

**Robert James Semper, PhD**  
Chief Science Officer  
Senior Director of Educator Engagement  
Exploratorium  
17 Pier, Suite 100  
San Francisco, CA 94111  
rsemper@exploratorium.edu

Responsible for leading the institutional program direction in science and educator development and maintaining program relations with the external education, science and funding communities

**a. Professional Preparation**

|                                 |         |           |
|---------------------------------|---------|-----------|
| Moravian College, Bethlehem, PA | Physics | BS, 1968  |
| The Johns Hopkins University    | Physics | MA, 1972  |
| The Johns Hopkins University    | Physics | PhD, 1973 |

(Thesis: Low Temperature Magnetic Studies of Ultrathin Iron Films)

**b. Previous Appointments**

*Associate Executive Director* (2014 to 2019)  
*Interim Executive Director* (2016)  
*Director of Public Experience Laboratory* (2014 to 2019)  
*Director of Institute for Research and Learning* (2015 to 2019)  
*Executive Associate Director* (1991 to 2014)  
*Director of Program* (2007 to 2014)  
*Director Center for Learning and Teaching* (2003 to 2007)  
*Director Center for Media and Communication* (1991 to 2003)  
*Acting Director* (1989-91)  
*Deputy Director* (1982-89)  
*Assistant Director* (1980-82)  
*Project Director* (1977-80)  
Exploratorium, San Francisco

*Lecturer on Education and Schumann Fellow* (1989)  
Harvard Graduate School of Education  
*Director LucasFilm & Apple Computer multimedia cooperative venture* (1988-89)  
LucasFilm Ltd  
(On leave from the Exploratorium – 1988-89)

*Adjunct Assistant Professor* (1980-84)  
University of San Francisco, San Francisco Academy of Art, San Francisco Art Institute

*Research Scientist Department of Radiology* (1977)  
University of California San Francisco

*Visiting Assistant Professor of Physics* (1976-77)  
The Johns Hopkins University

*Assistant Professor of Physics* (1973-76)  
St. Olaf College, Northfield, MN

**c. Selected Publications and Talks**

- Semper, R. J. (2018) *Art as a Way of Knowing: Lessons from the Exploratorium Experience Integrating Art into STEM education*. Talk presented at the Creativity and Collaboration: Revisiting Cybernetic Serendipity Sackler Colloquium, of the National Academy of Sciences, March 13-14 2018 in Washington, DC
- Bartels, D., Bevan, B., Semper, R. J. (2010) *Critical Questions at a Critical Time: Reflections on the Contributions of LSIE to Museum Practices* Curator 53(2):163-179
- Semper, R. J. (2007) Science Centers at 40: Middle-aged Maturity or Mid-life Crisis? Curator 50/1 Alta Mira Press
- Semper, R. J. (2005) Fanning the Flames - The Exploratorium at the Birth of the Science Center Movement. In *Handbook for Small Science Centers*. Ed. Cynthia Yao Walnut Creek: Alta Mira Press.
- Semper, R. J. (2004) Authentic Science. *Symmetry* 1, 2 Fermi National Accelerator Laboratory and Stanford Linear Accelerator Center.
- Martin, L., Duensing, S., and Semper, R.J. (2004) Funding and Institutional Issues Related to Public Understanding of Research. In *Creating Connections: Museums and the Public Understanding of Current Research*. Eds. David Chittenden, Graham Farmelo, and Bruce V. Lewenstein. Walnut Creek: Alta Mira Press, 182-196.
- Hsi, S., Semper, R.J., Brunette, W., Rea, A., and Borriello, G. (2004) eXspot: A Wireless RFID Transceiver for Recording and Extending Museum Visits. *Ubicomp 2004* Demonstrations program.
- Semper, R.J., Wanner, N., and Jackson, R., Bazley, M. (2000) Who's Out There? A Pilot User Study of Educational Web Resources by the Science Learning Network (SLN). <http://www.archimuse.com/mw2000/papers/semper/semper.html>
- Semper, R. J. (1998) Designing Hybrid Environments: Integrating Media into Exhibition Space. In *The Virtual and the Real: Media in the Museum*. Eds. Thomas, Selma, and Mintz, Ann. American Association of Museums, 119-127.
- Semper, R.J., and K. Hooper-Woolsey. (1991) Multimedia in Public Space. Invited paper for the International Conference on Hypermedia & Interactivity in Museums (ICHIM).
- Semper, R.J. (1990) HyperCard and Education: Reflections on the HyperBoom, in *Learning with Interactive Multimedia*. Eds. S. Ambron and K. Hooper. Redmond: Microsoft Press.
- Semper, R. J. (1990) Science Museums as Environments for Learning. *Physics Today* 43, 11. 50-56.

