

Derek Skillings

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Department of Philosophy
University of Pennsylvania
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Academic Positions

- University of Pennsylvania** August 2018 -
Lecturer
Department of Philosophy
- City College of New York** August 2018 -
Lecturer
Department of Philosophy
- University of Bordeaux/CNRS** October 2016- June 2018
Post-Doctoral Researcher
ERC funded project (€1,454,000) on Immunity, Development and the Microbiota (IDEM):
Understanding the Continuous Construction of Biological Identity

Education

- The Graduate Center, City University New York** June 2017
Ph.D. in Philosophy
Dissertation: *Aspects of Biological Explanation*
Advisor: Peter Godfrey-Smith
Committee: Massimo Pigliucci, David Papineau, Catherine Wilson, Justin Garson
- University of Hawai'i at Mānoa** June 2012
Ph.D. in Zoology
Dissertation: *Islands, Archipelagos, and Beyond: Population Genetics and Phylogeography of Hawaiian Coral Reef Echinoderms*
Advisor: Rob Toonen
Committee: Brian Bowen, Charles Birkeland, Andy Taylor, Ron Bontekoe
- University of Hawai'i at Mānoa** June 2012
M.A. in Philosophy
Advisor: Ron Bontekoe
- Minnesota State University, Mankato** May 2006
B.A. in Open Studies: Biology, Chemistry, Philosophy

Areas of Specialization

Philosophy of Biology, Philosophy of Science, Environmental Philosophy, Evolutionary Biology

Areas of Competence

Philosophy – Biomedical Ethics, Ancient Chinese and Buddhist Philosophy, American Pragmatism
Biology – Conservation Biology, Population Genetics, Marine Biology, Invertebrate Biology

Publications

Philosophy

1. “Methodological Strategies in Microbiome Research and their Explanatory Implications.” 2018
O'Malley, M and Skillings, D. *Perspectives on Science*.
2. “Microbiomes and Holobionts” 2018
Skillings, D and Hooks, K. *Encyclopedia of Ecology, 2nd Edition*. Elsevier Press.
3. “Holobionts and the Ecology of Organisms – Multi-Species Communities or Integrated Individuals?” 2016
Biology & Philosophy. 31(6):875-892. doi:10.1007/s10539-016-9553-z
4. “Mechanistic Explanation of Biological Processes” 2015
Philosophy of Science 82: 1139-1151.

Popular Press and Book Reviews

1. Adrian Currie's *Rock, Bone, and Ruin: An Optimist's Guide to the Historical Sciences*. [NDPR](#) 2018
2. “I, holobionts. Are you and your microbes a community or a single entity?” 2018
[Aeon Magazine](#).
3. “Life is not easily bounded” 2017
[Aeon Magazine](#).

Invited Book Chapters and Articles in Review (papers available upon request)

1. “Two Pitfalls for Causal Reasoning in Biology”
2. “Reorienting Scientific Explanation: The Case from Robustness in Biological Systems”
3. “The Ecology of Holobionts” with Christopher Lean. *Philosophy, Theory, and Practice in Biology*
4. “An Organizational View on Development, with a Focus on Life Cycles” with Leonardo Bich
Organization in Biology: Foundational Enquiries into a Scientific Blindspot. Eds. M. Mossio and A. Garbarotto
5. “Ecological Theories and Microbiome Dynamics” with Christopher Lean. *Host Microbiomes of Plants and Animals*. Ed. Rachael Antwis.

