

# Jonathan Z. Shik

## Associate Professor

Section for Ecology and Evolution, Department of Biology, University of Copenhagen,  
Universitetsparken 15, 2100 Copenhagen, Denmark

## Research Associate

Smithsonian Tropical Research Institute  
Apartado 0843-03092, Balboa, Ancon, Republic of Panama

Email: jonathan.shik@bio.ku.dk • twitter: @jonathanshik

Institute website: [link](#) • Research group website: [www.jonathanshik.com](http://www.jonathanshik.com)

ORCID: 0000-0003-3309-7737 • Google Scholar: [link](#)

Nationality: USA • Marital status: Anne Sofie Munk Kruse (Danish) with one child (2.5 years old)

## RESEARCH INTERESTS

Evolutionary biology, ecology, nutritional and metabolic physiology, ethology, molecular approaches, entomology, symbiosis, mycology, myrmecology, experimental design

## EDUCATION & APPOINTMENTS

<b>2021-present</b>	<b>Associate Professor (tenured), Section for Ecology &amp; Evolution, UCPH</b>
<b>2019-present</b>	<b>Research Associate, Smithsonian Tropical Research Institute</b>
2018-2021	Assistant Professor, Section for Ecology & Evolution, University of Copenhagen
2016-2018	Postdoctoral Researcher, Centre for Social Evolution, University of Copenhagen
2014-2016	Marie Curie Postdoctoral Fellow, Centre for Social Evolution, University of Copenhagen,
2013-2014	Postdoctoral Fellow, Smithsonian Tropical Research Institute
2011-2013	Postdoctoral Research Associate, Dept. of Entomology, North Carolina State University
2010	PhD, University of Oklahoma, USA
2003	BSc, Biology, McGill University, Canada

## PERIODS OF LEAVE

2020	Paternity leave: 27/1/2020 – 14/4/2020, 12 weeks in total.
------	--

## GRANTS AND AWARDS

TOTAL EXTERNAL FUNDING SINCE 2005: ~ €1,850,000; 13,750,000 DKK, MAJOR GRANTS IN **BOLD**

2019	Acceptance to the UCPH Forward Program for Excellence in Research, <i>following competitive university-wide selection process</i>	€2,600 (>19,000 DKK)
2019	Appointment to the governing board of the Danish Oikos Society	
2017	<b>European Research Council Starting Grant (PI)</b> ( <i>delayed start until 2019, funds salary of PI and 3 postdocs, running costs</i> )	€1.5 million (>11 million DKK)
2017	Finalist for a CNRS position at Pierre & Marie Curie University (Paris)	
2017	Job offer at Hebrew University (Israel), <i>Turned down following successful ERC grant, with the decision to remain at UCPH</i>	
2014	BIO Incentive grant from UCPH (Co-PI) ( <i>funded organization of a PhD course in Tropical Behavioural Ecology and Evolution at STRI in Panama</i> )	€9,000 (>67,000 DKK)
2013	<b>EU Marie Skłodowska Curie International Postdoctoral Fellowship</b> ( <i>delayed start until 2014, funded research at UCPH</i> )	€240,000 (>1.7 million DKK)

2013	<b>Smithsonian Institution Postdoctoral Fellowship</b> ( <i>funded a year-long residence and project running costs at STRI in Panama</i> )	€55,000 (>400,000 DKK)
2012	National Institute for Mathematical and Biological Synthesis, short term research grant	€1700 (>12,500 DKK)
2004-2010	Alumni Fellowship, University of Oklahoma, recurring annually, ( <i>funded salary and some research costs during PhD</i> )	€22,000 (>160,000 DKK)
Pre-2010	Competitive research grants secured during PhD ( <i>included a STRI Short Term Fellowship to perform research in Panama</i> )	€18,600 (>138,000 DKK)

