



**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



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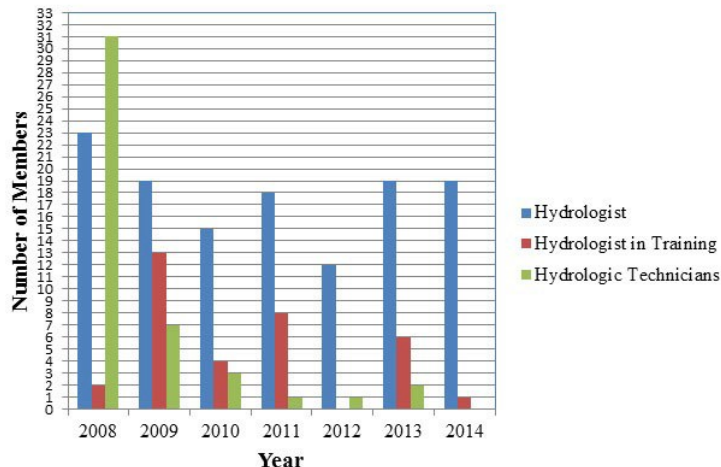
**From the Executive Director's Desk**



Greetings from Carbondale, Illinois. It looks like yesterday when in March 2008 I took the responsibility to bring the Headquarters of AIH to Southern Illinois University Carbondale (SIU). Since that time I try to do my best to maintain and improve our Institute. I have the opportunity to work with four Presidents and now I am very excited to start working with our new President Dr. Aral. I am certain that his executive directions will lead us to new heights and continued progress. As I continue with my Academic and Research load as a Faculty member at Southern Illinois University Carbondale, I will also continue serving our professional association. I take this opportunity to thank all of you for supporting our institute and the many thankful messages that encourage me to do even more.

As Hydrologists we like to maintain statistics and this time I would like to report the progress in recruiting new members. The progress we have made in the number of new members is shown in the graph below.

**New Members per Year**

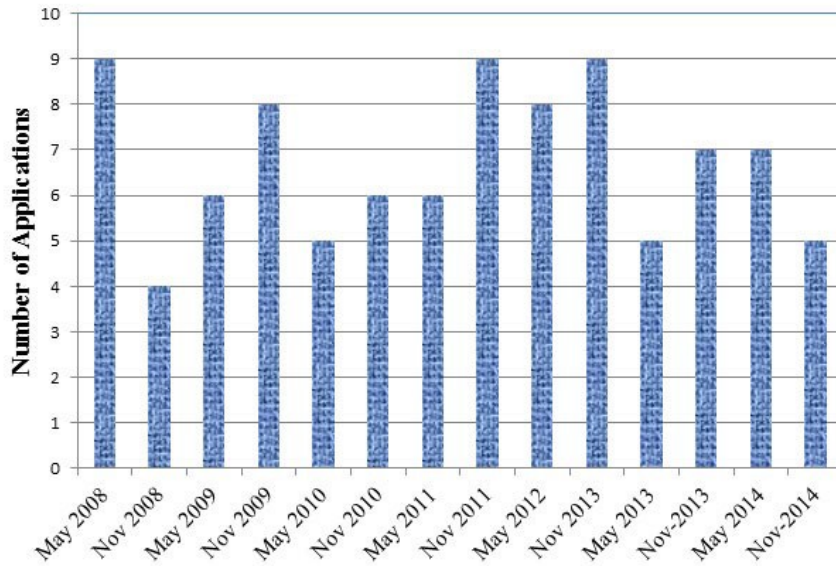


The examinations for these members are administered twice a year and the statistics on the number of examinations administered since 2008 is shown in the figure below.

For the current year, at the end of April 1, 2015, I have collected 77% of the dues from our members which is a good sign for an

active membership. I would like to continue requesting your help for recruiting more members. The Executive Committee's main focus is to make AIH a strong organization with more members. Please try to reach your Legislators and Colleagues and let them know that AIH exists and it is the only Professional Association that grants Certification following a set of strict rules and review of educational and professional qualifications.

