

CURRICULUM VITAE

Lydia Kapsenberg

- <http://www.lydiakapsenberg.weebly.com/> • www.facebook.com/oceanpHvariability •

EDUCATION

- 2010 - 2015 **Ph.D.** Ecology, Evolution and Marine Biology (EEMB),
University of California Santa Barbara (UCSB)
Advisor: Dr. Gretchen Hofmann
- 2005 - 2009 **B.Sc.** Biology, *Summa Cum Laude*, Chemistry Minor, Marine Biology Option
Oregon State University

POSITIONS IN RESEARCH

- 2017 - 2020 **Marie Skłodowska-Curie Action Postdoctoral Fellow**, Institute of Marine
Sciences, Barcelona, Spain. *Advisor:* Dr. Carles Pelejero
- 2015 - 2017 **NSF Postdoctoral Research Fellow**, Oceanographic Laboratory of Villefranche
(LOV), University of Pierre and Marie Curie Paris, France
Advisors: Drs. Jean-Pierre Gattuso (FR), Todd Martz (USA)
- 2009 **Research Assistant**, Oregon State University, Corvallis, Oregon
Advisors: Drs. Bruce Menge, Jane Lubchenco
- 2008 **Research Assistant**, National Marine Science Centre, Southern Cross University,
Coffs Harbour, New South Wales, Australia. *Advisor:* Dr. Symon Dworjanyn

PUBLICATIONS *student

h-index = 9, 316 citations

16. **Kapsenberg, L**, T Cyronak (2019) Ocean acidification refugia in variable environments. *Global Change Biology* 25: 3201-3214. doi: 10.1111/gcb.14730
15. Tilbrook, B., EB Jewett, MD DeGrandpre, JM Hernandez-Ayon, RA Feely, DK Gledhill, L Hansson, K Isensee, ML Kurz, JA Newton, SA Siedlecki, F Chai, S Dupont, MI Graco, E Calvo, D Greeley, **L Kapsenberg**, M Lebec, C Pelejero, K Schoo, and T Maciej (2019) An enhanced ocean acidification observing network: From people to technology to data synthesis and information exchange. *Frontiers in Marine Science* 6: 337. doi: 10.3389/fmars.2019.00337
14. **Kapsenberg, L**, A Miglioli*, MC Bitter, E Tambutté, R. Dumollard, J-P Gattuso (2018) Ocean pH fluctuations affect mussel larvae at key developmental transitions. *Proceedings of the Royal Society B: Biological Sciences* 285: 20182381. doi:10.1098/rspb.2018.2381
13. **Kapsenberg, L** (2018) Workshop on Durafet-based pH sensors highlights importance of collecting reference samples. *Limnology and Oceanography Bulletin* 27: 26-28. doi: 10.1002/lob.10215 *Top 20 most downloaded paper 2017-2018

