

Sharon Tsai-hsuan Ku

Assistant Professor of Science, Technology, and Society, University of Virginia School of Engineering and Applied Science.

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Bio

B.S. Physics, National Chiao Tung University, Taiwan 1995

M.S. Physics, National Chiao Tung University, Taiwan 1999

M.A. History, National Tsing Hua University, Taiwan 2003

Ph.D. History & Philosophy of Science. Cambridge University, United Kingdom 2010

"My research and teaching focus on international standardization and global innovation. For me standardization provides a critical, interdisciplinary lens to examine the real-world interactions between technology, economy, laws, cultures, and global politics, as well as a commitment of engaging with diverse communities to facilitate cross-cultural understanding in science/policymaking."

Sharon Tsai-hsuan Ku, Assistant Professor

Sharon Ku joined the University of Virginia in 2017, after her faculty position at Drexel University and research fellowship from National Institutes of Health. She has a dual academic training in physics and STS, specializing in sociology and geopolitics of innovation and standardization. Her research focuses on multi-sited ethnographic investigation of international standardization and knowledge translation in both US and Asia. In addition, she developed intense collaborations with global academic, industrial and government scientists/policymakers through her involvement in standardization. She served as a nominated expert for the ANSI/ISO-TC229 Nanotechnologies Committee since 2012, and a member of ASTM E56 Nanotechnology Committee since 2010. She is actively involved in IEEE Global Initiative on Ethically Aligned Design of Autonomous and Intelligent Systems.

She teaches engineering history, ethics and responsibility in global context, including developing global classrooms with Chinese Universities to address the ongoing political, economic and technological interactions between US and China.

Research Interests

- Sociology of science/science policy
- Science, Technology and Culture in US and China
- Global innovation
- Standardization: history, politics and practice

Selected Publications

- “Forming nanobio expertise: One organization’ s journey on the road to translational nanomedicine,” *Nanomedicine and Nanotechnology* 4: 366-377. Ku, S. (2012).
- "A matter of size does not matter: Material agency and the state authority in nanotechnology standardization" in Schlaudt & Huber eds. *Standardization in Measurement: Philosophical and Sociological Issues*. Pickering and Chatto: London. Ku, S & Klaessig, F. (2014)
- “Room at the Bottom: The techno-bureaucratic space of Gold Nanoparticle Reference Material,” in Slaton, A. ed., *New Materials: Their Social and Cultural Meanings*. Lever Press. (upcoming) Ku, Sharon (2017)
- “International standards and material research” , in Mody, Cyrus and Joseph Martin eds. *Tools in Materials Research*. WSPC Encyclopedia of the Development and History of Materials Science. (upcoming) Ku, Sharon (2017)

Courses Taught

- STS 4500 STS and Engineering Practice Fall 2017
- STS 4600 Engineering responsibility and ethics in global context: UVA-Tsing Hua/China Global Classroom Spring 2018
- STS 2500 Engineering, Modernity and Standardization Spring 2019