### Applications for Examination



In this direction, on November 2014, I had the great opportunity to present a technical paper as a keynote speaker representing AIH in the International Conference on Hydrometeorology and Climate Change (ICHCC) at the Universidad de Las Americas, Puebla, Mexico.

We are fortunate to have a wonderful AIH member and a friend, Dr. Jose Raynal, Dean of the Engineering College over there who promotes these meetings. Other keynote speakers at the meeting were Dr. Vijay Singh and Dr. Miguel Medina, Jr. both former presidents of AIH (see the picture below). The great news is that we got new certified members in Mexico. In numbers we have already 10

members and at least three more are applying. They want to form a Section that will promote the Institute at this International level. There will be another professional meeting during November 2015 where we may have an official inauguration of the Mexico Section. I will keep you informed.

In this picture (from left to right) you are seeing Dr. Vijay Singh, Dr. Rolando Bravo, Dr. Miguel Medina and Dr. Jose Raynal.



**During Fall 2014 the following professionals were granted certification in our institute:**

### Hydrologist

<u>Name</u>	<u>Certification</u>	<u>City</u>	<u>State</u>
Caldwell, Raymond J.	14-H-6018	Denver	CO
Capesius, Joseph	14-H-6009	Austin	TX
Gao, Yige	14-H-6004	Atlanta	GA
Govindaraju, Rao S.	14-H-6013	West Lafayette	IN
Harris, David J.	14-H-6001	Fair Oaks	CA
Herubin, Robert C.	14-HG-6010	Green Bay	WI
Hossain Faisal	14-H-6012	Seattle	WA
Kosinski, Sean	14-HG-6007	Louisville	CO
Li, Guoyuan	14-H-6008	San Rafael	CA
Lincoln, Erin M.	14-H-6006	Atlanta	GA
Makus, K. Erik	14-H-6003	Helena	MT
Marin, Luis E.	14-HGW-6016	Ciudad Universitaria, México D.F.	MEXICO
McCarty, Douglas H.	14-H-6005	Phoenix	AZ
Nicholas, Hillary D.	14-HIT-099	Research Triangle Park	NC
Raynal, Maria E.	14-HWQ-6015	Cholula, Puebla	MEXICO
Reyes, Rene	14-HWQ-6011	Cholula, Puebla	MEXICO
Subedi, Rajmani	14-H-6019	Sacramento	CA
Surfleet, Christopher	14-H-6017	San Luis Obispo	CA
Woznak, Brad. T.	14-H-6002	St. Paul	MN
Zuniga de Leon, David	14-HGW-6014	Ciudad Juárez, Chihuahua	MEXICO

You may also notice that we are including some articles from our members in our Newsletter. That is going to continue and I invite everyone to send me the material they would like to publish in our future Newsletters. I kindly request that the articles should be related to our hydrological practice, not published already in other media. Please try to keep it informative and in length that is appropriate for a Newsletter. All prospective articles will be reviewed by our General Secretary and our VP for Publications. If there is not enough room for all the articles submitted, we will publish them in the following issues. Moreover, in our Newsletter we would like to include a specific section called "ON THE NEWS." If you have some news that you want to share with AIH members, you are cordially invited to do so. The news should be related with promotions, moving, new hiring, new grants or contracts, presentations on Professional Conferences, etc.

I hope the information I am providing serves to demonstrate that we are continuously working to improve our Institute. I invite any member willing to volunteer their time and become an officer of the Executive Committee, or you may also nominate some other member by contacting me. I will pass the information to a Nomination Committee within the EC.

Finally I kindly request that you send an email to your headquarters if you are changing your affiliation and/or email address. Maintaining our communication is paramount.

Always ready to serve your requests and accept suggestions.

