

Micro- & Macroethics in STEM Education

Research Topics

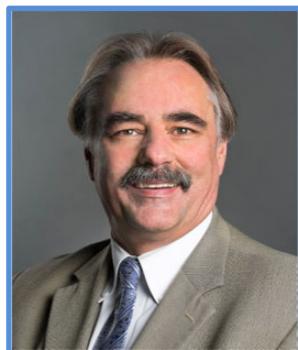
- **STEM Education** (source of CSTS interest)
 - Scientific Writing: Curricula for US & China
 - Macroethics: Key Driver of STEM Curriculum Reform
- **Chemistry Research**
 - Synergy of experimentation & theory/computation
 - Ferroelectric materials for nonlinear optics
 - Peptide materials for CO₂ capture from air
 - Oscillating chemical reactions
 - Layer models of enzyme activity

Key Words re/ STEM Education

Scientific Literacy, Media Literacy, Learning Theory, Constructivism, Scientific Writing, Publication Ethics, Responsible Conduct of Research (RCR), Science Communication, Peer Review, International Education, Philosophy of Science, Assessment, Collaboration, Group Dynamics.

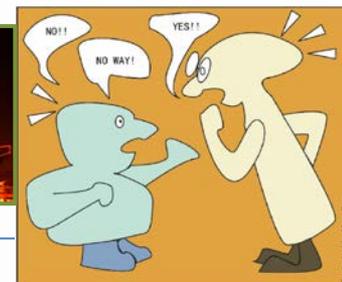
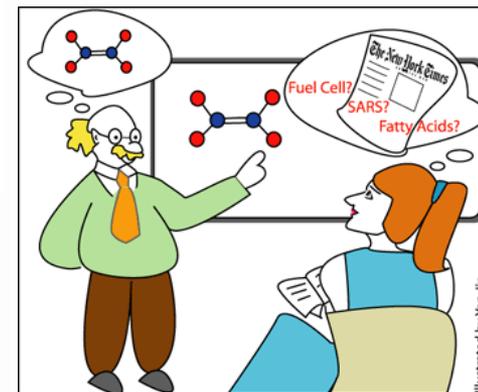
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Funding (after 2016)

- NSF, CHE: Biomimetic CO₂ Capture from Air
- NSF, MRI: Nonlinear Optical Materials
- ACS, PRF (ND): Polymerization Catalysts
- Carey Bottom Ethics Initiative



Selected STEM Publications

Transnational Science Publication Ethics Training Using Scenarios. Kathryn Northcut, Alanna Krolikowski, Clair Reynolds-Kueny, Kaidi Yang, and Rainer Glaser. 2020 Intl. Professional Comm. Conf. (ProComm), Kennesaw, GA, USA, 2020, pp. 18-24, DOI: [10.1109/ProComm48883.2020.00008](https://doi.org/10.1109/ProComm48883.2020.00008).

Challenges of Globalization and Successful Adaptation Strategies in Implementing a 'Scientific Writing and Authoring' Course in China. Kaidi Yang, Cun-Yue Guo, and Rainer Glaser, *J. Chem. Educ.* **2018**, 95, 2155-2163. DOI: [10.1021/acs.jchemed.8b00384](https://doi.org/10.1021/acs.jchemed.8b00384).

Chemistry Is in the News: Assessing Intra-Group Peer Review. Kathleen M. Carson and Rainer E. Glaser, *Assessment and Evaluation in Higher Education* **2010**, 35, 381-402. <https://doi.org/10.1080/02602930902862826>