12. **Kapsenberg, L**, EE Bockmon, PJ Bresnahan, KJ Kroeker, J-P Gattuso, and TR Martz (2017) Advancing ocean acidification biology using Durafet® pH electrodes. *Frontiers in Marine Science* 4: 321. doi:10.3389/fmars.2017.00321
11. **Kapsenberg, L**, S Alliouane, F Gazeau, L Mousseau, and JP Gattuso (2017) Coastal ocean acidification and increasing total alkalinity in the northwestern Mediterranean Sea. *Ocean Science* 13: 411-426. doi:10.5194/os-13-411-2017
10. **Kapsenberg, L**, DK Okamoto, J Dutton, and GE Hofmann (2017) Sensitivity of sea urchin fertilization to pH varies across a natural pH mosaic. *Ecology and Evolution* 7: 1737-1750. doi:10.1002/ece3.2776 *equal contribution*
9. Rivest, EB, M O'Brien, **L Kapsenberg**, CC Gotschalk, M Gastil-Buhl, CA Blanchette, U Hoshijima, and GE Hofmann (2017) Beyond the benchtop and the benthos: use of Durafet®-based pH sensors as a case study for dataset management planning and design for time series of ocean carbonate chemistry. *Ecological Informatics* 36: 209-220.
8. **Kapsenberg, L**, and GE Hofmann (2016) Ocean pH time-series and drivers of variability along the northern Channel Islands, California, USA. *Limnology & Oceanography* 61: 953-968.
7. **Kapsenberg, L**, AL Kelley, LA Francis, and SB Raskin (2015) Exploring the complexity of ocean acidification: an ecosystem comparison of coastal pH variability. *Science Scope* 39: 51-60.
6. **Kapsenberg, L**, AL Kelley, EC Shaw, TR Martz, and GE Hofmann (2015) Near-shore Antarctic pH variability has implications for the design of ocean acidification experiments. *Scientific Reports* 5, 9638. DOI:10.1038/srep09638.
5. **Kapsenberg, L**, and GE Hofmann (2014) Signals of resilience to ocean change: high thermal tolerance of early stage Antarctic sea urchins (*Sterechinus neumayeri*) reared under present day and future pCO₂ and temperature. *Polar Biology* 37: 967-980.
4. Hofmann, GE, TG Evans, MW Kelly, JL Padilla-Gamiño, CA Blanchette, L Washburn, F Chan, MA McManus, BA Menge, B Gaylord, TM Hill, E Sanford, M LaVigne, JM Rose, **L Kapsenberg**, and JM Dutton (2014) Exploring local adaptation and the ocean acidification seascape – studies in the California Current Large Marine Ecosystem. *Biogeosciences* 11: 1053-1064.
3. Sewell, MA, R Millar, PC Yu, **L Kapsenberg**, GE Hofmann (2014) Ocean acidification and fertilization in the Antarctic sea urchin *Sterechinus neumayeri*: the importance of polyspermy. *Environmental Science & Technology* 48: 713-722.
2. Hofmann, GE, CA Blanchette, EB Rivest, and **L Kapsenberg** (2013) Taking the pulse of marine ecosystems: The importance of coupling long-term physical and biological observations in the context of global change biology. *Oceanography* 26: 140–148.
1. Yu, PC, MA Sewell, PG Matson, EB Rivest, **L Kapsenberg**, and GE Hofmann (2013) Growth attenuation with developmental schedule progression in embryos and early larvae of *Sterechinus neumayeri* raised under elevated CO₂. *PLoS One* 8: e52448.

Manuscripts forthcoming

- Bitter, MC, **L Kapsenberg**, J-P Gattuso, CA Pfister. Standing genetic variation underpins rapid adaptation to ocean acidification. *Nature Communications*: in review

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- **Kapsenberg, L**, MC Bitter, A Miglioli, R. Dumollard, J-P Gattuso. Gene expression underpinning abnormal development the shell field in *Mytilus galloprovincialis* larvae. In prep.

FELLOWSHIPS, GRANTS & AWARDS

Postdoctoral Research Fellowships

- 2020 - 2023 Juan de la Cierva, Spain
2017 - 2020 Marie Skłodowska-Curie Action, European Commission
2015 - 2017 NSF Ocean Sciences, National Science Foundation, USA

Doctoral Research Fellowships

- 2015 EEMB Block Fellowship, UCSB, California, USA
2014 - 2015 UCSB Graduate Fellowship, UCSB, California, USA
2010 - 2014 NSF Graduate Research Fellowship, National Science Foundation, USA
2010 - 2011 EEMB Block Fellowship, EEMB, UCSB, USA

