



American Institute of Hydrology

# Bulletin

The Society for Certification of Hydrology Professionals

Volume 29 Issue 1 (Summer)

July 21, 2014

## 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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## President's Message



Welcome to the Summer 2014 AIH newsletter. Those who know me know that I am not long on words and usually get to the point. So here we go...

The goals for AIH during my tenure as president have been to, first, see significant growth in our membership and, second, for AIH to play a more significant role in the dialog on water policy, science, and technology. Achieving the first goal means that there are more certified hydrologist, hydrogeologists, and hydrologic technicians. Of course, simply having more members is in and

of itself not a particularly profound or exciting goal, but the underlying reason is – with more certified professionals leading the field of hydrology public safety and well-being is better protected, our water resources infrastructure is more robust, and protection of the natural environment is enhanced. The second goal means that AIH and its members must be involved in organizing and participating technical meetings and conferences, educating our decision makers (and becoming decision makers!), informing the media, and developing educational materials for K-12 and higher education. This year has brought about a number of new opportunities for AIH to meet these goals. We have partnered with other water-related organizations and are working to reach out to members and non-members about the importance of certification. However, our efforts need to be stepped up. We've not done enough. I hope all of you will join with me in convincing at least one colleague to become a certified hydrologist, hydrogeologist, or hydrologic technician. Our organization could not create a membership campaign any more effective than each member reaching out to a colleague. It was obviously important to you to be certified – certainly it will also be for one of your colleagues.

I hope the year has been good to each of you and that the summer brings good times with your families.

