International Association of Hydrogeologists
U.S. National Chapter
Spring 2021 Newsletter
Editor: Gary Robbins

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Cover Photo: 1895 well/Halladay windmill at the University of Connecticut, Storrs, CT. The well was 800 feet deep and produced at 40 gpm. It was eventually replaced in 1929 by a high capacity dug well at a nearby river.

IAH/U.S. NATIONAL CHAPTER: EXECUTIVE COMMITTEE 2017-2018

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A Note from the Chair – *Jim LaMoreaux*

By now I hope many of you have received your shots or are scheduled to get them soon. In the interim, the **US National Chapter and its Board of Directors hope** that everyone and their families, friends and colleagues are staying safe and healthy.

Conferences are still being cancelled, rescheduled, or going to a virtual format. So far though the Geological Society of America (GSA) Conference in Portland, Oregon October 10 -13 is looking like it will take place in person. Please plan ahead to join us for our usual business and board meeting on October 10, 2021. Our meeting is open to all members and we encourage you to attend. Please follow our website iah-usa.org for details on the date, place and time. The USNC's International Service Award will be presented at the Hydrogeology Division luncheon. Please submit nominees to Andy Manning for deserving candidates.

With this continuing situation it is even more important to have a means to communicate with one another. Fortunately, we have our newsletter, website (iah-usa.org) and social media to stay connected. Gary continues to do a yeoman's job at pulling together material and distributing it to our members. Please give him a shoutout and also one to Vicki and to Rory who manage our website and ECHN Facebook page respectively.

Not only is GSA looking like it will take place in person but also the IAH Congresses in Belgium and Brazil are planning for their meetings to convene in their respective locations. This is exciting news to look forward to as it is a first and it is also IAH's 65th birthday. What a way to celebrate. Brazil's Congress is scheduled for August 22-27 and Belgium's for September 6-10, 2021. It is hoped that it will be an opportunity for many more people to participate. Go ahead and start making plans now so the USNC can continue to increase its yearly attendance.

Some additional exciting news is that the USNC will this year for the first-time award travel funds to students to attend the IAH Congress in Belgium. See the article in the newsletter for award criteria and further details. There is a short deadline so act rapidly.

With regards to involvement, we particularly encourage young professionals to become more active. To this end we are also trying to expand their ranks. Andy O'Reilly with the help of Jenny Pittman compiled a list of qualified graduate students as candidates to receive one-year memberships in the USNC. Several of them will be graduating in the near future and will be excellent candidates for jobs with your consulting companies, universities, or industries.

They represent future leaders of our organization and are automatically eligible to participate in the Early Career Hydrogeologists Network (ECHN). Please keep them in mind as you look to hire new employees.

Speaking of ECHN, the USNC's team of young professionals is continuing its efforts to expand membership. They are also looking for volunteers to serve as liaisons for the Geological Society of America (GSA) regional section meetings. President Rory Cowie is meeting with new officers and members to plan for 2021 and beyond. Please let Rory know if you are interested in taking a leadership role or participating on various committees. Look for the details on these and other activities on their Facebook page (ECHN USA IAH), or their website (echn-usa-iah.org). Rory regularly posts job openings on the website so stay tuned for future opportunities.

Tim Parker is continuing to represent the USNC with the American Geosciences Institute (AGI). The IAH USNC is an Associated Society of AGI and, as such, our members are eligible for discounts at AGI-sponsored functions and on AGI products. Please take advantage of this benefit. Another benefit IAH has added recently is a reduced subscription price for the journal "*Sustainable Water Resources Management*", published by Springer (www.springer.com/40899). A 20% discount is now being offered to members. Jim LaMoreaux and Cliff Voss are Editor and Associate Editor, respectively.

Continuing to expand our contacts in the Americas we are reaching out to Grant Ferguson, IAH Vice President for North America, Diana Allen, President of the IAH Canadian National Chapter, Carmen Julia Navarro, President of the IAH Mexican National Chapter, and Carlos Molana, IAH Vice President for Latin America and the Caribbean. The IAH Canadian Chapter is planning GeoNiagara for September 24-30, 2021 in Niagara Falls. If you're looking for a conference on this continent in an exciting locale this will be a good opportunity to expand contacts between our two IAH chapters. Combined activities like these have the goal of possibly organizing an IAH Congress in the Americas in the future. If you are interested in or have contacts that would help further develop this outreach so that we could organize an IAH Congress in the Americas, please let us know.