Primary Research Grants

- 2017 - 2020 Marie Skłodowska-Curie Action Postdoctoral Research Fellowship. *The influence of environmental variability on mussel aquaculture and adaptation in the context of global ocean change*. European Commission, Horizon 2020 Research and Innovation Framework Programme (€158,121.60)
- 2015 - 2017 NSF Postdoctoral Research Fellowship Ocean Sciences, International Track *Indirect effects in a changing ocean: a case study of seagrass photosynthesis and mussel physiology*. National Science Foundation, USA (\$194,000)
- 2015 Pacific Rocky Intertidal Survey and Monitoring, Research Grant *Characterizing ocean pH in the Channel Islands National Park*. co-PIs: GE Hofmann, CA Blanchette, Bureau of Ocean Energy Management, USA (\$2450)
- 2014 - 2015 Research and Learning Grant *Characterizing ocean pH in the Channel Islands National Park*. Southern California Research and Learning Center, USA (\$3600)
- 2014 - 2015 Student Equipment Loan Program Award, *extension Quantifying drivers of pH variability in coastal Antarctica*. Sea-Bird Electronics, USA (37-SMP-ODO MicroCAT oceanographic sensor)
- 2014 Pacific Rocky Intertidal Survey and Monitoring, Research Grant *Characterizing ocean pH in the Channel Islands National Park*. co-PIs: GE Hofmann, CA Blanchette, Bureau of Ocean Energy Management, USA (\$2450)
- 2013 - 2014 Student Equipment Loan Program Award *Quantifying drivers of pH variability in the Channel Islands National Park*. Sea-Bird Electronics, USA (3 x 37-SMP-ODO MicroCAT oceanographic sensors, \$37,000 value)
- 2013 - 2014 Research and Learning Grant *Characterizing ocean pH in the Channel Islands National Park*. Southern California Research and Learning Center, USA (\$6000)

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- 2013 Pacific Rocky Intertidal Survey and Monitoring, Sensor loan *Characterizing ocean pH in the Channel Islands National Park*. co-PIs: GE Hofmann, CA Blanchette, Bureau of Ocean Energy Management, USA (SeaFET pH sensor, \$10,198.25 value)
- 2013 UCSB Research Fellowship, UCSB, USA (\$4500)
- 2011 - 2012 George Melendez Wright Climate Change Fellowship *Assessment of ocean acidification in the Channel Islands National Park and its impact on local marine species*. National Park Service, USA (\$19,987)

Performance Awards

- 2012 Best Poster Award, Multidisciplinary category, Scientific Committee on Antarctic Research Open Science Conference, Portland, Oregon, USA
- 2015 2014 Fiona Goodchild Award Nomination for Excellence as a Graduate Student Mentor of Undergraduate Research, UCSB, California, USA

Travel awards

- 2013 Sea-Bird Electronics Travel Award (Ocean Sciences 2014) USA (\$1000)
- 2012 XXXII Open Science Conference Travel Award, Scientific Committee on Antarctic Research, Portland, Oregon, USA (\$775)
- 2011 Ocean Carbon and Biogeochemistry Program Travel Award to Friday Harbor Labs, USA (\$1000)

PROFESSIONAL SERVICE

- IPCC Expert reviewer, *Second Order Draft of the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate* (2018)
- Peer review *Biogeosciences, Conservation Physiology, Ecological Applications, Environmental Science & Technology, Journal of Geophysical Research: Oceans, Journal of the Marine Biological Association of the United Kingdom, Limnology & Oceanography, Limnology & Oceanography: Methods, Marine Chemistry, Marine Environmental Research, Proceedings of the Royal Society B, Science of the Total Environment*
- Grant review Natural Environment Research Council (2018)
NSF Biological Oceanography (2015)
- 2020 Session Chair, *Ocean-based solutions to address local-to-global human impacts*, Ocean Sciences Meeting 2020, San Diego, California, USA
- 2017 Invited Expert Participant. *SCOR Working Group 149: Changing Ocean Biological Systems (COBS): How will biota respond to a changing ocean? Technical Meeting on the Development of Best Practices for Multiples-Stressor Experiments*. IAEA Environment Laboratories, Monaco
- 2014 Participant. National Academy of Sciences Study on Science Priorities in Antarctica, Stanford University, Stanford, California, USA