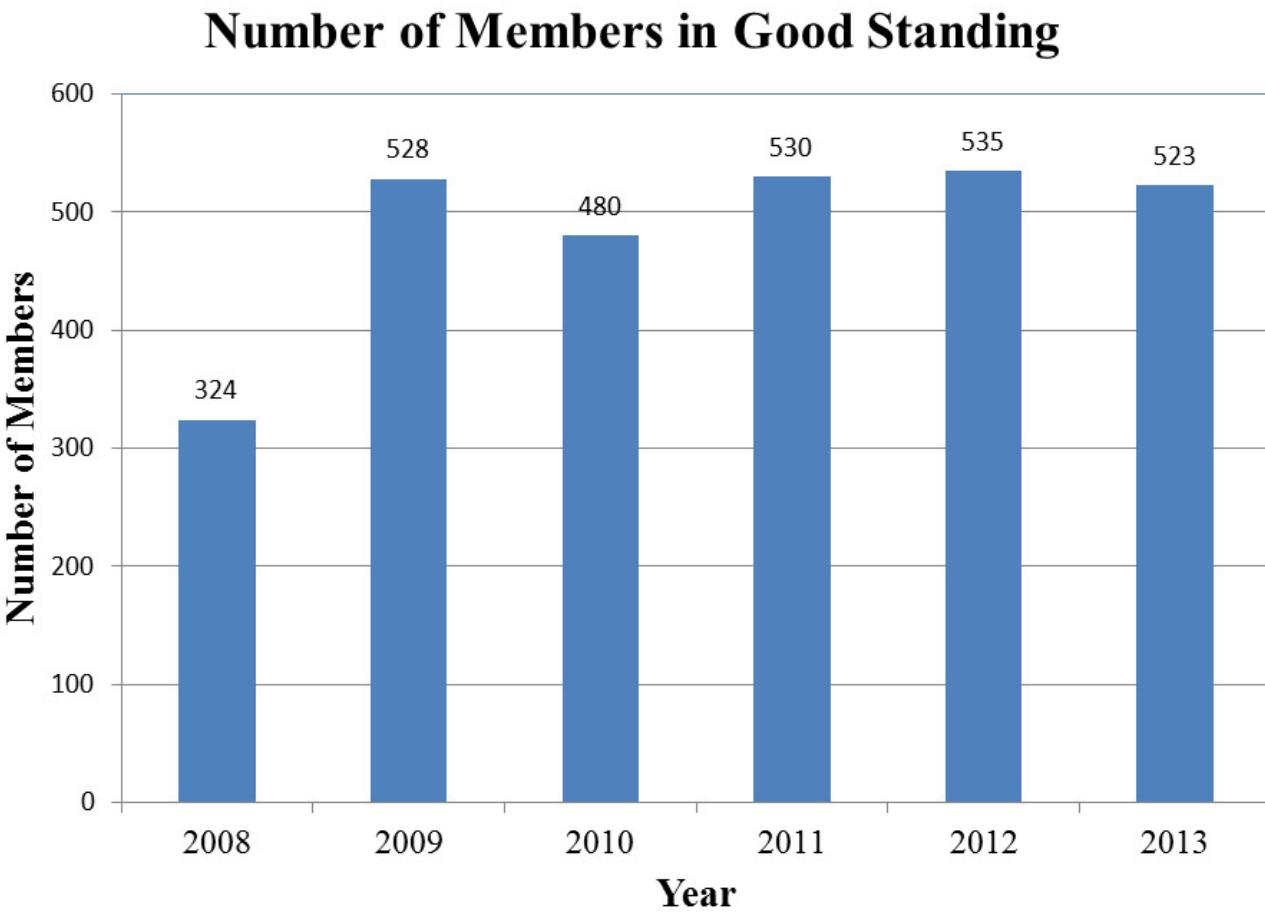
Steve Nix  
President, AIH



## From the Executive Director's Desk

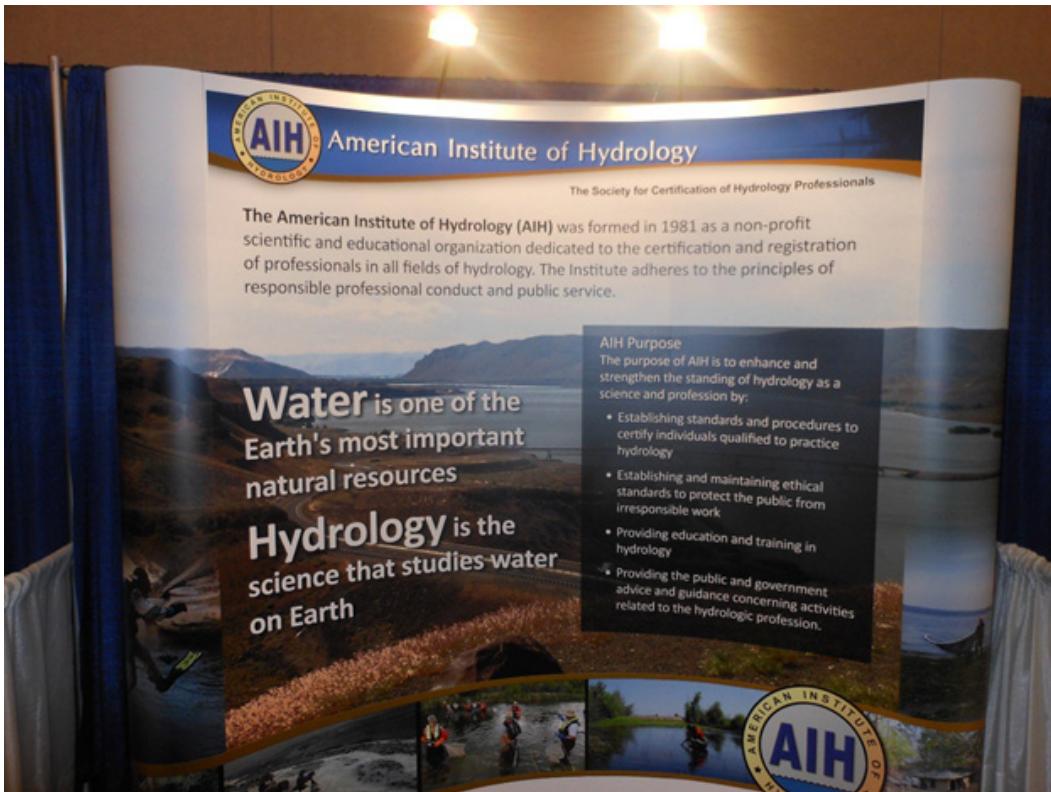
This is my seventh year running the Administrative offices of AIH. Besides my duties as faculty of the Department of Civil Engineering at Southern Illinois University Carbondale I am delighted to continue serving you all maintaining the headquarters of our Institute.