As you can tell many people are involved in keeping your national chapter running efficiently. I would like to thank all those mentioned above and many others for their efforts on the USNC's behalf. Let's keep working hard to make the rest of our year successful. Visit the USNC website at iah-usa.org to see how you can become more active. Please share this newsletter with your friends and colleagues and encourage them to become members and thank Gary Robbins for serving as our editor.

Stay safe and healthy,

Jim

Wanted Articles About You

As the editor of the newsletter, I need your help. Our newsletter is all about informing you of what the organization is doing and providing you with other news in our field that you may find useful. Of course all that is interesting. But it is also an opportunity to get to know each other, to network and to further bond in our mutual love of this field. So I am asking you to help with the next newsletter. Send me a picture of you working with a brief description (name, company, where the picture was taken and what does the picture show you doing). Send me a brief article about some interesting place you are working or visited related to hydrogeology. Have some interesting groundwater related picture or story? Send that with a description of who took the picture and where. How about a brief article about you for our Members News Section (see below)? Send material to Gary.robbins@uconn.edu.

Wanted New Newsletter Editor

After several years of service, Gary is stepping down as our Newsletter Editor. Despite nearing retirement, he is committed to his volunteer community work which he is putting more and more time into. We ask for a member to step up to the plate and take a swing at it. Gary is willing to help our next editor produce the Fall newsletter. If you are interested, contact Jim. It is an opportunity to make a difference.

IAH International News

Student Travel Grants

The US Chapter of the International Association of Hydrogeologists (USIAH) has set aside funding for student travel grants to support attendance at International Association of Hydrogeologists (IAH) Congresses. The USIAH will award one or two student travel grants each year to assist student participant(s) in IAH Congresses. Applicants must be a currently enrolled student at a university in the US and are expected to submit and present a scientific abstract at the meeting. This year, one grant will be awarded for travel expenses up to a maximum of $2000 for attending the 48th IAH Congress in Brussels, Belgium September 6-10, 2021. Deadline for submission of applications is May 14, 2021. To apply see the link announcement on our website- https://iah-usa.org/about/

Contributed by Andy O'Reilly

Letter from the Belgian Chapter

Brussels, Belgium - November 16th, 2020

To the National Chapters of the IAH

Concerns: IAH2021 – Inspiring Groundwater
Brussels, Belgium - September 6th – 10th, 2021

Dear Madam
Dear Sir
Dear colleagues

Four years ago, the Belgian Chapter's board decided to launch its candidature to host the 48th IAH Congress in 2021. We were very proud to get the approval from the IAH Council at the IAH 2018 Congress in Daejeon, South Korea.

Why 2021? Belgium hosted the congress once before, in 1958 - as the 1st President of the IAH was the Belgian Paul Fourmarier - but has never hosted it since then. Also, the IAH will be 65 years old, and our chapter will be 20 years old in 2021: good reasons to celebrate all together with you, the world hydrogeological community, and put our little country on the water map.

Here we are less than 10 months before our Grand Opening. We are working hard to present you a high-level scientific congress, with more than 350 slots for speakers, 6 keynote lecturers, several meetings of IAH Commissions, Networks and working groups (already confirmed), some workshops, 10 field trips, the AGM of IAH and the Council Meeting, and some special guests (VIPs of course). But we also want to let you discover Belgium: our rich culture, our unique comics, our colourful music, our great food and our tasty beers and chocolates.

We already have partnerships with UNESCO – PHI, with the City of Brussels, with different companies, with the Lufthansa group (including United Airlines and Air Canada). We're seeking more.

The year 2021 will be special for our community and for the IAH. 2021 is highly anticipated, as it is "the year *after*" the outbreak of the 2020 Covid pandemic that hardly affects us all. For us hydrogeologists, 2021 will see 2 congresses

- the 47th IAH Congress held in Brazil on August 22nd – 27th
- and the 48th IAH Congress in Belgium on September 6th – 10th

Yes, there will be two congresses in 2021, for IAH's 65th birthday! Both Organizing Committees are working together to bring you coordinated events.

Although the pandemic forced us to adapt our lifestyles, and to change the way we are meeting each other, we are confident for the future and that we will be able to meet, greet, talk and laugh together. We are confident that we will be able to share knowledge, accompanied by fine Belgian food and drinks.

It goes without saying that organizing such an event is a big challenge. It requires a lot of time, effort and energy. And this congress can only be a success with your participation and your help. Therefore, we would like to ask you to transfer this letter to all your members, so that they can visit our website

www.iah2021belgium.org

and subscribe to our newsletter (through the website) to get the latest updates.