**Rolando Bravo**  
**Executive Director AIH**



## Message from the President

### Dear AIH members:



As you know we rotate the Presidency of the American Institute of Hydrology (AIH) every two years. Starting this year it is my pleasure and honor to serve as the President of AIH for the period 2015 – 16. I would like to start my term by thanking our membership for their confidence in electing me as the President of AIH and our Past President Steven Nix for his efforts to move AIH forward during his term which ended in December, 2014. I also welcome Dr. Rao Govindaraju (Purdue University) to our Executive Board as our President Elect for the following term.

Looking ahead to 2015 and beyond we have a variety of plans, many of which are for the immediate benefit of our members and others are to increase the visibility of AIH in national and international professional circles. From time-to-time I will use this platform to share with you these developments, the upcoming events and the actions of the Executive Committee (EC) on these activities.

I would like to start by providing you information on the progress we have made with the “**Network of International Hydrological Association (NHA)**,” which is a global hydrologic community. If you recall, as the President Elect of AIH, I have initiated and shared this effort with you during September 2013. With the approval of the AIH Executive Board at the time, AIH has become the **founding member** of this networking group, whose membership has recently skyrocketed to twenty three. You can see the list of the members of this organization below. The purpose of this networking group is very simple. Our members, individually or through their companies or organizations, not only function within the United States but they also engage in international activities beyond our borders. If our members, as an individual or as the representative of their institutions, need support in their professional or technical work outside the United States, they can contact any of the organizations listed below through AIH to seek local support for their projects at that country. Similarly, as we receive request for support from a member of this hydrologic community, we will share this information with our members through this bulletin or by direct contact. This support structure is only provided to the individual or corporate members of AIH as they go about conducting their own or their companies’ professional work beyond the borders of USA. If you want to be an active member of this international support group please provide us your contact information along with a short paragraph summarizing your specialization area so that we can link you with requests we may receive from this community. Also, if you need information on how to establish this outside contact please do not hesitate to contact me directly or the Executive Director of AIH. Please also note that the Second General Assembly of the Network of NHAs will be held in Prague in June/July 2015 and I am calling for proposals from you as to what we might propose there as the activities of the Network for the future.

### **Current Members of Network of International Hydrological Association (NHA):**

Asia & Pacific, Asia Pacific Association of Hydrology and Water Resources.

Australia, ACT, Hydrological Society of Canberra.

Australia, South, Hydrological Society of South Australia Inc.

Canada, Canadian Society for Hydrological Sciences.

Canada, Canadian Geophysical Union - Hydrology Section.

Chile, Sociedad Chilena de Ingeniería Hidráulica.

Europe, European Geophysical Union - Hydrology Sciences Division.

Finland, Finnish Hydrological Association.

France, Comité National Français de Géodésie et Géophysique - Sciences Hydrologiques.

Germany, Deutsche Hydrologische Gesellschaft. India, Association of Hydrologists of India.

Italy, Società Idrologica Italiana.

Malaysia, Malaysian Hydrological Society.  
Mexico, Asociación Geohidrológica Mexicana.  
Netherlands, Nederlandse Hydrologische Vereniging.  
Nigeria, Nigerian Association of Hydrological Sciences.  
Nordic countries, Nordic Association for Hydrology.  
Norway, Norwegian Hydrological Council.  
Poland, Association of Polish Hydrologists.  
South Africa, South African Committee of IAHS.  
Switzerland, Société Suisse d'Hydrologie et Limnologie.  
UK, British Hydrological Society.  
USA, American Institute of Hydrology.

More to come on these and other subjects in my future communications. Through these activities our goal is to make AIH a valuable organization to join. We at AIH are also open to your suggestions and recommendations and we seek your support. In my opinion the strength and success of an institution such as AIH can only be measured by the number of its active members who are willing to contribute to the common goal of improving AIH to serve its mission. Be assured that any contribution of our members in that direction will be welcome and will be considered by the Executive Committee of AIH. Please do not hesitate to contact our Executive Director Rolando Bravo or me (directly) to share your ideas and recommendations.

I would like to take this opportunity to wish our membership that 2015 also brings you good health, happiness and prosperity.

My best regards.