The number of members in good standing is evolving and the graph below shows this trend. Considering the economy and the retirement of many of our members, the numbers look promising:



For the current year at the end of May, I have collected 69% of the dues. I would like to request your help in recruiting more members. The Executive Committee's main focus is to make AIH strong with more members. We have an obligation to let our legislators and colleagues know that AIH exists and that it is the only professional association that grants certification following a set of strict rules and a review of educational and professional experience.

In this direction, in November 2013, we were present in Portland, Oregon at the meeting of another institution as a sponsor and exhibitor. We were there with many board members. We have purchased a new display. See pictures below.



During 2013, and so far in 2014, the following professionals were granted certification in our institute.  
Hydrologist

Name	Certification	City	State
Brown, Kristin M.	13-HIT-091	Denver	CO
Davis, Jerri V.	13-HWQ-5011	Rolla	MO
Duren, Angela M.	13-H-5001	Sacramento	CA
Even, Matthew J.	13-HT-1050	Iowa City	IA
Fifer, R. Scott	13-H-5009	Glenwood Springs	CO
Freiberg, Matthew	13-HIT-092	Oakland	CA
Gaujot, Ryan	13-H-5015	Thomas	WV
Hansen, William F.	13-H-5014	Lexington	SC
Harris, David J.	14-H-6001	Fair Oaks	CA
Huda, Md Kamrul	13-H-5013	Fort Mill	SC
Johnson, Shaw T.	13-H-5020	Santa Barbara	CA
Koehler, Richard B.	13-H-5008	Erie	CO
Martin, Nicholas	13-H-5016	Greenwood Village	CO
Martin, Nicholas D.	13-HIT-095	Greenwood Village	CO
Mitisek, Mark	13-H-5004	Denver	CO
Mohammadi, Azad	13-H-5010	Arlington	VA
Murphy, Hugh	13-HGW-5019	Columbia	MD
Murray, Joel G.	14-HIT-098	Englewood	CO
Naftaly, Matt E.	13-H-5003	Santa Barbara	CA
Regensburger, Eric F.	13-HGW-5002	Helena	MT
Rios, Temoc D.	13-H-5006	Nevada City	CA
Shrestha, Shristi, R.	13-HIT-093	Apex	NC
Snyder, Jay T.	13-HGW-5005	Albuquerque	NM
Sterle, Kelley M.	13-HIT-094	Reno	NV
Stroud, Matthew B.	13-HIT-096	San Fransisco	CA
Ward, Adam S.	13-H-5007	Iowa City	IA
Ward, Jason M.	13-H-5017	Portland	OR
Young, Matthew C.	13-H-5018	Santa Barbara	CA
Zhang, Zhenxing	13-H-5012	Harrisburg	PA

You may notice also that we are starting to include some articles from our members. That is going to continue and I invite everyone to send me the material that they would like to publish in our newsletter. I kindly request that the articles should be related to our professional hydrological practice, that they have not been previously published in any journal, and that you try to keep it informative and short in length. All prospective articles will be reviewed by our General Secretary and our VP for Publications.

Moreover, we want to include a section we want to call "ON THE NEWS". If you have some news that you want to share with all the 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 continuing to improve our Institute. I invite any member willing to volunteer their time and become an officer of the Executive Committee manifest their desire or you may nominate someone. Contact me and I will pass the information to a Nomination Committee that the EC will form.