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- 2012, 2013 Lead-, Co-coordinator. Annual Graduate Student Symposium, EEMB, UCSB
2012 - 2014 EEMB Departmental Assembly Representative. UCSB Graduate Student Association

TEACHING EXPERIENCE

- 2016 Guest Lecturer, Response of Pelagic Ecosystem to Environmental Changes (Master's course: RPEEC, 5UM34), LOV, France
2015 Teaching Assistant, Introductory Biology Laboratory 3, Spring Quarter, UCSB
2014 - 2015 Lead Coordinator, middle school science curriculum development, in collaboration with NOAA Channel Islands National Marine Sanctuary, USA
2013 Teaching Assistant, Global Change Biology, Spring Quarter, UCSB
2013 Guest Lecturer, Global Change Biology, Spring Quarter, UCSB
2007 Head Coach, Philomath Dolphin Swim Team, Philomath, Oregon, USA
2006 Assistant Swim Coach, Pendleton Swim Association, Pendleton, Oregon, USA
2005 - 2008 Assistant Swim Coach, Crescent Valley High School, Corvallis, Oregon, USA
2004 - 2007 Swim Instructor, Osborn Aquatic Center, Corvallis, Oregon, USA

STUDENT ADVISING

- Master II Hela Salah (19 Jun 2017, University of Nice, France)
Master I Alexandra Foetisch (7 Sep 2017, Université Pierre et Marie Curie, France)
Quentin d'Alexis (16 Jun 2016, University of Paris-Saclay, France)
Intern Claudia Aparicio Estalella (2019, Institute of Marine Sciences, Barcelona, Spain)
Angelica Miglioli (2016, Erasmus Fellow, University of Genova, Italy)
Undergraduate Evan Barba (2014, SBC LTER Research Experience)
Mark Bitter (2013-2014, SBC LTER Research Experience, senior thesis, UCSB)
Kylie Langlois (2012, UCSB)
Ella Bendrick-Chartier (2011, UCSB)

WORKSHOPS

- 2020 Leader. *Best practices for Durafet-based ocean and laboratory pH time-series*. ICM, Barcelona, Spain
2017 Leader. *Best practices for Durafet-based ocean and laboratory pH time-series*. LOV, Villefranche-sur-Mer, France
2014 Keynote speaker, co-organizer. *Teaching Environmental Science in a Changing Climate: ocean acidification session*. NOAA Channel Islands National Marine Sanctuary, Santa Barbara, California, USA
2013 Co-leader. *SeaFET pH sensor workshop*. Consortium for the Study of Ocean Change, Universidad Autónoma de Baja California, Ensenada, Mexico

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- 2012 Lead speaker, co-organizer. *ILTER ocean acidification data management workshop*.
ILTER All Scientists Meeting, Estes Park, Colorado, USA

PRESENTATIONS * invited

Scientific Conferences

- 2019 OceanVisions2019, Atlanta, Georgia
2018 Ocean Sciences Meeting. Portland, Oregon
2017 2nd International Symposium on the Advances in Marine Mussel Research, Sète, France
2017 Ecological Society of America. Portland, Oregon
2016 Gordon Research Conference Ocean Global Change Biology (poster). Waterville Valley, New Hampshire
2015 11th Annual Departmental Graduate Student Symposium. UCSB, California
2014 Ocean Sciences Meeting (poster). Honolulu, Hawaii
2013 94th Annual Meeting of the Western Society of Naturalists. Ventura, California
2013 9th Annual Departmental Graduate Student Symposium. UCSB, California
2012 8th California Island Symposium (poster). Ventura, California
2012 LTER All Scientist Meeting (poster). Estes Park, Colorado
2012 Third Symposium on the Ocean in a High-CO₂ World (poster). Monterey, California
2012 XXXII Scientific Committee on Antarctic Research Open Science Conference (poster). Portland, Oregon. ***Best poster award in multidisciplinary category***

