



MIRAI Scientific Session in Sustainability November 13-14, 2019 Stockholm University

Sustainability linked to the UN Sustainable Development Goals (SDGs)

Topics:

- **Water Resources** – continued from this workshop, and possibly widened in scope (e.g., including social and microbiological aspects).
- **Energy Systems** – wider in scope than just specific technologies, including also Carbon Capture and Storage (CCS) and other cross-sectoral carbon management measures for negative emissions.

The abstracts submitted to these two main topics have been clustered based on content into the following **related SDGs**:

- **SDG 6 – Clean water and sanitation** (7 abstracts)
- **SDG 7 – Affordable and clean energy** (3 abstracts)
- **SDG 11 – Sustainable cities and communities** (5 abstracts)
- **SDG 13 – Climate action** (7 abstracts; 4 adaptation-disaster management, 3 emissions mitigation)
- **SDGs 14-15 – Life below water** (3 abstracts) and **Life on land** (1 abstract)

Venue

Stockholm University Aula Magna.

Pick-up from recommended hotels (www.mirai.nu/wp-content/uploads/2019/05/Mirai-seminar-2019-accommodation.pdf) will be arranged

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Programme:

November 13:

- 08:00 Pick-up at recommended hotels
- 08:30-09:00 Welcome to Stockholm University and opening remark by Professor Georgia Destouni, Head of the Department of Physical Geography
- 09:00-09:30 Keynote speaker Prof David Bastviken, Linköping University, *“Research on the interplay between water and climate”*
- 09:30-10:15 **SDG 7 – Affordable and clean energy** (3 presentations x 15 min¹)
- 10:15-10:35 Coffee/Tea and group photo
- 10:35-11:35 **SDGs 14-15 – Life below water and on land** (4 presentations x 15 min¹)
- 11:35-12:35 Lunch
- 12:35-14:00 **SDG 6 – Clean water and sanitation** (4 presentations x 15 min¹ + 1 joint presentation x 25 min¹)
- 14:00-14:30 Coffee/Tea
- 14:30-15:20 Start group discussions - see grouping based on related SGD and questions for discussion in attachment
- 15:30-18:30 Joint workshop on the NABC method with Innovation
- 18:30 Bus to Stockholm City Hall
- 19:00-21.30 Reception, hosted by the City of Stockholm at Stockholm City Hall

¹ Including time for questions



November 14:

09:00-09:30 Keynote speaker Prof Shigenori Fujikawa, Kyushu University, on Energy systems related to the SDGs

09:30-10:00 Coffee/Tea

10:00-11:15 **SDG 11 – Sustainable cities and communities** (5 presentations x 15 min²)

11:15-12:30 Lunch

12:30-14:15 **SDG 13 – Climate action** (7 presentations x 15 min²)

14:15-14:45 Coffee/Tea

14:45-16:00 Continue group discussions - see grouping based on related SGD and questions for discussion in attachment

16:15-16:45 Reporting from the groups and final remarks

16:45-17:00 Closing speech by President Astrid Söderbergh Widding, Stockholm University

17:15 Bus to Farewell Reception

18:00 Farewell Reception, hosted by the Embassy of Japan at the Residence of the Japanese Ambassador, Djursholm, Stockholm

20:00 Bus back to Stockholm city

² Including time for questions



Questions for group discussions

1. Which targets or indicators of your assigned SDG do the group's research fields mostly relate to?
2. Do you see important research links to some other SDG target(s) or indicator(s)?
3. Do you see collaboration opportunities within your or with another group for your assigned SDG or another SDG?
4. Is the SDG perspective helpful for identifying new opportunities for research and research collaborations?

Groups based on related SDG

SDG 7 – Affordable and clean energy – presenting November 13, 09:30-10:15

- **Mai Thanh Nguyen**, Hokkaido University, *Nanoparticles for rechargeable batteries*
- **Lisa Åkerlund**, Uppsala University, *The proton trap – a new route to organic energy storage*
- **Leteng Lin**, Linnaeus University, *Hydrogen fuel from biomass residues*

SDGs 14-15 – Life below water and on land – presenting November 13, 10:35-11:35

15 – *Life on land*

- **Tamao Saito**, Sophia University, *Bacterial composition in post-mined Sarobetsu wetland*

14 – *Life below water*

- **Agneta Andersson**, Umeå University, *Coastal phytoplankton characterization for assessing ecological state*
- **Guillaume Vigouroux**, Stockholm University, *Nutrient management and hydroclimatic effects on coastal water quality and ecological status*
- **Pierre de Wit**, University of Gothenburg, *Effects of ocean acidification on the genetics of marine animals*

SDG 6 – Clean water and sanitation – presenting November 13, 12:35-14:00

- **Sepehr Shakeri Yekta**, Linköping University, *Sewage sludge digesters*
- **Maya Endo-Kimura**, Hokkaido University, *Titanium photocatalysis for pollutant removal*
- **Manabu Fujii**, Tokyo Institute of Technology, *Water chemistry*
- **Graziely Santos Pereira**, Linnaeus University, *Assessment of microorganisms for eco-friendly, cost-effective biodegradation of textile dyes*

Joint presentation by:

- **Jonathan Roques**, University of Gothenburg, *Combining Swedish membrane technology with Japanese marine Anammox bacteria for wastewater treatment in aquaculture basins*
- **Federico Micolucci**, Lund University, *Wastewater treatment via membrane technologies*
- **Tomonori Kindaichi**, Hiroshima University, *Anammox process combined with membrane technology for Nitrogen removal from wastewater*

SDG 11 – Sustainable cities and communities – presenting November 14, 10:00-11:15

- **Sharifi Ayyoob**, Hiroshima University, *Urban energy resilience*
- **Zahra Kalantari**, Stockholm University, *Interactions between urban land-use changes and greenhouse gas emissions*
- **Mikiko Sugiura**, Sophia University, *Institutional options of creating “public” blue-green spaces in Tokyo metropolitan area*
- **Ewa Machotka**, Stockholm University, *The Role of Science and Arts in Green Gentrification in Tokyo*
- **Takehiro Watanabe**, Sophia University, *Restoring a Tokyo River: Science, Community Governance*

SDG 13 – Climate action – presenting November 14, 12:30-14:15

Adaptation, disaster management

- **Shinichiro Nakamura**, Nagoya University, *Flood Risk Management in Japan*
- **Yoshihiro Shibuo**, University of Tokyo, *Real-time monitoring of subsurface water level to manage urban inundation hazard*
- **Malgorzata Blicharska**, Uppsala University, *Proactive drought management in Sweden*
- **Yukinaga Nishihara**, Waseda University, *Irrigation Management System in Japan*
- **Roman Selyanchyn**, Kyushu University, *Efficient CO2 capture*
- **Truong Nguyen**, Linnaeus University, *Forest residues and fossil coal for electricity production without/with carbon capture & storage*
- **Fuguo Xu**, Sophia University, *Energy Management for Connected HEVs*