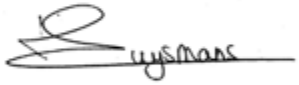
The Call for Abstracts has already been launched and registration will be open in January, and

It will be a great honor for the IAH Belgian Chapter, the CBH-BCH, to welcome and host the world-wide hydrogeology specialists in Brussels, Belgium, for 5 *inspiring* days, from September 6th till September 10th, 2021.

We are proud and happy to welcome you in Brussels very soon!

ir Olivier LAGNEAU
President
Organising Committee

Tom Diez
Vice-President
Organising Committee



Marijke Huysmans
President
Scientific Committee

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Message from the Canadian Chapter

The Canadian National Chapter of the International Association of Hydrogeologists (IAH-CNC) is teaming up with the Canadian Geotechnical Society (CGS) to host GeoNiagara 2021, the 14th Joint CGS/IAH-CNC Groundwater Conference. The conference will be held at the Scotiabank Convention Centre in Niagara Falls, ON, Canada from Sunday, September 26 to Wednesday, September 29, 2021.

The theme for GeoNiagara 2021 is Creating a Sustainable and Smart Future. The conference will feature technical sessions on subjects of broad interest in the geotechnical and hydrogeological fields, with approximately 150 abstracts accepted in the hydrogeological sessions. The conference will also include a complement of distinguished keynote speakers, high caliber short courses, technical tours, and social-networking events. The IAH-CNC Plenary speaker is Dr. John Cherry (U. Guelph), 2020 recipient of the Stockholm Water Prize, who will present: Ten Reasons Why Our Relationship with Groundwater Is a Total Mess. The IAH-CNC Luncheon Guest Speaker is Dr. Nandita Basu (U. Waterloo), who will present: Nutrient Legacies: The critical role of the subsurface in addressing surface water pollution. Invited speakers for select IAH-CNC sessions include: Dr. Barbara Sherwood Lollar (U. Toronto) – Deep water hydrogeology; Dr. Clare Robinson (Western U.) – Freshwater lacustrine groundwater discharge; Dr. Jana Levison (U. Guelph) – Groundwater nutrients under future climate change; Dr. Jasmin Raymond (INRS) – Geothermal energy in subarctic climate; and Dr. Kela Weber (RMC) – Groundwater contamination by PFAS. Further details can be found on the conference website: https://www.geoniagara2021.ca/

We are confident that the conference will take place in-person in September 2021. However, we are planning for GeoNiagara 2021 to be a hybrid conference and will have virtual components available for delegates who are unable to travel to Niagara Falls. Registration is now open via the website.

Contributed by Jim Roy

IGRAC/WWQA

IGRAC recently announced the release of a new report by the World Water Quality Alliance, prepared by 'Friends of Groundwater', a network of about 30 global groundwater experts representing 20 institutions and organizations, and IGRAC. The comprehensive paper is on the qualitative state of groundwater resources globally: "Assessing groundwater quality: A global perspective. Importance, methods and potential data sources".

The paper is prepared in the framework of the World Water Quality Assessment led by UN Environment (UNEP) and was presented at the 2nd annual global meeting of the World Water Quality Alliance 27-28 January 2021.

The IGRAC announcement states that this perspective paper addresses the relevance of a global assessment, information to be assessed, related methods, data and information sources. While some countries have been collecting and reporting national or regional data on groundwater quality, such information is still lacking in other parts of the world. This was also reflected in an SDG interim report "Progress on Ambient Water Quality" in which only a small percentage of countries reported on groundwater quality.

The perspective paper is a first product towards better assessment of groundwater quality globally. Follow the activities of Friends of Groundwater via this dedicated Groundwater Quality Portal.

The perspective paper can be downloaded from a link on the following web page: https://www.un-igrac.org/news/perspective-paper-groundwater-quality-published-friends-groundwater.

Contributed by Lenny Konikow.

