



The goal for Sunday is to settle into ETH Week. You will meet your team members and exchange your personal viewpoints on the topic of water. Discuss your expectations and understand both the goals and the process of the week.

- 12.00 — Registration and Lunch at the ETH Week Hall.
- 13.15 ◆ **OPENING ETH WEEK**
Welcome by Gerd Folkers and Lukas Möller.
- ↳ **Team-building.**
- ↳ **Rich picture.**
- ↳ **Template check out.**
- 17.00 ◆ **DESIGN CHALLENGE**
The Wallet—a demonstration.
- 18.15 — Dinner
- 19.30 ▲ **INSPIRATION NIGHT**
A selection of drinking water projects.

sunday
sep 11

Dear participants,

Creating a spirit of collaboration among a variety of different people is the foundation on which ETH Week rests. For their part in initiating, planning, financing, and implementing the second ETH Week, we would like to thank the following people and institutions:

We are particularly grateful for the support of ETH Rector Sarah Springman and our President, Lino Guzzella. Both have been committed to the idea of ETH Week since the very beginning. We appreciate their trust, critical feedback, and active contribution during the week.

We would also like to express our sincere gratitude to the Department of Civil, Environmental and Geomatic Engineering (D-BAUG), in particular to the Head of the Department, Thomas Vogel. We greatly appreciate D-BAUG's permission to use the HIF Building as an inspiring classroom and as the 'ETH Week Hall'. In this context, we would also like to thank Dominik Werne and the HIF team for their excellent technical support.

Without the dedication and untold extra work of all ETH Week Core Group members, ETH Week 2016 would never have been realised: Stefano Brusoni, Anita Buchli, Paolo Burlando, Alan Cabello Llamas, Gerd Folkers, Melanie Imfeld, Reto Knutti, Daniel Kottmann, Marion Lehner, Lukas Möller, Lex Schaul, Elke Tomforde, Benno Volk, Andreas Vaterlaus, Anahita Zelger, and Cyrill Zosso have been working for months to ensure a successful and inspirational programme. They developed the new concept of ETH Week, its curriculum, presentations, excursions, knowledge fair, workbook, and all extra-curricular activities. The training programme for tutors was also organised by Core Group members, as was the logistical implementation concept. Last but not least, it was they who always believed in the success of ETH Week and that it is worth going the extra mile to make a great vision become reality.

An outstanding effort was also made by our experts from D-BAUG, D-USYS, and Eawag: Helge Fuchs, Stefanie Hellweg, Max Maurer, Darcy Molnar, Eberhard Morgenroth, Bernhard Wehrli, and Christian Zurbrugg provided valuable contributions to the concept of this year's curriculum. During ETH Week, they will also present insights from their research work. Nico Derlon, Christoph Lüthi, Jasmine Mertens, Matthew Moy de

Vitry, Stefan Pfister, Mariane Schneider, and Volker Weitbrecht will give technical feedback during the design thinking process.

Twenty process tutors will support your student teams. We acknowledge the great contributions of Hazem Ahmed, Dominic Bernath, Sander de la Rambelje, Wilfred Elegba, Julian Helfenstein, Maya Hiltbold, Jannes Jegminat, Daniel Langmeier, Jonathan Lilje, Laura Merseburger, Jesko Mueller, Stefanie Müller, Andrea Popp, Raphael Portmann, Dhivyabharathi Ramasamy, Sara Tatiana Roldan Velasquez, Jennifer Schmitz, Alexandra Waskow, Imanol Zabaleta, and Axel Zeijen.

Eight design guides volunteered to support the second ETH Week with their expertise and enthusiasm. Many thanks to Linda Armbruster, Jose Arrieta, Sonja Förster, Hans Kaspar Hugentobler, Daniella Laureiro-Martinez, Florian Rittiner, Amulya Tata, and Regina Vogel.

We would also like to thank ETH's Events and Services Staff, the Real Estate Division, the Safety Security and Environment Unit (SGU), and the Facility Management Unit for their commitment, in particular Didier Heiniger, Mirsad Hoti, Mathias Dähler, Martin Dosch, Jan Viriden, and Zeljko Medved.

Thanks also to Pia Aeschlimann, who will help at the information desk; to Nora Dittmann-Domenichini, who supports the evaluation process; and to Eddy Sloof, who will coordinate the technical crew both on and behind the stage of ETH Week.

Thanks also to our student assistants Luka Vucicevic, Joel Gundlach, Thierry Nolmans, Muhammet Gökkan, Stephanie Schmidt, Amir Garibovic, Lisa Heierli, Florian Eigenmann, Claudio De Giacomi, Sabrina Huber, Vivienne Schraner, Andreas Fürer, Pascal Brenner, and Gianna Weibel.

External experts Klement Tockner (Leibniz-Institut für Gewässerökologie und Binnenfischerei, IGB), Maude Barlow (The Council of Canadians), and Suzanne Thoma (BKW) will share their broad know-how as keynote speakers.

Eleven field trips will provide you with valuable insights into aquatic systems and water challenges: We thank all partners who helped us realise this idea: Assumpció

Anton (IRTA), Eva Baier (fischwanderung.ch), Karin Bartl (PUCP), Christoph Doerr (F. Hoffmann-La Roche AG), Roland Enderli (Hermann Bühler AG), Francesc Ferrer-Alegre (Labferrer), Patricia Fischer (F. Hoffmann-La Roche AG), Thomas Gabriel (Hardwasser AG), Peter Hunziker (Kraftwerk Schaffhausen AG), Isabelle Köpping (Eawag), Monica Lehmann (Coca-Cola Schweiz GmbH), Fritz Meier (Gebrüder Meier AG), Laila Rüesch (KompoToi), Martin Studer (F. Hoffmann-La Roche AG), Ian Vázquez Rowe (PUCP), Urs von Gunten (Eawag), Stefan Wassmer (Stadtwerk Winterthur), Alain Zaessinger (ProReno AG), and the Office of Civil Engineering, Canton of Basel-Stadt.

At the 'knowledge fair', you will have the chance to discuss your ideas with representatives from a broad range of institutions. We would like to thank all external partners for their great contributions to ETH Week 2016: Luc Amgwerd (Gjosa SA), Daniela Anghileri (SCCER-SoE), Valérie Cavin (Helvetas), Ulrike Feldmann (Eawag), Max Friedrich (Eawag), Carlo Galli (Nestlé), Mirjam Harter (Eawag), Gerhard Hauber (Dreiseitl), Anja Herlyn (WifPartner), Sabine Hoffmann (Eawag), Carolin Hoyer (Unilever), Klaus Jorde (KJ Consult), Regula Meierhofer (Eawag), Mona Mijthab (MoSan), Roni Penn (Eawag), Christoph Rusch (Jouli SA), Raphael Schilling (Coop), Holger Schürle (Neoperl), Sonia Seneviratne (ETH Zurich), Tobias Siegfried (Hydrosolutions Ltd.), Philipp Stauer (Canton of Solothurn), Ursula Stocker (VUE), Eduardo Alexander van den Berg (Pharmafilter), Luca Vetterli (Pro Natura), Stefan Vollenweider (Wasseragenda 21), Peter Walser (HP Walser AG), and Irene Wittmer (VSA Plattform).

We also appreciate the support of the following individuals: Andreas Batliner (Drink & Donate), Ernst Bromeis (long distance swimmer and water ambassador), Danielle Bürgin (Viva con Agua), Niklaus Holbro (MSABI), Michael Kropac (cewas), Danielle Lalive (Independent Moderator), George Steinmann (Artist) and Hartmut von Sass (Collegium Helveticum) will provide inspiration during the extra-curricular part of ETH Week.

For their vital financial support, we would like to thank Avina Stiftung and Stiftung Wegweiser. We also thank SV Group, ASVZ and Eurobus for sponsoring ETH Week with food, equipment and trainers. Further, we would

like to thank KWO Grimselstrom and the Swiss Alpine Museum in Bern for the sponsorship of the student awards.

Last but not least, we would like to thank all who have supported ETH Week with their excellent services and positive spirit: The President's and the Rector's Staff, the Rectorate, all involved colleagues from Eawag, the Student Exchange Office, Stab Dienste, LET, Corporate Communication, all professors who helped to spread the word, and the team of ETH Sustainability for their helping hands and creative ideas.

I wish you an inspiring and fruitful ETH Week!



Christine Bratrach,

on behalf of the ETH Week Team
September 2016



CHRISTINE BRATRACH is Director of ETH Sustainability and Head of the ETH Week team. Research and applied projects on the topic of sustainability as well as interactions with interest groups in business, politics, and NGOs have characterised her career. She has always loved to work in interdisciplinary groups of engineers, natural and social scientists during her doctoral studies in environmental science at ETH Zurich and before. Therefore, she immediately accepted to organise the first and second ETH Week.

WELCOME SPEECHES AND THE ETH WEEK TEAM

Gerd Folkers and Lukas Möller will welcome you and open the second edition of ETH Week. Gerd Folkers will outline the goals of the Critical Thinking Initiative and relate them to ETH Week, while Lukas Möller will share his personal motivation for being part of the organisation of ETH Week 2016.

The ETH Week team is in charge of implementing your day-by-day activities. The team has organised the ETH Week curriculum including expert inputs, your field trips, the knowledge fair, the lunch lecture series, the morning sports programme and all inspiration nights. They are also responsible for designing the 'ETH Week Hall', for food and accommodation, and for quite a bit of invisible logistics that hold everything together.



GERD FOLKERS studied Pharmaceutical Sciences and attained a doctorate in Pharmaceutical Chemistry at the University of Bonn. In 1991, he has been appointed Professor for Pharmaceutical Chemistry at the ETH in Zurich. He has been leading the Collegium Helveticum between 2004–2016. Gerd Folkers is the President of the Swiss Science and Innovation Council SSIC and the head of the Critical Thinking Initiative.



LUKAS MÖLLER currently pursues a Bachelor's degree in Interdisciplinary Sciences at ETH Zurich. From 2015-2016, he was president of the Student Associations Board of the Student Union of ETH Zurich (VSETH) and participant of first ETH Week in 2015. He is motivated to share this experience and to discuss alternative teaching forms at ETH Zurich.



DARCY MOLNAR is affiliated with the Center for Development and Cooperation (NADEL) with the Hydrology and Water Resources Management Group at ETH Zurich. She coordinates a Master of Advanced Studies (MAS) in Sustainable Water Resources. Darcy holds a Bachelor's degree in Physics; her Master and PhD degrees are in Civil Engineering.



BERNHARD WEHRLI is Professor of Aquatic Chemistry at ETH Zurich and is affiliated with Eawag, the Swiss Federal Institute for Aquatic Science and Technology. His interdisciplinary research group is analyzing biogeochemical cycles in rivers and lakes with the goal to improve the sustainable management of water resources.



LEX SCHAUL graduated as an engineer from EPFL and as an architect from ETH Zurich. He is interested in applying creative processes in the fields of science and education. His role IN ETH Week was to bring the different perspectives together and build the second prototype of ETH Week. He can't wait to see all the planning turn into action!



ALAN CABELLO LLAMAS holds a PhD from EPFL focused on human-centered innovation processes, having been a Visiting Researcher at Stanford's d.school. He is the founder of Spark Labs, an initiative with the purpose of teaching Design Thinking as an approach to innovation, as well as a research associate at ETH Zurich, and the Central and Eastern Europe innovation manager for Allianz ACGS.



CYRILL ZOSSO is a Master's student in Environmental Sciences. He is enthusiastic about the interdisciplinarity of ETH week and convinced that the most interesting people will come together. He is a supporter of the sufficiency thought (technology can't solve it all), loves to be outside running or hiking and on the court playing badminton.



MELANIE IMFELD holds a Master's degree in Architecture from ETH Zurich with a strong emphasis on urban planning. In 2013, she interned at the City Planning Office of Zurich. Being a former ETH Week 2015 tutor, she is convinced that creativity and criticality play a vital role in solving the pressing challenges of our time. She has a faible for Russian writers and her vegetable garden.



ANAHITA ZELGER has a passion for good food, wine and nice hotels. She is a graduate from the Hotel Management School in Lucerne and worked for different 5 star hotels across Europe. Since 2013, she is a part of the events team at ETH Zurich where she is the food and beverage specialist. Anahita loves to play golf and enjoys being outdoors.



DANIEL KOTTMANN has worked in the business of event management for 10 years, in Switzerland and abroad, and has organised conferences, gala events, and TV shows. He recently joined ETH Zurich and loves the diversity of his new job. He absolutely enjoys working on ETH Week, as he is able to bring in his passion. When he is not working, you will find Daniel on his bike touring through forests.

GOOD TO KNOW

ETH WEEK HALL

The ETH Week Hall is the central meeting place of ETH Week. It is the location for plenary sessions with all participants: the opening event and your final presentations, as well as the lunch lecture series and the inspiration nights. The Hall is also the space where all ideas come together. During dinner or at the bar in the evenings, there is plenty of time to meet other students, experts, guests or our team and exchange informally.

INFO DESK

The info desk is located in the entrance of the ETH Week Hall. We support you in case you have questions, e.g. regarding the organisation of the event, lost and found, access to the team spaces. You can subscribe here for the sports sessions.

TEAM SPACES

When working in your team, you will be located in one of the pavilions. The large ones have space for four teams, the small ones for two. Material is provided to you. In order to keep costs under control and respect the environment, we kindly ask you to use these materials in a smart way.

SPORTS CENTER

The sport sessions take place in the ASVZ Sports Center. You can find more information related to our sports program on the following page. The sports center opens early for ETH Week, i.e. at 7.15. Classes start at 7.20.

STRANDBAD TIEFENBRUNNEN

The inspiration night on Wednesday, September 14, will take place at Strandbad Tiefenbrunnen at the lakeside of Lake Zurich. If you signed up, you will get access with your badge between 18.30 – 23.00 on Wednesday. Bring a swim suit and sports clothes!

HIF / is the official acronym of the ETH Week Hall.

SAFETY AND SECURITY / please remain in the designated areas. There are experiments running beyond the tape.

