

Sarah Mincks Hardy

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RESEARCH INTERESTS: Reproduction, dispersal, and recruitment in benthic invertebrates; Evolution of life history strategies; Population dynamics, biogeography, and biodiversity of marine benthos; Application of molecular methods in marine ecology.

EDUCATION

- 2005 Ph.D., Biological Oceanography, University of Hawai'i, Manoa
Benthic-pelagic coupling on the Antarctic continental shelf: Impacts of seasonal phytodetritus deposition on the benthic community
- 1998 M.A., Biology (Marine Biology), San Francisco State University
Distribution, abundance, and feeding ecology of decapods in the Arabian Sea, with implications for vertical flux
- 1996 B.A., Biology (Marine Biology), University of California, Santa Cruz

PROFESSIONAL EXPERIENCE

- 2009-present Assistant Professor of Marine Biology, University of Alaska, Fairbanks
- 2007-2009 Presidential International Polar Year Post-doctoral Fellow, University of Alaska
• Reproductive strategies, population dynamics and biodiversity patterns on the Arctic continental shelf
- 2006-2007 Royal Society Post-doctoral Fellow, The Natural History Museum, London, UK
• Biodiversity on the Antarctic shelf: Global change and links with the deep sea
- 2005-2006 Post-doctoral Researcher, University of Hawai'i
• Biodiversity patterns in the Pacific manganese nodule province: Source-sink dynamics and applications for MPA design
- 1999-2005 Graduate Research Assistant, University of Hawai'i
• Coupling of benthic and pelagic ecological processes on the West Antarctic Peninsula Continental Shelf
- 1996-1998 Graduate Research Assistant, San Francisco State University
• Particle flux and vertical migration of zooplankton in the Arabian Sea
- 1996 Summer Guest Student, Woods Hole Oceanographic Institution
• Ecology of Arabian Sea zooplankton and micronekton
- 1995-1996 Research Assistant, Scripps Institution of Oceanography
• Invertebrate recruitment dynamics in California kelp forests
- 1994-1995 Research Assistant, Long Marine Lab, University of California, Santa Cruz
• Reproductive ecology of sub-tidal marine invertebrates

AWARDS, HONORS, AND PROFESSIONAL RECOGNITION

- L'Oreal USA Fellowships for Women in Science, *Honorable Mention* (2007)
- University of Alaska Presidential International Polar Year Postdoctoral Fellowship (2007-2010)
- Royal Society (UK) USA/Canada International Postdoctoral Research Fellowship (2006-2007)
- University of Hawaii Graduate Student Organization Travel Grant (2004)
- Antarctic Service Medal of the U.S.A. (2002)

- Achievement Rewards for College Scientists (ARCS) Foundation Scholarship, San Francisco State University (1997-1998)
- Graduate Assistance in Areas of National Need (GAANN) Fellowship, San Francisco State University (1996-1998)
- Outstanding Student Employee Award, University of California, Santa Cruz (1995)
- Pacific Bell Foundation Scholarship, University of California, Santa Cruz (1993-1995)

FUNDING: CURRENT AND PENDING

- University of Alaska Presidential IPY Post-doctoral Fellowship (2007-2010), \$223,200.00
- Arctic Ocean Diversity (ArcOD) Mini-grant (2008-2009), *Barcoding Arctic Benthos: Applications for Reproductive Ecology and Phylogenetics*, \$5,000.00
- Coastal Marine Institute (2009-2011), *Population connectivity in Bering, Chukchi and Beaufort Sea snow crab populations: Estimating spatial scales of disturbance impacts*, \$239,552.00
- Alaska Sea Grant (pending), *Source or sink? Working toward effective protection of crab populations in Kachemak Bay, Alaska*, \$174,499.00

TEACHING AND MENTORING EXPERIENCE

- Mentor to undergraduate Experiential Learning fellow, Shelley Woods, UAF (2008-2009)
- Invited Lecturer, UAF (Graduate-level Courses: “International Polar Year Seminar” and “Marine Biology”) (2007)
- Co-advisor for MSc student Lenka Nealova, The Natural History Museum, London (2006-2007)
- Head Teaching Assistant/ Laboratory Instructor, University of Hawaii (“Science of the Sea”, OCN 201) (2005)
- Science and Math Tutor/Mentor, University of Hawaii, Nagatani Academic Center (2002-2005)
- Invited Lecturer, University of Hawaii (Graduate-level Courses: “Marine Microbiology” and “Benthic Biological Oceanography”) (2002-2004)
- Teaching Assistant, University of Hawaii (“Science of the Sea”, OCN 201) (1998-1999)
- Laboratory Instructor, San Francisco State University (“General Biology Lab”, BIOL 101) (1998)

