

Intellectual Agenda – System Earth Collegium (SEC)

The *Intellectual Agenda* discloses the aims of the SEC on its mission to enable breakthrough innovations for societal impact. The *Agenda* is organic and continuously evolves in the hands of new SEC Fellows joining its ranks.

By following this intellectual agenda, the System Earth Collegium pushes transformative initiatives to academia, providing templates to redefine structures and drivers of the academic system of scientific inquiry.

1. Rethinking academic structures: The current academic structure prioritizes fast publications and degree granting, which often leads to siloed thinking and inward-facing research programs, ill-suited to engagements with wider communities. SEC aims to challenge this by creating an environment that encourages ambitious research involving engagements across disciplinary boundaries, and one that does not rely on swift journal papers. This involves enabling alternatives to the "publish-or-perish" system and looking for "critical points" where the academic structure could be challenged by progressive and positive initiatives. It also involves creating intellectually diverse communities that tackle wicked problems, define bold research questions, and organize themselves in new ways for doing science with ambitious purposes. Projects creating and piloting new ways of collaboration can be carried out under the auspices of the SEC, whereby its Fellows can serve e.g. as a board, steering committee, or expert evaluator body.

2. Promoting interdisciplinary collaboration: SEC should show by example how to create hubs for interdisciplinary collaboration, bringing together experts from various fields to solve complex global issues. This includes creating "pockets" of intelligent discussion and incentivizing academic research that addresses societal challenges as well as finding new ways of collaboration. SEC can utilize the LUT community, including its partners and various stakeholders, as a sandbox for experimenting with these ideas.

3. Redefining the role of universities: Universities should be seen as sources of solutions and arenas for bold trials, not just research and education. SEC will explore new ways of innovating, not least, academic and teaching structures themselves. It will also seek new ways of assessing and addressing, for example, the exploding challenges of climate change and the AI revolution, and in engaging with the public.

4. Encouraging innovative ideas: SEC should be a home for out-of-the-box ideas that often get dismissed in traditional academic settings or by rigidity of funding programs. By providing a supportive and cross-disciplinary environment for radical thinking, SEC can help bring new questions to the table. SEC should aim at creating

opportunities for exploring and exchanging ideas with extreme freedoms, and initiate concrete projects for reshaping academic practices and enabling feedback loops between science and society.

5. Enhancing public engagement: SEC aims to bridge the gap between academia and society on a more concrete level by actively engaging with the public. This includes the usual structures of workshops, seminars, and public discussions, but it will invite greater open thinking and discussions within the audiences themselves, particularly on questions of wide public concern. It may include the use of citizen assemblies for trialing new ideas stemming from SEC or LUT research, including new ways to disseminate research findings and support a culture of open dialogue. The collegium should also focus on improving communication strategies to make scientific knowledge more accessible and relevant to the public. The Fellows have an important role as a medium between scientific and public communities.

6. Building a global network: SEC should leverage international partnerships to enhance its impact. This includes the usual collaborations between researchers at different institutions and participating in international conferences and events, but it will also include a growing cohort of present and previous SEC Fellows, which, if the SEC is successful at LUT in its fundamental aims, will be incentivized to explore similar innovative pathways in their home universities. The more focused the aims of SEC are, the more the Fellows will have in common; there may be e.g. biennial conferences that will cement their bonds. By building a strong global network, SEC can amplify its influence and contribute to solving global challenges. SEC should explore the non-traditional collaboration schemes wherever they serve its purpose.

7. Enabling disruption: SEC should explore ways of creating and sustaining disruptive thinking of a kind that works, engaging intellectually diverse perspectives. This is an area of research and active trialing in its own right but also calls for cultural development in the research community. Externally, this involves identifying and attracting like-minded parties who share the SEC vision.

8. Addressing societal needs: SEC should support developing science towards impact and thereby relevance to societal needs. This involves understanding and identifying key societal questions, including what kinds of change and potential disruption are acceptable and doable, and connects directly with its agenda of public engagement.

9. Study breakthrough innovations: SEC should study the elements and factors that lead to past breakthroughs in diverse contexts. The other side of this coin is to also understand those that suppress breakthroughs. The concept of breakthroughs should be primarily considered as such that bear high societal impact from global sustainability perspective. The SEC recognizes the concept of positive tipping points

as the current best concept fitting this ambition. This aim, as other activities of the SEC, involve philosophical as well as practical questions, beyond the sciences alone.

January 2026

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