The Center for Nanotechnology in Society
ARIZONA STATE UNIVERSITY

# Socio-Technical Integration Research continues to get results in nano-R&D

Despite longstanding calls for collaborations between social and natural scientists to broaden the societal responsiveness of technology development processes, the role that interdisciplinary collaborations can play in enhancing such responsiveness is not well documented or understood.

The Socio-Technical Integration Research (STIR) project at CNS-ASU is changing that. STIR has placed "embedded humanists" into over two dozen nanotechnology and other laboratories across the world to assess and compare the pressures on – and the capacities for – laboratories to integrate broader societal considerations into their work.

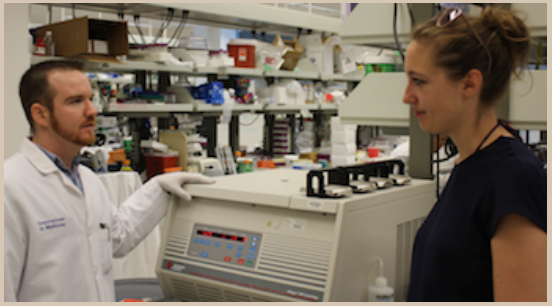
STIR systematically tests the integration of societal considerations in science and engineering through a process termed *Midstream Modulation* (Fisher 2006), which aims to deepen and expand decisions through semi-structured dialogues and reflection (Fisher 2007).

A 2012 study by Flipse et al. demonstrates that Midstream Modulation can be effective not only in academic laboratories but also in for-profit industrial labs.

The latest STIR project publication and its methodological counterpart, Midstream Modulation, documents two types of changes that took place in the lab as a result of interdisciplinary collaboration: discursive and practical.

When the social researcher began his stint, only 1 of 5 laboratory researchers considered societal issues to be part of their job. At the end of the study, all 5 agreed on the importance of social and ethical issues to their work.


The study also found that reflection on the societal dimensions of their work allowed the researchers to alter existing R&D decision making processes and to initiate new ones based on societal and ethical considerations.



The **STIR project** is directed by CNS-ASU faculty member **Dr. Erik Fisher**.

He also leads the CNS-ASU Real-Time Technology Assessment (RTTA 4) thrust, which aims to understand the dynamics of nanoscale science and engineering (NSE) laboratories through ethnographic and other methods.

Flipse, S. et al. **Midstream Modulation in Biotechnology Industry: Redefining What is 'Part of the Job' of Researchers in Industry**. *Science and Engineering Ethics*, 2012 Oct.

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