Remote Sensing, GIS, Mapping (Including LiDAR) (T5)		
		Shallow Earth Geophysics (T6)		
		Techniques for Advanced Site Characterization (T7)		
		Vapor Intrusion (T8)		

Abstract codes in parenthesis. Additional subject areas welcome.

### Submit Your Abstract Today!

The deadline to submit an abstract is May 20, 2011.

Visit [www.aipg.org](http://www.aipg.org) to submit your abstract.

Stay connected to the members and the profession locally, globally, and technically through

**AIH**



# President's Corner:

It is difficult to believe that two years have passed and it is now my turn to serve as the AIH President. This is truly an honor and one that I do not take lightly. I would personally like to thank our past President Miguel Medina for his service over the last two years during a time of transition within our organization. The transition to a new headquarters at Southern Illinois University, Carbondale, IL has been completed and we have made significant progress in streamlining our operation, generating a positive financial balance, and recruiting new members. None of this could have been done without Miguel's leadership and Director Rolando Bravo's determination to make the Carbondale office a huge success. I am proud of where we are and see great things to come on the AIH horizon.

Also I would like to thank all the Executive Committee members for their service. The work of conference planning, coordination with other professional organizations, recruitment, test development and testing, email, webpage, and newsletter communications, constitution and bylaw changes, and organization oversight are tasks that our Executive Committee members volunteer to do to move the AIH forward. They are truly heroes of the organization, dedicating an enormous amount of their personal time to make the AIH stronger for you.

Service to the organization helps to provide added value to the membership. Without the contribution of all those that participate either as Executive Board or committee members, the AIH would be nothing. We need your help to make the AIH a stronger organization. While we have a full Executive Committee managing the policies of the AIH and an extremely competent Ex-

ecutive Director managing the business, we lack individuals that can help the organization grow. We lack the numbers of people needed to make ideas flow that will help us add more value.

As your incoming President I will focus on getting our membership more active in the organization. It really does not take much to promote and grow an organization when the members become involved. Paying dues once a year is important but it is also important to show support by your activity. We all need to be responsible and make sure those fiscal resources are promoting our cause-- building the reputation of our certification and advertizing the importance of our Profession. After all... we are the only Professional organization that certifies the competence of those practicing as hydrologists and hydrologic technicians.

So what is it we need to do? First off we need volunteers to chair and/or staff our growing list of committees. Current openings include committees for awards, scientific integrity, conference planning, test development and improvement, test proctoring, publications and outreach, and hydrologic technician and legal affairs. Next we need members to provide input and feedback, and volunteer to move these visions forward. Some great ideas that I have heard from our members include establishing an annual magazine with a focus on the research and application in hydrology; establish a certification for hydrologists practicing in the fields of geographic information science and life science; establish a mutually beneficial partnership with another Professional organization (s) that would take advantage of our certifications; establish a

scholarship fund for undergraduate/graduate level education in hydrology; and build a fund to support competitive and innovative hydrologic research. Some other ideas include designing T-shirts and other visual identity items, developing a membership card, and focus on building our International membership. These are ideas that I intend to bring before the Executive Committee for discussion in the very near future.

Also we need members to become active at the State-level, building state AIH Chapters and holding regular meetings. The flow of ideas for the National-level organization should always start at the grass-roots level. Our Oregon Chapter is a prime example of AIH activity at the local level—they hold regular meetings, cooperate with other water-resource organizations, have conferences, and generate funds to work on issues locally. State-level organizations benefit the larger organization by keeping track of job openings, educational opportunities, and promoting our certification. If every State had such a chapter and every chapter focused on State-level hydrology registration as a goal for their activity, think about where we would be as an organization.

I conclude with a call to action. Dare yourself to dream of what could be and then find the motivation to make it happen. Nothing is more important to an organization than the ideas and energy of its membership. Find a way to get involved and be recognized for making a difference. AIH needs you!

Emitt C. Witt III, PH  
President AIH

AIH

*membership and certification is the  
professional achievement that is  
necessary in a hydrologic sciences career.*

## The Oregon Water Conference (May 24-25, 2011): Evaluating and Managing Water Resources in a Climate of Uncertainty

Oregon and the rest of the Pacific Northwest face an uncertain water future. Not only will the climate itself be uncertain, but also the political, social, legal, economic and regulatory climates. What will climate change produce in the way of hydroecological changes? How much will population change, perhaps fueled by climate refugees, stress our water

resources? What will the regulatory climate embody? Will a revised Columbia River Treaty with Canada encompass more than power generation and flood control? Do we need a Columbia Basin Compact to cope with future shortages? Will the area see more in the way of regional water management agencies, perhaps straddling state

lines? Can the prior appropriation doctrine adapt to the future? Will exempt wells remain 'exempt'? Do we know how much water will be available?

Contact: AIH for further details.