AGI News

Frank Schwartz Recognized by AGI as the 2021 Marcus Milling Legendary Geoscientist

The American Geosciences Institute (AGI) recently announced that they are awarding Dr. Franklin W. Schwartz, Ohio Eminent Scholar at the School of Earth Sciences of The Ohio State University, with the 2021 Marcus Milling Legendary Geoscientist Medal. They state that Dr. Schwartz is acclaimed for his contributions to contaminant hydrogeology and groundwater science through his preeminent research, textbooks, and ongoing commitment to solving problems of professional practice and to teaching. He is well known for five decades of vital work addressing vexing problems in groundwater contamination, nuclear waste disposal and other energy-related issues, and sustainability. His accomplishments include a world-class research program, academic texts with translations in China and Japan, and assistance to organizations in the public and private sectors. "Frank's service to the geoscience community is exemplary, from leadership in higher education and professional societies to his advice and contributions to government agencies and corporations," said AGI President Dr. David Wunsch. "These are accomplishments that don't merely add to our knowledge of hydrogeology and groundwater science, but they also shape the profession, and set benchmarks for future geoscientists." Frank is only the second hydrogeologist to receive this honor from AGI.

Contributed by Lenny Konikow

Member News and Notes

Educational Video Simulations in Hydrology

At the University of Connecticut students are required to take an Environmental Literacy course. Gary Robbins teaches one such course entitled, Introduction to Water Resources. To enhance the course, he is developing video simulations on various subjects. The simulations show Gary doing some hydrologic related measurement. While watching a video simulation, the students have to record measurements and record test time. Then they have to perform an analysis of the data and come to some conclusions. Video simulations include—simple concepts like measuring discharge from a fountain to more complex concepts like determining hydraulic conductivity from a constant head test and flow in an open channel. To view the simulations go to water.uconn.edu/video-simulations.

Time to Submit Nominations For The *IAH USNC International Service Award*

2021 NOMINATION DEADLINE: *AUGUST 1ST*

The IAH USNC seeks to recognize the efforts of hydrogeologists based in the United States who have shown an outstanding commitment to assisting the international community with groundwater-related needs.

Criteria: The award will be presented to one individual each year who has performed exceptional work in assisting those outside of the US (particularly in developing countries) with developing, managing, or protecting groundwater resources for public and/or ecosystem benefit.

Presentation: An engraved plaque will be presented at the Geological Society of America's 2021 Annual Meeting at the Hydrogeology Division Luncheon

Selection Process: Candidates must be nominated by at least one hydrogeologist other than themselves who is a member of either IAH or GSA. 2021 Nominations should be sent to the IAH US National Chapter's GSA liaison Andy Manning (amanning@usgs.gov) by August 1st, 2021. *Please see our website for further details!*

Contributed by Andrew Manning

INTERNATIONAL HYDROGEOLOGY AND THE PRACTICE OF SCIENTIFIC DIPLOMACY
An article by Mike Wireman
Past- Chair US Chapter IAH

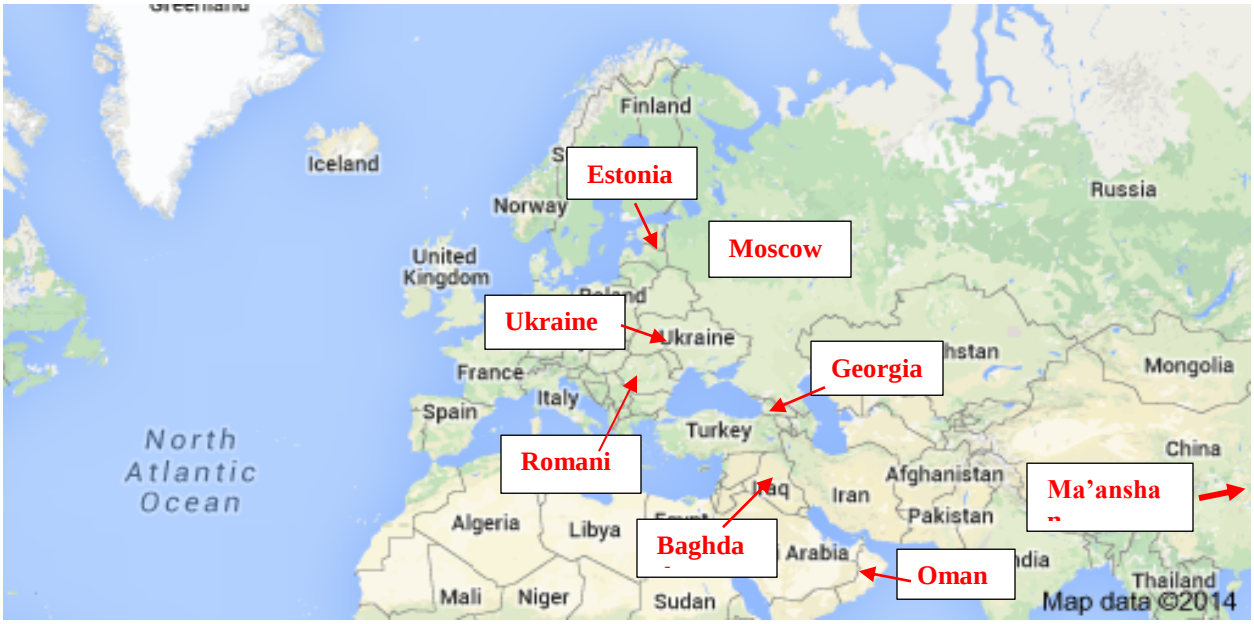
What is a career in international hydrogeology about? A lot of hard but interesting work all over the world. In this article about Mike's 28-year career, he takes us on a journey across space and time from the break-up of the Soviet Union until now. It's a journey of "Scientific Diplomacy" through Eastern Europe and other places as well. It's a wonderful summary of the

