Interdisciplinarity in Geosciences: Maximizing societal impact through research-outreach-teaching synergy

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Geoscientists use a wide range of scientific skills and knowledge, from physical sciences to computer science, and from life sciences to engineering, to study a myriad of phenomena involving the planet Earth. Interfaces between geosciences, social sciences and humanities subjects have become increasingly important and offer many new possibilities in research and education. In this presentation, I will first examine the idea of interdisciplinarity in geosciences, taking into account both the nature and practice of interdisciplinarity (e.g., Repko, 2011). By analyzing how interdisciplinary knowledge in geosciences is critical to solving global problems, I will then discuss its implications for research-outreach-teaching synergy with illustrative examples from a collection of recent studies across the world (Tong, 2014a and 2014b). Finally, I will put forward the case of building communities of practice across research and education, with close partnerships between geoscientists at different stages of their careers. I will argue why building such partnerships and communities is crucial to maximizing the societal impact of geosciences as an interdisciplinary endeavor.

References

Repko, A.F. (2011). Interdisciplinary Research: Process and Theory. SAGE Publications.

Tong, V.C.H. (ed.) (2014a). Geoscience Research and Education: Teaching at Universities, Springer.

Tong, V.C.H. (ed.) (2014b). Geoscience Research and Outreach: Schools and Public Engagement, Springer.

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