## World News Roundup:

**US - EPA:** EPA Proposes First National Standard for Mercury Pollution from Power Plants / Mercury and air toxics standards represent one of strongest health protections from air pollution since passage of Clean Air Act. [US EPA – March. 16, 2011]

**Nuclear Fallout:** As the Nuclear Regulatory Commission has said, we do not expect to see radiation at harmful levels reaching the U.S. from damaged Japanese nuclear power plants. As part of the federal government's continuing effort to make our activities and science transparent and available to the public, the Environmental Protection Agency (EPA) will continue to keep all RadNet data available in the current online database. EPA is working with its federal partners and has deployed additional monitors to Hawaii, Alaska, Guam and the Northern Mariana Islands. [US EPA – March. 21, 2011]

*AIH advances the profession by consistently acting to promote highest standards for the profession.*

## Water Resources Research: Who is doing the most?

The report "Confronting the Global Water Crisis through Research – 2010", carried out by Elsevier and released recently, reveals the increasingly international and strategic nature of water resources research. Examining major trends in water research at the international, national and institutional levels, the report highlights the escalation in the article output of countries conducting water resources research and the expansion of such research into strategic disciplines. Elsevier used Scopus data and one of the solutions from its performance and planning suite, SciVal Spotlight, to develop a detailed analysis of country and institutional strengths in the field.

"Most countries realize the importance of multidisciplinary research in water research as they face climate change and population growth," said Dr. Christiane Barranguet, Executive Publisher of Elsevier Aquatic Sciences. "This is reflected by the nearly 30% annual growth rate in global water resources research from 2000 to 2009, as countries increasingly look to science to find answers to pressing questions regarding local and global water resources demands."

While the U.S. leads in producing water resources research and yields the widest variety of such research, China is quickly emerging as a key player in the field. From 2003 to 2010, the number of articles published on water resources research from institutions in China increased by 28% annually while the number of articles published by U.S. institutions increased at a rate of 11%. If a straight-line growth trend is assumed, China will surpass the U.S. in the number of articles published on water resources research in 2014.

Given the strengths of its research and grant-making institutions, the U.S. will likely maintain a leading role in water resources research. However, the international focus on water resources suggests that the U.S. will increasingly share the research stage with other countries. The data indicates a rapid growth of water resources research throughout the world, including some countries where until recently, there was very little of such research. Faced with economic expansion, rising populations and growing industrialization, countries such as Iran, India, Russia, South Africa, Brazil and Mexico have experienced severe water problems and have subsequently seen dynamic increases in water research. For example, Iran produced only 12 papers on water resources between 1970 and 2000, but produced more than 60 papers each year from 2005 to 2008.

By extensively mapping research articles by discipline, data from Elsevier SciVal Spotlight reflects the increasingly multidisciplinary nature of water resources research. While environmental sciences, earth sciences, engineering and biological sciences continue to dominate the field, disciplines such as economics, math, computer science, chemistry and biochemistry are rapidly expanding into water research. Economics in particular, has seen significant growth.

From 2004 to 2008, the annual growth rate in economics articles within water resources research was 100%. The rise of these disciplines highlights the changing interests of governments and grant-making institutions as they work to solve a variety of problems associated with water resources. **(Elsevier SciVal Application)**

AIH

*is your link to members in the profession.*

# We Congratulate our New Members:

## Hydrologist Members:

Bandala, Erick R.	Puebla , Mexico	
Buckland, Evan M.	Freemont	CA
Corrao, Mark V.	Princeton	ID
Flusche, Mark A.	Clifton Park	NY
Harirchi, Hassan	Santa Marina	CA
Jackson, David E.	Nashville	TN
Janecek, James A.	Flagstaff	AZ
Johnson, Daniel	Johns Island	SC
Kennedy, Joseph T.	R. Triangle Park	NC
King, Thomas B.	Wexford, Ireland	
Klein, Lance E.	Spring Branch	TX
Knapek, karla A.	Eureka,	CA
Marotto, Ronald C.	Ventura	CA
Moses, Dana W.	Huntington,	WV
Onderdonk John	San Francisco,	CA
Quebbeman, Jonathan A.	Falmouth,	ME
Reed, Laura D.	Santa Paula,	CA
Sandrana, Shiva	San Antonio	TX
Schaefer, Brennon	St. Paul,	MN
Schnieders, Michael J.	Ottawa	KS
Sikora, Eric	Milwaukee	WI
Singh, Jaswant	University	MS
Stout, Daniel	Kevil	KY
Wright, Jeffrey L.	Plym. Meeting	PA
Wynne, Kristina Lynn Klos	Englewood	CO
Zell, Christopher C.	Columbia	MO

## Hydrologic Technicians:

Karge, Kent	Storrie	CA
Matt McPheeters	Auburn	CA
Reed, Laura D.	Santa Paula,	CA

## 2009 –2010 Examination Fee Structure

Application fee = \$100  
(\$50 for charter member period)

Test fee = \$200 Principles and Practice Exam;

Test fee = \$150 Fundamentals Exam;

Test is Waived in 2009-10 for HT Charter Members

Certification dues for each HT level = \$90

## Annual Membership Fees

Professional Membership = \$150

Emeritus Membership = \$75

HIT Membership = \$100

Hydrologic Technician Membership = \$90

Associate Member = \$35

*Be an active member of AIH, share your information, submit your ideas to make this organization serve you better.*



Earth's profile is always changing as a consequence of dynamic systems of extreme events: Tectonics, Earthquakes, Volcanoes, Floods, Hurricanes, Tsunamis and the like. At the center of this we see the science and technology of hydrology as an important scientific field that contributes to the evaluation of these processes.