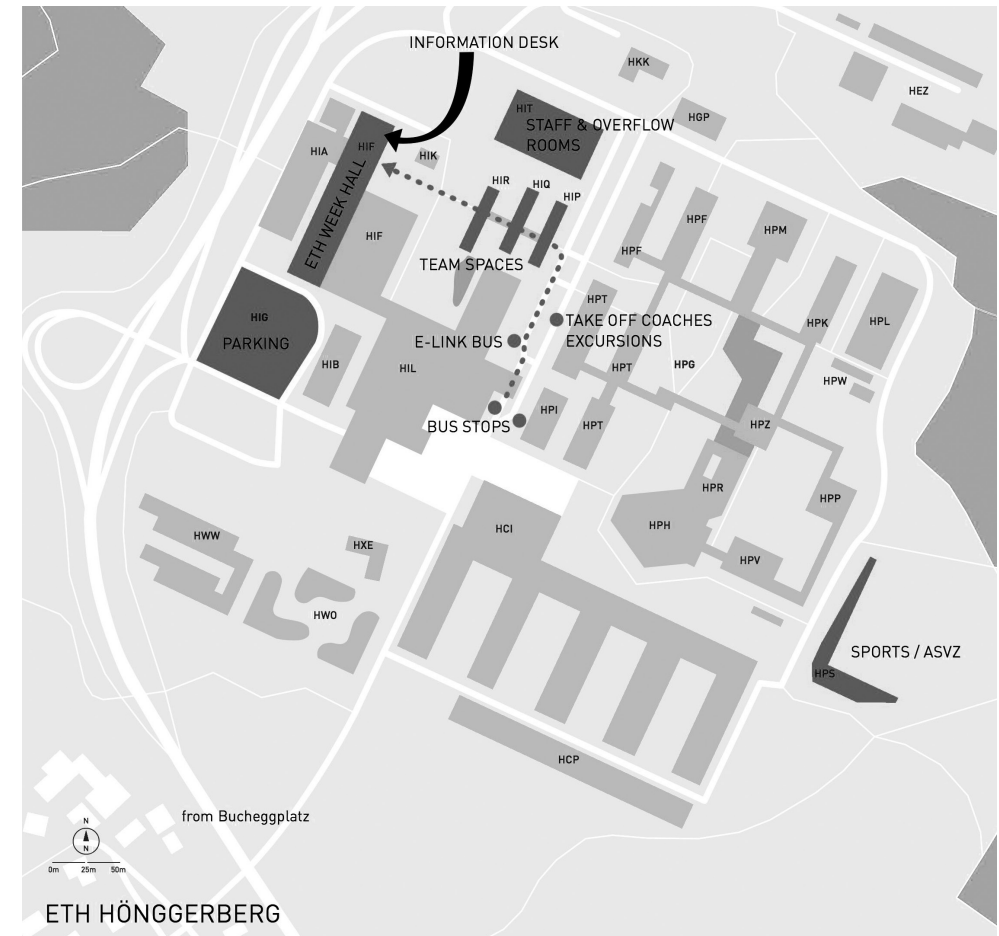
HOTLINE / call the info desk using the following number: +41 44 633 99 10.

HIQ, HIR, HIP / is the official acronym of the team spaces.

BE RESPONSIBLE / please use the provided recycling bins for paper and PET. At the end of the week, each group is responsible to tidy up their space.

HPS / is the official acronym of the sports center.

ADDRESS / Bellerivestrasse 200 8008 Zürich.



ETH WEEK HALL

Usually open: 7.30–23.00. Closes during excursions on Monday (10.30–15:15) and closes early on Wednesday (17:45). Closes on Friday at midnight.

INFO DESK

Usually open: 8.00–20.00. Opens at 12.00 on Sunday, closes during excursions on Monday 10.15–15:30 and closes early on Wednesday 17:45.

TEAM SPACES

Usually open: 7.00 – 23.00. If you want to continue working in the evenings, ask for an access badge at the Info Desk. There is one per pavilion.

FOOD & WATER

A wake-up breakfast buffet with coffee, tea and bread is ready in the ETH Week Hall every morning before the kick-off.

For in-between snacks, go to Anahita's energy bar in the ETH Week Hall. You will find dried fruits, nuts and other snacks to boost your energy levels during team work. We also provide you with a water bottle. Refill it at the energy bar where you will also find a selection of syrups to take with you into your team spaces.

You will receive a new lunch voucher from your tutor every morning. The vouchers of 7 Fr. can be used in all restaurants of Campus Höggerberg on that day. There is no change given on the vouchers and Coop does not accept them. On Monday you will receive a lunch bag on your way to the field trip.

To foster informal exchange and so that we can all come together in the evenings, dinner is served in the ETH Week Hall. Vegetarian options are available. Dinner on Wednesday will be held at Strandbad Tiefenbrunnen.

The food is free of charge. However, if you would like to support the drinking water projects that we introduce you to on Sunday—then feel free to donate whatever you think the food is worth to you.

BADGES

Please wear your ETH Week badge at all times. The keychains are color coded: Students wear green, tutors orange, experts white, design facilitators yellow, and staff purple.

SPORTS PROGRAM

Together with the ASVZ, we offer sport sessions in the mornings, starting on Monday. You can choose to join the morning run through the forest around Campus Höggerberg, or join an indoor rowing class. In addition, we offer Yoga (Monday), Zumba (Tuesday), Pilates (Wednesday), Body Balance (Thursday) and Tai Chi (Friday). The sports center opens at 7.15. Classes run from 7.20–8.05. Rector Sarah Springman will join the morning run on Thursday.

BREAKFAST / 7.30 – 8.30.

ANAHITA'S ENERGY BAR / available all day.

LUNCH / Usually: 12.15 – 13.15.
Lunch bag on Monday. Long lunch on Friday: 13.00 – 14.15.

DINNER / Usually: 18.15 – 19.15. Dinner in Strandbad Tiefenbrunnen on Wednesday. Special long dinner on Friday: 19.15 – 20.30.

DONATION BOX / find a donation box in the ETH Week Hall.

WHERE / find the indoor rowing classes at HPS arena 1. The meeting point for the morning run is in the lobby of the HPS building. The other classes are at HPS arena 3.

SIGN UP / the sports program has a limited amount of places and requires a subscription at the Info Desk the day before! Access the classes with your ETH Week badge.

EMERGENCIES

In case of an emergency, inform the info desk directly or call the ETH Week hotline (+41 44 633 99 10). In case of urgent emergencies, call the Emergency desk of ETH Zurich (+41 44 342 11 88). They will transfer your call to the ambulance (144), police (117), or fire brigade (118). Please immediately inform the Info Desk afterwards.

BAR

Tie up the loose ends of the day at the bar and meet the students of the other teams. You can purchase alcoholic and non-alcoholic drinks at the bar in the ETH Week Hall. Only guests with an ETH week badge can obtain drinks at the bar. Payments in cash only.

LAPTOPS

You are welcome to bring a laptop or tablet device. However, it is not necessary for all group members to bring one. Please note that you are responsible for your valuables.

PRINTING AND LOCKERS

Close to your team spaces, in the middle pavilion, is a VPP printing station where you can print PDF documents through the webform or the app. There are 8 lockers available in some of the team spaces. If you do not have your own lock, borrow one at the Info Desk against a deposit of 20 Fr.

CREDIT POINT

To receive one credit point (1 ECTS) you must take part in the core program of ETH Week in full (8:30–18:15) and be present during the final presentation. Please subscribe for the course 701-0901-00L on mystudies.

ACCOMMODATION

We provide accommodation during ETH Week for those who signed up for it beforehand. The dorms (4 beds or 16 beds) are separated into male and female and preassigned by the Hostel. Access is possible 24/7.

DRINKS / available from the bar in the Hall during the evenings between 18.15–22.00, except on Wednesday when in Tiefenbrunnen.

ADDRESS / City Backpackers Hostel (Hotel Biber)
Niederdorfstrasse 5 in
8001 Zurich
T +41 44 251 90 15 or
sleep@city-backpacker.ch

CHECK IN / Get your keys at the Hostel directly on the first day of your stay. Check in is possible between 10.30–12.00 and between 15.00–22.00.

CHECK OUT / before 10.00 on the following day of your stay.

sunday
sept 11

↘
meet

12.00 Registration

13.15 **OPENING ETH WEEK**
Gerd Folkers, Lukas Möller.

14.30 **Team-building.**

Rich picture.

17.00 **DESIGN CHALLENGE**
The wallet, a demonstration.

18.15 Dinner

▲ **INSPIRATION NIGHT**
19.30 A selection of drinking water projects.

monday
sept 12

↘
experience

7.20 Sports

8.30 Kick-off

9.00 **AN OVERVIEW ON WATER**
Darcy Molnar, Bernhard Wehrli

10.15 **Field trips!**

16.15 **Unpack.**

Draw stories.

18.15 Dinner

▲ **INSPIRATION NIGHT**
19.30 A cultural approach to the topic of water.

tuesday
sept 13

↘
funnel

7.20 Sports

8.30 Kick-off

9.00 **THE FIVE KEY TOPICS**
Stefanie Hellweg, Helge Fuchs,
Eberhard Morgenroth, Max
Maurer, Christian Zurbrügg

10.30 **Prepare for
knowledge fair.**

12.15 Lunch

◆ **LUNCH LECTURE**
13.15 Klement Tockner

14.15 **KNOWLEDGE FAIR**
27 experts organised along the
five key topics.

15.45 **Unpack.**

Problem statement 1.0.

18.15 Dinner

△ **OPEN NIGHT**
Exchange informally.

wednesday
sept 14

↘
refine

7.20 Sports

8.30 Kick-off

9.15 **Ideate.**

**Assumptions and
plan ahead.**

12.15 Lunch

◆ **LUNCH LECTURE**
13.15 Maude Barlow

14.15 **Research
and test.**

Problem statement 2.0.

— Transfer to Lake Zurich

▲ **INSPIRATION NIGHT**
18.30 Sports, barbecue, and meeting
the water ambassador.

thursday
sept 15

↘
test

7.20 Sports

8.30 Kick-off

9.15 **Prototype.**

12.15 Lunch

◆ **LUNCH LECTURE**
13.15 Suzanne Thoma

14.15 **EXPERT FEEDBACK**
12 experts will provide
feedback.

15.45 **Reconsider
the brief.**

18.15 Dinner

△ **OPEN NIGHT**
Exchange informally.

friday
sept 16

↘
communicate

7.20 Sports

8.30 Kick-off

9.00 **Polish the
presentation.**

Rehearse.

13.00 Lunch

14.15 **OPENING FINAL PRESENTATIONS**
Sarah Springman

14.30 **FINAL PRESENTATIONS**
18 teams present.

17.00 **Wrap up.**

▲ **CLOSING CEREMONY**
18.30 Awards, dinner
and time to celebrate.

■ Plenum sessions ■ Team work

◆ LUNCH LECTURE SERIES

▲ AFTER HOURS PROGRAMME

TRAINERS AND TUTORS

The goal of ETH Week is to embed your learning processes in real-life problems. Your work will be self-directed to exercise your ability for problem solving. Your team will be accompanied by a tutor who is familiar with the different steps that you are expected to complete. He or she will explain if tasks are unclear, and will encourage constructive teamwork and team-forming processes. Benno Volk, Elke Tomforde, and Marion Lehner of the Educational Development and Technology (LET), a central unit of the ETH, are teaching trainers and responsible for the tutor training program. During ETH Week, they will be present to assist and supervise the tutors.



MARION LEHNER studied Business Education and Organisational Psychology at Ludwig Maximilians University, Munich. She works for the ETH Zurich Educational Development and Technology (LET) unit, where she is a faculty development specialist and conducts didactic programmes for teaching assistants. Her particular skills lie in the areas of attitude development, coaching and didactic consulting.



ELKE TOMFORDE studied Educational Sciences, Anthropology, and Social and Preventive Medicine at the University of Zurich and has a MAS in Work and Health. She headed a research project in Ergonomics at ETH Zurich and has experience in developing and leading study programmes in higher education. She is an expert in curriculum development and in non-disciplinary competencies at the central unit of Educational Development and Technology (LET) at ETH Zurich.



BENNO VOLK studied Psychology, Sociology and Educational Sciences at the University of Bamberg. He is the Head of the Curriculum & Faculty Development team integrated in the central unit for Educational Development and Technology (LET) at ETH Zurich. He is also the president of the Swiss Faculty Development Network (SFDN). Benno has many years of experience as a trainer, consultant and coach in continuing education, and as online trainer and visiting lecturer at several universities.



HAZEM AHMED has a Bachelor's in Pharmacy & Biotechnology. He came to Switzerland three years ago to do his MSc. in Medicinal and Industrial Pharmaceutical Sciences at ETH. He has an affinity for analyzing negotiations, striking deals and project management and a passion for challenges and solving problems.



DOMINIC BERNATH is a professional magician, traveler and Master's student in electrical engineering at ETH. When not performing on a stage, Dominic can be found in the labs of ETH. He is currently working on thermo electric power generator for remote sensing networks on Matterhorn and Jungfrauoch.



JULIAN HELFENSTEIN is a doctoral student working on phosphorus cycling in soils. He enjoys being outdoors, used to be a scout guide, and later taught scout leadership courses. He looks forward to assisting students with diverse backgrounds in tackling an interdisciplinary project at ETH Week.



SANDER DE LA RAMBELJE is a Master's Student in Biomedical Engineering. His broad interests include smart mobility, healthy ageing, food security, renewable energy and water management. After participating in an inspiring and exciting ETH Week in 2015, he is now looking forward to contributing to this great project as tutor.



STEFANIE MÜLLER holds her Bachelor's degree in Environmental Sciences from Tübingen University, Germany. In her Master's degree at ETH she learned how social sciences and policy making are dealing with environmental issues. In her free time she travels to developing countries, dives and plays badminton.



JANNES JEGMINAT's goal is to be dying as a wise man. Living and understanding many facets of our world is his attempt to get there. That is why he studied Physics, then changed from Astrophysics to Environmental Physics to Neuroinformatics (PhD). To him, making things work in the real world is the ultimate proof of understanding.



LAURA MERSEBURGER got her Bachelor's diploma from ETH in Pharmaceutical Sciences last year. She is now in her Master's and will be working as an assistant in a pharmacy soon. Next to her studies she is active in the local Samaritan association. She is happy to be a part of ETH week and looking forward to making new memories.



ANDREA POPP did her Bachelor's and Master's degree in Hydrology at the University of Freiburg. Currently, she is pursuing a PhD in the Dept. of Water Resources and Drinking Water at Eawag. For her PhD project, she investigates surface water – groundwater interactions. Besides, Andrea likes playing music and outdoor activities.



JESKO MUELLER is a Brazilian and German electrical engineering student (MSc) focusing on Robotics & Mechatronics. Since he arrived, it is almost as if he has been living at ETH. He was involved in lots of things in addition to just studying – like being active in workshops, organisations or working for a cool startup.



RAPHAEL PORTMANN is currently about to finish his master in Atmosphere and Climate Science. During his studies in Environmental Sciences at ETH an exchange semester also brought him to Vancouver, Canada. This summer, he had the great opportunity to visit Peru in the framework of an internship.



WILFRED ELEGBA holds a Master's degree from the University of Ghana. He is currently pursuing a PhD in Plant Science and Policy at ETH. Agriculture is responsible for two-thirds of the world's water consumption. The week's theme and the prospect of working with enthusiastic minds makes this year's challenge very exciting.



RAMASAMY DHIVYABHARATHI is a Master's student in the Computer Science Department of ETH Zurich, specialising in Information Systems. Prior to her Master's, she worked as a Software Engineer. She considers ETH Week as an opportunity to create innovative solutions to society's most important issues.



ALEXANDRA WASKOW is a Master's student in Microbiology and Immunology at ETH Zurich. She participated in ETH Week 2015 and cultivated a deeper understanding of the food system. This year, she is very happy to help guide the critical thinking process for 'Challenging Water'.



SARA TATIANA ROLDAN VELASQUEZ studied Material Engineering in Brazil before joining ETH Zurich for her Master's degree in Materials Science. Challenges are her fuel for everyday activities. She is looking forward to sharing ideas and experiences with students from different backgrounds during ETH week.



