The Memory of Water

By Anne Weiss

Does water has a memory? Japanese Masaru Emoto is convinced: Water reacts to voices, words pictures, music. Water has feelings and reflects them in creating droplets with different structures. However, this hypothesis is in a range from incredible to ridiculous. At the moment, it is at least popular with homoeopaths and esoterics. It seems that water droplets have a different structure depending on different influences. For example by flowers placed into the water. A rose creates another structure than a daffodil.

This year, the great WAREM excursion will lead us to the Netherlands, to the mouth of the River Rhine. Imagine all the memory, all the amount of information that this river will carry when arriving at the Harbour of Rotterdam?
Honestly, I can’t.

Nevertheless, I like the idea that every single thing has a memory: water, trees, leaves, chairs, ants.... “The memory is the treasurer and guardian of all things, "wrote Cicero, and Luis Buñuel said:" .... our memory is our cohesion ......, without it we are nothing. "

I have a longing to forget nothing. I like to remember everything, everyone and moments. And I would appreciate if everyone and everything, the water, the trees, the leaves, the chairs and the ants would remember me and each other. Remembrance is a valuable gift. I am glad about it.

So I am asking:

Why should water not have a memory?
What would change in case water has a memory?
On December 2nd, 2016 we had the 17th edition of the IAHR Young Professional Network of Baden Württemberg, addressing “Integrated Water Resources Management” where 07 Young Professionals, 07 posters and 05 Professionals in the field of Hydraulics and Water Management participated in a 1 day Symposium. The colloquium was attended by around 100 scientist, professionals and specialists from all around the world.

Starting the event the Young Professional forum was opened by the committee vice president Jhila Khalighi; in the first session of the forum we had the opportunity to hear a variety of topics that gave the attendees a wider view on the subject.

The first young professional presenter was Betsaida Fernandez speaking on “Automated Calibration for numerical models of river flow”, followed by Yasama Tavana with a new approach on “The Application of Game Theory in Water Resources Management, following with case studies from across borders, starting with Jhila Khalighi “Locally adapted IWRM process for the Zayandeh Rud River catchment in Isfahan, Iran” and from Hiraide Perez with “Water Resources Management in Lima”.

Continuing with a case study from Kalimantan in Indonesia: “Green Mine Optimization Strategy into Protection Acid Mine Drainage” presented by Hajrah, we traveled to India with Goswami Taranggiri on his case study about “Narmada river Basin (Sardar Sarovar dam project) challenges and solutions”; we had Farid Mohammadi talking about the “Importance of model selection in hydro-morphodynamic models” and finally the session was closed by Stefania Carvajal-Arciniegas who showed us her work about “Numerical modeling of Tacamocho meander, Colombia”.

During the coffee breaks and the lunch break attendees had the opportunity to exchange their ideas and opinions and check the posters presentations, we had 7 posters in total. Shah Nirav Vasant presented a literature review of “Pore network modelling past developments and current challenges” and “Reduced order models and response surface methodology application to Multiphase flow problems”; Nelson Rincon from Colombia presented us “Design and Implementation of an air moisture recovery system to provide water for human consumption in Uribia, Colombia”; Luis Daniel Soto offered a case study from Venezuela in “Management of water resources during the 2014-2016 period of drought in the Northwest region of Zulia State”.

In the afternoon session, the professional Forum was officially opened by Nerea Portillo, President of the IAHR-BW. The first presentation was given by Dr. Michael Ahlheim regarding “Contingent Valuation of a more sustainable water management in the Tarim Basin” he talked about an interdisciplinary project using the Contingent Valuation Method that deals with the possibilities to improve the living conditions of people in the Basin in Xinjiang in the northwest of China by implementing a more sustainable water management along the Tarim River.

Moving on to “Water Stewardship – IWRM in practice Mid-Term Review of the International Water Stewardship Programme (IWaSP)” by Mr. Hans Hartung was the second presentation of the forum. His topic approached how the IWaSP was originated and its evolution and 4 case partnerships from Zambia, Uganda, Kenya and South Africa.
We also had the opportunity to listen to Mr. Peter Wingenbach a professional working in BIRCO who presented “BIRCO rainwater management- Drainage in its best form” where he showed us how the theory meets reality with the rainwater harvesting system designed and installed by Birco company, he encouraged students to never stop dreaming of solutions for more difficult they think it is to bring them to reality.