Your membership in AIH is an indication of your commitment to understanding of these processes for the benefit of the society.

## AIH Membership, Application and Review Processes

**AIH continues to offer all qualified Hydrologic Technicians Charter Membership.** Level I applicants will now be required to pass a 100 question multiple-choice question test to become certified. The purpose of this extension is to enhance the membership with qualified Hydrologic Technicians that can begin to manage a program. Charter Membership entitles individuals to be certified based on qualifications, education, and references. No testing is required during this period. During this period all applicants will be required to submit a \$50 application fee to help defray the cost of processing and review of their application. AIH is the only organization to certify the qualifications of Hydrologic Technicians at three experience levels and within each of the disciplines of surface water, ground water, and water quality.

### The review process:

- Upon receipt of an application we will check it for completeness and, if necessary, notify you of additional information that may be needed.
- The completed application will be submitted to two members of the Board of Registration for review and evaluation, who make independent recommendations that are sent to the Board of Registration.
- The candidate must pass a 100-question multiple choice examination. Examinations are offered in each discipline level for the certification of Hydrologic Technician. The exams are offered twice a year on the second Friday of May and November. All exams are closed book and no papers, books or computers will be allowed in the test room. Calculators are allowed and are recommended. All tests are waived through the charter member period.
- The results of the examination and the recommendations are reviewed by the Chairman and Secretary of the Board of Registration, who in turn send their recommendation to the Executive Committee for approval, who in turn send their recommendation to the Executive Committee for approval.

### The Certification Program Examination Structures

#### Level I Test Structure:

General Surface Water Techniques 30%  
General Ground Water Techniques 30%  
General Water Quality Techniques 30%  
Basic Electronics 5%; Field Safety 5%

#### Level II - Surface Water Test Structure:

Surface Water Techniques 50%  
Specialized Techniques Not Related to In-stream Flow 20%  
Electronics/Field Repair 10%; Safety 20%

#### Level II - Ground Water Test Structure:

Ground Water Field Techniques 50%  
Ground Water Data Review 15%  
Ground Water Measurement Equipment 20%; Safety 15%

#### Level II - Water Quality Test Structure:

Water Quality Field Techniques 50%  
Water Quality Data Review and Validation 15%  
Field Measurement Equipment 25%  
Safety (HAZWOPER focused) 10%

#### Level III - Surface Water Test Structure:

Advanced surface water techniques 60%  
Specialized techniques not related to in-stream flow 10%  
Electronic/Field Repair 10%; Safety 15%; Public Relations 5%

#### Level III - Ground Water Test Structure:

Advanced ground water concepts 60%  
Resource knowledge 15%; Safety 15%; Public relations 5%  
Network design and decision-making 5%

#### Level III - Water Quality Test Structure:

Water quality concepts 60%  
Resource knowledge 15%; Public Relations 5%; Safety 10%  
Network design and decision-making 10%

For more information please consult AIH web site at:  
<http://www.aihydrology.org>

## AIH newsletter information

### Editorial Board/Publications Manager

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The AIH news letter is the official  
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American Institute of Hydrology

Material published in this newsletter may be reprinted with proper references. 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 be submitted  
to the AIH office.

#### SPACE RATE and 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.

## AMERICAN INSTITUTE OF HYDROLOGY

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*American Institute of Hydrology*

*The Society for Certification of  
Professionals in Hydrologic  
Sciences*

## AIH is your future in HYDROLOGIC SCIENCES



### Some field and professional activities a hydrologic technician performs:

Stream gage operation, maintenance, and data retrieval; Discharge measurement; Instrument calibration; Site characterization; Record keeping; Water quality sample collection; Instrument repair and troubleshooting; Surveying; Well drilling and well log data maintenance and analysis; Hydrologic data compilation, review and analysis; Database management; Website maintenance; Publish data reports; Evaluate new instrumentation; Develop new instrumentation; and, Ground water level monitoring.



Ever shrinking Aral Sea over the years.

### HOW TO JOIN AIH

- Obtain an application by downloading it from the web site at: [www.aih.engr.siu.edu/forms.htm](http://www.aih.engr.siu.edu/forms.htm)
- Or call (618) 453-7809 and ask to have it mailed or emailed to you.
- Or send an email request to: [aih@engr.siu.edu](mailto:aih@engr.siu.edu)

### Complete the Application Form.

- Fill the application with as much information as you can.

- Provide us with one original of the application and all supporting documents.
- Identify three References that can vouch for your work experience, ethics and character.
- Send to each person a reference form, which can also be downloaded at the web page given above. As a courtesy, also provide them with an addressed stamped envelope for mailing directly to AIH.
- Include your application fee of \$100 (\$50 for charter member period\*), made out to the American Institute of Hydrology,
- Mail your application to: 1230 Lincoln Drive, Carbondale, IL 62901-6603, USA.