RESEARCH CLINIC

General information

Supervisor:	Minjung Cho
Title of clinic:	Emerging Technologies in Climate, Sustainability, and Planetary Health Education: A Mixed-Purpose Systematic Review
Number of students:	1-2
Major *(if applicable and approved by the Major Convener)*:	
(Pre)requisites *(if applicable)*:	

Research context

Climate change, biodiversity loss, and planetary-health challenges are reshaping expectations for how higher education prepares students to address complex socio-ecological problems. At the same time, emerging technologies—such as VR/AR, immersive simulations, eye-tracking, intelligent tutoring systems, learning analytics, and generative AI—are transforming the ways climate and sustainability topics can be taught. This research clinic contributes to a mixed-purpose systematic review that maps how these technologies are being used in higher-education climate, sustainability, and planetary-health curricula. The review examines which technologies are implemented, how they are pedagogically designed, and what outcomes or effectiveness are reported, including impacts on learning, engagement, attitudes, and behaviour. It also considers ethical, accessibility, and usability factors. Together, these insights will help identify opportunities and gaps in technology-enhanced sustainability education.

Students' tasks and activities

Please specify the tasks and activities, timeline, the learning aims and how they are assessed, i.e. what the deliverables will be.

Students will work collaboratively as a small research team and gain hands-on experience with systematic review methods by contributing to a mixed-purpose review on emerging technologies in climate, sustainability, and planetary-health education in higher education. Their tasks include searching major databases, screening studies using predefined inclusion criteria, and extracting data on technologies, pedagogical design, and learning outcomes. Students will also support coding, quality appraisal (where applicable), and the descriptive/thematic synthesis of findings. Over the course of the clinic, they will produce key deliverables—including search logs, screening decisions, extraction tables, and a concise synthesis summary—which together form the basis for assessment. The final output will contribute to a research report and potential manuscript or presentation materials.