Peter Mahaffy
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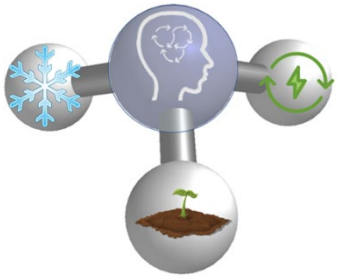


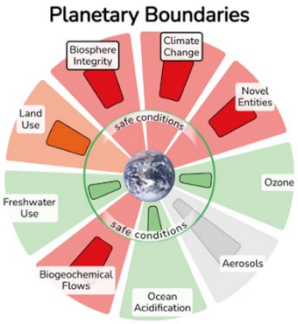
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13 April 2023, 17.00-18.00
Science Park 904, Room: C0.110

Chemistry's Contributions to the Sustainability Landscape: Why our Planet Needs Systems Thinking Chemists, Educators, and Citizens

Chemistry, the science of transformation of matter, has a central role to play in building a sustainable future for our planet. This includes addressing the unintended sustainability challenges that arise from the large-scale material transformation by humans over the past fifty years. What contributions are chemistry and chemistry education making toward sustainability goals, and in what new ways can chemistry educators begin with the molecular basis of sustainability and integrate sustainability orientations, tools and frameworks into teaching and learning? We take a systems approach to this question and draw on the chemistry of refrigerants and reactive nitrogen to illustrate how our profession can transform itself through systems thinking to better contribute at multiple levels toward the emergence of sustainability of the Earth system. We will also explore an interactive learning tool recently released by our King's Centre for Visualization in Science (kcvs.ca) in collaboration with an IUPAC project, that uses the Planetary Boundaries framework (Stockholm Resilience Centre) to connect fundamental chemistry concepts and measurements to sustainability challenges and opportunities.





Peter Mahaffy is a 3M National Teaching Fellow, Professor of Chemistry at the King's University in Edmonton, Canada, and director of the King's Centre for Visualization in Science (www.kcvs.ca), which provides digital learning resources used by a half-million students, educators, and the public from over 100 countries each year. His current research and professional work is at the interfaces of chemistry education, systems thinking and sustainability, the uses of interactive technological tools to facilitate the learning of science, and the responsible uses of chemistry. Mahaffy has served in leadership positions with IUPAC, ICSU, OPCW and the Canadian Society of Chemistry. His work has been recognized with national and international awards from Canada, ACS, and IUPAC.