**(d) Awards**

- APS Fellow 2018  
Rose Award (Internet2 – K-20 Initiative) 2015  
AERA Fellow 2008  
AAAS Fellow 2006  
NSTA 2006 Faraday Science Communicator Award  
NSTA 1994 Informal Educator of the Year award (the first year of the award).  
ASTC 2000 Innovation Award (with the Exploratorium Web team).  
Five Webby Awards for Science and Education (with the Exploratorium Web team)  
Moravian College 1998 Comenius Award  
Phi Beta Kappa 1973

**(e) Selected Advisory Committees**

- Member of the Federal STEM Education Advisory Panel 2018-

Chair of the AAAS Committee on Science & Technology Engagement with the Public (2009-12)  
Member of the California Science Project Advisory Board (2003-2007)  
Member of the NASA Space Science Advisory Committee (SScAC) Education Public Outreach (E/PO) Taskforce (2002-2003)  
Member of the George Lucas Educational Foundation Advisory Committee (2001-2004)  
Member of Moravian College Strategic Planning Committee  
Member of the Magic School Bus Advisory Board (1991-1996)  
Member of the 3-2-1 Contact Advisory Board (1981-1986)

**(f) Selected Principal Investigator/Co Principal Investigator Awards**

NASA Navigating the Path of Totality-1/4/16-\$3,731,622  
NSF Navigating the Path of Totality: Total Solar Eclipse Live from Micronesia-10/1/15-\$199,630  
NASA Total Solar Eclipse: Stories from the Path of Totality-4/21/08-\$313,499  
NSF AYS Learning and Youth Research and Evaluation Center (LYREC)-10/1/06-\$2,150,503  
NSF NISE Nanoscale Informal Science Education Network-10/1/05-\$41,741,754  
NSF How Do We Know What We Know? Resources for the Public Understanding of Scientific Evidence-7/1/05-\$1,493,336  
NSF Exploratorium Online: Exhibit-Based Science Learning and Teaching Digital Library-9/1/03-\$814,998  
NSF HPNC: High-Performance Science Education and Research Project-10/1/02-\$144,741  
NSF ITR: The I-Guide Project: Extending Museum Experience Using Portable Devices, Wireless Networks and Web Technology-8/1/02-\$699,950  
NSF IDEAS The Space Weather Research Explorer Project-6/1/02-\$49,997  
NSF Center for Informal Learning and Schools-1/1/02-\$8,427,914  
NSF The Accidental Scientist: Internet Resources Exploring Science in Everyday Life-9/15/01-\$1,108,551  
NSF SGER-ISE-PUR: Internet-based Informal Science Education to Increase Public Understanding of Research -- A Small Grant for Exploratory Research (SGER)-9/15/01-\$99,998  
NSF Live @ the Exploratorium: Origins-3/1/00-\$1,332,791  
NSF The Electronic Guidebook: Extending Museum Experience Using Networked Handheld Computers-9/1/99-\$651,791  
NSF Live @ the Exploratorium: The Faultline Project-8/1/99-\$68,213  
NSF Collaborative Research on Learning Technologies: Toward the Development of a Center for Collaborative Research on Learning Technologies-10/1/96-\$50,000  
NSF Creative Challenge: A Proposal for a Television Show-7/1/95-\$464,205  
NSF Planning for the National Center for Teacher Education-12/1/93-\$49,692  
NSF Science Exhibit Starter Sets-1/1/93-\$2,087,04  
NSF Exploratorium Teacher Institute-6/1/88-\$745,883  
NSF Exploratorium Explainer Program-4/15/88-\$100,000  
NSF School in the Exploratorium Leader Teacher Program-4/1/88-\$714,535  
NSF The Development of a Series of Exhibits Concerning Cellular and Molecular Biology-9/1/85-\$435,117  
NSF A Museum Based Model of Science Instruction for Teachers-5/15/84-\$939,782  
NSF Exhibit Development Including a Linguistic Display Area-2/1/79-\$366,409

Additional PI on Awards from US Dept of Education, NASA and Private Foundations