DANIEL LANGMEIER is studying Agricultural Sciences at ETH. Besides, he works as an assistant at the Center for Development and Cooperation (NADEL) or in an organic store, which he opened with a group of friends. Also, he has been co-leading an organisation intending to improve the human rights situation in Central America.



JENNIFER SCHMITZ studied Biology at ETH. In her Master's, she focused on structural biology but chose a project in systems biology for her master thesis. After completing her studies, she has been working in the center for acting learning (CAL) at D-BIOL. Jennifer enjoys cycling, hiking, travelling, and playing board games.



MAYA HILTPOLD was always interested in how things work. During holidays, she stayed in the mountains and helped making hay and taking care of (dairy) sheep. Later, she started to study Agricultural Sciences. After her Bachelor's at ETH, she worked on farms and at AGRIDEA. Currently, she is majoring in Animal Science.



IMANOL ZABALETA is and Agricultural and Environmental Engineer. Since 2013, he works at Sandec (Eawag) as a project officer and researcher. His current work focuses on organic waste treatment strategies. He also lectures at EPFL and ETH Zurich and supervises students conducting their internships and other study related projects.



AXEL ZEIJEN is doing research on the 3D printing industry in the Technology & Innovation Management group at D-MTEC at ETH. Outside the office, he is always in for doing any kind of sports or making music. Axel is looking forward to ETH week and doing his part to help reaching inspiring solutions!

↘ Team-building.

Welcome! We have set aside time for you to get to know the people you will work with over the course of the next six days. Your tutor has prepared this initial team-building session. He or she will make sure that you become familiar with working in an interdisciplinary group setting. Take this time to learn about your different backgrounds, experiences, and motivations for joining ETH Week.

During the week, you will need to collaborate closely, take decisions together, share tasks, coordinate, and produce a presentation by Friday afternoon. This will be challenging. The role of the tutor is to help you navigate through the different phases of the team process so that you can eventually become a well-functioning team. A first step to becoming this team will also be your first decision: You must select a team name.

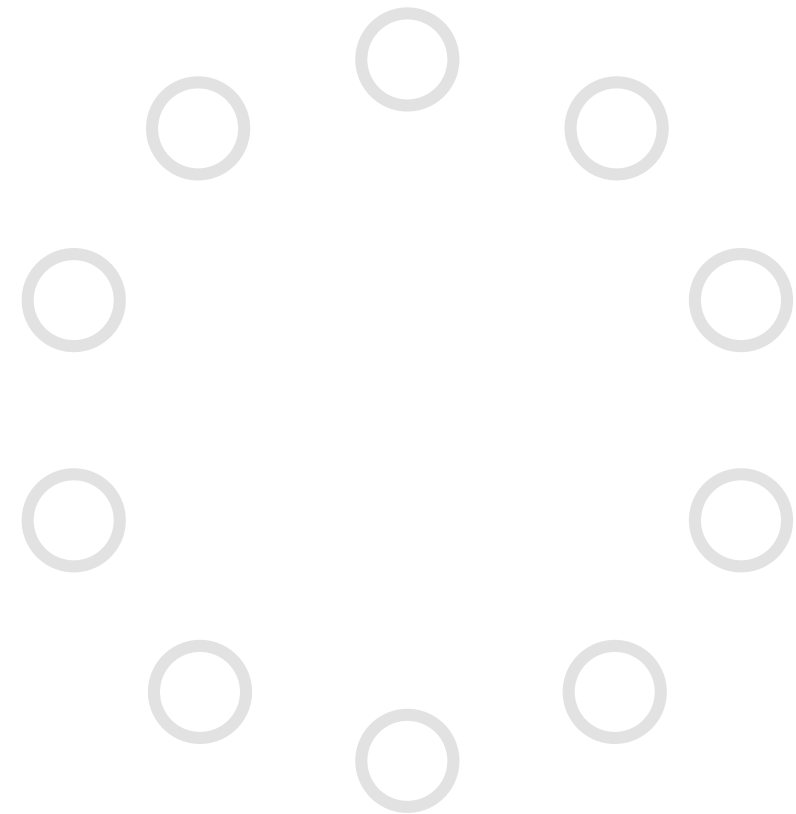
ROLES / During the week, you will take on different roles within the team. If your contribution actively reflects that role, that will make it easier for the team to grow together. There are also different task-related roles that you may distribute, such as: moderator, timekeeper, documenter, photographer, note-taker, mood encourager, etc. Try to rotate regularly and clarify who has which role.

× NOTE

This workbook is designed with plenty of white space for you to make it yours, to take notes and to keep track of what you judge to be important during the week. Some hints for how to fill this page:

- Who is who? Can you remember all the names of your team mates?
- What is your team name?

sunday
14:15
TEAM SPACES



Pick a name

× **NOTE**

Refer back to this page regularly throughout the week. Make sure you remain on track and use it as a guide during your creative process.

THE BRIEF

The curriculum of ETH Week brings together elements from research and design thinking to solve real-world problems. As a team, you will go through a number of steps that urge you to think outside of the boundaries of your discipline. One goal of ETH Week is to provide a safe environment that encourages free-spirited critical thinking, while building on the scientific research tradition as an essential foundation for bringing responsible solutions to problems. Instead of handing you a problem to solve, we ask you to define your own challenge, to frame a problem that you identify within the topic of ‘challenging water’. On the next page, you will find ‘the brief’, your task for the week. Every step of the way will bring you closer to finding answers to its three points.

The focus will not be on finding a compelling solution, but on defining a good problem, as mentioned in point (1). You will start with a first definition on Tuesday and improve it on Wednesday and Thursday. As you move through the week, you will deepen your understanding so that you can formulate a more and more concise ‘problem statement’.

Point (2) is related to learning how to explain something complex in a simple and compelling way, so that your audience can understand why your work is relevant and how the problem you define is actually solvable in the real-world context.

Last, point (3) gives you guiding questions to help you reflect your ideas critically, based on the scientific research tradition of ETH Zurich.

1. Define a problem statement that describes the challenge you want to address. It needs to be linked to a Swiss actor and to one of the 5 key topics of ETH Week.
2. Tell an inspirational story that explains where your ideas come from, why your problem statement is relevant and how a possible solution could look like.
3. Critically reflect your ideas by answering the following questions:

SCIENTIFIC RIGOR

- What are your underlying assumptions?
- What facts and figures did you rely on?

FEASIBILITY

- How feasible is your solution?
- Are there uncertainties related to your solution that would need further clarification?

SYSTEMS THINKING

- How is the problem embedded in the ecological, societal and economical context?
- What are the implications and tradeoffs of your solution?

↘ Rich picture.

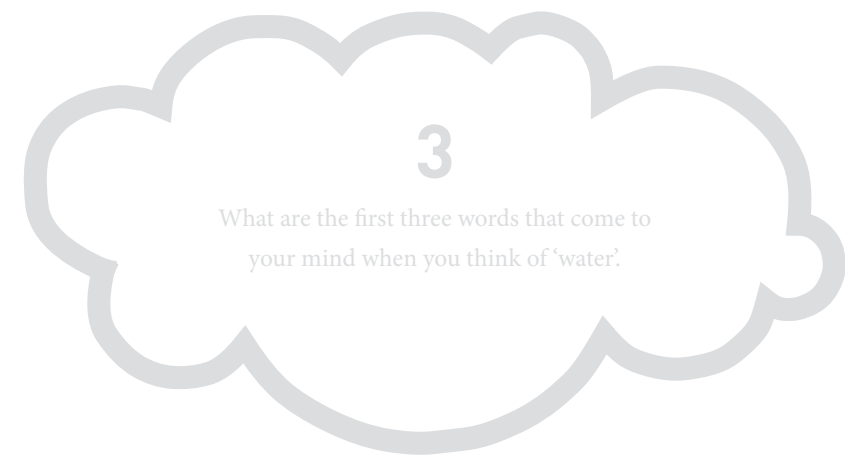
Enter the topic: Water. As it is Sunday and the day is reserved for team-forming activities, we refrain from input talks. Instead, we want you to build on the knowledge and the perspectives available within your team. Start building on your own experiences today and draw a visual image or diagram of where your water comes from, how it gets to you, and where it goes from there. Draw different elements and show how these are related to each other to form a system. Use the pictures as a basis for discussions on different levels and share your views and opinions.

DOCUMENTATION / At the end of every day, you will fill in a daily template. We call this last step of the day 'template check-out'. Start by tidying up your workspace. Make sure that the results of your discussions and your ideas are clearly documented on the pin boards for the next day. Add structure and remove everything unnecessary. Also, make sure there are no documents lying on the floor, as this is related to respecting your work.

Your daily template is basically the essence of your day. It reflects what is pinned up in your workspace, documents your process, and contains the main results. We give you instructions for how to fill each template at the end of the day. When it is complete, you will hang it on your process wall in the ETH Week Hall. It will remain there until the end of the week. The process walls are public so that ideas can flow and build on each other, and to foster informal discussions between you and students from other teams, experts and guests of ETH Week.

× HEADS UP

Sign up before 20.00 at the Info Desk for tomorrow's yoga class, the indoor rowing class, or the morning run.



↘ Template check out.

Your first template will contain the results of the discussions had during the rich picture exercise. It highlights the team-building goals of the day: to familiarise yourself with the interdisciplinary group setting and to build on and discuss your own experiences, values, and perspectives.

INSPIRATION NIGHT

Not everyone in the world has access to clean and sufficient drinking water. But how can actors in Switzerland help those in need? And most importantly: what is their motivation to do so?

A selection of the three young Swiss based start-ups and NGOs: MSABI, DRINK & DONATE, and VIVA CON AGUA, will elaborate on their business model and illustrate how challenges of drinking water provision can be approached creatively. Also, they talk about their personal story and motivation that has led them to where they are today. Our moderator, Michael Kropac, leads you through the talks. Take their stories as an inspiration for the projects you create throughout the week!

TALKS / start at 19.30 and last for about 60 min.

BAR / the bar will remain open until 22.00. Join us for a drink and tie up the loose ends of the day.



MICHAEL KROPAC is the co-founder of cewas, the international centre for water management services in Switzerland. He has been consulting major organisations for more than 10 years.



DANIELLE BÜRGIN is a music journalist working for the Radio station 'Radio X' in Basel. She co-founded the non-profit organisation Viva con Agua and is part of the steering committee.



NIKLAUS HOLBRO works for the Swiss Tropical and Public Health Institute and manages MSABI—a business incubator for water and sanitation service delivery enterprises in Tanzania. Niklaus holds a PhD in Neuroscience.



ANDREAS BATLINER is the Initiator and President of DRINK&DONATE, a non-profit organisation. He studied at the Art Center College of Design (Pasadena) and at the Pratt Institute in New York.



Your projects start tomorrow. Stay tuned.



The goal for Monday is to dive into the topic of water, and to get an overview of the complexities and challenges. You will build empathy for a range of actors you meet during the field trips, and discuss stories that include your personal interpretations.

7.20 — Zumba, indoor rowing class and morning run at the HPS Sports Center.

8.30 — Kick-off at ETH Week Hall.

↘ Check in.

9.00 ◆ INPUT TALK
An overview on water.

↘ Field trips!

15.30 — Return to ETH Week Hall.

↘ Unpack.

↘ Draw stories.

↘ Template check out.

18.15 — Dinner

19.30 ▲ INSPIRATION NIGHT
A cultural approach to the topic of water.

monday
sep 12

↘ Check in.

We have structured the week so that each day has a specific focus and that at the end of each day, you will document your results. The results of Sunday are visualised on the Sunday template on your process wall in the ETH Week Hall. The templates will also function as a roadmap for the whole week. Every morning, you will meet there, look back at the results of the previous days, and plan the day ahead together with your tutor.

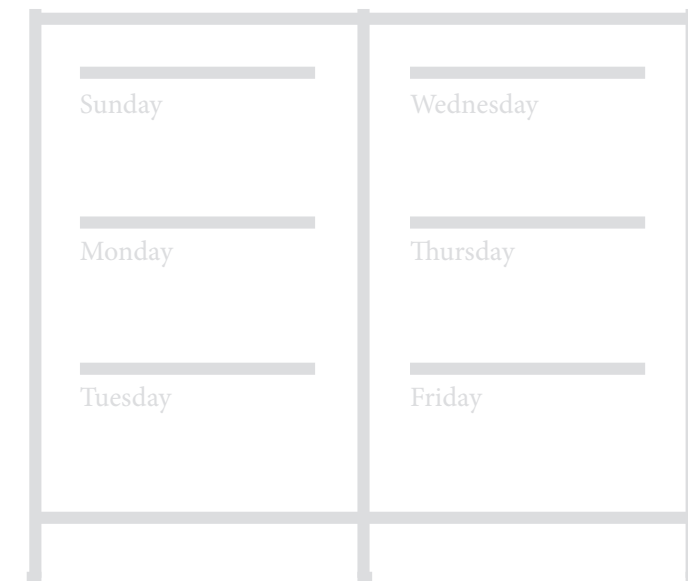
SELF-REFLECTION / The notion of self-reflection is linked to critical thinking. It covers the ability and willingness to understand how your own values influence your communication. This enables empathy, which is the willingness (and capability) of understanding other people's viewpoints. When you understand where you come from, and you are able to critically reflect on how your judgement is affected by your background, your mind should also be flexible to accept the different perspectives of other individuals. While you do not have to agree with the standpoint of the other individual, at least you should be able to see where they are coming from (or be willing to do so), and thus support a fair and rational communication, laying the groundwork for a positive and productive working process.

× NOTE

This slot repeats every day. Walk to your process wall after the kick-off, where you will meet your tutor. On Monday and Tuesday, you get 10 min for the check in. It increases to 20 min on Wednesday, Thursday and Friday as you will have more to discuss.

monday
8.40

ETH WEEK HALL



Process walls

◆ INPUT TALK

We start the day with a general overview of the topic of ETH Week 2016.

CHALLENGING WATER—AN OVERVIEW

Water is a fascinating liquid with very unusual properties. Water transports sugar and oxygen to our brain, it powers our turbines, and it make our crops grow. We use water to extract gold from rocks, to cook pasta, and to flush our toilets. But global water resources are unevenly distributed, and water risks such as droughts and floods are increasing due to climatic change and competing needs.

The households of Switzerland use about 140 liters of water per person and day, but the water footprint of a Swiss consumer reaches 4200 liters per day. To assess water demand and consumption, we have to differentiate between blue water, available from groundwater or lakes, and green water that is used directly by plants. Water availability is often limited by pollution through chemicals or microorganisms that cause water-borne diseases. Technologies to purify drinking water and sewage improve human health and mitigate environmental effects.

The water sectors are facing very diverse challenges: As a renewable energy, hydropower is finding new support, but in the coming years, Swiss power plants have to upgrade their ecological performance in a harsh economic environment where tariffs are replaced by market prices. In many parts of the world, irrigation is doubling agricultural yields, but water scarcity drives farmers to produce 'more crop per drop'. As consumers, we would like to know the water efficiency of agricultural products.