diversity of projects you can be involved in, the impact you can have on society and the rewards—not just financial but the long-lasting friendships you can make on the journey. If you have students that are interested in international work, this is a must read for them. You can read the full article on our website at http://iah-usa.org. Here is the introduction—

After the breakup of the Soviet Union in 1989 the US State Department and the World Bank engaged with former Soviet Union (FSU) countries to promote democracy and free market economies. These efforts were aimed at helping the FSU countries develop modern, functioning governmental institutions as they transitioned from the centralized government of the Soviet Union to autonomous independent nations. Throughout the 1990s and the first decade of the 21st Century, the State Department, with assistance from specialized scientific, legal, social, and economic experts from other Federal government agencies, worked with governmental, academic, private, and commercial organizations in Eastern Europe to promote transparency, stakeholder collaboration and capacity building. The US EPA's Office of International Affairs and Office of Federal Activities provided technical and legal assistance to the State Department related to environmental assessment, protection, and capacity building. The EPA Office of Federal Activities (OFA) directed EPA's responsibilities pursuant to the National Environmental Protection Act (NEPA). OFA partnered with the US Agency for International Development (US AID) to develop, fund, and guide demonstration projects focused on conducting Environmental Impact Assessments (EIA), and compiling Environmental Impact Statements (EIS). OFA also provided training on developing and promulgating environmental policy, law, and regulations. This training was aimed at strengthening and modernizing national and local environmental protection agencies and programs. Some of the FSU countries wanted to join European Union and establishment of a national Environment Agency was a prerequisite for membership. During this period, the World Bank was providing low-interest loans to selected FSU countries to help with modernizing infrastructure and mitigating large-scale environmental damage. In partnership with the World Bank, EPA technical and scientific staff were part of the Banks's loan oversight team.

I was lucky to have been a part of these exciting times, providing scientific and technical advice to the US State Department and the World Bank related to hydrology, water resource characterization and management, and environmental impact assessment. From 1992 until 2013 I was involved in seven major projects in four Eastern European countries, three Middle East countries, China, and Russia. My role included managing environmental assessment projects at large hardock mine sites, providing technical advice for mine remediation efforts and serving as an instructor for week-long training classes on EIA and EIS. Except in China, our teams routinely worked directly with senior government officials and members of the National legislature. Technical assistance, scientific training and field demonstrations were the critical components of our work. During the 70 years of Soviet occupation, scientists in most Eastern European countries had not been able to keep up with advances in hydrology and hydrogeology. This was particularly true with respect to contaminant hydrology and groundwater dependent ecosystems. Conducting real world environmental assessment demonstration projects allowed for both academic training and hands on field training.

Working in Eastern Europe in the 1990s was challenging. The end of the Soviet Union also meant the end of what little government stability had existed during Soviet times. Poor living conditions, corrupt government officials, failing infrastructure, limited transportation, and scarce commercial, industrial, and basic resources greatly constrained the ability to adapt to democratic governments and honest free market economies. Working and traveling in Eastern Europe during this time was challenging and sometimes dangerous. However, the people we worked with were, without exception, incredibly hospitable, helpful, and eager to learn.



See the rest of the article on our website *http://iah-usa.org*.