Scientific Collaborations

1. “A Coalescent Sampler Successfully Detects Biologically Meaningful Population Structure Overlooked by F-Statistics” 2018
Crandall ED, Toonen RJ, ToBo Laboratory, Skillings DJ and Selkoe KA. *Evolutionary Applications*.
2. “The DNA of Coral Reef Biodiversity: Predicting and Protecting Genetic Diversity of Reef Assemblages” 2016
Selkoe KA, Gaggiotti OE, Treml EA, Wren JLK, Donovan MK, Andrews KA, Baums I, Bird CE, Bolick H, Bowen B, Coleman R, Craig MT, Daly-Engel TS, DiBattista JD, Eble J, Fernandez-Silva I, Franklin EC, Gaither MR, Iacchei M, Rocha LA, Skillings D, Santos SR, Timmers M, Wedding L, Williams GJ, Whitney NM, Toonen RJ. *Proc. R. Soc. B* 283: 20160354.
3. “An assessment of shallow and mesophotic reef brachyuran crab assemblages on the south shore of Oahu, Hawaii.” 2015
Hurley KC, Timmers MA, Godwin LS, Copus JM, Skillings DJ, Toonen RJ. *Coral Reefs*.
DOI: 10.1007/s00338-015-1382-z.
4. “Emergent Patterns of Population Genetic Structure for a Coral Reef Community” 2014
Selkoe KA, Gaggiotti OE, Andrews KA, Bernal MA, Bird CE, Bolick H, Baums I, Coleman R, Concepcion GT, Craig MT, DiBattista JD, Eble J, Fernandez-Silva I, Gaither MR, Iacchei M, Polato NR, Rivera MA, Rocha LA, Skillings DJ, Timmers M, Szabo Z, Bowen BW, Toonen RJ. *Molecular Ecology* DOI:10.1111/mec.12804.
5. “Comparative population structure of two edible Indo-Pacific coral reef sea cucumbers (Echinodermata Holothuroidea)” 2014
Skillings DJ, Bird CE, Toonen RJ. *Bulletin of Marine Science* 90(1). DOI: 10.5343/bms.2013.1001.
6. “The Origins Of Tropical Marine Biodiversity” 2013
Bowen BW, Rocha LA, Bird CJ, Skillings DJ, Eble JA, DiBattista JD, Craig MT, Toonen RJ.
Trends in Ecology and Evolution
7. “After continents divide: Comparative phylogeography of reef fishes from the Red Sea and Indian Ocean” 2013
DiBattista JD, Berumen ML, Gaither MR, Rocha LA, Eble JA, Choat JH, Craig MT, Skillings DJ, Bowen BW.
Journal of Biogeography.
8. “There's no place like home: Crown-of-thorns outbreaks in the Central Pacific are regionally derived and independent events” 2012
Timmers MA, Bird CE, Skillings DJ, Smouse P, Toonen RJ. *PLoS ONE* 7(2).

9. “Molecular delineation of species in the coral holobiont” 2012
Stat M, Baker A, Bourne D, Correa A, Forsman Z, Huggett M, Pochon X, Skillings D, Starger C, Toonen RJ, van Oppen M, Gates R. *Advances in Marine Biology*. <http://dx.doi.org/10.1016/B978-0-12-394282-1.00001-6>.
10. “Defining boundaries for ecosystem-based management: A multispecies case study of marine connectivity across the Hawaiian Archipelago” 2011
Toonen RJ, Andrews K, Baums I, Bird CE, Concepcion G, Daly-Engel T, Eble J, Faucci A, Gaither M, Iacchei M, Puritz J, Schultz J, Skillings DJ, Timmers M, Bowen B. *Journal of Marine Biology*. ID#460173, 13 pp.
11. “Gateways to Hawai‘i: genetic population structure of the tropical sea cucumber *Holothuria atra*” 2011
Skillings DJ, Bird CE, Toonen RJ. *Journal of Marine Biology*, ID# 783030, 16 pp.
12. “Where have all the larvae gone? Patterns of connectivity in the Hawaiian Archipelago” 2010
Toonen RJ, Bird CE, Eble J, Faucci A, Concepcion G, Andrews K, Skillings DJ, Iacchei M, Baums I, Bowen BW. in *Diving for Science. Proceedings of the American Academy of Underwater Sciences*. Dauphin Island, AL: AAUS.
13. “It’s just a flesh wound: non-lethal sampling for conservation genetics studies” 2010
Skillings DJ, Toonen RJ. (in *Diving for Science. Proceedings of the American Academy of Underwater Sciences* Dauphin Island, AL: AAUS.
14. “Reconciling ecosystem-based management and focal resource conservation in the Papahānaumokuākea Marine National Monument” 2009
Kittinger JN, Skillings DJ, Carvalho KK, Reeve LLN, Hutchinson M, Cullison K, Shackeroff J, Chow M, Lemus J. *Marine Sanctuaries Conservation Series*. ONMS-09-04. NOAA, Office of National Marine Sanctuaries.
15. Laboratory culture of the soft-coral *Carijoa riisei*? 2008
Journal of Young Investigators. 15:8.