Where water has a price tag, industries are improving their process chains towards water-efficient production. Industrial water pollution, however, remains a serious issue in many parts of the world although end-of-pipe cleaning technologies are available. The sheer diversity of chemical pollutants represents a challenge for water monitoring and cleanup. The centralised urban water systems have evolved in affluent societies with abundant water resources. In arid areas of the global south, the growing urban population needs new types of infrastructure for water and sewage that can quickly cope with an increasing demand. In July 2010, the United Nations recognised the human right to water and sanitation. To achieve this goal, we need safe techniques and services for managing fecal sludge that are economically feasible and reduce health risks.

These diverse water challenges have one property in common: They can best be addressed when people with different backgrounds work together.

× HEADS UP

Please make sure to pick up your lunch bag in the catering area before heading to the meeting point for the excursions at 10:15.

monday
9.00

ETH WEEK HALL



DARCY MOLNAR is affiliated with the Center for Development and Cooperation (NADEL) and the Hydrology and Water Resources Management Group at ETH Zurich. She coordinates the MAS in Sustainable Water Resources. Darcy holds a BSc in Physics; her MSc and PhD degrees are in civil engineering. She has a keen interest in development issues related to water.



BERNHARD WEHRLI is Professor of Aquatic Chemistry at ETH Zurich and is affiliated with Eawag, the Swiss Federal Institute for Aquatic Science and Technology. His interdisciplinary research group analyzes biogeochemical cycles in rivers and lakes with the goal of improving the sustainable management of water resources.

↘ Field trips!

During ETH Week, the problems you will try to solve are most probably not your own. They are also set in a real-world situation. You will define a problem within a complex system of actors and an existing environment of ideas and mindsets.

Today, you will join students from other teams to go on a field trip. This is a chance to link the global overview talk of this morning to a local context. Keep an open and critical mindset and pick another student so that you can work in pairs.

On the field trips, we ask you to engage with real-world partners by formulating your own questions, from the electricians who work on site to the CEOs who take high-level decisions. We want you to put yourself into their shoes and understand what is important to them, the way they think, and the values they hold. A deep understanding of people will help you find better problems to solve. This is called empathy, and it will give you a fresh perspective on the world around you. Without empathy, your mind will automatically filter out information without you realizing it.

On your way back, you will translate your experience into a story that others can relate to.

× HEADS UP

You might want to contact these experts on Wednesday to get feedback on your ideas. Ask for their business card and if they will be available between 14.15–15.45.

monday
10.15
MEETING POINT

Build rapport.

Shift the focus to the actor and offer something of yourself.

Seek stories.

Learn about what he does, and more importantly thinks and feels.

Ask why?

What opinion made him take a decision, why it is it important to him?

× NOTE

Use this scaffolding to move beyond facts and observations to inferences and interpretations.

HOW TO INTERVIEW

You will start by directly observing what people say and do, what challenge they are trying to solve, and how are they solving it. Then you will move on to infer what they think and feel. We offer a simple scaffolding as guidance: what? how? why?

It is a tool that helps you advance to deeper levels of observation, moving from the concrete and obvious to the more complex and inferred. Start by documenting the facts and descriptions and ask: 'what?' 'how?' Then move on to the inferences. Ask 'why?'. You will need to evaluate the answers and use your own judgement. We want you to become comfortable with taking your own decisions. Be critical and put things into relation with the bigger picture discussed during the first talk in the morning.

You can also find some more tips after the overview of the different field trips.

what

is the expert trying to solve?
the facts

how

are they solving it?
the emotions and the techniques

why

are they doing it in this way?
your inferences

◆ FIELD TRIPS

The field trips are structured along the 5 key topics that we will introduce tomorrow. On this spread, they relate to Water for Food and Agriculture.

GEBRÜDER MEIER AG, DÄLLIKON

Hydroponic salad

The Meier Brothers' business grows vegetables and salad in greenhouses and free-range areas on the Erlenhof farm near Zurich. They use various irrigation systems, with hydroponic cultivation being especially innovative. Targeted supply of water and nutrients aims at reducing their consumption, while the controlled environment facilitates a reduction of pesticides. *This excursion will be in German.*



FRITZ MEIER JR has been running the family business of Gebrüder Meier AG for nearly 10 years together with his siblings. A trained horticulturalist with a master craftsman diploma in vegetable gardening, he is also a commercial college graduate.

RESEARCH INSTITUTES AT IRTA, SPAIN AND PUCP, PERU

Irrigation in the Spanish and the Peruvian context

On this experimental excursion you will talk about water challenges that farmers in Spain and Peru have to face. The excursion will make a link to the fact that a large part of the Swiss water consumption associated to food is not taking place in Switzerland directly, but is imported as virtual water, possibly from water-scarce countries. You will be able to work in an advanced video conferencing room and talk to local experts.



ASSUMPCIÓ ANTON works as a researcher at the Food and Agricultural Research Institute (irta) in Lleida, Spain. Her research focuses on the improvement of agricultural systems from an environmental point of view.



KARIN BARTL is Professor at the Pontifical Catholic University of Peru (PUCP), teaching environmental engineering and ecology. She is also a consultant on water footprints.



FRANCESC FERRER-ALLEGRE holds a PhD in agricultural engineering and is the CEO of LabFerrer, a technical distributor and consultancy for water management in agriculture.



IAN VÁZQUEZ ROWE is Associate Professor at the PUCP in Lima, Peru. He focuses on methodological advancements in Life Cycle Assessment.

◆ **FIELD TRIPS**

Water for Energy.

SH POWER, SCHAFFHAUSEN

Hydropower plant and revitalisation of the River Rhine

The run-of-the river hydropower plant 'Kraftwerk Schaffhausen' has an installed capacity of 25 MW and an annual production of about 168'000 MWh. It's certified with the eco label naturemade star for environmentally friendly hydropower production. The excursion will first guide you through the plant and then take you on a boat trip to visit restoration sites within its concession section. The goal of the restoration work is to improve the spawning grounds of fishes and provide new habitat for birds, such as the kingfisher.

**WINTERTHUR MUNICIPAL UTILITY, BÜHLER YARNS AND
FISCHWANDERUNG.CH**

Hydropower from small plants and river ecology

It is not only large power plants that produce energy. Freshwater power stations and small hydro plants also contribute to the grid. Two operators of such plants will explain the circumstances under which such installations can be operated. Efforts to minimise the negative impact of small hydro plants on river ecology will be explained. *This excursion will be in German.*



PETER HUNZIKER studied forestry at ETH Zurich. He heads his own engineering firm and has also been responsible for the maintenance of the shores of the hydropower plant since 1994.



STEFAN WASSMER is head of department for plant construction and in charge of gas and water operations in the Winterthur municipal utility.



ROLAND ENDERLI is a specialist in rotating electric machines. He works at Bühler Yarns as an electrical engineer.



EVA BAIER engagiert is engaged in advocacy for unimpeded fish migration in Switzerland. After graduating from ETH Zurich, she started the company fischwanderung.ch.

◆ **FIELD TRIPS**

Water for Industry.

F. HOFFMANN-LA ROCHE AG, BASEL

Water use in a pharmaceutical production facility

The water cycles in a pharmaceutical production plant have to be carefully designed, maintained, and monitored to prevent potentially hazardous chemicals from entering the environment. We will visit Roche's underground waste water system and the installations in place that allow the multinational healthcare company to handle the resource of water in a secure way.



MARTIN STUDER is the head of environmental protection at the Roche site in Basel. He holds a PhD in chemistry from the University of Basel.



PATRICIA FISCHER is working at F. Hoffmann-La Roche AG as a visit manager and has been working in the pharmaceutical industry for nine years. She has an advanced training in communication and public relations.



CHRISTOPH DOERR has a background in mechanical engineering and works as operations manager for energy supply at Roche, Basel.

COCA-COLA SCHWEIZ GMBH, BRÜTTISELLEN

Strategical goals and measures for water consumption goals

In 2013, Coca-Cola Switzerland bottled about 406 million liters of drinking water to produce the company's portfolio of alcohol free soft drinks. During the excursion, you will see the production site in Brüttsellen and hear about the measures that were implemented to reduce water consumption, control mechanisms to monitor water use, and the water strategy that will lead the company into the future.



MONICA LEHMANN is the national environmental manager at Coca-Cola HBC Switzerland. Her background is in food engineering. She has also undergone advanced trainings to deepen her knowledge of environmental management.

◆ FIELD TRIPS

Water for Sanitation and Hygiene.

EAWAG AND NEST, DÜBENDORF

Water cycling and research projects at Eawag and Nest

Sustainable use of building materials, energy, and water was a critical factor in the construction of the main Eawag building, the Forum Chriesbach. Thus, there are numerous special features on water cycles within the construction and projects on nutrient recovery are taking place. With the construction of the NEST building close by, another hub for research on faecal recycling and grey water use was established.



ISABELL KÖPPING is a specialist in urban water management, sustainable sanitation technologies, and limnology. As a research assistant at the engineering department of Eawag, she works on the development of additional modules to improve the quality of AURIN, a nitrified urine fertiliser.



EBERHARD MORGENROTH is the head of the Process Engineering Department at Eawag. His major research interests are on the sustainable development of urban water management, biological wastewater and biological drinking water treatment, as well as mathematical modeling.

KOMPOTOI, ZURICH

Dry toilets and potential reuse of waste

This excursion will introduce you to an alternative solution to our current toilet system, which would use waste as a potential product for further processing and reuse. Instead of flushing faeces into the sewer system together with a lot of water, they are collected and further processed, to be reused as compost. In this way, water can be saved and cycles closed.



LAILA RÜESCH co-founded the Kompotoi association in 2013. She holds a Bachelor's degree in environmental engineering from ZHAW Wädenswil.

◆ **FIELD TRIPS**

Water for Urbanisation.

PRORHENO AG, BASEL

Industrial and municipal wastewater treatment plants

Before waste water is released into natural streams, nutrients and other pollutants have to be removed or eliminated. Pharmaceutical waste and other chemicals currently constitute a particular challenge to the treatment facilities. ProRhenon, the operator of the sewage treatment plant, will walk you through each step required to clean the waste water to a point where it can be released into the River Rhine.

OFFICE OF CIVIL ENGINEERING, CANTON OF BASEL-STADT

City of Basel sewage system

We will explore the parallel world, hidden under many Western cities, that makes our daily life possible. Through one of 8000 inspection shafts, we will enter the Basel municipal sewage system, a network of tubes and canals with an overall length of 340km. The Basel-Stadt Office of Civil Engineering will explain the effort involved in maintaining this kind of system. *This excursion will be in German.*



ALAIN ZAESSINGER has a PhD in chemistry from ENSCM, Mulhouse. He is the managing director and chief operating officer of ProRhenon.

We do not yet know who our points of contact will be. Please ask politely who you can get in touch with if you have further questions about sewage systems at a later point.

HARDWASSER AG, PRATTELN

Drinking water from the River Rhine

Would you drink a glass of water from the River Rhine? If you live in Basel and open the tap, you are very likely to do so. Hardwasser takes water from the river to infiltrate the Hardwald forest's soil. It is then pumped out and cleaned further before being fed into the water distribution system. During the excursion, you will visit several stations of this infrastructure as well as a pilot plant installed for additional water treatment.



URS VON GUNTEN is Professor for Water Resources and Drinking Water at Eawag. His research includes the characterisation of water treatment processes as well as experimental and modeling work on biogeochemical processes in groundwater-infiltration systems.



THOMAS GABRIEL works for Hardwasser and is responsible for quality management and process engineering. He has also been in charge of different refurbishment projects.

× **NOTE**

Some tips on interviewing:

- When interviewing people, don't suggest answers to your questions. Even if they pause before answering, don't help them by suggesting an answer. This can inadvertently get people to say things that agree with your expectations. Ask questions neutrally.
- Don't be afraid of silence. Often, if you allow there to be silence, a person will reflect on what they've just said and say something deeper.
- Look for inconsistencies. Sometimes, there will be discrepancies between what people say and what they do (or say later). Probe these contradictions, but do so gracefully.
- Be aware of nonverbal cues. Consider body language and emotions.
- Stay on the same path of a question. Respond to what your interviewee offers and follow up to go deeper. Use simple queries to get him to say more. Ask 'why?'



↘ Unpack.

After the field trip, you will go back into your team and share your new knowledge with the others. To make it easier, you have prepared a story on four post-it notes. This is a simple way to condense a vast amount of information into a standardised sentence. Use the template for the story on the opposite page.

The story you bring back will help you externalise data and structure the conversation. Think of it as a hook to the experiences you have made. During the discussion, your team-mates will use it as a starting point to dig deeper, probing your assertion. Stories can uncover knowledge, reinforce discussions, and stimulate creative thoughts, actions, and alternatives. Unpack and identify tensions, contradictions, and surprises.

× NOTE

Make sure to use the following color coding: Someone (yellow), Wanted (green), But (pink), So (orange).

monday
16.00

TEAM SPACES

Someone ... (a person, a group)

wanted ... (sought, desired, had a goal)

but ... (complications, obstacle, conflict)

So, ... (climax, outcome, learning, resolution)

↘ Draw stories.

Learning how to take decisions together will be crucial in order to become a well-functioning team during the week. Only by creating room for exchange, you will be able to build on the thoughts of others. This will also help you to bring different ideas, opinions, and values together. Time pressure actually helps you in this process: it keeps you away from postponing important decisions.

Consider this slot a dry-run for the more important decisions that will need to be taken later in the week. Become comfortable with this work mode and learn how to establish a team culture that works for you. It needs to enable you to take decisions efficiently, representing the opinions of the team. Find out what rules could help you stay focused and move ahead one decision at a time.

× HEADS UP

Sign up before 20.00 at the Info Desk for tomorrow's zumba class, indoor rowing class, or the morning run.



↘ Template check out.

Despite the fact that all teams have visited the same excursions, we are almost certain that the results of your discussions in the afternoon will be very different from one team to the next. To visualise this, we ask you to draw three comics, representing the three most significant stories from the excursions onto the Monday template.

INSPIRATION NIGHT

The high relevance of water is not restricted to the technical and scientific contexts. With its fundamental importance for life on earth, water is an inspiration for art and religion. It has found its way into our culture in the form of symbols or myths. But why does an artist work on water? And how does the religious importance of water influence our perception of water?

Artist George Steinmann will open the evening by presenting two of his art works involving water. He will be followed by Hartmut von Sass, who illustrates the role of water in religion. Danielle Lalive will moderate the open discussion after both talks.



GEORGE STEINMANN is a visual artist, musician, and researcher interested in the relationship of contemporary art and science in connection with culture and sustainability. George was awarded the degree of Doctor Honoris Causa from the Faculty of Philosophy and History at the University of Berne.



HARTMUT VON SASS is the Associate Director of the Collegium Helveticum and Associate Professor for Systematic Theology and Philosophy of Religion at the University of Zurich. He studied Theology and Philosophy at the universities of Goettingen, Edinburgh, and Berlin.



DANIELLE LALIVE is an independent moderator for events, workshops, and processes in the field of sustainability. Previously, she served as head of corporate communications at Ernst Basler + Partner AG and as managing director at Inrate, an independent sustainability rating agency in Switzerland.

TALKS / start at 19.30 and last for about 90 min.

BAR / the bar will remain open until 22.00. Join us for a drink and tie up the loose ends of the day.



Tomorrow will be about framing the problem.