Meet the New 2021 IAH-USNC Sponsored Graduate-Student Members

The IAH U.S. National Chapter (USNC) sponsors one-year, graduate-student memberships annually through general funds and through generous individual contributions of our members. This year we are sponsoring 11 students, nominated by their faculty advisors and/or IAH-USNC members. This year's sponsored students represent a diverse, ambitious and accomplished group. They are conducting research with significant relevance to international hydrogeology, with research locations ranging from the Grand Canyon of the United States to the Meghna River of Bangladesh to the Okavango Delta of Botswana. Please check out their bios below, and I think you will agree with me that the future of hydrogeology is in good hands! If you are interested in sponsoring or nominating a student for sponsorship, please contact the IAH-USNC Membership Liaison (Andy O'Reilly, andrew.oreilly@usda.gov).

MICHAEL BEHE, B.S. (Environmental Geoscience-Geology), Geography, Geology, and the Environment, Slippery Rock University (nominated by Dr. Patrick Burkhart, advisor), mpb1017@sru.edu

Fresh back from field work in the Mojave Desert, Michael is seeking a master's thesis in Hydrogeology. He is interested in the effects of buried glacial valley aquifers on regional water systems, having reported on the ancient Teays River system and its present-day impact on the Ohio River Valley. Michael seeks to inform regional and local organizations to encourage sustainable groundwater management program throughout the upper Midwest. Michael also serves as the student board member on the Pittsburgh Geological Society, with which he has developed a multitude of programs to promote professional development and leadership amongst geoscience students in the greater Pittsburgh area. He is an active member of the Pennsylvania Army National Guard, where he has attained the rank of Sergeant First Class and serves as a Maneuver Senior Leader Course instructor at the Regional Training Institute located in Fort Indiantown Gap, Pennsylvania.

HANNI HAYNES, M.S. Candidate (Hydrologic Sciences), Hydrologic Sciences Graduate Group, University of California Davis (nominated by Dr. Samuel Sandoval Solis, advisor), rehaynes@ucdavis.edu
I received a bachelor's degree from Bowdoin College with majors in Earth and Oceanographic Science and Physics in 2015. For the next five years I worked as an environmental consultant at Tetra Tech, Inc., where I became interested in studying groundwater in more depth. I am currently pursuing a M.S. in Hydrologic Sciences at UC Davis. For my research I am working with Dr. Thomas Harter to develop a groundwater flow and nitrate transport model for an almond orchard study site in the Central Valley, California. The groundwater model will be used to better understand nitrate leaching to shallow groundwater, an ongoing issue of groundwater contamination exacerbated by agricultural land management practices. My future professional interests are using groundwater flow and contaminant fate and transport models to help solve environmental problems.

KYUNGWON "WON" KWAK, Ph.D. Student, Department of Geology & Geophysics, Texas A&M University (nominated by Dr. Peter S. K. Knappett, advisor), kkwak@tamu.edu
I am interested in water chemistry, river water – groundwater interaction, geochemistry, stable isotope geology, drinking water quality, water resources, and contamination of geogenic arsenic (As) in groundwater in Bangladesh. My current research focuses on analyzing the conservative and reactive mixing between oxidizing river water and reducing groundwater along the banks of the Meghna river in Bangladesh, which is receiving geogenic As-laden groundwater. This research includes field work design and preparation, intensive field work, laboratory analysis (ion chromatography, inductively coupled plasma mass spectrometry (ICP-MS), water isotope analysis ($\delta^{18}O$ and δD), Fe isotope analysis, and computer simulations (Phreeqc and COMSOL Multiphysics). My master's thesis at the University of Mississippi was assessing the feasibility of using vadose-zone wells for artificial recharge in the Mississippi Delta alluvial aquifer by using a combination of field, laboratory (falling head permeability test, METER Hyprop, hanging water-column method), and computer simulation techniques (VS2DTI from USGS and HYDRUS–3D).

KALEIGH NUYTTENS, M.S. student (Geology), Department of Earth Sciences and Sustainability, Northern Arizona University (nominated by Dr. Abraham Springer, advisor), kn637@nau.edu
Kaleigh received her B.S. Geology degree from Sul Ross State University in Alpine, Texas in 2016. The perception of water availability and water usage, and how water demands in arid climates and from larger cities requires water to be moved from other places has intrigued her to pursue a hydrogeology focus for her master's studies. Before pursuing graduate studies, Kaleigh volunteered with Texas Parks and Wildlife to work on streambed surveys, plant surveys, and invasive species control at state parks near her hometown. Within the Northern Arizona University graduate program, Kaleigh is researching springs along the Grand Canyon's South Rim to conduct hydrogeological and ecological surveys on site conditions. She looks forward to staying up to date with hydrogeological research through IAH publications and to contributing to the knowledge that is available through her research.