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,  
Rolando Bravo

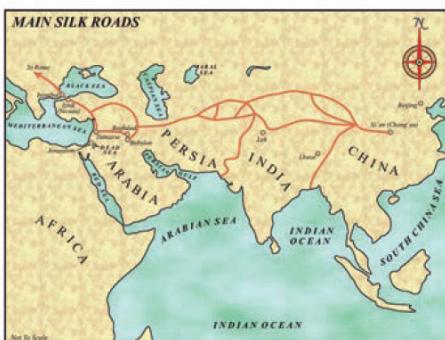
## AIH Participates on Advisory Board of Native American College Hydrology Program



The American Institute of Hydrology (AIH) is part of an 18-member National Science Foundation supported advisory board to help the Salish Kootenai College (SKC) improve its current hydrology curriculum to better prepare its students for hydrology careers on and off Tribal owned lands. SKC is the first Tribal College/University to offer a hydrology degree. American Indian Tribes and Tribal Confederations exert sovereignty over approximately 27% of the U.S. fresh water resources which creates a need for Native Americans with water resource management skills. Annually, only 20 to 30 Bachelor's degrees are awarded in Geosciences to Native Americans, and until recently none of these have been in the field of hydrology. Beginning in 2010, SKC received approval by the Northwest Commission on

Colleges and Universities to offer both an Associates and Bachelor of Science in Hydrology. The Hydrology program is aligned with the SKC Strategic Plan goal to "become a center of science education with an emphasis on Native American worldview and application of science to indigenous issues." SKC's Hydrology program currently offers interdisciplinary study of physical, chemical, and biological water resources and their management. The founders of the SKC Hydrology program, Dr. Antony Berthelote and Mr. Shandin Pete requested AIH's support with the hope of building their program around the AIH Hydrologic Technician and Hydrologist in Training certifications. Dr. Emitt C. Witt III, PH, past-President of AIH and founder of the Hydrologic Technician certification program, represents AIH on the SKC advisory board.





## The Thrilling Side of Geology

**Hydrogeologist-turned-novelist writes suspenseful tales of mysteries, biblical history—and geology.**

By Jennifer Strawn

Jim Mercer, a hydrogeologist, is no stranger to writing. Throughout his career, he's written technical papers published in peer-reviewed journals and co-authored the book *DNAPL Site Evaluation*.

He always wanted to take the leap into writing fiction, though, but didn't think he could do so.

"Then I was talking to my wife, Misia, and she said, 'Why don't you just do it?'" said Mercer, an executive vice president and principal hydrogeologist with Tetra Tech in Sterling, Virginia.  
"So, I did."

Mercer has now published two thrillers that tell tales of geology and biblical history. In his first novel, *The Scrolls: The Missing Eighteen Years*, his lead character, geologist Mark Malloy, is studying sinkholes around the Dead Sea in Israel when he and his colleague, an Israeli geologist named Gilda Baer, uncover a cave with ancient scrolls.

"It's the earliest known version of the New Testament," Mercer says. "The Bible follows Jesus' life from birth to age 12. It's silent about his life until he returns at 30. The scrolls fill the 18-year gap."

After finding the scrolls, Malloy and Baer go on a quest to find corroborating evidence to prove the controversial information found in the scrolls.

"The story is two mysteries. It's the mystery of Jesus' life, and the mystery of the events that happen during the characters' quest that threaten to disrupt any findings they make," Mercer says.

Mercer draws heavily from his experience as a hydrogeologist. The fieldwork Mark works on in *The Scrolls* is real.

(left photo) NGWA member and author Jim Mercer and his wife, Misia, stand in front of terra cotta soldiers in Xi'an, China. The area, discovered during the drilling of a well, plays a part in Mercer's book, *The Scrolls: The Missing Eighteen Years*.

(center) The storyline in *The Scrolls* follows portions of the Silk Road, a series of trade routes that linked merchants and traders centuries ago.

(right) Mercer and Misia visited the Rotorua geyser and hot spring area in New Zealand. This image is on the back of his second book, *The Volcano That Changed the World*.

"The only thing that feeds the Dead Sea is the Jordan River, and as people use water resources it pulls the groundwater and surface water from the river before it reaches the Dead Sea," Mercer explains. "The Dead Sea is evaporating, and as the surface water level drops it pulls groundwater from the periphery of the sea. As water levels underground drop, it causes the formation of sinkholes."

The scrolls the characters find in the novel, which Mercer published in 2010, were inspired by the real Dead Sea Scrolls. The actual scrolls are a series of texts found in caves on the northwest shore of the Dead Sea and they are the earliest known manuscripts from the Old Testament of the Bible.

"I grew up in the South in a religious family, and growing up, I loved to debate religion," Mercer says. "I knew I had to write something about it."