On Tuesday, we will introduce the five key topics to help you think about water in terms of additional dimensions. You will get to meet over 30 experts so that you can start defining the problem you will be working on for the rest of the week. Learn to take decisions quickly and act as a team.

7.20 — Zumba, indoor rowing class and morning run at the HPS Sports Center.

8.30 — Kick-off at ETH Week Hall.

↘ **Check in.**

9.00 ◆ **INPUT TALKS**
Introduction to the five key topics.

↘ **Prepare for knowledge fair.**

12.15 — Lunch break.

13.15 ◆ **LUNCH LECTURE SERIES**
Klement Tockner at the ETH Week Hall.

14.15 ◆ **KNOWLEDGE FAIR**
27 experts organised along the five key topics.

↘ **Unpack.**

↘ **Problem statement 1.0.**

↘ **Template check out.**

18.15 — Dinner

Open night.

tuesday
sep 13

◆ INPUT TALKS

This morning, we deepen our understanding and focus on five key topics, aligned with the UN World Water Development Report 2015 on 'Water for a Sustainable World'.

WATER FOR FOOD AND AGRICULTURE

Global stress on water resources is increasing as a consequence of growing agricultural activities. Many terrestrial ecosystems have already been degraded massively for providing agricultural land, and water scarcity related to irrigation has damaged water-dependent ecosystems. Coping with the food and biomass demand of an increased population, while minimizing the impacts of crop production, is therefore a massive upcoming challenge. This talk will cover strategies to deliver the biotic output for feeding mankind in 2050 and assess their impact on water resources. Waste reduction has a strong potential to increase the availability of food and would not result in a significant increase of environmental burdens. In regions currently under deficit irrigation, intensification can increase agricultural output, but needs to be accompanied with other measures to meet future food demand. Suitable areas for expansion are mainly located in Africa, followed by South America. Minimizing environmental impacts requires international cooperation aimed at producing crops where it is most environmentally efficient and not where it is closest to demand or cheapest. Consumers in Switzerland can help lower their water footprint by eating sustainable diets and avoiding the consumption of water-intense food and by buying only as much food as they need, reducing wastage of food.

× HEADS UP

You need to test your ideas with experts tomorrow and on Thursday. Stefanie Hellweg has reserved time for feedback tomorrow between 14.15–15.45. She will also be back on Thursday.

tuesday
9.00

ETH WEEK HALL



STEFANIE HELLWEG is Professor for Ecological Systems Design at ETH Zurich. In her current research, Stefanie Hellweg works on modeling, evaluating, and improving the environmental impact of products, technologies, and consumption patterns. In particular, she develops and applies methods for Life Cycle Assessment and industrial ecology.

× **HEADS UP**

You need to test your ideas with experts tomorrow and on Thursday. Helge Fuchs has reserved time for feedback tomorrow between 14.15–15.45. He will also be back on Thursday.

WATER FOR ENERGY

As our society is growing, energy demand increases commensurately. It is preferable to cover this demand with renewable energy sources, of which hydropower is so far the most important worldwide. The excess energy produced by solar or wind power is used to store water in reservoirs with higher elevation. In times of high energy demand, the stored water is used to generate electric energy. However, sustainable use of hydropower is accompanied by various challenges. Worldwide, the existing reservoir capacity is continuously decreasing due to sedimentation processes. Not only reservoirs, the so-called high-head power plants, are confronted with challenges. A number of existing hydropower plants within our Swiss rivers also need to be adapted to re-establish the connectivity for fish and sediments. Besides technical solutions, we also need improved boundary conditions within the energy market. A balance of ecological and economical benefits is required to counter such challenges and to redesign Swiss hydropower.



HELGE FUCHS is a Senior Research Assistant and Lecturer at the Professorship for Hydraulic Structures at ETH Zurich. He joined ETH eight years ago and currently works on hydraulic engineering topics, such as impulse waves in reservoirs or surfable river waves, thereby using advanced optical measurement techniques.

× **HEADS UP**

You need to test your ideas with experts tomorrow and on Thursday. Eberhard Morgenroth has reserved time for feedback tomorrow between 14.15–15.45.

WATER FOR INDUSTRY

Industry is dependent on the supply of a sufficient amount and quality of water. Historically, the availability of water has been taken for granted. But in many countries, increasing water scarcity and competing uses of water are challenging industrial production. Finding new local water resources or moving industry to another location are not viable solutions. This presentation will explore different approaches for industry and society to respond to these water challenges: Stricter regulations for industrial effluents, industry gaining flexibility by voluntary over-performance, or technologies for recovering valuable products from waste (energy, heat, clean water, nutrients, and chemicals). Technology can offer significant opportunities to uncouple industrial productivity from water demand. But a critical evaluation of technological approaches, unintended consequences, and societal drivers is necessary.



EBERHARD MORGENROTH is professor for Process Engineering in Urban Water Management at ETH Zurich, Head of the Process Engineering Department at Eawag and Director of Studies in Environmental Engineering at ETH. His major research interests are on the sustainable development of urban water management, biological wastewater, and biological drinking water treatment as well as mathematical modeling.

WATER FOR URBANISATION

The way we manage water in cities has hardly changed since the age of the Romans 2000 years ago. Fresh water is delivered to households, used once, and then discharged. This requires a gigantic transport system. For its 8 million inhabitants, Switzerland alone built for 8 million inhabitants 200'000 km of pipes for sewerage and water supply. Looking at its replacement value of 15'000 Euro per capita and a construction time of more than 50 years, it's quite obvious that this Roman approach is not a global solution for a rapidly urbanising world. However, this is the only mature engineering solution we have, even though we now know how to increase water productivity and are capable of treating water of any quality. The grand challenge is: Can we develop better solutions that require fewer pipes?



MAX MAURER is professor for Urban Water Systems at ETH Zurich and heads the department of Urban Water Management at Eawag, the Swiss Institute of Aquatic Science and Technology. His current research focus is on water infrastructure management and on developing novel ways to provide wastewater services in an urbanising world. He is dedicated to the transfer of scientific results into practice, as reflected in his publication record and public appearances.

× HEADS UP

You need to test your ideas with experts tomorrow and on Thursday. Christian Zurbrügg has reserved time for feedback tomorrow between 14.15–15.45. He will also be back on Thursday.

WATER FOR SANITATION AND HYGIENE

Clean water, basic toilets, and good hygiene practices are essential for the survival and development of all. Today, around 2.4 billion people do not have adequate sanitation, and 663 million do not have improved water sources. Without these basic needs, the lives of millions are at risk. For children under five, water- and sanitation-related diseases are among the leading causes of death. Every day, over 800 children die from preventable diseases caused by poor water, and a lack of sanitation and hygiene. The poor and most vulnerable suffer most whether in rural or in urban settings. Water, hand-washing, and hygienic toilets in homes and schools bring significant economic benefits for households, communities, and nations. Improved sanitation in developing countries can yield about 9 CHF worth for every 1 CHF spent. The barriers hindering improvement are complex. Behavior change, institutional reform, innovative financing approaches, investing in capacity-building, city-wide water and sanitation planning, and innovative cost-effective approaches are needed to ensure adequate water and sanitation infrastructure and service.



CHRISTIAN ZURBRÜGG is a member of the Eawag Directorate and heads the research group on solid waste management in developing countries at the Sandec Department of Eawag. He has been conducting applied research on urban environmental management for the last 15 years. His interest is on urban biowaste treatment and management aspects for low- and middle-income countries.

↘ Prepare for knowledge fair.

Between the input talks of this morning and the knowledge fair this afternoon, you will get the chance to reflect and build on the information gathered so far. We want you to identify links between the key topics and the actors you will get to meet at the knowledge fair.

The knowledge fair is organised into 5 sectors, one per key topic. Each sector includes 5-6 different expert booths. You will again work in pairs, each pair in your team covering a different sector. The knowledge fair has four rounds of 15 minutes each. For every round, you will switch to a different expert, which means you will get to see 4 of the 5-6 experts of the chosen sector. You will not be able to predict whom you will get to meet exactly or in which order, as the fair follows a free-market approach within the sector. Therefore, prepare at least five questions per expert for the chosen sector, and do this for all experts. Also, in each round, students from different teams will be present in one booth. Use the ‘what—how—why’ questions on the opposite page, but try to be more specific. You will also find short abstracts, guiding questions, and portraits of the experts you will meet.

× NOTE

Use this scaffolding to move beyond facts and observations to inferences and interpretations. Also, refer back to the pages on the field trips.

tuesday
10.30

TEAM SPACES

what

is the expert trying to solve?
the facts

how

are they solving it?
the emotions and the techniques

why

are they doing it in this way?
your inferences

◆ LUNCH LECTURE SERIES

During this series, we discuss perspectives that are relevant for all five key topics. They are organised along the three pillars of sustainability.

WATER FOR THE ENVIRONMENT AND ECOSYSTEM SERVICES

For the next three days, we have invited speakers who will shed light on water and its relation to ecology, society, and the economy. The first lunch lecture about the ecological aspects of water and aquatic ecosystems will be held by Klement Tockner. His main fields of interest range from freshwater biology and biodiversity to ecosystem services. His lecture will be followed by an open discussion.

tuesday
13.15
ETH WEEK HALL



KLEMENT TOCKNER is the director of the Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB) and full professor for Aquatic Ecology at the Freie Universität Berlin. He is Adjunct Senior Scientist at Eawag and Titulary Professor at ETH Zurich. He has special expertise in freshwater biodiversity, ecosystem services, and river and wetland restoration and management. He currently coordinates the EC-funded project BioFresh and is a member of several scientific committees.

● KNOWLEDGE FAIR

Water for Food and Agriculture.

HYDROSOLUTIONS LTD

Intelligence for environmental change in water resources

The iMoMo Global Initiative focuses on low-cost innovation technologies for better water resources management in water-stressed vcarry out cost-effective measurements without the need for excessive training and can then be used to improve the system management.

TECHNICAL ADVISORY GROUP ON WATER, FAO

International guideline for water footprint assessment of livestock

The FAO technical advisory group on water aims at developing an international guideline for water footprint assessments of livestock production, which also encompasses the production of crops for feed. The focus of the discussion is on the basic principles of water footprints for animal products and unsolved or challenging issues.

VSA INFORMATION PLATFORM

Sustaining the high water quality in Switzerland

Switzerland is a rather densely populated country, in terms of both urban and agricultural land use. These land uses pose a threat to the quality of water through pollution with chemicals such as nutrients, pesticides, or pharmaceuticals. How can we get a picture of the state of water quality of more than 60'000 km of river courses in Switzerland? Are measures necessary, and if yes, where?

× HEADS UP

You might want to contact these experts tomorrow to get feedback on your ideas. Ask for their business card and if they will be available between 14.15–15.45.

How can modelling inform decision makers about water resource management and where has this been achieved?

How can water footprint calculations be introduced into the FAO database AQUASTAT and why is it important?

Are our rivers and lakes clean? How can measures be implemented?

tuesday
14.15

ETH WEEK HALL



TOBIAS SIEGFRIED is the co-founder of hydrosolutions Ltd., a private enterprise located in Zürich. His work is interdisciplinary, with strong ties to academia, the private sector, and governments in the corresponding regions of interest.



STEPHAN PFISTER is a senior research associate at ETH Zurich in the group of Ecological Systems Design. He serves as a technical supervisor of the FAO technical advisory group on water.



IRENE WITTMER is the leader of the VSA Information Platform. She studied environmental science at ETH Zurich.

COOP SWITZERLAND

Identifying water hotspots in the supply chain

Through the supply chain of its products, Coop as a Swiss retailer affects water resources in Switzerland and abroad. The process used to identify water hotspots in the supply chain are explained, and innovative pilot projects that Coop is implementing in water-scarce countries and regions are presented.

LAND-CLIMATE DYNAMICS GROUP, ETH ZURICH

Impacts of the anthropogenic climate change on the water cycle

Anthropogenic climate change has substantial impacts on the water cycle, both in Central Europe and globally. Changes are expected with respect to droughts and heavy precipitation, as well as associated temperature extremes. Approaches to adapt to these changes and the implications of the 1.5 and 2° global temperature targets are discussed.

WATER REUSE IN ISRAEL

Swiss Federal Institute of Aquatic Science and Technology

Israel is a water-scarce country, mandating a careful water resource management that integrates water resource augmentation and pollution control. Desalinated seawater, brackish groundwater, and reclaimed wastewater are vital components of the water supply. To be environmentally and agriculturally sustainable over time, extremely high-quality treatment is needed, and the effects of the altered water composition have to be observed.

What can retailers do, to lower the environmental impact of water consumption of their supply chain in the agricultural sector?



RAPHAEL SCHILLING is project manager for food sustainability at Coop. In previous positions, he had assignments in Costa Rica, Ivory Coast, Honduras, and Ethiopia focusing on sustainable supply chain development for cocoa, coffee, and bamboo.

What measures are needed to improve the resilience of agricultural systems in response to climate change?



SONIA SENEVIRATNE is associate professor for land-climate dynamics at ETH Zurich. Her research interests include climate change and extreme events, land-climate interactions, and droughts and hot extremes.

How does Israel reuse water in agriculture and where are limitations or drawbacks?



RONI PENN is a postdoctoral researcher at Eawag in the Department of Urban Water Management. Her PhD at the Israel Institute of Technology focused on the impacts of on-site reuse of light-greywater on urban separate sewer systems.

◆ KNOWLEDGE FAIR

Water for Energy.

VUE – VEREIN FÜR UMWELTGERECHTE ENERGIE

Labeling of energy

What does 'ecologically sound' mean in the context of hydropower exploitation? This is what the naturemade star label defines, referring to the natural river state. The label contains a monitoring of the power plant in the domain of minimal flow, hydro peaking, reservoir management, bedload management, and power plant design.

WASSERAGENDA 21

Agent network to improve the Swiss water management

Water Agenda 21 is a stakeholder platform in Switzerland with the goal to stimulate dialogue between actors with different water-related interests and to initialise integral water management projects. Members are federal and cantonal authorities, branch associations, academics and NGOs.

KJ CONSULT

Hydropower concept for the government of Bhutan

Bhutan's economy is based largely on hydropower, agriculture, and forestry. An expansion of the export of hydropower to India could spur sustainable growth in the coming years. However, large dams and hydropower operations are among the key factors leading to a decline of fish populations: thus, fish migration and environmental flows are the two most dominant aspects that need to be solved.

× HEADS UP

You might want to contact these experts tomorrow to get feedback on your ideas. Ask for their business card and if they will be available between 14.15–15.45.

How can an ecolabel promote eco-friendly hydropower?

How can a stakeholder platform contribute to the solution of future water-related problems?

How can Bhutan develop its hydropower in a sustainable manner without repeating the ecological mistakes of the past?



URSULA STOCKER is an energy consultant for Brandes AG, responsible for the coordination of hydropower certification, communication, and international engagements within the VUE.



STEFAN VOLLENWEIDER is chief executive officer of Wasser-Agenda 21, where he organises events, supports working groups, and leads projects.



KLAUS JORDE works as an independent consultant for his own company KJ CONSULT. He has been working in many projects, mostly related to dam hydropower development and water resources management.