With a case study from Germany Dipl. Ing. Klaus W. König presented “Urban Rainwater Harvesting in Germany, History and Highlights” he showed the attendees the importance of a sustainable rainwater harvesting through Germany’s own history substituting potable water; a way to reduce the water need. Even while adequate population growth, public infrastructure has not to be changed, dimensions of pipes for water and wastewater are still sufficient.

Finally to close the professional forum, “Expansion planning of energy storage technologies including their interactions with the water sector” by M.Sc. Jannik Hass was presented in and interactive presentation on how the power systems need to become more flexible each day and how to deploy energy storage systems (ESS) is a great approach to do so.

His main focus point was the optimal mix of ESS and the potential interactions and impacts of the water sector in Chile.

Last but not least, the academic link Ph.D Stefan Haun closed the ceremony with vote of thanks and he proceeded with the awarding of certificates to the Young professionals who delivered presentations. Certificates of Excellence were awarded to Hiraida Perez for her presentation in the Young Professional Forum and to Luis Daniel Soto for his poster presentation.

A meet and greet session was then opened were students had the opportunity to talk with the Professionals who gave presentations and to enjoy with their fellows colleagues. Finally I would like to express my gratitude and appreciation to all the volunteers and IAHR organizing committee, without them the colloquium would not have been such a huge success.
My time during my studies at WAREM was very rewarding in various ways. All the experiences I found myself in have made me better prepared to take the following career steps I am planning for myself. From an academic point of view, the broad spectrum of different topics I discovered has sometimes left me a bit confused and unsure of what to focus on, but it has also given me the chance to deepen my knowledge of topics I was already interested in, and to get to know new ones. On the other hand, I am very happy I got to know so many different people who became very close friends in a very short time. I’ve shared a lot of moments, good and bad, with many people during my time in Stuttgart, and even though we are not in the same place anymore, I’m very happy about the friendships I’ve made there. I am also grateful to all the lovely people who helped me finish my masters, and to all the inspiring professors I had the honor to get to know during that time.

I finished my Bachelor in Environmental Engineering in Jordan back in 2013, where I mainly focused on solid waste management. After a year of working in my home country, I found myself more interested in topics specialized in water resources management, which is when I decided to join WAREM. In addition to trying to cope with a sometimes hectic schedule of courses and deadlines, and hanging out with people I met in Stuttgart, I also had the chance to take more organizational tasks by joining the IAHR-BW. All of this has helped to better realize my strong and weak points in order to decide in which direction I would like to take my career, but it has also made me more willing to take part in new endeavors and less scared of results different to what I’d expected. During my studies, I found myself more interested in topics that are considered to be new in my country, such as urban water management, water reuse, and constructed wetlands, and I was very lucky to do my master’s thesis in exactly that.

Currently, I am completing an internship at the Stadtentwässerungsbetrieb in Düsseldorf. I am working with inverted siphons renovation concept and benchmarking of canal systems. It is different than what I have been focusing on, but I find it very interesting, both from the types of tasks I have and the type of the company; it is my first time working with the public sector. It has also helped me improve my German a lot, as I am now only working and communicating with my colleagues in German.

As for the future, I am looking forward to finding a job with an international company that would give me the chance to work on projects I am interested in and would offer me practical experience in these fields.
MY WAREM EXPERIENCE – NOW...
Vega Annisa Hasibuan
WAREM Student, Generation 2015

I have a dream for a better water management system in my country, Indonesia. And for that I need good knowledge of both engineering and management. That what motivates me to pursue a higher education. I chose to study in Germany since it is one of the leading country that has been successfully managed a sustainable use of water resources while guaranteeing public water supply. And now here I am, feeling glad for being a WAREM student.

Being enrolled in WAREM was definitely bringing me to whole new experiences. The courses offered are covered the up-to-date technologies and methods to deal with water related issues. And I feel lucky since some of the software taught, such as CASiMiR and DuMux, were developed at University of Stuttgart. The courses taught with a comprehensive manner which gives us, the students, the profound basic theory and show us how to utilize the knowledge in the real world problems. The tutor assistance provided for some lectures was also very considerate. And I pay a big respect to the lecturers who taught us with a professional and humble attitude.