Seminars

- 2019 Universitat Autònoma de Barcelona, Barcelona, Spain *
2018 CSIC Institute of Marine Sciences, Barcelona, Spain *
2017 Oceanographic Laboratory of Villefranche (LOV), France
2017 Centre Scientifique de Monaco, Monaco
2017 California State University Northridge, Northridge, California *
2016 Le Séminaire Annuel du LOV. Nice, France *
2015 Centre Scientifique de Monaco, Monaco *

Government Engagement and Policy Conferences

- 2017 International Conference on Knowing Oceans for Achieving Sustainable Development: scientific and legal aspects of marine scientific research. Monaco *
2015 NOAA Channel Islands National Marine Sanctuary Advisory Council Meeting. Co-presenter GE Hofmann. Santa Barbara, California *
2014 Pacific Ocean Education Team. Co-presenter CA Blanchette. Webinar *
2014 NOAA Channel Islands National Marine Sanctuary Advisory Council Meeting. Santa Barbara, California *
2014 Channel Islands National Park All Employees Meeting. Ventura, California *

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- 2012 Climate Change in America’s National Parks: Climate Change Research from the Next Generation. Webinar
- 2012 NOAA Channel Islands National Marine Sanctuary Advisory Council Meeting. Ventura, California *

Community Engagement

- 2015 Channel Islands National Park: From Shore to Sea Lecture Series. Ventura, California *
- 2012 McMurdo Station Wednesday Night Science Lecture. Co-presenters PC Yu, GE Hofmann. McMurdo, Antarctica
- 2012 Science Pub, Santa Barbara Museum of Natural History. Co-presenter PC Yu. Santa Barbara. California *

RESEARCH EXPEDITIONS

- 2014 R/V *Shearwater*. NOAA Channel Islands Research Cruise for Acidification Studies (CIRCAS). Lead PI: JJ Lunden. Santa Barbara Channel, California
- 2013 Project Leader¹ Antarctic field research. Lead PI: GE Hofmann
- 2012 Antarctic field research. Lead PI: GE Hofmann. McMurdo Station, Antarctica
- 2011 Antarctic field research. Lead PI: GE Hofmann. McMurdo Station, Antarctica
- 2011 Tropical field research. Lead PI: EB Rivest. University of California Berkeley Richard B. Gump South Pacific Research Station, Moorea, French Polynesia
- 2010 Antarctic field research. Lead PI: GE Hofmann. McMurdo Station, Antarctica

OUTREACH ACTIVITIES

- 2018 - Expert scientist for Blue Ocean Watch, a start-up science education and outreach program based in Monaco
- 2016 - 2018 Developed ocean acidification outreach posters for NOAA Channel Islands National Marine Sanctuary and Channel Islands National Park
- 2013 - 2017 Leader. Ocean acidification education and outreach implementation, Channel Islands National Park, Ventura, California
- 2014 - 2015 Science Advisor. Channel Coast Watershed Observatory. Collaboration with SCCOOS, NOAA, Channel Islands National Park, Nature Bridge, Monterey Bay Aquarium, BOEM, JASON learning, middle school STEM coordinators, Oxnard, California
- 2012 Science Panelist. Climate Change Student Summit, NOAA and ANDRILL, Ventura, California

¹ USA government shutdown in 2013 led to travel cancelation to Antarctica. L. Kapsenberg remotely coached scientists at McMurdo Station to complete the tasks.

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PROFESSIONAL AFFILIATIONS

- 2012 - 2015 Ocean Margins Ecosystems Group for Acidification Studies (OMEGAS)
- 2011 - 2015 University of California Ocean Acidification Training and Research Consortium
- 2012 - 2015 Santa Barbara Coastal Long-Term Ecological Research (SBC LTER)