JEEBAN PANTHI, Ph.D. Ph.D. Candidate, University of Rhode Island, Department of Geosciences (nominated by Dr. Thomas Boving, advisor), jeeban_panthi@uri.edu
In his Ph.D. research, Jeeban is working on analyzing the groundwater-seawater interactions in a coastal aquifer using geophysical techniques and modeling to understand the sensitivity of coastal aquifers to storm events. The geophysical techniques are Electrical Resistivity Imaging (ERI), small Unmanned Aircraft Systems (sUAS), Ground Penetrating Radar (GPR) and seismic meter. Jeeban has a big jump in his career from mountain to coastal hydrology. Before joining the university in 2017, he worked in mountain hydrology and climate change in the Himalayas for some years. After he graduated from Tribhuvan University (Nepal) in Environmental Science, he joined a non-profit research organization in Nepal and collaborated on some regional and multi-country research projects in the Himalayan region. Jeeban likes to go for hike, and learn different cultures. His career goal is to become an independent researcher of groundwater hydrology. You can contact Jeeban at the email above, and he loves interacting with people from different parts of the world.

ANDREW PUTT, Ph.D. student (Geology), Department of Earth and Planetary Sciences, The University of Tennessee (nominated by Dr. Larry D. McKay, co-advisor), aputt@vols.utk.edu, http://hazenlab.utk.edu/staff.php.
Andrew earned a B.S. in Watershed Management and B.S. in Environmental Biology from Mansfield University of Pennsylvania in 2016. Andrew is a Research Assistant with the U.S. Department of Energy ENIGMA (Enzyme Networks Integrated with Gene and

Molecular Assemblies) research consortium. Andrew is interested in in-situ remediation and the bioimmobilization of metals. His work is focused on investigating the Ultramicrobacteria community of the shallow uranium and nitric acid contaminated groundwater at the Y-12 National Security Complex in Oakridge, Tennessee. Upon completion of his degree, Andrew hopes to pursue a career in water resource quality and sustainability or applied biotechnology.

GOABAONE JAQUELINE RAMATLAPENG, PhD student (Geology), Department of Earth Sciences, University of Delaware (nominated by Dr. Eliot Atekwana, advisor), goabaone@udel.edu
Goabaone is a geoscientist from Botswana, and her research area is Hydrochemistry and Water Resources. Specifically, Goabaone's dissertation research is focused on investigating the hydrochemistry of the Okavango Delta in semi-arid Botswana. She is passionate about her research as it is instructive for water quality assessment and informing water management decisions by the Botswana Government and the Tri-country (Namibia, Angola and Botswana) of the Okavango River basin. Goabaone is also involved in other research activities where she is investigating groundwater salinization by tidal action in a coastal aquifer adjacent to the tropical Wouri Estuary in Douala, Cameroon. She utilizes geochemical techniques to solve a variety of environmental problems. Her recent publications:
1. Ramatlapeng, G.J., Atekwana, E.A., Molwalefhe, L. and Oromeng, K.V., 2021. Intermittent hydrologic perturbations control solute cycling and export in the Okavango Delta. Journal of Hydrology, 125968.
2. Oromeng, K.V., Atekwana, E.A., Molwalefhe, L. and Ramatlapeng, G.J., 2021. Time-series variability of solute transport and processes in rivers in semi-arid endorheic basins: The Okavango Delta, Botswana. Science of The Total Environment, 759, 143574.

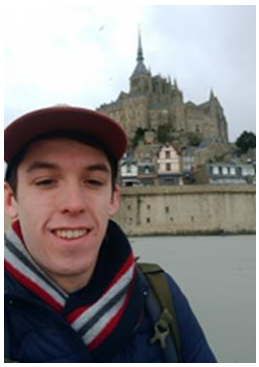
SHISHIR KUMAR SARKER, Ph.D. Candidate (Geological Sciences), Department of Earth and Environmental Sciences, University of Kentucky (nominated by Dr. Alan Fryar, advisor), sksa232@uky.edu
I earned my B.S. in Geography and Environment in 2013 and my M.S. in Physical Geography in 2014 at the University of Dhaka, Bangladesh. After graduation, I worked as a GIS assistant in an environmental consultancy in Dhaka. In 2016, I came to the United States to pursue my M.S. in Environmental Studies at Florida International University (FIU). In my M.S. thesis, I evaluated the long-term changes of total phosphorus concentration in surface water and soil in the Everglades Protection Area, Florida. After graduating in 2018, I worked as a research technician in the ecosystem ecology lab at the FIU Institute of Environment. Currently, I am pursuing my Ph.D. degree in Geological Sciences at the University of Kentucky, where my research focuses on the susceptibility of karst springs in India, China, and Kentucky to climate change, land use/landcover change, and contamination. My current research involves using statistical, remote sensing, and modeling techniques. I aim to use my IAH membership to stay updated on the latest hydrogeologic advances and connect with the other IAH members globally.