**Mustafa M. Aral**  
**President AIH**

maral@ce.gatech.edu  
February 1, 2015

## AIH Excerpts from the Archives

Dear AIH members, under this column you will find most recent information on archival data, information and reports that appeared in the recent literature in the field of hydrology. We hope you will find it useful and interesting. If you would like to contribute to this column you may provide your paragraph with a link to ([maral@ce.gatech.edu](mailto:maral@ce.gatech.edu)).

### **IPCC AR5. Lessons Learned for Climate Change Research** – Final Report. Available: 2/2/2015



The WCRP Joint Scientific Committee (ISC) working with the Working Group 1 of the IPCC, organized a meeting on lessons learned from the recently published Fifth Assessment Report (AR5). The meeting took place in September 2014, in Bern, Switzerland, which was hosted by the International Space Science Institute (ISSI), with support from the Swiss Federal Office for the Environment. The final report is available from the web site:

<http://www.climatechange2014.org/>

### **World Bank, Billions of People Lack Clean Water**



World Bank Annual Report

According to the World Bank, as many as two billion people lack adequate sanitation facilities to protect them from water-borne disease, while a billion lack access to clean water altogether. According to the United Nations, which has declared 2005-2015 the “Water for Life” decade, 95 percent of the World’s cities still dump raw sewage into their water supplies. Thus it should come as no surprise to know that 80 percent of all the health maladies in developing countries can be traced back to unsanitary water. <http://www.worldbank.org/>

### **World Water Challenge** – Daegu & Gyeongbuk, Republic of Korea, 2015



This challenge is issued in order to discover resolution to challenging issues in water resources management and their optimized solutions. The invitation is to join the challenge and be a final winner for an outstanding solution based on science and technology which deals with the world's challenging water problems.

Challenge program consists of two processes. First is discovering water issues that the world is facing. Second is finding solutions based on science and technology, any individual or organization is eligible to propose solutions to defined problems. 10 outstanding solution providers will be invited to present their proposals during the 7th World Water Forum. Invited solution providers will receive awards at the World Water Challenge ceremony. In addition, the best among them selected by the judging committee will be granted for the Daegu-Gyeongbuk Water Prize at the closing ceremony of the forum. See the web site:

<http://eng.worldwaterforum7.org/forum/challenge/>

### **Water Scarcity, Population Growth and Climate Change?**



Prof. Paul Ehrlich, a Stanford University Biologist, in 1968 began his book titled *"The Population Bomb"* with this statement: *"The battle to feed all of humanity is over. In the 1970s hundreds of millions of people will starve to death in spite of any crash programs embarked upon now. At this late date nothing can prevent a substantial increase in the world death rate and loss of population."*

In 1970's the world population was ~4 billion now we are at ~7 billion? Sandra Postel, author of the 1998 book, *"Last Oasis: Facing Water Scarcity,"* predicts water availability problems as populations of so-called "water-stressed" countries jump perhaps six fold over the next 30 years. The Climate Change is also adding more stress to this condition. The issue of climate change and stability of world population has been discussed from a philosophical and mathematical perspective in:

<http://journal.frontiersin.org/Journal/10.3389/fenvs.2014.00045/impact#impact>

### **Water Conservation Tips**



If you use a low-flow showerhead, you can save 15 gallons of water during a 10-minute shower. Every time you shave minutes off your use of hot water, you also save energy and keep dollars in your pocket. It takes about 70 gallons of water to fill a bathtub, so showers are generally the more water-efficient way to bathe. All of those flushes can add up to nearly 20 gallons a day down the toilet. If you still have a standard toilet, which uses close to 3.5 gallons a flush, you can save by retrofitting or filling your tank with something that will displace some of that water, such as a brick.