HP WALSER AG KLEINKRAFTWERKE

Challenges for small hydropower plants

Small hydropower plants are part of the Swiss energy system. They face challenges related to subsidies and price development, but also have to find a balance between the production of energy and their ecological impacts.

SCCER-SOE – SWISS COMPETENCE CENTER FOR ENERGY RESEARCH

SUPPLY OF ELECTRICITY

Climate change, renewable energy sources, and hydropower systems

Future hydropower systems may be threatened especially by climate change and increased production from renewable sources. Climate change will affect the water availability, whereas renewable sources are lowering energy prices and increase price volatility. Tools available to design and assess new operation strategies for the future hydropower systems are explained and discussed.

PRO NATURA

Ecological impact of hydropower

Pro Natura is pursuing a variety of strategies for balancing demand for renewable hydropower against the preservation of natural riverine systems. It supports energy efficiency and energy sufficiency as well as the naturemade star ecopower label. At the political level, it advocates improved framework conditions for bodies of water and negotiates with hydropower operators on ways to optimise plants.

The discussion at this booth will take place in German.

Which contribution to the Swiss electricity supply can small hydropower plants provide, and at what cost for the environment?



HANSPETER WALSER is the owner and operator of HP Walser AG Kleinkraftwerke. He has previously held various positions in controlling and project management.

What challenges do climate change and renewable power sources pose to hydropower systems?



DANIELA ANGHILERI is a postdoctoral researcher at ETH Zurich, currently employed at the SCCER-SOE. She has worked in the fields of hydrological modelling, reservoir management, and assessing the impact of climate change on water resources.

How can an ngo help to balance the need for more renewable electricity and the protection of natural river systems?



LUCA VETTERLI is a water expert. He has represented a number of environmental organisations in successful negotiations on important hydropower projects in Switzerland.

◆ **KNOWLEDGE FAIR**

Water for Industry.

JOULIA SA

Heat recovery solutions

The 'Joulia-inline' is a shower drain with an integrated heat exchanger. The incoming fresh cold water, normally directly connected to the mixing unit, is preheated with a heat exchanger from the energy of the warm waste water. Thus the temperature of the incoming water can be preheated from around 10°C to a temperature of 20°C to 25°C.

BLUACT TECHNOLOGIES

Nanofiltration technology for the treatment of water

A novel filtration technology using hybrid membranes made from milk protein and porous carbon has proven to be very efficient in the treatment of water contaminated with heavy metals, metal cyanides, or radioactive substances. Importantly, these protein fibrils also allow the reduction of membrane-immobilised metal ions into valuable metal nanoparticles or thin films, turning a global risk challenge into a unique opportunity.

× **HEADS UP**

You might want to contact these experts tomorrow to get feedback on your ideas. Ask for their business card and if they will be available between 14.15–15.45.

What is the advantage of heat recovery in private homes compared to other forms of energy recovery?

How can a filtration system contribute to water resource protection, and which factors give a new water-cleaning technology a head-start over the competitors?



CHRISTOPH RUSCH is cofounder of the company Joulia SA. Before studying mechanical engineering, he completed two apprenticeships, one as a machine mechanic and one as motorbike mechanic.



SREENATH BOLISETTY is the CEO of BluAct Technologies GmbH and as a scientist at ETH Zurich.

NESTLÉ

Water stewardship at Nestlé

Nestlé has shown leadership in driving water use efficiency within its operations; however, beyond the fences of its factory sites, the company wants to complement these efforts to achieve sustainable use of water and address operational and reputational challenges. Nestlé delivers water stewardship initiatives wherever needed around its factories and in key sourcing locations of its agricultural raw materials.

UNILEVER

Unilever WASH programme

Unilever's global strategy is built to achieve the purpose of 'making sustainable living commonplace'. Our ambition is to improve people's health and well-being by supporting the delivery of sustainable access to safe drinking water, sanitation, and hygiene. The pitch will include examples of how Unilever deals with 'water challenges' in partnership with others to promote life-saving behavior and how our brands help to create a better future.

PHARMAFILTER

Healthcare solutions

Pharmafilter delivers improved waste management infrastructure and safer logistics to hospitals. Effluents from toilets, sinks, and showers, as well as shredded waste are transported to an onsite purification plant. The solid waste is fermented to create biogas, whereas all harmful substances are eliminated from the waste water.

How can a big corporation create shared value around water?

How can a global company become a leader in water sustainability?

What are the drivers for advanced treatment and reuse of hospital wastewater?



CARLO GALLI is the Technical Director for Water Resources at Nestlé Corporate Operations. He leads the global Water Stewardship strategy for the Group within direct operations (close to 500 factories) and the agricultural supply chain.



CAROLIN HOYER is Sustainable Business Manager at Unilever. She is responsible for the company's sustainability strategy. Her background is in marketing, sales, and communication with an Executive Master of Science in Communications Management.



EDUARDO VAN DEN BERG is the creator, technical architect, and managing director of Pharmafilter.

◆ KNOWLEDGE FAIR

Water for Urbanisation.

NEOPERL GMBH

Small components with a big effect

At the heart of every water-saving product by Neoperl is an integrated flow regulator. This technology ensures that water flows at a near-constant rate regardless of fluctuations in the line pressure. Thus with its water- and energy-saving products Neoperl has developed a simple and cost-effective solution to make a quantifiable contribution towards protecting the climate and environment.

REGIONAL URBAN WATER MANAGEMENT

Office for the environment, Canton Solothurn

In water supply systems and technology, you can only earn money selling the technology; you cannot gain a share of the benefit, because the revenue is capped by costs. Hence, water utilities have a hard time transitioning to innovation technologies. When an administration wants a make changes, it must explain the underlying problem, show that another technology is available, and accompany the transition for as long as one or two generations.

STUDIO DREISEITL

Landscape architects

Tried and trusted conventional water infrastructure systems are at the limits of their capacity. An alternative idea is to manage storm water where it hits the ground with a decentralised system that incorporates green roofs, retention areas, and controlled flooding of streets and parks. Through this, people will realise that the city changes and looks different during a rain event. Such projects are only possible when all stakeholders and aspects are integrated from the very beginning.

× HEADS UP

You might want to contact these experts tomorrow to get feedback on your ideas. Ask for their business card and if they will be available between 14.15–15.45.

How can you reduce water use in a simple way with immediate effects?

How does an urban water management administration foster innovation in the utility sector?

How can innovative urban drainage solutions increase the quality of life in cities?



HOLGER SCHÜRLE is deputy head of Research and Development at Neoperl GmbH. He has a degree in mechanical engineering, specialised in the area of micro system technologies and materials science.



PHILIPP STAUFER is the Head of the water division in Environment Office of the Canton Solothurn. His background is in waste disposal engineering.



GERHARD HAUBER has been a landscape architect for more than 20 years. He is leading international projects in the Arab Emirates, Singapore, and the US.

WIFPARTNER

Sustaining the high standard of water infrastructure

How can high standards for infrastructure be sustained economically in the future? Infrastructure management is part of the answer. The impacts young professionals, politicians, or common citizens can have on strategic questions in this field are discussed. The discussion would benefit if some key parameters of an urban water system (length of the sewer/water supply network, investments into the water system etc.) are known. These can be found on communal websites.

WINGS

Moving to non-grid water and sanitation systems

The strategic program on water and sanitation innovations for non-grid solutions (Wings) strives for a fundamental paradigm shift in urban water management by developing novel 'non-grid-connected' water and sanitation systems that can function as alternatives to network-based systems. The goals of the program range from the design of alternative systems at the technical and governance levels over to the implementation and performance assessment of these systems.

How can we preserve our high standard of urban water services into the future?



ANJA HERLYN manages the infrastructure section of WIFPARTNER AG, a leading infrastructure consultancy in Zurich. She is convinced that infrastructure management will contribute to a sustainable development of society.

Can on-site water and sanitation systems provide a solution for the global urban water crisis?



SABINE HOFFMANN is group leader in the Environmental Social Sciences (ESS) Department at Eawag. Her research interests are in research management, transdisciplinary research and urban water management.



ULRIKE FELDMANN is a scientific assistant in the ESS Department at Eawag. Her background is in environmental engineering, with a specialisation in urban water management and sanitation.

◆ KNOWLEDGE FAIR

Water for Sanitation and Hygiene.

GRAVITY DRIVEN MEMBRANE FILTRATION

Innovative drinking water technology

Diarrheal diseases pose a significant health risk in low-income countries. Major causes are inadequate sanitation, contaminated drinking water, and inadequate hygiene. Gravity-driven membrane (GDM) filtration is an innovative technology to treat drinking water at either the household or the community level and experiments in the development and application of GDM filtration are presented.

MOSAN

Mobile sanitation solutions

MoSan is an ecological sanitation solution for emergencies and humanitarian aid in developing countries. It consists of a sanitation service and a compact mobile dry-toilet that enables the recycling of human excreta and therefore creates value and income sources for the local population. All MoSan products are designed in collaboration with affected people and combine function, quality, an aspirational design, and affordability.

HELVETAS

Development organisation

Considerable progress has been achieved regarding access to drinking water and sanitation in developing countries in the last 25 years. Still, 2.4 billion people do not have access to sanitation facilities. Moreover, 663 million people do not have access to improved drinking water. The presentation highlights the importance of behaviour change in improving the water and sanitation situation.

× HEADS UP

You might want to contact these experts tomorrow to get feedback on your ideas. Ask for their business card and if they will be available between 14.15–15.45.

What should a water-filtration system for the poor look like?



REGULA MEIERHOFER is group leader of the group Safe Water Promotion Group at Sandec, the Department of Sanitation, Water and Solid Waste for Development at Eawag. She has a degree in environmental sciences.



Which design principles and methodologies were critical in creating a feasible sanitation solution for people in emergencies?

MONA MIJTHAB is a social entrepreneur and design researcher at Zurich University of the Arts in Switzerland and works in the field of 'Design with Social Impact'. She developed and founded the MoSan sanitation solution.

What are Helvetas' key factors for successful water development projects?



VALÉRIE CAVIN has worked in development cooperation for 15 years. She has particular expertise in the fields of household water treatment, hygiene education, and behaviour change. She is currently piloting the RANAS approach in a number of countries in close collaboration with Eawag.

GJOSA SA

Breakthrough shower technology

Gjosa SA is a Swiss company engaged in commercializing a breakthrough shower technology. This solution is characterised by an unprecedented water flow and substantial energy savings, coupled with a complete feeling of rinsing and the possibility to dispense additives into the water stream.

RISKS, ATTITUDES, NORMS, ABILITIES, AND SELF-REGULATION

Model for behavioural change

The RANAS methodology can be used to identify factors for behavior change based on theories of psychology, to measure these factors, to select behavior change techniques, and to evaluate the techniques' effectiveness. The approach was originally developed to change behavior in the water, sanitation and hygiene sector in developing countries, but is applicable to a range of behaviors.

How does a think-tank develop water-saving solutions?



LUC AMGWERD is co-founder and CEO of Gjosa SA, a spin-off company of Creaholic. He is a trained lawyer with a few years in academia, managing projects, and a practice-oriented book on IP in small and medium companies.

Which interventions support behavioural change in hand-washing campaigns?



MAX FRIEDRICH is a PhD researcher within the Social Science Department at Eawag. His current research project concerns the design, implementation, and evaluation of a handwashing campaign in Harare, Zimbabwe.



MIRIAM HARTER is as project leader in charge of a field study in Mozambique, Cambodia, and Ghana. Her job is to determine the effectiveness and mode of operation of Community Led Total Sanitation (CLTS). She has founded NGO Color Esperanza, a partnership program with Peruvian families.

↘ Unpack.

About half of the time this afternoon is reserved for you to bring the information gathered during the knowledge fair into your teams, discuss it, and structure it into different clusters or frameworks that make sense.

To simplify sharing and understanding, the findings are aggregated into categories: actors—needs—insights. As time is limited and the amount of information gathered is large, you need to synthesise the discussions held at the fair into a few concise findings that you can share with your team. Make sure the other students understand why the finding was meaningful to you. Indeed, this synthesising process is very personal. You have to infer meaning and interpret what was being said. Then you must decide which information is important and filter the data accordingly.

× NOTE

A few hints for writing post-it notes in style:

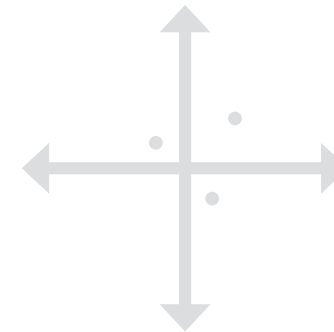
- One aspect per post-it note, to regroup ideas.
- Incorporate drawings to make your ideas more understandable.
- Be concise and adapt to the size of the post-it note.
- Color code! Today: actors (yellow), needs (green), insights (pink).

tuesday
15.45

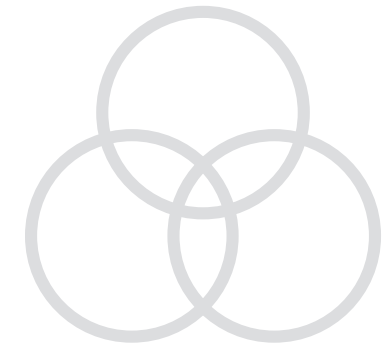
TEAM SPACES

1 → 2 → 3 → 4

journey map



two-by-two



venn diagrams

Use frameworks

HOW TO FORMULATE A PROBLEM STATEMENT

A problem statement is short and has three ingredients: actor, need, and insight. By combining them into a sentence, they are put in relation and reveal initial dependencies. Problem statements are standardised sentences that guide the process of your team, like a slogan. They also provide focus to generate ideas during ideation tomorrow.

Example: Swiss individuals with interests in making their own meals and who are health conscious need convenient ways to maintain their proper micronutrient intake because a lack in these nutrients is correlated with deficiency diseases which lower quality of life and are costly to cure. (Project Micro Meal, ETH Week 2015).

A good problem fulfils the following criteria:

1. Is the problem statement focused enough to have a specific impact?
2. Does the question allow for a variety of solutions?
3. Does the question take into account context and constraints?

You may have to play with the scope of your problem statement. If too broad, you might not know where to start and develop concepts that are unspecific. If too narrow, you might already have a specific solution in mind. In both cases, you need to adjust and dig deeper in order to find at what 'altitude' the real need lies so that you can overcome a precise constraint and innovate.

STANDARDISED STRUCTURE /
(Actor) ... needs ... (need) ...
because ... (insight).

× NOTE

In pairs, use this scaffolding to formulate a first problem statement. Discuss your answers to each question, then move on to the next.

describe

the problem you have identified in three lines.

version 0.1

Phrase it as a problem statement.

impact

State the ultimate impact you are trying to have.

context and constraints

Finally, write down some of the context and constraints that you're facing.

version 0.2

it as a problem statement.

↘ Problem statement 1.0.

Now it is time to start defining the problem you want to solve. You will do this by formulating a first problem statement that is short and simple and that inspires your team.

The trick is to feel comfortable with taking quick decisions. As this is an iterative process, there will be enough time to make it more precise tomorrow or change it if need be. At the same time, the trick is to iterate in a constructive way, which means to build continuously on every step and include the knowledge gathered. With every iteration, you will gain a better understanding of your problem, which is why your problem statement will become clearer and more precise.

