

Kurt David Schwehr, PhD
2013-10 Short CV

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Positions:

2012-Present. *Head of Ocean Engineering / Data Engineer*, [Google Ocean](#), Google.
2012-Present. *Affiliate Professor*, Ocean Engineering/[CCOM-JHC](#), UNH.
2011-Present. *Affiliate Professor*, Earth Science, UNH.
2009-Present. *Affiliate Professor*, Computer Science, UNH.
2012. *Visiting Faculty*, Curiosity, Mars Science Laboratory, NASA JPL.
2005-2011. *Research Assistant Professor*, Ocean Engineering/[CCOM-JHC](#), UNH.
2011. *Visiting Faculty*, Earth and Ocean teams, Google.
2007. *Visiting Faculty*, Phoenix Mars Lander, NASA JPL.
2008-2010. *Associate Researcher*, NASA Ames.
2003-2004. *Software Engineer*, Mars Exploration Rovers, NASA JPL.
2000. *Chief Technology Officer (CTO)*, Etool & Die, New Orleans, LA.
1999-2000. *Computer Scientist*, Recom Tech, Autonomy and Robotics, NASA Ames.
1998-2000. *Visiting Scientist*, [FRC/RI](#), Computer Science, CMU. (Faculty)
1996-1998. *Computer Scientist*, Recom Tech, Intelligent Mechanisms, NASA Ames.
1991-1996. *Software Consultant*. USGS, SETI Institute, NASA Ames, Stanford.
1989-1990. *Associate Researcher*, NASA Ames.

Education:

2006 *Ph.D. Earth Science*. Marine Geology & Geophysics. Scripps Inst. Ocean.
1996 *B.S. Geology*. Stanford University with CS Masters level course work

Selected Projects:

Global bathymetry synthesis, Automatic Identification System (AIS), Disaster Response/ERMA Whale Alert iOS app, Mars robotics, paleomagnetic fabrics, Kepler planet finding, sedimentology/stratigraphy, acoustic/seismic ocean mapping, computer vision, computer graphics, visualization, user interfaces, scientific computing.

Selected Refereed Papers: [full publication list](#)

- L. Alexander and K. Schwehr. New Standards for Providing Meteorology and Hydrographic Information via AIS Application-Specific Messages, *International Hydrographic Review*, No. 3, pp 37-44, 2010.
- K. Schwehr, seismic-py: Reading seismic data, *The Python Papers*, 3:2, 8 p., 2008.
- L. Hatch, C. Clark, R. Merrick, S. Van Parijs, D. Ponirakis, K. Schwehr, M. Thompson, D. Wiley, Characterizing the Relative Contributions of Large Vessels to Total Ocean Noise Fields: A Case Study Using the Gerry E. Studds Stellwagen Bank National Marine Sanctuary, *Environmental Management*, 42(5), 735-52, Nov 2008.
- K. Schwehr, L. Alexander. Encoding AIS Binary Messages in XML for Providing Hydrographic Information, *International Hydrographic Review*, 8:2, pp 37-57, 2007.

- K. Schwehr, N. Driscoll, and L. Tauxe. Origin of continental margin morphology: submarine-slide or downslope current-controlled bedforms, a rock magnetic approach. *Marine Geology*, doi:10.1016/j.margeo.2007.01.012, 2007.
- K. Schwehr, L. Tauxe, N. Driscoll, and H. J. Lee. Detecting compaction disequilibrium with anisotropy of magnetic susceptibility. *G-Cubed*, 7(Q11002):18, 2006.
- K. Schwehr, A. Derbes, L. Edwards, L. Nguyen, and E. Zbinden. Designing visualization software for ships and robotic vehicles. In *Electronic Imaging Science and Technology; Visualization and Data Analysis, SPIE*, volume 5669-23, pp. 226–237.

Selected Conference Papers / Invited Talks / International Standards / Classes:

- E. S. Raymond and K. Schwehr, [Toils of AIS](#).
- F. Campoy, M. Marks, K. Schwehr, [All the ships in the World](#), Google I/O, 2013.
- K. Schwehr, Right whale AIS project for Whale Alert, [YouTube video](#).
- K. Schwehr, Research Tools - Intro to Linux & Sci. Comp. @ UNH, [32 hours of video](#).
- K. Schwehr, Vessel Tracking Using the Automatic Identification System (AIS) During Emergency Response: Lessons from Deepwater Horizon, *US Hydro*, 2011.
- K. Schwehr, Interplanetary Observation: Mars Rover Platform, Sensors and Applications, 2010 Ocean Observing: Thinking Outside the Basin, *MTS TechSurge*, 2010.
- Guidance on the Use of AIS Application-Specific Messages, *IMO*, Circ.289, 2010.
- M. Plumlee, K. Schwehr, et al., GeoCoastPilot, *MTS/IEEE*, 2009.
- P. McGillivray, K. Schwehr, K. Fall, Enhancing AIS to Improve Whale-Ship Collision Avoidance and Maritime Security, *MTS/IEEE*, Biloxi, MI, 2009.
- B. Calder, K. Schwehr, AIS for Calibration of Risk Assessment, *US Hydro*, 2009.
- Opening the Arctic Seas: Disasters & Solutions, *Coastal Response Res. Ctr.*, UNH, 2009.
- Schwehr, K., et al., Marine Metadata Visualization, *Virtual Globes, Fall AGU*, 2009.
- M. Jacobi, N. Kinner, B. Braswell, K. Schwehr, K. Newman, A. Merten, Environmental Response Management Application, *International Oil Spill Conference*, 2008.
- S. Singh, K. Schwehr, R. et. al., Traversability for planetary rovers. In *IEEE ICRA*, 2000.
- K. Schwehr, Tools for Marine Environment Decision Support, *Google Tech Talk*, 2008.
- K. Schwehr, et al., Visualizing Operations of the Phoenix Mars Lander, *Fall AGU*, 2008.

Selected Honors/Awards:

- 2011 – Homeland Security Medal Finalist. “Amy Merten and the ERMA team.”
- 2010 – GCN top 10 government website. ERMA/GeoPlatform for Deepwater Horizon.
- 2002-2006 - Cal-IT² scientific visualization fellowship.
- 2002 - 1st place - SIO Scientific Visualization Contest.
- 2000 - Nimitz Fellowship at Scripps Inst of Oceanography.
- 1998 - AT&T Student Research Day, Advise A. Derbes won BS/MS session.
- 1998 - NASA Ames, Group Achievement "Virtual Reality For Mars Pathfinder Project."
- 1998 - Aviation Week & Space Tech, Laurels 1997 Honoree "VR Mars Pathfinder".

Additional Information:

- Resume: <https://vislab-ccom.unh.edu/~schwehr/resume/schwehr-resume.txt>
- Blog: <http://schwehr.org/blog/>
- SW Repo: <https://github.com/schwehr/>