ADDITIONAL SKILLS AND TRAINING

- UAF *Scientific Teaching* faculty development workshops (2009)
- DAN Emergency O₂ Provider and Red Cross First Aid & CPR (2009)
- UAF *Ethical Conduct in Research* faculty development workshop (2008)
- PRIMER Software and Ecological Statistics training course (2007), UAF
- Molecular Biology training course (2007), The Natural History Museum, London, UK
- Analyzing Biodiversity and Life History Strategies (2006), Marine Genomics Europe summer course
- Comparative Invertebrate Embryology (2000), University of Washington summer field course
- NAUI Openwater I SCUBA certification (1991)
- Verbal and written proficiency in Spanish

OUTREACH, VOLUNTEER, AND PROFESSIONAL SERVICE

- Demonstrator, *I'm going to college 2009 Program* for elementary schools, Fairbanks, AK (2009)
- Manuscript reviewer: *Deep Sea Research I and II, Journal of Marine Systems, Zootaxa, Marine Ecology Progress Series, Limnology & Oceanography*
- Proposal reviewer: NOAA Ocean Exploration
- Judge, UA-IPY Young Researchers Network *What's your Alaska?* Photo and Video Contest (2009)
- Science Judge, National Ocean Science Bowl, Alaska (2009)
- Contributor, Arctic Ocean Diversity (ArcOD) website (www.arcodiv.org) (2008)
- Presentation of research in University of Alaska, Fairbanks IMS Seminar Series (2007)
- Presentation of research to University of Alaska Board of Regents (2007)
- Proposal reviewer for Global Change Student Research Grant competition, UAF (2007)
- Consulting Scientist (volunteer), The Nature Conservancy, Honolulu, HI (2005)
- Session Moderator, Hawaii Academy of Science Pacific Student Symposium for Science and Sustainability (2001)
- Graduate Student Representative to Faculty Committees, University of Hawai'i
 - Faculty Search Committee (2003-2004)
 - Committee to Address Student Attrition Rates (2002-2004)
- Na Kama Kai Graduate Student Organization, University of Hawai'i
 - Student Space Coordinator (2002-2003)
 - New Student Liaison (1999-2000)

PUBLICATIONS (PEER-REVIEWED)

- Nealova, L., **S.L. Mincks**, C.R. Smith, A.G. Glover (in prep) Species diversity of Antarctic shelf polychaetes and the influence of food availability. To be submitted to *Marine Ecology Progress Series*.
- Mincks, S.L.**, C. McClain, C.R. Smith (in prep) Sources and sinks in the abyss and their potential influence on biodiversity and evolution. To be submitted to *Global Ecology and Biogeography*.
- Bluhm, B., **S.L. Mincks**, K. Iken, B. Sirenko (in prep) Epibenthic megafauna on the Chukchi shelf: Environmental influences on community structure. To be submitted to *Polar Biology*.
- McClain, C., **S.L. Mincks**, A.G. Glover (in prep) Species ranges, scales of dispersal, and population connectivity in the abyss. To be submitted to *Proceedings of the Royal Society B*.
- Mincks, S.L.**, P. Dyal, G.L.J. Paterson, C.R. Smith, A.G. Glover (2009) A new species of *Aurospio* (Polychaeta, Spionidae) from the Antarctic shelf, with analysis of its ecology, reproductive biology and evolutionary history. *Marine Ecology* 30: 181-197.
- Mincks, S.L.**, C.R. Smith, R.M. Jeffreys, P.Y.G. Sumida (2008) Trophic structure on the West Antarctic Peninsula shelf: Detritivory and benthic inertia revealed by $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ analysis. *Deep-Sea Research II* 55: 2502-2514.
- Smith, C.R., **S.L. Mincks**, D.J. DeMaster (2008) The FOODBANCS Project: Introduction and sinking fluxes of organic carbon, chlorophyll-*a* and phytodetritus on the western Antarctic Peninsula shelf. *Deep-Sea Research II* 55: 2404-2414.
- Glover, A.G., C.R. Smith, **S.L. Mincks**, P.Y.G. Sumida, A. Thurber (2008) Macrofaunal abundance and composition on the West Antarctic Peninsula continental shelf: evidence for a sediment 'food bank' and similarities to deep-sea habitats. *Deep-Sea Research II* 55: 2491-2501.
- Mincks, S.L.**, C.R. Smith (2007) Recruitment patterns in Antarctic shelf sediments: Evidence of decoupling from seasonal phytodetritus pulses. *Polar Biology* 30: 587-600.
- Smith, C.R., **S.L. Mincks**, D.J. DeMaster (2006) A synthesis of benthic-pelagic coupling on the Antarctic Shelf: Food banks, ecosystem inertia and global climate change. *Deep-Sea Research II* 53: 875-894.

Mincks, S.L., C.R. Smith, D.J. DeMaster (2005) Persistence of labile organic matter and microbial biomass in Antarctic shelf sediments: Evidence of a sediment “food bank”. *Marine Ecology Progress Series* 300: 3-19.

