

Hydrology Section Student Subcommittee: 2016 Report

Committee description

The Hydrology Section Student Subcommittee (H3S) of the American Geophysical Union (AGU) serves and represents all student members of the organization whose research interests contain a hydrological component. Committee members are dedicated to (1) building, supporting, and informing an international network of early career scientists, (2) representing early career scientists' interests within the larger union, and (3) fostering dialogue between current and future generations of scientists. This is accomplished through organizing AGU meeting events and developing online communication.

Members

Name	Function	Term	University
Affiliation Evan Kipnis	Chair	2015- 2016	U of Utah
Niels Claes	Deputy Chair	2016- 2017	U of Wyoming
Harsh Beria	Outreach	2016- 2017	University of Lausanne
Vanessa Garayburu Caruso	Student Conference	2016	Uof New Mexico
Allison Goodwell	Member	2016- 2017	Illinois, Urbana-Champaign
Natasha Krell	Pop- Ups	2015- 2016	UC Santa Barbara
Chelsea Morris	Diversity & Inclusion	2016 - 2017	Cornell University
Kevin Roche	Service	2015 - 2016	Northwestern University
Sheila Saia	Gallery Walk	2015 - 2016	Cornell University
Emily Voytek	Member	2016 - 2017	Colorado School of Mines
Adam Wlostowski	Member	2015 - 2016	CU – Boulder

Tasks and results

H3S is dedicated to a number of ideas and issues within the geosciences complementary to those highlighted by the larger Hydrology Section. We strive to provide student members with opportunities to grow technically and socially within the broader geosciences community. We structured this effort in 2016 around the following events and themes that are detailed below.

· Student & Early Career Scientist Conference at AGU Fall Meeting

Task: The aim of the Student and Early Career Scientist Conference was to provide students and early career scientists the opportunity to network while learning or refreshing new skills that might be applicable in the next part of their career.

Result: The one-day conference was organized in collaboration with AGU. AGU provided a track with more general workshops and H3S focused on workshops that could benefit early career scientists within hydrology. In the afternoon, a panel discussion with experts in each area of the

Food-Energy-Water Nexus gave the audience the opportunity to discuss challenges related to these topics. The panel discussion was followed by an interactive session where teams were tasked with decision making on a food-water-energy topic. Overall, the student conference was well-received by everyone who attended the conference. The workshops that provided useful skills were ranked slightly higher than the panel discussion according to a survey. Another strong point of this conference was the opportunity to network with students and invited speakers through the day.

· **Pop-Up Sessions**

Task: The Pop-up sessions provide a platform for early career scientists to share their vision for the future of water sciences and geosciences both addressing technical challenges as well as social and economic aspects of research.

Result: We hosted two Pop-up sessions in 2016: The second annual Social Dimensions of Geosciences Pop-Up and the fourth annual Water Sciences Pop-Up. Both sessions were extremely well attended. Approximately fifteen speakers gave 5-minute, lightning-style talks on a variety of topics in each session. Talks in the Water Sciences session included green stormwater infrastructure, cloud computing in hydrology and a demonstration of the water cycle through a Rube Goldberg machine. The Social Dimensions talks included improving accessibility and diversity in the geosciences, the intersection of art and science for climate communication, sexual harassment, and the challenges of conducting citizen science. This was the first year we invited speakers to present on select topics, and this proved to be successful.

· **Early Career Social Mixer**

Task: The main purpose of the early career social mixer was to give students and early career scientists the opportunity to network, share ideas and exchange experiences with each other.

Result: We encouraged students and early career scientists this year to attend two social events. The first event was organised by AGU and was targeting students of all sections. This event was held at the conference venue itself. AGU provided drinks and snacks, which was well perceived by the students. However, the venue, a corner in the back of a large hall, made this venue not the most ideal place to hold a social event. The second event, advertised as social mixer, was organised by CUAHSI. This event targeted students and early career scientists within hydrology or related fields. This event, in the game room of a well-known bar in downtown San Francisco was more suited for social interaction. The large turnout and the pool tables filling this venue made it seem a little crowded.

Both events reached their goal and students and early career scientists were able to interact in a less formal setting, share some ideas about future research, and give their vision on hydrology and the way it could evolve.

· **Social Media and Outreach**

Task: One of the key initiatives taken up by the H3S committee was to reach out to a greater number of early career scientists through the use of social media. Through our twitter handle ([@AGU H3S](#)), we tried to disseminate important publications in hydrology, tweeted articles focusing on issues faced by early career scientists and tried to ease the navigation of the early career attendees at the AGU Fall Meeting. We took to tumblr to post about the research life of early career scientists through the AGU [tumblr page](#). Leveraging on the impressive resources on the Young Hydrologic Society's blog, we started a new segment called [Hallway Conversations](#), where we posted interviews with eminent hydrologists. In addition to the research angle, the Hallway Conversations also focused on the career trajectory of these scientists, their vision for

the future and their suggestions for the next generation of hydrologists. In order to help students in the search for their next positions (PhD and PostDoc), we compiled a list of (semi)-exhaustive [resources](#) useful for students looking for their next academic job in water sciences. We also started a [facebook group](#) where links to early career scientist openings are posted regularly (almost daily!). We took to other online platforms (like the GEWEX) to help the early career hydrologists navigate the Fall Meeting.