His second novel, *The Volcano That Changed the World*, is a prequel to The Scrolls. Mark Malloy, who works at Florida State University, narrowly escapes an attempt on his life before heading off to do summer fieldwork on the Greek island of Santorini. Once on the island, he finds he can fingerprint volcanic ash fall, and works to tie it to a resulting tsunami that is credited with destroying the Minoan culture on the island of Crete.

"The chapters jump back and forth between the attempted murder investigation in Tallahassee and Mark's research in the Mediterranean," Mercer says.

Like his first book, geology figures heavily in the plot.

"I try to describe it in such a way that a lay person can appreciate it and understand it," he says. "The geology themes are what makes my stories unique."

Mercer's friend and colleague, Lenny Konikow, enjoyed both books.

"I didn't want to put them down once I started them," says Konikow, who's retired from the U.S. Geological Survey. "I particularly liked the way he wove geology, hydrology, and science in general through the stories."

Konikow describes Mercer as outgoing with a good sense of humor, all of which comes out in his writing.

"We've known each other for a long time—more than 30 years," he says. "I definitely see bits of Jim in his lead character."

## Making the switch

For Mercer, writing his first novel was like relearning how to write.

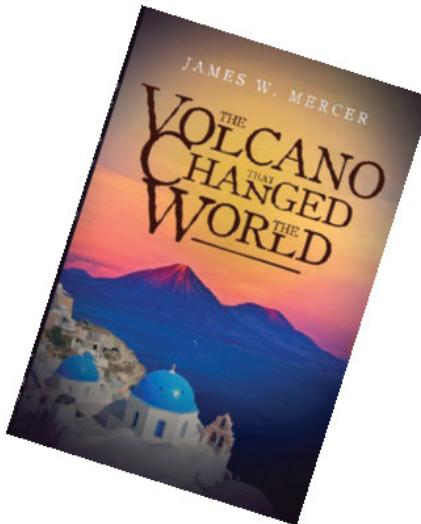
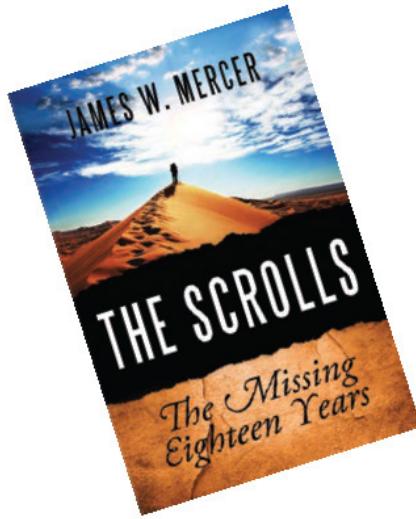
"As a technical writer I was taught to tell people what you're going to tell them, tell them, and then tell them what you just told them," Mercer says. "I tend to repeat myself a lot so I can get my point across, but that's not a good thing in fiction writing."

He also learned to tell his story through dialogue and emotion, which doesn't come easy for him.

"In a novel you need to display emotion, but it's challenging for me to do that," Mercer admits. "My wife edits my writing, and she'll tell me when I've gone through a section too quickly. She'll tell me I've got to spread it out a bit, and I've got to make it more emotional. I hear that from her all of the time."

But compared to the editing process, writing seemed like a walk in the park.

"When I'm writing a book, I'm discovering things on my own and describing them. It's very exciting for me—it's just thrilling," he says. "The editing process, though, is just like pulling teeth. If I don't edit the book, it's just not readable, and nobody will want to buy it. It's necessary, but painful."



The entire writing and editing process can take Mercer up to two years to complete. He spends six to nine months writing the first draft and then another 12 to 18 months editing and improving it.

"I write part-time," he says. "I try to do all of my writing in the early morning between 3 a.m. and 5 a.m., and then I go on to work and do my normal job."

At Tetra Tech, Mercer works with groundwater contamination issues.

He characterizes contaminated sites and works with engineers to come up with remedial approaches to clean up the sites. He also provides expert testimony for court cases involving groundwater contamination.