Further papers currently in progress can be found on my website: www.derekskillings.com

Selected Presentations

Invited Talks

1. “A Framework for Individuation and Individuality in Biology” 2018
Dalhousie University Philosophy Workshop, Halifax
2. “The Ecology of Holobionts” 2018
Dalhousie University Biology Seminar Series, Halifax
3. “From Integrated Individuals to Multi-Species Communities: Identifying the Spectrum of Holobiont Interactions and Why it Matters” 2018
IV Bordeaux-San Sebastian Workshop on Philosophy of Biology, Medicine and Cognitive Science, San-Sebastian
4. “From Integrated Individuals to Multi-Species Communities: Identifying the Spectrum of Holobiont Interactions and Why it Matters” 2018
Roscoff Biological Station
5. “The Philosophy of Holobionts” 2018
1st International Foresight Workshop on Marine Holobionts – Concepts and Challenges, Roscoff Biological Station
6. “From Integrated Individuals to Multi-Species Communities: Identifying the Spectrum of Holobiont Interactions and Why it Matters” 2018
Pennsylvania State University Microbiome Research Center
7. “(Micro)environmental Ethics – Holobionts, Pluralism, and the Breakdown of the Individual/Community Distinction” 2018
New College of Florida, Sarasota
8. “From Integrated Individuals to Multi-Species Communities: Identifying the Spectrum of Holobiont Interactions and Why it Matters” 2018
The Reef Microbiome Workshop, McGill University’s Bellairs Research Station, Barbados
9. “A Framework for Individuation and Individuality in Biology” 2017
University of Geneva
10. “Lineage Integration and Units of Selection” 2017
Australian National University
11. “Biological Individuality” 2017
3rd Bordeaux-San Sebastian Workshop on Philosophy of Biology, Bidart
12. “What are Holobionts? - A Case Study for Hard Problems about Biological Individuality” 2017
Can Biological Practice Inform Metaphysics Workshop, Cologne

13. “Holobionts and the Ecology of Organisms” 2016
City College, Biology Department
14. “Holobionts and the Ecology of Organisms” 2015
2015 PBDB Workshop, Australia
15. “Using the Sea Cucumber *Holothuria atra* to test Hawaii Connectivity Hypotheses” 2009
Pacific Science Interconference
16. “Using Population Genetics for Marine Conservation – The Story of the Teatfish and the Lollyfish” 2008
Minnesota State University, Mankato
17. “Two Sea Cucumbers (*Holothuria atra* and *Holothuria whitmaei*) show links between Hawaii and Johnston Atoll” 2008
2008 Hawaii Conservation Conference

