

## Katherine E. Nielsen

I am interested in how information and communication technologies shape teaching, learning, and collaboration. My focus has included the social, cultural and corporeal dimension of human learning in technique and technology. I study ways to improve how enterprises and teams collaborate and the circulation of knowledge practices within technical fields.

### Teaching Experience

**Assistant Teaching Professor**, Computer Science, CU Boulder, 2022-present.

Partnership Program, Western Colorado University & Colorado University in Gunnison, Colorado.

Database System Analysis and Design,

Principles of Programming Languages,

Senior Capstone I and II,

History of Computing (previously titled, The Canon: Computer Science),

Cognitive Science

Advanced Data Science.

**Agile Coach**, Turnberry / UHG, 2022.

Coach and trained teams transitioning from a waterfall to Agile mindset, evolving ways of working to deliver on business identified priority initiatives.

Identifying and realizing quick wins to build positive momentum and excitement around the new method of handling intake, prioritization and organizing projects.

Enabled a transition to cross functional teams.

**Technical Coach and Instructor**, Cprime / Kroger, 2021-2022.

Full time coaching of teams highlighting an outcome centered approach within a dojo format, included a variety of techniques for collaborative discovery, decision making, testing, and programming. Taught training, “Engineering for Agility” to remote software development teams, covered strategic vs tactical design, code quality, collaborative code review, refactoring to manage technical debt, test first, TDD, and ensemble (mob) programming.

**Visiting Researcher**, Sokendai University, Japan, 2005-2006.

Digital archive planning. Conducted view oral histories with scientists regarding organizational change.

Developed archival infrastructure for collecting oral histories from several institutions.

**Instructor**, Valley Community College, Los Angeles. “People in Contemporary Society since the Industrial Revolution”, 2003.

Looking at primary sources in 19<sup>th</sup> and 20<sup>th</sup> century music, art, literature and philosophy, students considered the nature of modern life especially in light of the effects of modern technologies.

**Instructor**, University of California, “Nuclear Transformations: Techno-science, Popular Culture, and International Politics”, 1999.

As a lower division discussion seminar, this course introduced a variety of approaches to the study of the nuclear age including history, popular culture, international perspectives, social constructionism, etc.

**Teaching Assistant**, University of California, seven courses between 1995-1999.

My teaching in discussion sections emphasized guided questioning aimed at exploring the major points contained in lectures, textbooks, and primary sources. I also gave significant attention to explicitly addressing writing skills, especially those involved in constructing an historical argument. Several courses incorporated web technologies.

Social Knowledge and Social Power  
US Political History: 1877 to present  
History of China: Antiquity to Early Song  
History of China: 1000-1950  
The Scientific Revolution: Aristotle-Newton  
History of Physical Sciences: Newton to Einstein  
History of Medicine

**Computer Trainer**, CompUSA, 1997-98. Microsoft Word, Excel, Access, PowerPoint, Photoshop.

**Teaching Assistant**, University of New Mexico, two courses in 1993 and 1994.

American Women in Film  
Films of the Nuclear Age

## Education

**PhD**, University of California Los Angeles, 2002. History. Cultural Study of Science and Technology.  
Committee: Profs. Sharon Traweek, Jan Reiff, Ben Elman, Valerie Hartouni.

**Master of Arts**, University of New Mexico, 1994. American Studies: Science and Technology Studies.

**Bachelor's of Arts**, University of Minnesota. Cum Laude.

Major: Physics. Minors: Mathematics, Music, and Women's Studies.

## Honors

Collegium of University Teaching Fellowship, UCLA, 1998-1999.

Pauley Four Year Graduate Fellowship, UCLA, 1994-1999.

Stipend for Graduate Study, Department of American Studies, University of New Mexico, 1992.

Presidents Award for Leadership and Service, University of Minnesota, 1990.

Phi Beta Kappa, National Honors Society, 1989. Phi Kappa Phi, National Honors Society, 1989.

## Consulting, Information Architecture and Software Design

Prologis, 2020      *Technical Analyst / Consultant*

Walkers Global, 2017 – 2020      *Technical Product Owner / Tech Lead*

SYDA Foundation, 2015 – 2017      *Product Owner / Technical Consultant*

MCS, Cayman Islands, 2014 – 2015      *Consultant and Senior Software Engineer*

McGladrey, 2013 – 2014      *Senior Software Engineer /Analyst*

Tiller Corp, 2011 – 2013      *Product Owner / Lead Software Engineer*

American Express / IBM, 2010 – 2011      *Lead Software Engineer / Systems Analyst*

Kretek International, 2009-10      *Software Engineer*

SYDA Foundation, 2006-08      *Coordinator*

Sokendai University, Japan. 2005-06      *Visiting Researcher*

Futuredontics, 2003-05     *Senior Analyst / Software Engineer*  
Independent, 1998-03     *Software Consulting and Engineering*

### **Software Engineering / Organizational Change Conferences and Certifications**

SAFe Certified Program Consultant (SPC) 4.5, 2017.  
Agile Open San Diego, 2017.  
Mile High Agile, 2017.  
Certified Scrum Master (CSM), 2014.  
Certified Scrum Professional (CSP), 2017.