Mincks, S.L., S.M. Bollens, L.P. Madin, E.Horgan, M. Butler, P.M. Kremer, J.E. Craddock (2000) Distribution, abundance, and feeding ecology of decapods in the Arabian Sea, with implications for vertical flux. *Deep-Sea Research II* 47: 1475-1516.

TECHNICAL REPORTS

Smith, C.R., **S.L. Mincks** (2006) Initial synthesis of the significance of benthic biological data to understanding habitat distributions, biogeographical patterns and the general ecological environment within the Clarion-Clipperton Zone (CCZ) and Adjoining Areas. Geological Model Phase II, *Final Report to the International Seabed Authority*.

Mincks, S.L., C.R. Smith (2006) Critical Review of Benthic Biological Data from the Clarion-Clipperton Zone (CCZ) and Adjoining Areas. Geological Model Phase II, *Report to the International Seabed Authority*.

Mincks, S.L., C.R. Smith (2005) Summary of Benthic Biological Data Availability from the Clarion-Clipperton Zone and Adjoining Areas (including collection techniques, geographic locations, major geographic gaps, and potentially untapped data sources). Geological Model Phase I, *Report to the International Seabed Authority*.

Smith, C.R., J. Drazen, **S.L. Mincks** (2006) Deep-sea biodiversity and biogeography : perspectives from the Abyss. *Report to the International Seabed Authority, Seamount Biodiversity Symposium*.

PRESENTATIONS AT (INTER) NATIONAL MEETINGS

2009 *Invited*: CeDAMar workshop on Productivity-Diversity Relationships in the Abyss, Friday Harbor, WA

2009 Alaska Marine Science Symposium, Anchorage, AK

2008 World Conference on Marine Biodiversity, Valencia, Spain

2007 *Invited*: Pew Fellows Program workshop on Designing Marine Protected Areas for Seamounts and the Abyssal Nodule Province in Pacific High Seas, Honolulu, HI

2007 *Invited*: Polar Barcode of Life Initiative (POLARBOLI) Workshop, Trondheim, Norway

2007 CeDAMAR Abyssal Polychaete Inter-calibration Project Symposium, London, UK

2007 9th International Polychaete Conference, Darling Marine Center, ME (poster)

2006 11th International Deep-Sea Biology Symposium, Southampton, UK

2006 AGU/ASLO Ocean Sciences Meeting, Honolulu, HI

2004 Scientific Committee on Antarctic Research (SCAR) Ecology of the Antarctic Sea Ice Zone (EASIZ) Final Symposium, Korčula, Croatia

2004 ASLO/TOS Ocean Research Conference, Honolulu, HI

2003 10th International Deep-Sea Biology Symposium, Coos Bay, OR

2003 FEMS Workshop on Cold Adaptations of Aquatic Microorganisms, Max Planck Institute for Marine Microbiology, Bremen, Germany (poster)

2002 AGU/ASLO Ocean Sciences Meeting, Honolulu, HI

2001 ASLO Aquatic Sciences Meeting, Albuquerque, NM

1998 AGU/ASLO Ocean Sciences Meeting, San Diego, CA

1997 Western Society of Naturalists Meeting, Monterey, CA

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Western Society of Naturalists (1997 to 2001)

American Geophysical Union (1997 to present)
American Society of Limnology and Oceanography (2000 to present)
Association of Polar Early Career Scientists (2006 to present)
American Association for the Advancement of Science (2007 to present)
Association for Women in Science (2007 to present)

RESEARCH CRUISE PARTICIPATION

Accumulated ship time **228 days**:

Feb. 2008	ARSV LAURENCE M. GOULD, West Antarctic Peninsula
Sept. 2007	NOAA R/V OSCAR-DYSON, Northern Bering and Chukchi Seas
Aug. 2007	OSHORO-MARU, Chukchi Sea
Mar. 2004	WESTERN FLYER/ ROV TIBURON, Southern California Borderland Basins
Nov. 2002	KA'IMIKAI-O-KANALOA/ DSV PISCES, Loihi hydrothermal vents, Hawaii
Mar. 2001	ARSV LAURENCE M. GOULD, West Antarctic Peninsula
Oct. 2000	ARSV LAURENCE M. GOULD, West Antarctic Peninsula
June 2000	ARSV NATHANIEL B. PALMER, West Antarctic Peninsula
Feb. 2000	ARSV LAURENCE M. GOULD, West Antarctic Peninsula
Nov. 1999	ARSV LAURENCE M. GOULD, West Antarctic Peninsula
Oct. 1999	ATLANTIS/ DSV ALVIN, Southern California Borderland Basins
May 1997	POINT SUR, San Francisco Bay
Mar. 1997	WESTERN FLYER, Monterey Bay