Papers Presented

1. “Can Host-microbiome Systems be Healthy? Shaping Ecosystems vs Curing Disease” Upcoming 2018
The Future of Microbiome Research Workshop, University of Sydney
2. “Two Pitfalls for Causal Reasoning in Biology” 2018
Philosophy of Science Association, Seattle (Refereed Paper)
3. “The Ecology of Holobionts” 2018
Canadian Philosophical Association, Montreal (Refereed Abstract)
4. “Holobionts and Individuality” 2017
Interdisciplinary Workshop on Holobionts, Bordeaux
5. “The Evolution of Host-Microbiome Systems” 2017
Immunoconcept Seminar, Bordeaux
6. “Making Sense of Lineage Integration and Discordance in Host-Microbe Symbioses” 2017
Dcordance in the Age of Species Workshop, University of Utah (Refereed Abstract)
7. “Causal Reasoning in Biology” 2017
2nd Bordeaux-San Sebastian Workshop on Philosophy of Biology, Bordeaux
8. “Immunity, Development, and the Microbiota” 2016
Philosophy of Science Association. (Poster) (Refereed Abstract)
9. “Complexity, Organization and Life in the Philosophy of Sir Kenelm Digby” 2015
International Society for the History, Philosophy and Social Studies of Biology (Refereed Abstract)
10. “Ways to be Robust” 2015
International Society for the History, Philosophy and Social Studies of Biology (Refereed Abstract)
11. “Mechanistic Explanation of Biological Processes” 2014
Philosophy of Science Association. (Refereed Paper)
12. “A Process Focused Approach to the Species Problem” 2013
International Society for the History, Philosophy and Social Studies of Biology (Refereed Abstract)
13. “Gateways to Hawaii—Genetic Population Structure of the Tropical Sea Cucumber *Holothuria atra*” 2011
Pacific Science Inter-Congress (Refereed Abstract)
14. “Gateways to Hawaii—Genetic Population Structure of the Tropical Sea Cucumber *Holothuria atra*” 2010
Western Society of Naturalists Annual Meeting (Refereed Abstract)
15. “Gateways to Hawaii—Genetic Population Structure of the Tropical Sea Cucumber *Holothuria atra*” 2010
Evolution Annual Meeting (Refereed Abstract)
16. “Using the Sea Cucumber *Holothuria atra* to test Hawaii Connectivity Hypotheses” 2009
Pacific Science Interconference (Poster) (Refereed Abstract)
17. “Genetic populations structure of a widely distributed tropical species of sea cucumber, *Holothuria (Halodeima) atra*” 2008
11th International Coral Reef Symposium (Poster) (Refereed Abstract)
18. “Genetic Population Structure of the lollyfish and the black teatfish in Hawaii” 2008
Tester Symposium, Honolulu, Hawaii

Awards and Honors

The Graduate Center, City University New York

<i>Workshop on Reconceiving and Explaining the Success of Science (\$4,000)</i>	2016
<i>Mellon Fellowship (\$30,000 at \$6000 per year)</i>	2012-2016
<i>CUNY Enhanced Chancellor Fellowship (\$90,000 at \$18,000 per year)</i>	2012-2016

University of Hawai'i at Mānoa

<i>The National Academy of Sciences Grant for Travel (\$1,800)</i>	2011
<i>Jesse D. Kay Research Grant for Graduate Research (\$10,000)</i>	2010
<i>Arts and Sciences Student Research Award Grant (\$2,000)</i>	2009
<i>Pacific Science Intercongress Student Travel Grant (\$2,000)</i>	2009
<i>National Academy of Science Sackler Colloquia Student Travel Grant (\$600)</i>	2009
<i>International Biogeography Society Travel Grant (\$500)</i>	2009

Minnesota State University, Mankato

<i>National Science Foundation Graduate Research Fellowship Honorable Mention</i>	2006
<i>Minnesota State University, Mankato Biology Department Grant for Undergraduate Research (\$1000)</i>	2006
<i>National Science Foundation Research Experience for Undergraduates Traineeship in Marine Biology and Population Genetics</i>	2005
<i>Minnesota State University, Mankato Undergraduate Research Grant (\$2000)</i>	2005
<i>Minnesota State University, Mankato Alliss Foundation Scholarship</i>	2004