Result: The H3S committee now has a much wider audience in the social media space. The number of our twitter followers increased threefold, from 200 to more than 600 (630 on 19th May 2017, 18:00 GMT). The number of our tweets also went up, we started live tweeting events focused for early career hydrologists during #AGU16 and #EGU17. We posted more than 10 profiles of early career scientists as short Q&A blogposts which attracted a lot of engagement on social media. We posted five Hallway Conversations with scientists like Jaime Gómez-Hernández, Andrea Rinaldo, Sally Thompson, Dmitri Kavetski and Steve Wondzell. These varied from groundwater hydrology to uncertainty modeling to network theory and ecohydrology. We currently have a couple more of these Hallway Conversations in the pipeline. Our mailing list where we post about early career opportunities in hydrology (mainly PhD and PostDoc positions) has more than 500 members. It gives us immense satisfaction to know that at least two students from Indian Institute of Technology Kharagpur got to know about their PhD advisors through our facebook group. In the future, we want to become more active in the social media space and help improve networking.

· **Service Initiatives**

Task: This year H3S took several initiatives to encourage students to find service opportunities and become involved in service activities as part of their graduate education. We began a service listing that was posted online of potential service opportunities ranging from environmental and water resources citizen groups to development and mentoring organizations. We also held a service activity after AGU 2016, where we joined a local environmental stewardship group, Grassroots Ecology, on a watershed monitoring trip.

Result: The service listing was intended to be an interactive listing where groups could add their information and students could add service opportunities, but its posting on the Young Hydrologic Society website did not garner the necessary traffic. Additionally, the listing was very broad, whereas students are more likely to seek community involvement at a local level. The field trip with Grassroots Ecology was successful in that meaningful discussions were had between group members and students. However, the event was poorly attended (mainly by H3S members). While many students exhibited interest in this type of service activity at AGU, we think the timing on the Saturday after AGU was not optimal for attendance.

Evaluation

Overall, the student conference was well-perceived by everyone who attended the conference. The two sessions that provided useful skills that could be applied in future projects, scored a little higher than the afternoon activities. Especially the possibility to network with fellow students and maybe the speakers as well, should get more attention. Most of attendees thought this to be one of the main strong points of this day.

The social events and networking opportunities this year provided or advertised by H3S turned out to be well perceived by the student attendees. However, there was less opportunity for early career scientists that were passed the 'student' stage.

The popup sessions at the AGU Fall Meeting were well attended and provided some fresh ideas to think about for the hydrology community. The setup for this session was fine, however, it would

be nice if we could have longer time-slots in the future which would accommodate and encourage conversation after the presentations between the presenters and the audience.

This was the first year that we organized a service event just after the AGU Fall Meeting. Most of the logistics were taken care for by the local organization that we joined in their field activity. Due to late advertisement, the number of participants was low. A couple of reasons for this are: 1) most of the interested students had already booked flights in and out of San Francisco by the time the advertisement went out; 2) other organizations advertised their conference / activity / workshops earlier; 3) funding for an extra night in San Francisco is not always available.

Goals for 2017

Some of the support by AGU for a student conference, organized by H3S, will disappear during 2017. It will be a challenge to organize workshops and events that are addressing questions and needs of students and early career scientists within hydrology. However, the goal is to have a similar amount of workshops and panel discussions as previous years, be it organized in a block or spread over the entire conference. For 2017, we'll be addressing the question about differences in the hydrology community between students' and early career scientists' needs and questions. The change of conference venue will also add an extra challenge to organize a social event for our community. We'll encourage students outside of H3S to propose and lead pop up sessions as well this year at AGU. This should increase the number of different topics that are addressed at these sessions and provide some fresh ideas for these lightning/TED style talks.

A closer collaboration or exchange of ideas, visions and experiences between YHS, H3S and possible other groups, such as GEWEX, should improve our ability to answer questions from our AGU hydrology student base and address their needs.

From the social media and outreach side we will keep on growing in number of members that we reach through our channels. Closer collaboration with other parts of the hydrology community should lead overall to an improvement in effectivity of communication through social media within the entire hydrological community. A workgroup, consisting of members from all levels within the hydrological community has been set up, and we'll be actively participating in the discussion about communication within the hydrology community and outside of it.

Two potential workshops that could address this topic are: 1) a 'reversed tutoring' workshop in which early career (tech-savy) scientists provide a workshop to more senior scientists about effective use of social media 2) a workshop together with WRR that addresses professional communication of your research (publication/review/communication...)