Mercer's sister-in-law, an editor at Harvard Business Press, helps Mercer edit his novels. He also found editors through social media, including an author in Britain who's trying to break into the editing business.

"She agreed to edit my latest book for free as a way to break into the business and get referrals," he says. "That was a huge help."

His publisher, Lulu, also provides editing services as a part of its on-demand self-publishing packages. They also designed the covers for his books and helped Mercer distribute his work. His books are available as an e-book, hardcover, and paperback from sites such as Amazon and Barnes & Noble.

## A literary future

Mercer just wrapped up his suspenseful third book featuring geologist Mark Malloy, titled *The Tsunami That Altered America*. The story jumps a few years into the future, when Mark is kidnapped while he's living in Washington, D.C. His new wife and a rogue FBI agent must track him down and save him from domestic terrorists.

"The first two books were cerebral, but this one is all action from start to finish," Mercer says. "It's definitely a thriller."

Now, he's shopping his latest work to literary agents. If an agent agrees to represent him, a traditional publishing house may publish his work.

"I probably sent my first novel to about one hundred literary agents. But as a new author with no credentials in literature, there wasn't much interest," Mercer says. "If you read stories about some famous authors, they had the same experience before they became popular. It's very frustrating being an author trying to get your work published."

He hopes, with two self-published books, the third will be his big break. But even if he doesn't find a literary agent, Mercer still plans to self-publish the book early this year.

So far, reviews of his first two books have been overwhelmingly positive and he plans to continue writing.

"I've received great feedback on my work," Mercer says. "In the end, I'm trying to teach through an interesting story. Hopefully I'm able to do it in a way that grabs the reader's attention."

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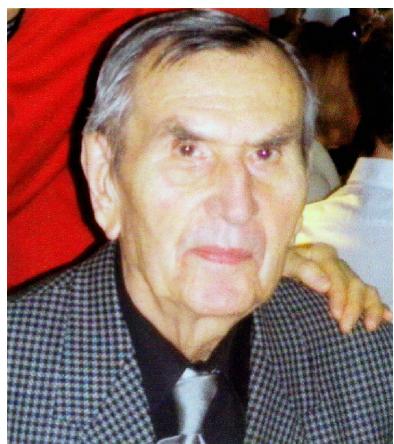
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**Jennifer Strawn** was the associate editor of *Water Well Journal* from 2004 to 2007. She is currently in the internal communications department at Nationwide Insurance in Columbus, Ohio.

## Memoriam

Dr. Alexander Zaporozec  
1931-2014



Dr. Alexander Zaporozec died Saturday January 4th, 2014 after a productive and distinguished scientific career in hydrogeology. He was 82. He is survived by his wife, Libushe and daughter Alexandra. He will be missed by his many friends in the United States and overseas.

Alex came to the United States from Prague, Czech Republic after earning his Masters degree in Geology from Charles University. Upon arriving in the United States, he enrolled in University of Wisconsin, where he received his PhD in Geology. He joined the Wisconsin Geological and Natural History Survey as a Hydrogeologist. He spent his entire career with the Survey and was involved in many of the Survey's activities in hydrogeology as one of the few hydrogeologists in the Survey. He retired from the Survey as a Senior Hydrogeologist. After retirement, he served on the staff of the Survey as

Senior Hydrogeologist, Emeritus. In retirement, Alex and Libushe enjoyed playing bridge with their friends. Alex also enjoyed gardening. He was a master gardener and grew a sizable vegetable garden while his health permitted.

Alex was a co-founding member of the American Institute of Hydrology (AIH) together with Sandor Csallany and Roman Kanivetsky in 1981. The AIH recognized their visionary efforts by establishing the FOUNDERS AWARD in their honor. Alex was very active in the development of the Institute. He had a major strategic impact identifying and implementing the priorities of the Institute. He served on the Executive Committee in various positions: General Secretary, 1981-1994 and Senior Vice President, 1995-1998. He continued to provide advice to the Executive Committee after his service on the Committee.

During the 17 years that he served on the Executive Committee, he was involved in organizing many of the annual/semiannual meetings. He edited or co-edited eight meetings proceedings.