CAVIEN IZACK MARCELYNO SATIA, M.S. Candidate (Hydrogeology), Department of Geography, Geology, and the Environment, Illinois State University (nominated by Dr. Eric Peterson, advisor), cisatia@ilstu.edu

My interest in Earth Sciences has been my main focus as far back as I can remember. My passion for the study about Geology, especially, was first established when my middle school Geography teacher taught the class about the drift of supercontinent Pangea, leading to the opening of the central Atlantic Ocean. Like other students in the class at that moment, I was utterly amazed by the ability of the Earth's internal and external processes to transform the landscape of its surface. Four years later, I decided to submit my application for a scholarship provided by the government of West Papua, a territory of Indonesia, to give opportunities for indigenous West Papuan students to study Sciences and Engineering at various universities in the United States of America. While completing the application, I constantly thought about the reality of the mineral resources exploitation occurring in the region where I am from by some international foreign companies that have impacted our rivers, oceans, and even the native forests. The fact that the natural resources being exploited are mostly related with the mining minerals potentials that have substantial economic value—such as gold, copper, silver, and other natural resources including hydrocarbon—pushed me even more to pursue a bachelor's degree in the Earth Sciences program at the University of New Hampshire (UNH) in order to contribute to positive changes. I graduated from University of New Hampshire in 2020 with a BS in Earth Science focusing on Geology under the guidance of Dr. Jo Laird. I am continuing my Graduate career at Illinois State University in Hydrogeology MS program. Proposed research involves a remote sensing analysis on the effects of extensive mine tailings (>30 years active operation) on the social well-being, hydrogeology, water quality, and contaminant management in Papua region, Indonesia, where I grew up. I hope to apply all the knowledge and experience (including from other people and this association) to make my region a safer and habitable environment for future generations.

ANDREW SHAUGHNESSY, Ph.D. (Geosciences), Pennsylvania State University (nominated by Dr. Susan Brantley, advisor), ars637@psu.edu

Andrew earned a B.S. in Chemistry and Environmental Science from Saint Louis University in 2018, where he worked on projects pertaining to nutrient cycling in agricultural reservoirs and the urban water cycle. Currently he is pursuing a Ph.D. in geosciences from Pennsylvania State University. His thesis research utilizes sample-based and data-driven approaches towards understanding mineral weathering along subsurface groundwater flowpaths. Andrew is broadly interested in processes affecting the quality and quantity of water resources.



LUKE STEVENS, M.S. Candidate, Department of Water Resource Management, University of Nevada-Las Vegas (nominated by Dr. David Kreamer, advisor), luke.stevens@unlv.edu
I graduated from the University of Texas in 2019 where I received a BS Physics and worked in radiation protection. My interest in hydrogeology came from working on a project identifying the source of arsenic contamination in livestock and from volunteering with a citizen science group that collected creek samples in Austin. I am working with Dr. David Kreamer in contaminant hydrogeology at the University of Nevada-Las Vegas. My current work is on the potential mobilization of uranium and other heavy metals from mining on the plateaus surrounding the Grand Canyon. Ore bodies in mineralized breccia pipes might act as conduits for flow into the aquifer system. In addition to this work, I help with French translation for a hydrogeologic flow modeling project in Niger. After completing my M.S., I would like to pursue a career in groundwater development and protection for developing nations. IAH membership is a great opportunity for me to learn and network with professionals in the groundwater community.

2021 THE YEAR OF THE TWO CONGRESSES

ONLINE and HYBRID: THE 47th IAH CONGRESS SAO PAULO, BRAZIL
August 22-27th 2021

For information: https://iah2021brazil.org/

Brazil, between now and August 20, 2021, will have biweekly webinars available for access through the ABAS Youtube channel. Between August 22nd and 27th, 2021, the Congress will be hybrid, online at the ABAS Youtube channel and in person.

THE 48th IAH CONGRESS BRUSSELS, BELGIUM
September 6-10th 2021

For information: https://iah2021belgium.org/

See you there.

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