Most front-loading machines are energy- and water-efficient, using just over 20 gallons a load, while most top-loading machines, unless they are energy-efficient, use 40 gallons per load. Remember, nearly 22% of indoor home water use comes from doing laundry. Take the Fresh Water Quiz 101 at:

<http://environment.nationalgeographic.com/environment/freshwater/freshwater-101-quiz/>

## Bridging Forestry and Water Resources: The 14th Annual Foresters Forum

**Mark V. Corrao<sup>1,2</sup> and Wayne S. Wright<sup>3</sup>**

The 14th Annual Foresters Forum was held February 4-6, 2015 at the Coeur d'Alene Resort in Coeur d'Alene, Idaho. It might seem odd that water resources was a focal topic for a group of foresters, but without our forest lands, the water cycle and multitude of plants and animals within our natural ecosystem are imperiled. In a nutshell, we cannot achieve any level of sustainability without giving full consideration to our forests.

The Forester's Forum draws a broad audience from all facets of forestry and natural resource management including; engineers, biologist, hydrologists and policy makers. This year the Forum opened with a flight of presentations spanning aquatic ecology, stream measurement, erosion, road construction, wildfire, climate change and public law and policy, all under the umbrella of "Forestland and water resource management for upcoming professionals".

We learned that active forest management, when completed under careful Best Management Practices, protects our overall natural resources. Advances in erosion control and road planning, cutting practices, construction and monitoring have improved sediment management goals that minimize impacts to rivers, streams, plants and animals. Well-managed forests also regulate our surface and ground water sources. Rainfall captured in streams and forest duff is filtered and stored for downstream benefit. Wooded areas are vital to carbon sequestration and linked to our atmospheric health. Well-managed forests provide a huge benefit as a carbon sink by capturing approximately 17 percent of our national carbon dioxide emissions, and restoration efforts associated with large watersheds and carbon controls across the nation are now focusing on riparian and upland forest areas to maximize the benefits of carbon capture and improve watershed health.

The sentiment from the Foresters Forum was that the tie between forestland services and the hydrologic cycle is poorly quantified and this remains a critical gap in communicating the importance of forestry in the United States. A common question asked regarding forestry and water resources was; what can we do to improve and be better prepared as leaders? This is a fair and open question, and, quite daunting. Forests in the U.S. are undervalued and largely taken for granted by the general population. By providing a forum for natural resource professionals, public officials, and tribal nations working on the forefront of these challenges, the Foresters Forum looks to bridge some of these gaps and generate both an exciting and inspiring conference.

The outcome of this year's discussions highlighted; 1) Achieving sustainability on forested lands requires an active approach involving a balance between the "social license", economics, science and policy; and, 2) The knowledge that sustainable management of our forest lands is now at hand. Forest industry and private stewards have begun to join forces across the nation and develop collaborative efforts to bridge applied forest science and watershed resource management. We are now seeing truly united steps toward "whole system" management of our forested lands, backed by education and awareness programs working to assign a proper value to our forest resources. Value beyond just the economics of timber production, and toward a more complete equation that accounts for all ecosystem services a forest provides.

The forest industry is one of many leaders working to establish "balanced" long-range policies that protect and preserve water and timberlands for all who use and enjoy our nation's natural environments. The Foresters Forum was established to increase industry awareness through collaboration and to promote leadership that provides a balanced approach to natural resource management.

<sup>1</sup> M.S., CPESC. *Hydrologist*, Northwest Management Inc.

<sup>2</sup> PhD Candidate, *Water Resources and Environmental Policy* – University of Idaho

<sup>3</sup> CFP, PWS. *Market Intelligence Leader, Senior Principal Wetland Scientist* – GeoEngineers

## 42nd IAH International Congress

The 42nd International Congress of the International Association of Hydrogeologists (IAH) will be held in Rome, Italy, September 13-18, 2015. Under the title “Back to the future,” seven main topics have been listed; these include: Groundwater, food, and health; Sustainable use of groundwater; Groundwater flow systems behavior; Urban and contaminant hydrogeology; Ground / surface water: an integrated view; Groundwater governance and policy; Groundwater management in coastal areas; and new tools and new frontiers. Many scientific sessions will be developed under these general themes, in scientific partnership with FAO and UNESCO IHP. For additional information visit the official website at [www.iah2015.org](http://www.iah2015.org) where you can also pre-register and download the latest circular containing further information and deadlines.

