Workshop with KTH Environmental Humanities Lab and KTH Climate Action Center

Towards a RE-GENERATIVE AI

Charting Artificial Intelligence and Nature-based solutions for climate adaptation strategies

Dear all,

You are invited to participate to a workshop exploring the synergies, trade-offs between Artificial Intelligence and Nature-based solutions in the context of Anthropocene. The workshop is open to the academic community (i.e., professors, researchers and students at every level) and it will benefit from open house presentations and closed-door discussions.

The Anthropocene reflects the idea that humans have become a dominant force in reshaping the planet’s processes. As technology evolved, we entered a new chapter in human’s history (hereby named *technosphere*): the one where machines, algorithms and the internet of things enhance human capabilities, expanding its abilities to adapt and to react to changes. As these systems and tools are not environmentally and socially neutral, there is a pressing need to assess what they entail, what they are used for and in what ways their interaction with natural elements is leading to positive outcomes.

Using Nature-based solution (NBSs) as example of climate adaptation strategies. Participants to this workshop will learn about how Artificial Intelligence (AI) foundation concepts, its applications in climate adaptation and how we can move towards a re-generative AI: the idea to design, develop and deploy machine-based tools capable to supporting nature and its crucial role in adapting to changing climate conditions.

Funded by the Lerici Foundation, this workshop aims a creating **a platform for discussion and reflection** linking diverse knowledge domains. The workshop will also produce **a tangible outcome: participants in the roundtable discussion will create a dictionary (“glossary”)**, a collection of shared semantics, aimed at guiding technosphere practitioners (i.e., programmers, project managers, public institutions) to chart the Anthropocene.

The workshop will consist of two days with public presentations covering aspects of AI and NBSs foundations. The following two days will be used to co-develop the “RE-Generative AI” glossary. Participants are also invited to the TEDxKTH event (May 16th) tackling issues related to AI and sustainability.

Presenters at this workshop include:

* Dr. Anna Sperotto, Assistant professor at the Ca’ Foscari University of Venice and Affiliated researcher at Basque Centre for Climate Change (BC3) in Bilbao (Spain)
* Dr. Daniel Depellegrin, Marie Cure Post-Doctoral Research, University of Girona (Spain) and prospective Ramon y Cajal Fellow at the Fundación Instituto de Hidráulica Ambiental de Cantabria (IHCantabria)
* Dr. Andrea Conte (ANDRECO), visual artist and also an environmental engineer PhD at Studio Andreco
* Dr. Silvia Santato, consultant and project coordinator

The workshop acknowledges funding from the Lerici Foundation and it is part of the MSCA Project LIBRA (Project number 101150729). The workshop is organized in collaboration with the KTH Climate Action Center, the KTH Environmental Humanities Lab and the KTH Live-in-Lab.

Register for the open lecture days and for the making the glossary days.

Lunch will be provided to registered participants!

The Technocene project invites you to the “Towards a RE-GENERATIVE AI” workshop.

*The workshop will be hybrid, therefore always streamed on Zoom. A zoom link will be provided to registered participants*.

Monday 13th May: - Artificial Intelligence for climate adaptation

During the afternoon, participants will learn about Artificial Intelligence, its foundations and related applications in climate change adaptation. Participants will discuss about the main challenges

1 -1.15pm – Welcome and introductory remarks – ***Francesca Larosa, KTH***

1-15- 2pm – Crash course on generative AI – ***Fermin Mallor, KTH***

2-2.30pm – Artificial Intelligence for climate adaptation - ***Olof Mogren, RISE***

Q&A and break

3-3.30pm – The environmental impacts of AI – ***Francesca Larosa, KTH***

3.30-4pm – breakout groups

4-4.30pm – Digital Twins: where we are, what are they and how can they be used in the built environment – ***Marco Molinari, KTH Live-in-Lab***

Closing of the day

Tuesday, May 14th – Nature for climate adaptation

9-9.30am - Welcome remarks – ***Adam Wickberg, Environmental Humanities Lab and The Center of Excellence for Anthropocene History, KTH***

9.30-10am - Nature-based solutions: a bird-eye view – ***Anna Sperotto, Ca’ Foscari University of Venice, Italy***

10-10.30am - group breakouts and discussion

Coffee

11-11.30am - The blue economy and blue nature-based solutions – ***Daniel Depellegrin, University of Girona***

11.30 – noon - group breakouts and discussion

Lunch

1-1.30pm – The Anthropocene: framing the great acceleration – ***Adam Wickberg, Environmental Humanities Lab and The Center of Excellence for Anthropocene History, KTH***

1.30-2pm – group breakouts and discussion

2.30 -3pm - AI applications to nature-based solutions – ***Stefano Bagli, Gecosistema SrL***

3-3.30pm – group breakouts and discussion

3.30-4pm – Valuing nature: public art for climate adaptation – ***ANDRECO, Studio Andreco***

4-4.30pm – group breakouts and discussion

Closing remarks

May 15th – May 17th - Making the glossary

10am – end of the day

***Moderated by Silvia Santato,*** participants will create the Re-generative AI glossary in a collective and group-level effort to translate the concepts gathered during the open lecture days into usable knowledge.