Knowledge Brokers in the Making: Opportunities to Connect Researchers and Stakeholders

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Abstract

Environmental science and engineering graduate students often lack training on how to communicate with policy decision makers who are grappling with questions to which research is responding. They communicate directly with mutual experts, but are many times unable to engage with non-experts, thereby limiting the reach and impact of their research. This poster highlights opportunities within environmental science and engineering research for researchers to hone their skills as knowledge brokers, allowing them to learn skills for engaging meaningfully with a range of stakeholders. A knowledge broker is an individual who connects scientific experts and relevant stakeholders with meaningful and useable information. Recognizing that information must flow in multiple directions, the knowledge broker must quickly and effectively translate needs and questions using established relationships. It is these relationships, as well as the synthesis of scientific knowledge returned into useful information, on which the success of the knowledge broker lies. Using lessons learned, as well as communication science theory related to knowledge brokering, this presentation highlights training opportunities for knowledge brokers who are primarily educated in science and engineering fields, yet seek to engage with societally relevant stakeholders. We present case study examples of knowledge brokering within two large multidisciplinary research centers. These centers provide unique experiences for researchers to build relationships with stakeholders, so that the scientific experts not only create novel research within their specific discipline, but also inform policy decision makers, community members, and regulatory officials.

What is a Knowledge Broker?

Scientific knowledge must often be synthesized and interpreted by a variety of intermediaries before it is applied (Greenhalgh and Wieringa, 2011). A knowledge broker is one such intermediary who considers the range of opportunities available for scientific experts to engage with stakeholders. Knowledge brokers require the ability to integrate contextual and scientific knowledge, and adapt quickly to new stakeholder relationships and needs. Additionally, they must be able to communicate effectively, as they engage with and maintain long-term relationships with a variety of stakeholders (Pennell et al. 2013).

Knowledge Broker Training Opportunities for Graduate Students

• Building upon a strong science education, concerted stakeholder engagement is performed based on graduate student areas of interest in tandem with needs-based communication training. Students develop relationships with one or more stakeholders to inform their research and to establish new connections.

• Communication workshops focus on developing scientific presentation skills, understanding the importance of and challenges related to audience-appropriate health and risk communication, and incorporating audience-specific targeting strategies into presentations.

Knowledge Typology and Flow

Knowledge flow across groups requires context. UKSRC is providing faculty, post-docs and students with experiences and skills to contextualize scientific findings.

Knowledge Brokering in Action

As part of the National Institute of Environmental Health Sciences (NIHES) Superfund Research Program, the formal translation of research findings to relevant stakeholders is a required component. Each Center is required to develop a method to broker knowledge on a range of topics. As described by Pennell et al (2013), a knowledge broker with the NIHES Superfund Research Program developed relationships with stakeholders, identified new research directions and translated research for policy and practice purposes for many issues—with specific emphasis on regulatory policy processes.

The dual and distinct roles for knowledge brokers and scientific experts are illustrated below for regulatory policy processes. Here, knowledge broker involvement is most significant (solid lines) during the policy formulation, decision-making and policy assessment stages. During each of these stages, the knowledge broker will likely be engaged in multi-directional communication with decision-makers and scientific experts. They will provide input to policy and practice-informed stakeholders about relevant scientific issues and will learn from stakeholders about agency progress on the issue. While the knowledge broker and the scientific expert can exist as the same person, it may become inefficient, since it is unlikely a single broker will be highly credentialed in the many topics of interest to stakeholders. Therefore, the knowledge broker must make and maintain relationships with individuals in both the science and the stakeholder realms.

References and Acknowledgements