## AIH Scholarships

Starting in 2016 the American Institute of Hydrology will provide a scholarship offering for students dedicated to the study of Hydrology.

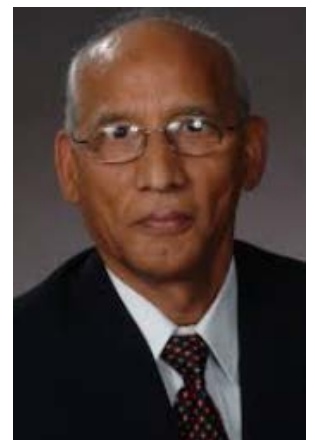
- It is anticipated that the AIH will award two \$1,000 scholarships per year from general revenues starting in 2016.
- Starting with the 2016 membership renewals, members will be provided an opportunity to contribute to the AIH Scholarship Trust Fund.
- In order for the scholarship funding to be self-sustaining, the AIH seeks to add at least \$5,000 each year to the AIH Scholarship Trust Fund from both member contributions and general revenues.
- Once the AIH Scholarship Trust Fund reaches a value of \$50,000, it will be converted to an AIH Educational Scholarship Endowment.

Details of the nomination and selection process will follow in upcoming newsletters.

## Congratulations

### Vijay Singh

Vijay Singh, Distinguished Professor and Caroline & William N. Lehrer Distinguished Chair in Water Engineering, received the **Professor Ram J. Garde Lifetime Achievement Award**, given by the Indian Society for Hydraulics in December, 2014, for his seminal contributions to the advancement of Hydraulics and Hydraulic Engineering. He gave the inaugural address at the 19th International Conference HYDRO 2014 on Hydraulics, Water, Resources, Coastal and Environmental Engineering, held December 18-20, 2014, at National Institute of Technology, Bhopal, India. He also chaired a session and presented a keynote paper on “**Water, Environment, Energy and Food (WEEF) Nexus: Role of Hydrology**” at the conference. Dr. Singh gave the inaugural address at the International Conference on Decision Support Systems for Disasters and Their Mitigation, held December 28-30, 2014, at National Institute of Technology Durgapur, India. He presented a keynote paper “**Entropy Theory for Frequency Analysis of Hydrometeorological Extremes**” and chaired two session at this conference. He gave two invited lectures at National Institute of Technology Surat, India, December 10-11, 2014. He also presented a Keynote paper on “**Frequency Analysis of Hydrometeorological Disasters**” at the International Conference on Hydrometeorological Extremes, held November 11-15, 2014, at the University of the Americas, Puebla-Cholula, Mexico.





## Miguel A. Marino



Congratulations to Miguel A. Marino, Ph.D., Dist. M. ASCE and Past Presidents of AIH for being selected by ASCE-EWRI, for the **2015 Lifetime Achievement Award**. The award will be presented at the World Environmental & Water Resources Congress 2015 in Austin, Texas, during the Welcome Ceremony, Keynote Lecture, Luncheon and Awards. . This luncheon will be held on Monday, May 18, 12:15 – 1:45pm at the new JW Marriott-Austin110 East Second Street. Our congratulations to Miguel on this important milestone in his career.



## Darrin Miller



Congratulations to Mr. Darrin Miller for receiving the **USGS Directors award** for exemplary service for his service during the Oso, Washington Landslide in March 2014. This award recognizes Mr. Millers' efficient, professional and selfless efforts as part of a USGS team that responded to help a community cope with a major disaster.



## Mustafa M. Aral

Received the **2015 Excellence in Environmental Engineering Award in Research Category** from **American Academy of Environmental Engineers (AAEE)**. *The Research Topic was: "Using Environmental Engineering Tools, Scientific Analyses, and Epidemiological Studies to Quantify Human Exposure to Contaminated Drinking Water and to Benefit Public Health. Camp Lejeune NC Military Base study."*



**Note:** Please provide information about your colleagues or your own achievements to AIH Executive Director so that we can recognize your accomplishments in our bulletin as an AIH member.