In pairs, you will use the template on the opposite page to phrase a first problem statement. It is the least straightforward task of the week, and it is not easy to get right in a first attempt. The result will be a draft that you will improve again and again.

× HEADS UP

Sign up before 20.00 at the Info Desk for tomorrow's pilates class, indoor rowing class, or the morning run.

(Actor)

needs

(need)

because

(insight)

■

↘ Template check out.

The crucial lesson of today was to take decisions quickly as a team. As you have become familiar with the dynamics, understand that your ideas are not lost, but may return later in the process, when they can be used to build on another thought. Therefore, the template contains more than just the selected problem statement.

OPEN NIGHT

We have nothing special planned for tonight. As usual, dinner is from 18.15 to 19.15. The ETH Week team, trainers and tutors will have a drink afterwards, so stay with us if you like, the bar closes at 22.00.

If you need access to the team spaces after 23.00, pick up an access badge before 20.00 at the Info Desk.



You will redefine the problem statement tomorrow.



The goal for today is to formulate a refined problem statement that reflects the deeper understanding gained during the first iteration. During the morning, you will think of initial solutions to really understand your problem. The afternoon is reserved for integrating feedback and research results.

- 7.20 — Pilates, indoor rowing class and morning run at the HPS Sports Center.
- 8.30 — Kick-off at ETH Week Hall.
 - ↳ Check in.
 - ↳ Ideate.
 - ↳ Assumptions and plan ahead.
- 12.15 — Lunch break.
- 14.15 ◆ **LUNCH LECTURE**
Maude Barlow at the ETH Week Hall.
 - ↳ Research and test.
 - ↳ Problem statement 2.0.
 - ↳ Template check out.
- 17.30 — Leave for Strandbad Tiefenbrunnen.
- 18.30 ▲ **INSPIRATION NIGHT**
Sports, barbecue and meeting the water ambassador at Strandbad Tiefenbrunnen.

THE DESIGN THINKING FACILITATORS

The design thinking facilitators will accompany you today and tomorrow to provide you with a wide range of methods that will be used to develop solutions and improve your problem statement. They will be the pacemakers of the week and collaborate with your tutors. As experts in creative processes, they will help your team take decisions in the right order.



STEFANO BRUSONI is Professor of Technology and Innovation Management at ETH Zurich. He holds a DPhil in Science and Technology Studies from SPRU at the University of Sussex, UK. Prior to entering academia, he worked as a firefighter, which he enjoyed tremendously. His research interests include the emergence of alternative product architectures, firm dynamics and modularity.



AMULYA TATA was a chemical engineer in her earlier life and is now sustaining her curiosity as a PhD student in technology and innovation. Her research is on organisation design, entrepreneurs, 3D printing and big data. She is extremely passionate about the climate and was involved with Climate KIC, ImpactHub and Sika experience.



DANIELLA LAUREIRO-MARTINEZ is Senior Assistant at the Technology and Innovation Management Chair at the D-MTEC. Daniella also teaches courses related to innovation and managerial cognition and methods at the Masters, Executive and PhD levels.



FLORIAN RITTINER is a workspace consultant at Witzig. He supports organisations and universities in the design of creative work environments for research and development. Furthermore, he is a co-founder of SparkLabs and teaches Design Thinking at ETH Zürich.



LINDA ARMBRUSTER holds a MA in Strategic Design from the design akademie berlin. As Project Manager at Spark Works, a strategic human-centered innovation firm, she builds and leads inspiring research and advisory programs with interdisciplinary teams to tackle complex challenges in the private and public sector.



JOSE ARRIETA is a doctoral student focused on innovation management with a background in physics and engineering. He studies the processes through which people reach solutions to complex problems, aiming to understand the limitations in the problem solving of strategic problems.



SONJA FÖRSTER is a doctoral student at the Technology and Innovation Management Chair at the Department of Management, Technology and Economics. Her research centers around Design Thinking, its antecedents and impacts for students and practitioners.



HANS KASPAR HUGENTOBLER is a member of the core management team of the BA Design Management International and serves as a senior researcher at the Competence Center Design & Management at Lucerne University of Applied Sciences and Arts.



REGINA VOGEL combines a Design Thinking background with six years of innovation management for sustainability at Climate-KIC Switzerland. She is a passionate developer for teaching products. She enjoys facilitating workshops and coaching student groups in formats like ETH Week where students learn by doing.

After establishing a first draft of the problem statement yesterday evening, it is time to see if it holds and if it is productive. You will start ideating, which means generating solutions in a democratic way. First of all, the goal is not yet to develop good solutions, but to get the obvious solutions out of your heads and advance beyond them. This will result in an improved problem statement and clusters of initial ideas.

Next, you will start sketching. This is a quick way to bring ideas onto paper and figure out the details of different solutions. You will need to take decisions, going from an abstract idea to concrete details. In this way, you can probe and clarify different aspects of an idea. As you are under time pressure, you will automatically have to focus on the essentials, which helps you discard weak ideas in the process. Sketching is also a quick way to make ideas shareable. In fact, you will work in sub-teams all morning, advancing different ideas in parallel.

× NOTE

Make sure that yesterday's problem statement and the actors-needs-insight post-its are visible in the space where you ideate.

1

Go for quantity

2

Be visual

3

Defer judgement

4

Build on the ideas
of others

5

Encourage wild
ideas

6

Stay focused on
the topic

7

One conversation
at a time

Brainstorming rules

↘ Assumptions and plan ahead.

After generating first ideas, this slot sets aside time to evaluate the ideas and remain critical. Reconsider the brief that we introduced on Sunday, and start answering the questions on the page opposite.

This goes hand in hand with preparing for the first round of testing in the afternoon. In order to get feedback from the experts you have met so far (during the field trips, at the knowledge fair, or during one of the input talks), choose who would be relevant to talk to and schedule a phone call or ask for an answer by e-mail.

Start answering the scientific rigor questions under point (3) of the brief:

- What are your underlying assumptions?
- What facts and figures did you rely on?

◆ LUNCH LECTURE SERIES

During this series, we discuss perspectives that are relevant for all five key topics. They are organised along the three pillars of sustainability.

wednesday
13.15

ETH WEEK HALL

THE SOCIAL AND POLITICAL ASPECTS OF WATER AS A HUMAN RIGHT

Our second lunch lecture session guest, Maude Barlow, explains to you why the right to water needs to gain legal recognition at a national and international level. As a consequence, she elaborates the importance of the 2010 UN resolution on the human right to water and sanitation, and to what extent it has left an impact.

In addition, Barlow talks about her own campaign involvement aiming to get the right to water adopted.



MAUDE BARLOW is a Canadian author and the winner of the Right Livelihood Award 2005, also known as the 'Alternative Nobel Prize'. She is the Chairperson of the Council of Canadians, an NGO that advocates clean water, and co-founder of the Blue Planet Project that advocates the human right to water. In 2008 & 2009, she served as Senior Advisor on Water to the 63rd President of the United Nations General Assembly. Maude has authored and co-authored 16 books and is the recipient of 12 honorary doctorates.

↳ Research and test.

During the research and test phase in the afternoon, you will deepen your understanding of the problem you are trying to solve. For this, you will split up to work in parallel:

- do research to back up your assumptions;
- get feedback from experts by phone or e-mail;
- test your idea sketches with non-experts.

You will learn to build on other people's knowledge and decide which feedback is useful for advancing your project, and how to integrate it. You will learn to be critical about your own ideas and evaluate them as you move on.

We suggest that during this phase, you should listen as much as possible and talk as little as possible while explaining your ideas. You don't want to convince anybody; rather, you want to observe their reactions and learn from the exchange.

This marks the end of the first iteration. After this, you will jump back to defining, i.e., reframing your problem statement. You will go through a second iteration tomorrow.

× NOTE

You may use the feedback capture grid below. Try to include getting answers to the feasibility part of the brief:

- How feasible is your solution?
- Are there uncertainties related to your solution that would need further clarification?

wednesday
14:15

What worked well?



What did not work?



What questions remain?



New ideas that emerged.

↘ Problem statement 2.0.

Because we want you to fall in love with the problem and not with solutions, the formulation of the problem statement is always the goal of the day. Make sure it reflects the lessons learned from the ideation phase in the morning and the testing phase in the afternoon.

Make sure it fulfils the following criteria:

- Is the problem statement sufficiently focused to have a specific impact?
- Does the question allow for a variety of solutions?
- Does the question take into account context and constraints?

A problem statement has the following goals:

- Phrase a problem as a standardised sentence to guides the process of your team, like a slogan.
- Provides focus to generate ideas during brainstorming.
- Serves as an evaluation tool for competing solutions, so that your team can take decisions when working in parallel.
- Documents the progress of your understanding of the problem, deepening with every iteration.

× HEADS UP

Sign up before 17.00 at the Info Desk for tomorrow's zumba class, indoor rowing class, or the morning run, with your rector, Sarah Springman.

(Actor)

needs

(need)

because

(insight)

■

↘ Template check out.

Tonight, water experts will have a look at your template to give you feedback by tomorrow morning, if necessary. Consider this another forum for testing your ideas, the answers to the brief, and the clarity of the problem statement. Try to focus on the essence of what you have learned.

INSPIRATION NIGHT

After the three first challenging days, we change the setting and move to the lakeside of Zurich to clear our minds and relax. The night starts off with a sports programme hosted by Renato Maggi of the ASVZ. You will be able to choose from a variety of activities, such as volleyball, soccer, juggling, table tennis or water sports. If you get hungry, grab something from the grill and get a cold drink.

In line with the sports theme we have invited Ernst Bromeis. Listen to him speaking about his adventurous expeditions in European waters, about his training schedule, the fear of drowning or failing and his personal moments of joy. Lukas will guide you through the evening. *Ernst Bromeis' talk will be held in German.*



RENATO MAGGI works as a university sports teacher for the ASVZ. He received his degree in higher education for sports from ETH Zürich. He has experience in teaching and has recently joined the ASVZ management team as head of events. He is also the head of the Swiss delegation for the Summer Universiade.



ERNST BROMEIS is a ultra long-distance swimmer and water ambassador. He went on extraordinary expeditions: As for example in 2014, when he swam down the Rhine in its entire length. He vividly conveys what it means to pioneer new solutions and why he believes that he, as an individual, can change the world.



LUKAS MÖLLER currently pursues a Bachelor's degree in Interdisciplinary Sciences at ETH Zurich. From 2015-2016, he was president of the Student Associations Board of the Student Union of ETH Zurich (VSETH) and participant of first ETH Week in 2015. He is motivated to share this experience and to discuss alternative teaching forms at ETH Zurich.

CHANGE OF SCENERY / We transfer to the lakeside. Leave at 17.30 in order to arrive on time at 18.30 at the Strandbad Tiefenbrunnen. ...Don't forget your bathing suit and sports clothes!



Tomorrow, you will get to prototype and test.



It is time to start prototyping. During the morning, you will work on solutions and make your ideas tangible. You will then use your prototypes to get feedback from experts, making a dry run of a first presentation. Afterwards, you will integrate their comments and reconsider the brief.

7.20 — Zumba, indoor rowing class and morning run with Sarah Springman at the HPS Sports Center.

8.30 — Kick-off at ETH Week Hall.

↘ Check in.

↘ Prototype.

12.15 — Lunch break.

13.15 ◆ **LUNCH LECTURE**
Suzanne Thoma at the ETH Week Hall.

↘ Expert feedback.

↘ Reconsider the brief.

↘ Template check out.

18.15 — Dinner

Open night.

thursday
sep 15



In America, today is also
imagineadaywithoutwater.org

↳ Prototype.

Prototyping is a chance to bring ideas out of your head into the material world, making them tangible. Your idea is just beginning to come to life. Also, try to forget about precision and perfection for the moment: low-resolution prototypes are quick and cheap to make, but they are still sources of valuable insights as you study, discuss, and test them with your peers. Similar to yesterday morning, you will again work in sub-teams and produce different prototypes in parallel. You will present two prototypes to the experts after lunch.

While prototypes can be very different in format, ranging from a wall of post-it notes to 3D models, and role-play, the general idea is the same: to gain an understanding of how your solution will function in reality and how it will be experienced from the actor's perspective.

In this iterative process, you need to take one decision after the other to move from intangible ideas to a concrete model. What was unknown when you started off should now become precise. Also, design your prototype according to what you want to learn from it.

By making ideas tangible, they also become shareable. And the more you go into detail, the less chance there is of a misunderstanding. Therefore, prototypes are valuable conversation pieces that can have a rhetorical value of their own.

× NOTE

You can pick up additional tools at the Infodesk. You will need to deposit an ID card. Some more reasons to prototype, in bullet points:

- To ideate and problem-solve
- Solve disagreements
- Communicate
- Start a conversation
- Fail quickly and cheaply
- Manage the solution-building process
- Test possibilities

thursday
9:15

TEAM SPACES

what

do you want to prototype?

how

do you want to prototype?

why

is it relevant?

◆ LUNCH LECTURE SERIES

During this series, we discuss perspectives that are relevant for all five key topics. They are organised along the three pillars of sustainability.

ECONOMIC CHALLENGES AND OPPORTUNITIES OF HYDROPOWER PRODUCTION

After learning about the relevance of water for ecology and water for society in the previous days, Suzanne Thoma rounds off the lunch lecture series with an insight into the economical aspects of water as an energy source. Being the CEO of the major energy provider BKW, Suzanne Thoma is able to relate directly to her own professional background.

thursday
13:15
ETH WEEK HALL



SUZANNE THOMA is the CEO of ‘The BKW Group’, an international energy and infrastructure provider based in Bern. She employs and manages roughly 4,500 people. Being an ETH Alumna in Chemical Engineering, she has worked in a range of roles and countries, as for example as Head of the Automotive Division of the WICOR Group, as CEO of Rolic Technologies Ltd., and for Ciba Spezialitätenchemie AG.

Expert feedback.

The feedback round is organised into three rounds. You will have 10 minutes to present the two final prototypes of this morning. Once you are done presenting, the experts have 10 minutes to give you feedback.

Some hints:

- Define beforehand what you want to test.
- Let the experts experience the prototype: Show, don't tell!
- Actively observe.
- Follow up with questions.

Make the most of this time. Keep track of what is being said and think about what this means for your project. What needs to change, what needs to be improved, what needs further research or clarification? Take notes on the feedback capture grid on the opposite page.

Also, make use of the time when experts are giving feedback to other teams. Focus on the third point of the brief: systems thinking. You can find the brief again on the next page.

× HEADS UP

The experts will come into your team spaces, so that you lose no time in transit. There are three slots, you will get feedback either at:

- 14.15, if you are in team 1, 4, 7, 10, 13 or 16.
- 14.40, if you are in team 2, 5, 8, 11, 14 or 17.
- or at 15.05, if you are in team 3, 6, 9, 12, 15, 18.

thursday
14:15

TEAM SPACES

What worked well?



What did not work?



What questions remain?



New ideas that emerged.

↘ Reconsider the brief.