Some excursions and social events that WAREM facilitated were very thoughtful. Some of them were the trip to Egauwasserwerk in Ulm, Hydropower Station in Schluchsee, Hydropower Facilities of TIWAG Tiroler Wasserkraft AG in Austria, Water Conference in Karlsruhe, etc. Those events enabled me to learn about the real implementation of the knowledge we grasped in the class. It gave me insight how Germany and Austria manage their water and hydropower system, and give me a feeling of the professional working environment.

Since WAREM is an international program, I had a chance to study together with students from different countries. It exposed me to the multicultural environment that let me to share the different perspectives and backgrounds. It made me learn how to easily adapt, to work in diverse team, and appreciate the differences. Some occasional events like seminar, conferences, and the excursions also gave me chance to expanding my network, which is important for the future career.

And at last, living in Germany help me a lot to shape my personality. The sharp-on-time German’s culture teach me to value the time and appreciate people. The alles-in-ordnung philosophy teach me to develop a structured thinking and approach. The examples of safety demonstrate the importance of precaution. And the perfection philosophy teaches me to have a good planning and striving for excellence.

One year has passed so quickly and it was one of my turning point. I owe a big thank you for WAREM (the lecturers and staff), my new friends, and Germany for the great experience and all the supports :)
Thanking Almighty; in helping me to get ticket to Germany to good humans, it is a pleasure to share my experience.

For a person who has never left her home country all her life, sitting on my desk and writing my experience as student in University of Stuttgart, Gosh!! it is enthralling!! An experience to cherish in my lifetime. With great self-pride in having travelled all alone “from Chennai to Stuttgart”, it had a purpose; my bachelor’s degree was “made in India” and a wish masters to be “made in Germany” has just began.

As a civil engineer I felt, master’s degree in WAREM would be a right choice, to aid my professional graph.

**Hallo Deutschland-First day**

After a grueling 18 hours of flight (inclusive of layovers), I touched down Germany, to be greeted by my cousin. The second person I met was Ms. Claudia, felt she was warm person as she guided me to Allmandring. Having occupied my room, everything around me seemed to be alien and new, the environment, the food, the climate and the bright clear skies, everything. The ambience was exact contradiction to my home town, but, like all others I gradually overcame all these.

“**Wie heißt du”?**

This was the first sentence that was taught to me in the mandatory German language class, which began as early as 08.00 hours and went on up to 13.00 hours, and doing this for the next 30 days was challenge as is, getting up from bed in this beautiful climate a challenge itself. Here comes “the food”, the first meal I prepared was Indian flat bread with vegetable curry, (it would definitely make my mother proud about my culinary skills). All the disturbing perceptions were broken once I stepped into the class, had good time during intercultural training.

**Divided by country united by University**

Excited to meet many people from across the globe, a special mention to Thawed and Shaheen. And our kitchen in the dorm is most of the time filled with conversations about respective cultures and cooking together. It is also surprising to see people who share common cooking interest like mine, and is always a fun to party with them.

Looking forward for every new day with beautiful smile on people in this beautiful country and to do things in the best way it can be done. Happiness and smile.
Prof. Shaol proposed to conduct the module “Flood Control: Evaluation and Case Studies”, at Universiti Teknologi MARA, Shah Alam, Malaysia, and our Course Director Anne Weiss just made it possible for 12 of us fly to this Southeast Asian country.

The 10-day trip promised an experience into rich culture, delicious cuisine, visit to Smart Tunnel and many more.

On the seventh day we were taken to the coastal town of Sungai Besar, an unforgettable Home-stay; tripping onto all possible human emotions, needless to mention the raft ride being the highlight.

A truly memorable experience, where one can definitely put them to personal travel diaries.

Having been accommodate into the student dorms built inside the campus; of course the dedicated male and female blocks being separated miles apart.

The initial days started with classes until noon and breaking the evenings with visit to the streets of Kuala Lumpur, challenging the rains and vehicular traffic.
Malaysian days in picture ....

DID YOU LIKE READING ? YOUR THOUGHTS! ON THE NEWSLETTER.

I would like to extend my gratitude to all our authors for their articles. We, highly appreciate the effort and time you spent to make this happen.

Reaping on the previous efforts to build strong communication across WAREM generations, we wish to feature more voices in the future editions from our yesteryear WAREM students. Hence, request one-and-all to review and share your comments, on our efforts.

As always said, if you want to publish something, see a new section, have any idea about developing WAREM Alumni. Write to warem.alumni@gmail.com

Bramishtan Muraleedharan

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