## ICHRCC-2015

### (Upcoming AIH Sponsored Conference in Puebla Mexico)

**Title:** Second International Conference of Hydro-meteorological Risks and Climate Change (ICHRCC-2015)

**Venue:** Universidad de las Americas Puebla at Cholula, Puebla, Mexico

**Dates:** November 11-13, 2015

**Topics Covered:**

- A) Hydrometeorological Risks
  - a1. Droughts
  - a2. Floods
  - a3. Groundwater
  - a4. Surface Water
  - a5. Risk Assessment and Communication
- B) Environmental Issues
  - b1. Water and Wastewater Treatment
  - b2. Pesticides
  - b3. Remediation
  - b4. Hazardous Waste
  - b5. Heavy Metals
- C) Climate Change Issues
  - c1. Alternate Energy Sources
  - c2. Appropriate Technologies
  - c3. Adaptation and Mitigation Measures
- D) Health Sciences Issues
  - d1. Migration of Tropical Diseases
  - d2. Health Issues Related with Hydrometeorological Events
  - d3. Epidemiology of Migrated Diseases
  - d4. Health Exposure and Risk Assessment
- E) Educational Issues

**Main Sponsor:** Universidad de las Americas Puebla

**Confirmed co-Sponsors:**

- Mexican Academy of Sciences
- Mexico Academy of Engineering
- American Institute of Hydrology
- Mexico's National Water Commission
- Mexico's National Power Commission
- Mexico's National Association of Colleges and Schools of Engineering

**Contact e-mail:** [ichrcc.udlap@gmail.com](mailto:ichrcc.udlap@gmail.com)

**Web page:** <http://web.udlap.mx/ingenieria/ichrcc/>

#### **Deadlines**

**Abstracts due:** August 15, 2015

**Acceptance of submitted papers:** August 29, 2015

**Papers due:** September 30, 2015

**Registration fee:** Before November 11, 2015: \$500 USCy  
On-site November 11, 2015: \$600 USCy

## MEMORIAM



Joseph B. Franzini, Ph.D., P.E., F.ASCE, Professor Emeritus of Civil Engineering at Stanford University, and an expert on fluid mechanics and water resources passed away on April 15 in Palo Alto, California. He was 94.

Dr. Franzini was born in Las Vegas, New Mexico and moved to Pasadena, California, where he earned his B.S. and M.S. degrees in Civil Engineering from the California Institute of Technology. Graduating in the midst of World War II, he immediately followed college with Navy service. He went on to serve during World War II as a Lieutenant Junior Grade, and worked in the communications center of the Battleship USS New York. He saw action throughout the Pacific Theatre, including the Battles of Iwo Jima and Okinawa.

After the war, Franzini married his sweetheart Gloria Place, and they moved to Palo Alto while he pursued his PhD in Civil Engineering at Stanford University. He was hired by the Civil Engineering Department, and taught fluid mechanics, and water resources engineering. He continued on the Stanford faculty for 36 years, rising to Professor, and, for many years, Associate Head of Civil Engineering. He is co-author of the widely used textbooks, Water Resources Engineering and Fluid Mechanics with Engineering Applications. The water resources book, which is used throughout the world, is recognized as one of the most authoritative technical publications in its field.

In addition to AIH, Franzini was a member of the American Society of Civil Engineers, the American Society for Engineering Education, and the American Geophysical Union. In 1994, Dr. Franzini received the Ray K. Linsley Award from the American Institute of Hydrology honoring “the accomplishments of a giant in the field of hydrology.” The same year, he was inducted into the Silicon Valley Engineering Council Hall of Fame for his professional accomplishments.

Dr. Franzini was a man of simplicity and common sense, dignity, and family devotion. He is survived by his wife Gloria, his adult children J.B., Robert, Marilyn, and Cheryl, five grandchildren, and three great-grandchildren.