

Foundations for the Future of Scientific Breakthroughs The System Earth Collegium at LUT University is a groundbreaking, long-term initiative to tackle the world's most challenging and complex problems – the *wicked problems*. These are multifaceted problems like climate change, resource depletion, energy crises, and societal inequities, which demand multi-disciplinary solutions and systemic transformation. Conventional academic structure favors incremental progress and fast publishing rather than risking for the radical innovations necessary to address these global challenges. The System Earth Collegium aims to elevate this paradigm by cultivating a new culture of academic inquiry, multi-disciplinary understanding, and new ways for the academia to organize itself.

Mission and Vision The Collegium unlocks opportunities for greater science-based impact by reconfiguring the structures, processes, and cultural enablers in the academic environment. This endeavor aims at creating a tradition of knowledge, understanding, and thinking in terms of positive tipping points and feedback loops for knowledge and action. Wicked problems are by nature systemic and cannot be addressed through single-discipline approaches; by promoting generalist thinking, the System Earth Collegium seeks to develop transformative templates that can identify and facilitate unconventional practices and collaboration.

VISITING FELLOWS AS CORE

The Visiting Fellowship Programme at the System Earth Collegium offers invitees of any discipline the opportunity to join an esteemed community and contribute to reshaping academic practices and drivers with concrete ideas. The Collegium invites experts from various backgrounds to study the features of academia and find ways to restructure them for impact.

The Visiting Fellows will interact with previous and future Fellow cohorts and the international LUT community consisting of more than 100 nationalities, enjoying opportunities to present their work at various Collegium and LUT events. The Collegium offers its Fellows a forum to participate in setting up projects and initiatives to trial new academic practices in collaboration with stakeholders from various sectors.

SYSTEM EARTH COLLEGIUM

Ambition in Innovation What sets the System Earth Collegium apart is its commitment to creating an adaptive system that, instead of scrutinizing the threats, navigates towards solutions by understanding how we should support the emergence of breakthroughs and create feedback loops. The Collegium houses a new tradition for active upgrading of the scientific culture, providing the community with advanced and continuously evolving concepts that challenge established norms. This supports policy making and drivers and offers a valuable resource for any scientific institution dedicated to pushing the boundaries of knowledge.

Strategic Importance Building on LUT University's reputation as a collaboration trailblazer, the System Earth Collegium will enhance the university's ability to drive innovation and solve pressing global issues by bringing different disciplines seamlessly together. By actively seeking reasons behind leaps of advance and encouraging new ways of collaboration for groundbreaking research, the Collegium aims to elevate academic standards and contribute significantly to the advancement of science and technology. This initiative represents a unique opportunity to transform the way we approach the most urgent challenges of our time – through new knowledge on what does it really take, and by seeding the ambition where it has the best grounds for germination.

INAUGURAL QUEST

As of its launch in 2025, the System Earth Collegium's inaugural quest is to initiate a reflection/self-reflection cycle addressing the following questions:

- ❑ The academic system of inquiry, its structure and drivers: where should we take it?
- ❑ The role of the Collegium: how can it best support driving the change?
- ❑ Actions and initiatives by the Fellows to advance the outcomes of the above questions.

The Collegium therefore maintains a process to catalyze structural changes in the academic system while admitting an honest feature of self-correction to evolve towards maximum impact.