### **Leadership & Organizational Change Blog**

"Stepping Up to Improve a Situation, No Matter Who You Are." Web post. Medium. Aug 30, 2017  
"Self-Organizing Team or a Team of Self-Organizing Individuals?" Web post. Medium. Jun 7, 2017  
"Resisting self-organization?" Web blog post. Medium. May 15, 2017

### **Conference Papers**

"Coaching as a Teacher for Computer Science Capstone Projects." Proceedings and poster session of Mentoring Networks: The Impact of Developmental Relationships on the Future of Work. Mentoring Institute. Albuquerque, NM. October 25, 2023.  
"Bodies, Bridges, and Uneasy Hybridities: Trans-Local Exchange as Communications Technologies." EASST 2006. European Association for the Study of Science and Technology 2006 Conference, "Reviewing Humanness: Bodies, Technologies and Spaces." University of Lausanne, Switzerland. August 26, 2006.  
"From Boundary Problems to Networked Solutions." presented at "Building the Scientific Mind: An Advanced International Colloquium." Learning Development Institute, Institute of Social Studies, and UNESCO. The Hague. May, 2005  
"Technique and Beyond: Meaning, Purpose, and Transcendence in Physics and Martial Arts in the Late 20th Century." Paper presented at History of Science Colloquium, University of California, Los Angeles, May, 2002.  
"Martial Arts Technique as Communication." Communications Graduate Student Conference, Los Angeles, California, April 1998.  
"Feminism and Physics." New Mexico Women Studies Conference, Las Cruces, New Mexico, May 1994.  
"The Social Study of Quantum Physics." Western Association of Sociology Association Conference, Albuquerque, New Mexico, April 1994.

### **Invited Presentations**

"Mentorship Conversations." Partnership Program Convocation. Sept 17, 2024.  
"Authentic Leadership & Human Interconnection." Nielsen, K. & Muller, C. Women's Leadership Symposium. Propagating pathways and embracing authentic leadership. CU Boulder. Feb. 29, 2024.  
"Creating Psychological Safety: Inclusion, Listening, and Movement." Women's Leadership Symposium. The Stories We Need: Claiming Rest, Roots, and New Realities. CU Boulder. March 1, 2023.  
"Patterns of Collaboration", Rocky Mountain Celebration of Women in Computing, ACM Celebration, Boulder Colorado, September 2022.  
"Intro to Ensemble Programming: The power of many minds", Women Who Code, Colorado Chapter,

March 2022.

“Practical Approaches to Internships”, CU/Western University, Gunnison, Colorado, March 2022.

“Oral History and Archive Development”, Hayama Seminar, Graduate School for Advanced Studies, (Sokendai University), Hayama, Japan, June 2006.

“Digital Scholarship” Winter Oral History School, Graduate School for Advanced Studies, (Sokendai University), Hayama, Japan, Dec 2006.

“Feminism.” “Ethnography.” Course on Cultural Pluralism. Cal State Dominguez Hills, June 2005.

“Bodies, Biographies, and the Bomb.” University of California, Los Angeles, October, 2004.

“Getting into the Present with Techniques and Technologies.” University of California, Los Angeles, October, 2002.

### **Community Service**

Musician for meditation programs, 1996-present.

Code for America (Boulder), 2017.

Volunteer consultant on archival project for SYDA Foundation, 2009-2015.

Volunteer leadership position: Music Coordinator for the Pacific Area, January 2004-September 2006.

Facilitated 4 conference calls across the Pacific Area on the topic: “What do we learn from chanting”.

Facilitated 4 week second level course on a text chant, October 2004.

Facilitated 4 week first level course on a text chant, May 2004.

Directed and coordinated a 2 day meditation event, August 2004.

Talks: “Witness your Participation”, April 2005. “Journaling and the Embodied Practice of Meditation,” August 2004. “Singing to the Kundalini,” July 2004.

Built a software system to help teachers connect with remote students, 2000.

### **Additional Training**

Contact Improvisation, 1 year.

Piano, Classical studied twelve years, Jazz studied three years. Composition and improvisation.

Martial Arts, studied twelve years. Attained rank of black belt in Shotokan Karate. Aikido.

South Indian Kirtan and Sacred Music: harmonium, tamboura, Sanskrit text chants.

Live audio engineering, three years.

Foreign Exchange Student, one year study in Denmark.