By now, you have learned to be open to feedback and how to be critical of it. You have almost 24 hours left before you get to present your story on stage. As you are part of a large team, this is a lot of time and the most exciting part of the week. Start by including the feedback and iterate a third and last time. Also, reconsider the brief:

1. Define a problem statement that describes the challenge you want to address. It needs to be linked to a Swiss actor and to one of the 5 key topics of ETH Week.
2. Tell an inspirational story that explains where your ideas come from, why your problem statement is relevant and how a possible solution could look like.
3. Critically reflect your ideas by answering the following questions:

SCIENTIFIC RIGOR

- What are your underlying assumptions?
- What facts and figures did you rely on?

FEASIBILITY

- How feasible is your solution?
- Are there uncertainties related to your solution that would need further clarification?

SYSTEMS THINKING

- How is the problem embedded in the ecological, societal and economical context?
- What are the implications and tradeoffs of your solution?

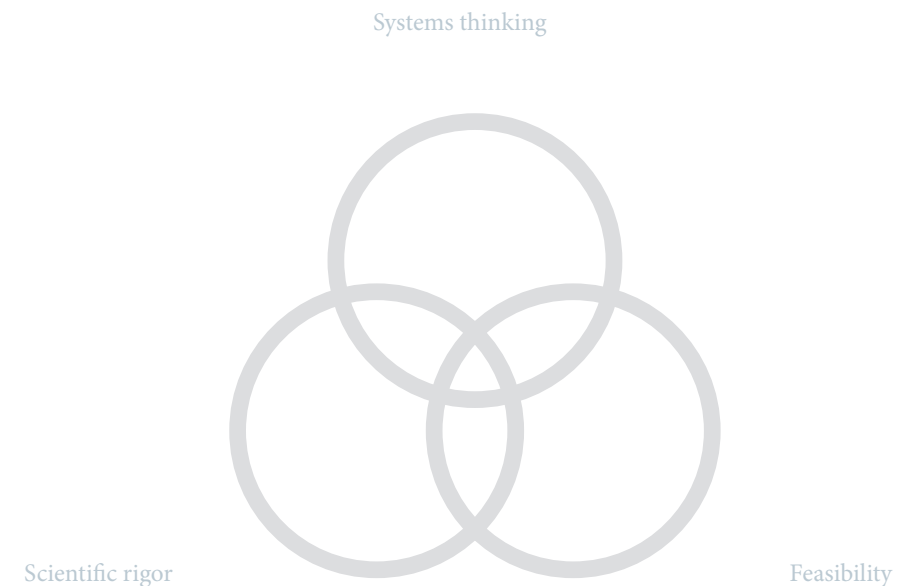
× HEADS UP

Test microphone and technics today between 19.30–20.30. Send some representatives to understand what you need to pay attention to and what technical tools are available when preparing your presentation tomorrow morning.

Sign up before 20.00 at the Info Desk for tomorrow's Tai Chi class, indoor rowing class, or the morning run.

thursday
15:30

TEAM SPACES



Name your project

↘ Template check out.

You will be amazed to see how much you can achieve in just one day. In order for everyone else to be able to put your advancements into perspective, we ask you to document both the ideas that you presented as well as the feedback you received. Also, answer the last questions of the brief before getting ready for tomorrow.

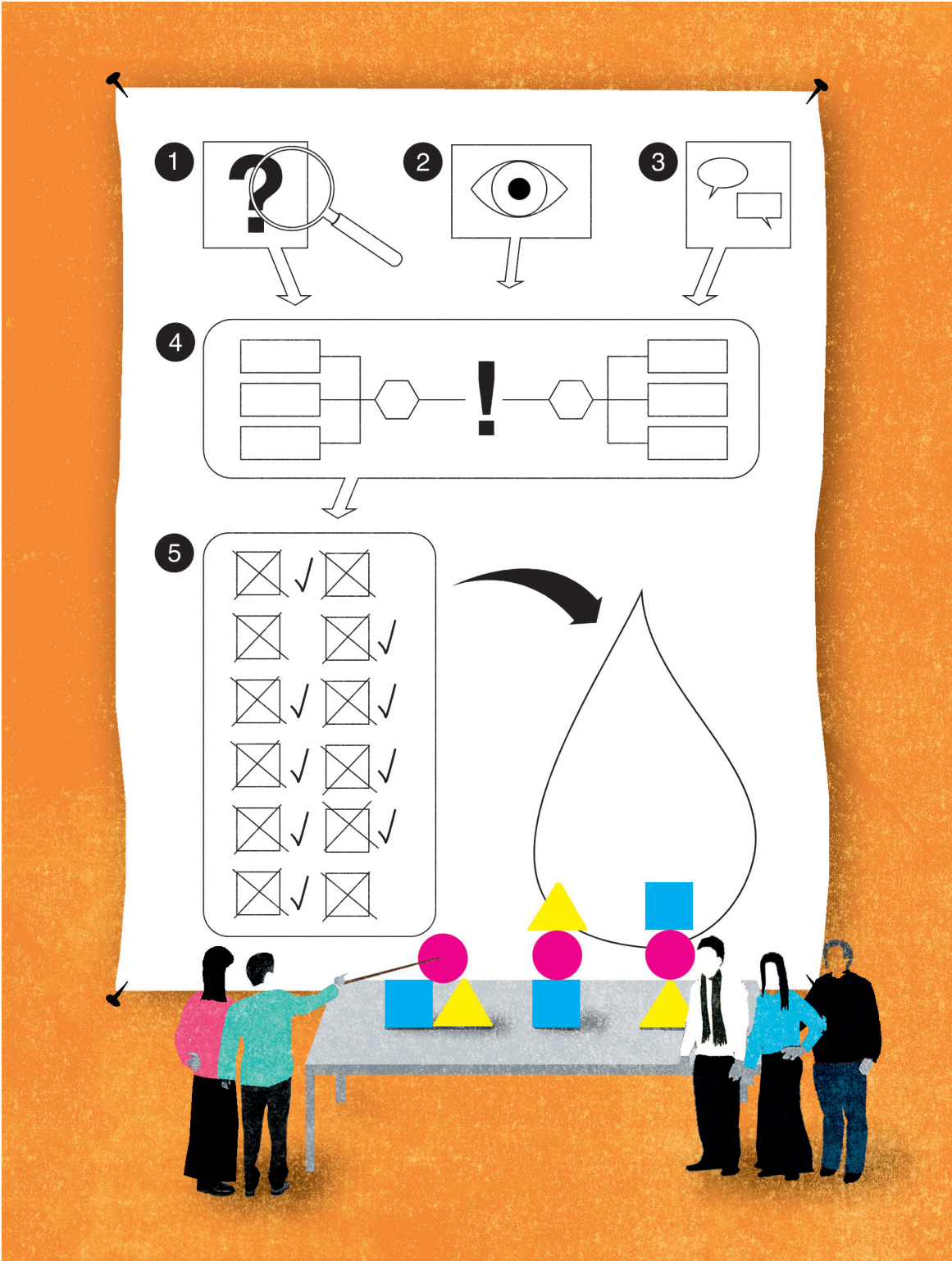
OPEN NIGHT

We have nothing special planned for tonight. As usual, dinner is from 18.15 to 19.15. The ETH Week team, trainers and tutors will have a drink afterwards, so stay with us if you like, the bar closes at 22.00.

If you need access to the team spaces over night, pick up an access badge before 20.00 at the Info Desk.



Goodnight! Tomorrow's the day.



On this last day of ETH Week, we ask you to focus on telling a balanced story that takes into account all three parts of the brief. Use your prototype to convince the audience of your problem statement and solution. Then wrap up the week before we all come together to celebrate six days of critical thinking!

7.20 — Tai Chi, indoor rowing class and morning run at the HPS Sports Center.

8.30 — Kick-off at ETH Week Hall.

↘ Check in.

↘ Polish the presentation.

↘ Rehearse.

↘ Last check out.

13.00 — Lunch break.

14.15 ◆ **FINAL PRESENTATIONS**
It is time to get on stage and tell a convincing story at ETH Week Hall.

↘ Wrap up.

18.30 ◆ **CLOSING CEREMONY**
Sarah Springman concludes ETH Week at ETH Week Hall.

19.30 — Paella Dinner

20.30 ▲ **UNTIL NEXT YEAR?**
It is time to celebrate the last six days at ETH Week Hall.

friday
sep 16

↘ Polish the presentation.

Use this last session to finish your project. Decide how to best use the 5 minutes to tell your story. In order to be more time-efficient, you may delegate responsibility for finishing the prototype, polishing specific arguments, and writing the overall narrative. Integrate the final answers to the questions of the brief. You will also need to decide on a name for your project.

× HEADS UP

- All documents and material needs to be handed in before 13.00 at the main stage in the ETH Week Hall.
- In order to guarantee a smooth change between two groups we ask you to take seats according to the sequence of the final presentation. Seats will be labeled.

friday
9:15

TEAM SPACES

Without Powerpoint

We are no fans of powerpoint and believe that you will find more inspiring ways to tell us a convincing story.

↘ Rehearse.

Your story can only be 5 minutes long, which is more than sufficient to bring great ideas across. In order to present successfully in such a short time, you need to practise. Rehearse your story to your neighbouring team and vice-versa. You would probably prefer to continue working on your presentation or prototype instead of wasting valuable time on a dry run. However, what matters is not only what you say, but also how you say it, and this is how you control that aspect.

Try to do 2–3 iterations and pretend there are 200 people in the audience. Include the logistics of the event, when you need to prepare, how much time you have to get on stage, and when you receive the ‘1 minute left’ notice. Also clap when the time is up to find an elegant way to wrap up in case you should run over time.

× HEADS UP

- Keep in mind that each group has 5 minutes for their final presentation.
- There are 3 headsets and 1 hand microphone.
- There are only 2 minutes between presentations. Therefore, once finished, each group needs to leave the stage as quickly as possible and bring their prototype to their process wall.

↘ Last check out.

Your process wall will be part of the final exhibition together with your prototype. In order for your project to be understandable, write a short abstract, document your arguments for the questions in the brief, and write the final version of the problem statement on the last template.

THE FEEDBACK

Anita Buchli and Paolo Burlando are responsible for the qualitative assessment according to the three tasks mentioned in the brief. They will provide feedback to all groups. Their comments are based on the process walls and the presentations, but they will also be present on several occasions during the week to observe how the groups progress. To this end, in addition to the process walls, they may engage in informal discussions with the students and/or tutors.

THE MOST INSPIRING STORY

Stefano Brusoni and Alan Cabello Llamas are specifically responsible for evaluating point (2) of the brief. They will evaluate the teams in terms of who offered the most inspiring story, i.e., how the teams acted together and how well they managed to explain a complex issue in a simple way, while nonetheless communicating a clear message and by using a compelling visualisation. Stefano and Alan will select the group that wins the 'award for the most inspiring story'.

THE MOST FASCINATING SCIENCE

Darcy Molnar and Bernhard Wehrli are responsible for evaluating point (3) of the brief. They will evaluate the teams in terms of scientific and technical quality, i.e., how solid the foundation of their work appears from the perspective of water experts. Their evaluation will be based on the questions for systems thinking, scientific rigour, and feasibility. They will select the group that wins the 'award for most fascinating science'.



PAOLO BURLANDO is professor at the Chair of Hydrology and Water Resources Management. Among other fields, he carries out research in rainfall field analysis, hydrologic extreme forecasting and prediction, global change and water resources, hydrology and ecology interactions in mountain floodplains. He holds a Degree in Civil Engineering from the University of Genoa.



ANITA BUCHLI is part of the rectorate staff at ETH Zurich and responsible for the 'Critical Thinking Initiative'. She is interested in methods and processes to foster creative thinking and responsible acting because she is convinced that these are important competences required for future leaders. She holds a Doctorate in Neuroscience at ETH Zurich and the University Hospital in Zurich.



STEFANO BRUSONI is Professor of Technology and Innovation Management at ETH Zurich. He holds a DPhil in Science and Technology Studies from SPRU at the University of Sussex, UK. Prior to entering academia, he worked as a firefighter, which he enjoyed tremendously. His research interests include the emergence of alternative product architectures, firm dynamics and modularity.



ALAN CABELLO LLAMAS holds a PhD from EPFL focused on human-centered innovation processes, having been a Visiting Researcher at Stanford's d.school. He is the founder of Spark Labs, an initiative with the purpose of teaching Design Thinking as an approach to innovation, as well as a research associate at ETH Zurich, and the Central and Eastern Europe innovation manager for Allianz ACGS.



DARCY MOLNAR is affiliated with the Center for Development and Cooperation (NADEL) with the Hydrology and Water Resources Management Group at ETH Zurich. She coordinates a Master of Advanced Studies (MAS) in Sustainable Water Resources. Darcy holds a Bachelor's degree in Physics; her Master and PhD degrees are in Civil Engineering.



BERNHARD WEHRLI is Professor of Aquatic Chemistry at ETH Zurich and is affiliated with Eawag, the Swiss Federal Institute for Aquatic Science and Technology. His interdisciplinary research group is analyzing biogeochemical cycles in rivers and lakes with the goal to improve the sustainable management of water resources.

friday
14:15

ETH WEEK HALL

↘ Wrap up.

After all the time dedicated to activities, we have now reserved some time to reflect. Between the final presentations and the closing ceremony, you will have the opportunity to meet one last time in your teams and wrap up. Your tutor has designed this slot to help you reflect your team process. This is a chance to think about how your group worked together. Discuss what was good and what could have been improved. Also, sit together with your tutor and teammates and reflect on what you have learned during the last 6 days. As it will be your last formal meeting during ETH Week, use it as an opportunity to find a common understanding of the experience you have gone through.

× HEADS UP

- You can cast a vote for your favorite team before 17.15.
- All teams will also receive written feedback after ETH Week.

friday
17.15

Your take home message

Anything that you would like to share with your team before closing the week?

FINAL EVENT

- 14.15** Sarah Springman will open the final presentations at the ETH Week Hall. All teams get to go on stage and present their story. The event will be moderated by Gerd Folkers, who you have met on the first day.
- 17.15** Students wrap up their team process while the jury deliberates.
- 18.30** Everybody is back in the Hall for the closing ceremony. The jury will give feedback to all teams and Sarah Springman will hand out three awards: one for 'the most inspiring story', one for 'the most fascinating science' and the 'grand prize' of ETH Week 2016 for the winning team of your peer-to-peer voting.



SARAH SPRINGMAN is the rector of ETH Zurich and Professor of Geotechnical Engineering. She studied soil mechanics at Cambridge University, then embarked on a career in industry before returning to Cambridge, where she earned her PhD and established an academic career. She also represented Great Britain as a athlete from 1983 to 1993, winning 20 elite European Triathlon Union (ETU) Championship medals in triathlon and duathlon.



GERD FOLKERS studied Pharmaceutical Sciences and attained a doctorate in Pharmaceutical Chemistry at the University of Bonn. In 1991, he has been appointed Professor for Pharmaceutical Chemistry at the ETH in Zurich. Gerd Folkers is the President of the Swiss Science and Innovation Council SSIC and the Head of the Critical Thinking Initiative.

PARTY / we have organised music and a disco ball so that we can celebrate. The hall will remain open until midnight.



Thank you!