## Open Science and Citizen Science

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Open science is a conceptual complex of top-down and bottom-up approaches. The top-down, open scientific knowledge policies include open access journals and open research data, while the bottom-up engagement approaches include participatory citizen science, transdisciplinary research, and open innovation. As an introduction to the Great Debate, this short talk overviews the bottom-up aspects of open science, with special attention to civic participation and stakeholder engagement.

Keywords: Participatory research, Science and society, Civic participation