Alex and Roman Kanivetsky had a strong interest in developing AIH's International Actives, and fostered International membership in AIH. They played a strong role in the development of the European and Russian chapters of AIH. Their interest led to a series of USA/ Common Wealth of the Former Soviet Union (CIS) International meetings on Environmental Hydrology and Hydrogeology. Alex served on the organizing of Committee for the four of the USA/CIS meetings.

The first USA/CIS meeting was held in Leningrad now St. Petersburg and Moscow, Russia. Alex, Sandor Csallany, Roman Kanivetsky, and Joe Rosenshein were members of the U.S. Organizing Committee. The meeting had the strong backing of the U.S. Geological Survey and was attended by both the Chief Hydrologist and the Associate Director of the Survey. The Russian Organizing Committee held a banquet for the U.S. Organizing Committee. The banquet had all the trappings of a Russian banquet with lots of toasts, fine vodka, champagne, and beer. The meeting was a technical and scientific success and led to three more USA/CIS international meetings.

The second USA/CIS meeting was held in Washington, D.C. Joe Rosenshein and Alex co-chaired the meeting. To facilitate the meeting and clear up problems with the Russian Organizing Committee, they visited Moscow, Russia in the middle of the Russian winter. During this visit, they were guests of the Water Problems

Institute, Russian Academy of Science. They met with: Dr. Martin Khublaryan and Igor Zektser of the Institute; Aleksey Yablokov, Yeltsin's advisor on the environment and member of the Duma; Victor Danilov, the Minister of Interior; and visited the Hydrogeology Department, University of Moscow. The meeting cleared up remaining problems. The joint International Conference was held in Washington in 1991. It was one of the most successful if not the most successful conference held by AIH from scientific and technical content, number of attendees, and finances. The conference generated a sizable positive cash flow for AIH. The Director of the U. S. Geological Survey participated in the opening ceremony, and the Assistant Secretary of Land and Water, U.S. Department of Interior participated in the conference banquet.



Alex, Roman Kanivetsky, and Pat Leahy organized the third USA/CIS meeting which was held in Tashkent, Uzbekistan in 1996. This meeting was particularly challenging because it occurred after the collapse of the Soviet Union and was held outside Russia. The negotiations with the CIS organizers were difficult yet through Alex's persistence and attention to detail, the meeting was held without any difficulty and was an enjoyable and technically rewarding experience for all participants.

The fourth USA/CIS conference was held in 1999 in San Francisco. It was organized by John Powell, Roman Kanivetsky and Alex. This conference strengthened further cooperation between the two groups.

Alex had a profound affect on the way the AIH has developed. This affect will continue into the future. Because of his efforts for AIH, he has had a profound influence on certification of hydrogeologists and hydrologists. He leaves a rich legacy in strengthening hydrology as a science and a profession.

Alex had a strong interest in International Hydrogeology. He served on the IAH Commission on Ground Water Protection. The Commission was part of the UNESCO International Hydrologic Programme (IHP). He served on a number of Commission Project Working Groups from about 1990 to 2001. He was coeditor of the UNESCO 1994 publication "Guidebook on mapping groundwater vulnerability". In 2000, he coauthored a UNESCO educational brochure on "Groundwater pollution." In 2004, he was editor of a UNESCO publication on Groundwater pollution. Alex was also editor of two UNESCO Water e-NEWSLETTERS, one on Groundwater and one on Water pollution

When I received my Founders Award, I had the honor of having my friend Alex present the award. We had a good time together at the Boston Meeting.

Rest well my friend. You will be missed.

*By Joe Rosenshein with contributions from Pat Leahy, and Roman Kanivetsky*

The loss of Alex was the end of an era. He was the man whose long hours made AIH. Helen Klose knew all the members and cultivated the personal relationships that brought them together. Alex officialized the necessary arrangements. He often ruffled feathers, but he knew what the birds had to do to fly, and fly they did. As an AIH president when Alex was General Secretary, it was great to have him around. Helen would tell me the problems from her perspective, Alex would chip in from his perspective, and things would work out well in the end! Alex was there in the beginning. I faded in and faded out, and Alex kept on going. Thank you Alex!

- Douglas James