Teaching Experience

Instructor with Full Responsibilities

<i>University of Pennsylvania</i>	Fall 2018
<ul style="list-style-type: none">• Biomedical Ethics• Formal Reasoning and Logic	
<i>City College of New York</i>	Fall 2018
<ul style="list-style-type: none">• Introduction to Philosophy	
<i>Brooklyn College</i>	Spring 2016
<ul style="list-style-type: none">• Reasoning• Moral Issues in Business• Introduction to Philosophy• Environmental Ethics• Scientific Revolutions	Fall 2015 Spring 2015, Fall 2014, Spring 2014 (2 sections), Fall 2013 (2 sections) Spring 2015 Fall 2014
<i>University of Hawai'i at Mānoa</i>	Spring 2012
<ul style="list-style-type: none">• Marine Biology Capstone Course• Seminar: Darwin's Origin of Species (co-taught)	Fall 2007

Teaching Assistant

<i>University of Hawai'i at Mānoa</i>	Spring 2007
<ul style="list-style-type: none">• Marine Biology, Lab Instructor• Invertebrate Zoology, Lab Instructor	Fall 2006
<i>Minnesota State University, Mankato</i>	Spring 2006
<ul style="list-style-type: none">• Animal Diversity, Lab Assistant• Diagnostic Parasitology, Lab Assistant	Fall 2005

Research Experience

University of Bordeaux/CNRS	2016-2018
<i>Post-Doctoral Researcher</i>	
The Graduate Center, City University New York	2012-2013
<i>Research Assistant</i>	
University of Hawai'i at Mānoa	2007-2012
<i>Graduate Research Assistant Hawai'i Institute of Marine Biology</i>	2011
<i>Submersible Biologist Hawai'i Undersea Research Laboratory</i>	2007-2009
<i>Research Diver NOAA Ship Hi'ialakai Papahānaumokuākea Marine National Monument Research Expedition(s)</i>	

Professional Service and Development

Referee

British Journal for the Philosophy of Science
European Journal for the Philosophy of Science
Biology & Philosophy
Marine Ecology Progress Series

Journal of Marine Biology
Journal of Heredity
Bulletin of Marine Science
Conservation Genetics

Workshops Organized

- “[The Future of Microbiome Research](#)” 2018
Co-organized with Maureen O'Malley, Paul Griffiths and Kasia Hooks in Sydney, Australia.
- “[Interdisciplinary Workshop on Holobionts](#)” 2017
Bordeaux, France
- “Bordeaux-Geneva Colloquium in Philosophy of Biology” 2017
Geneva, Switzerland

Symposia Organized

- “Aspects of Biological Organization” 2015
International Society for the History, Philosophy and Social Studies of Biology
- “Minorities and Philosophy (MAPS) Seminar Series” 2015
The Graduate Center, City University New York

Professional Leadership

- Guest Editor - Special Issue on the Philosophy of Holobionts 2015
Philosophy, Theory and Practice in Biology
- Forthcoming

Department and University Service

- The Graduate Center, City University New York Philosophy Graduate Program Curriculum Committee Member 2016
- The Graduate Center, City University New York Philosophy Graduate Program Admissions Committee Member 2015
- University of Hawai'i Zoology Department Graduate Student Representative 2007-2008

Media

1. “Hidden Hawaii”
National Geographic National Parks Collection. National Geographic Channel.
2. “Hawai'i: A Long Story Short”
[Nature Reel History.](#)

References

1. Peter Godfrey-Smith – Professor of History and Philosophy of Science. University of Sydney.
email: p.godfrey.smith@gmail.com
2. Massimo Pigliucci – K.D. Irani Professor of Philosophy. City College; The Graduate Center, City University of New York. email: massimo.pigliucci@gmail.com
3. Maureen O'Malley – IdEx Senior Research Chair. University of Bordeaux.
email: maureen.omalley@sydney.edu.au
4. Catherine Wilson – Visiting Presidential Professor of Philosophy, The Graduate Center, City University of New York; Anniversary Professor of Philosophy, University of York. email: cww899@gmail.com
5. Rob Toonen – Research Professor. Hawai'i Institute of Marine Biology; University of Hawai'i.
email: toonen@hawaii.edu