### **GRANTS IN REVIEW (REQUESTED AMOUNT)**

- **PI:** European Research Council Consolidator Grant (ERC CoG) “*Symbiotic superorganismality: Are leafcutter ant farming systems a higher-level domain of organizational complexity?*” (€2 million)
- **PI:** Danish Research Council (DFF I FNU) Project 1 “*Nutritional dimensions of insect declines*” (€386,000, 2,878,000 DKK), *will fund PhD project and running costs over three years*
- **Host:** *PhD project associated with the Dimensions of Biodiversity and BIOTA, Collaborative Research Dimensions US-São Paulo (FAPESP), ‘Integrating phylogeny, genetics, and chemical ecology to unravel the tangled bank of the multipartite fungus-farming ant symbiosis’, €32,400 (>240,000 DKK), co-PI, Professor Andre Rodrigues, São Paulo State University, PhD candidate: Mariana Oliveira Barcoto, one year of funding*

### **STUDENT SUPERVISION**

#### ONGOING AND NEW POSTDOCTORAL PROJECTS

-Dr. Caio Leal-Dutra (2020-22): *Genomics and evolution of domesticated cultivars of leafcutter ants*

-Dr. Benjamin Conlon (2020-22): *Physiological and molecular ecology of a complex symbiosis*

#### ONGOING AND NEW GRADUATE & UNDERGRADUATE PROJECTS

-Søren Henriksen: Bachelors thesis: “*Using eDNA to resolve tropical forest food webs*”

-August Kjær Kjærgård Hansen, Bachelors thesis, “*Nutrient-specific foraging by an insect-pathogenic fungus*”

-Mads Ditlevsen: Bachelors thesis: “*Comparative study of nutritional rewards produced by fungal cultivars*”

-Asta Rødsgaard-Jørgensen: Masters thesis, “*Genetic and functional analyses of a newly discovered mycovirus inhabiting the fungal cultivar of leafcutter ants*”

-Valentin Specht: Masters thesis, “*The nutritional niches of free-ranging rainforest ants*”

-Julie Elmgard Andersen & Mille Bolander: Research Assistants

#### GRADUATED STUDENTS (SINCE 2010)

• 1 Postdoc / • 11 Bachelors thesis project students / • 12 Masters student thesis projects / • 2 Hosted visiting PhD student projects / • 6 BSc international research Interns

### **MAIN COLLABORATORS (IN ALPHABETICAL ORDER), FROM 10 COUNTRIES**

- Staff Scientist William Wcislo, Smithsonian Tropical Research Institute, Panama
- Assistant Professor Brian Sedio, University of Texas, USA & STRI
- Assistant Professor Rachelle Adams, The Ohio State University, USA
- Associate Professor Xavier Arnan, CREAM, Spain
- Postdoctoral Fellow, Tom Bishop, University of Liverpool, United Kingdom
- Associate Professor Kristine Bohmann, UCPH, Denmark
- Professor Jacobus Boomsma, UCPH, Denmark
- Associate Professor Hans Henrik Bruun, UCPH, Denmark
- Professor David Donoso, Escuela Politecnica Nacional, Quito, Ecuador
- Professor Audrey Dussutour, CNRS, Université Paul Sabatier, Toulouse, France
- Associate Professor Henrik de Fine Licht, UCPH, Denmark
- Associate Professor Heloise Gibb, La Trobe University, Australia

- Assistant Professor Emily Meineke, University of California Davis, USA
- Professor Anders Michelsen, UCPH, Denmark
- Professor Riikka Rinnan, UCPH, Denmark
- Professor Andre Rodrigues, São Paulo State University, Brazil

### **SERVICE AS EDITOR**

2019-2025 Associate Editor, *Journal of Animal Ecology* (IF 4.46), handled 22 papers since 2019

### **SERVICE AS PEER-REVIEWER FOR JOURNALS (IN ALPHABETICAL ORDER), ~12 PER YEAR**

Acta Ethologica, Agricultural and Forest Entomology, Animal Behaviour, Arthropod-Plant Interactions, Behavioral Ecology and Sociobiology, Biological Invasions, Biological Journal of the Linnean Society, Biology Letters, Current Zoology, Ecography, Ecological Entomology, Ecology, Ecology and Evolution, Ecology Letters, Ecosystems, Entomologia Experimentalis et Applicata, Environmental Entomology, European Journal of Entomology, Evolution, Evolutionary Biology, Functional Ecology, Global Change Biology, Insect Conservation and Diversity, Insects, Insectes Sociaux, Journal of Animal Ecology, Journal of Applied Entomology, Journal of Asia-Pacific Entomology, Journal of Insect Behavior, Journal of Insect Physiology, Journal of Insect Science, Journal of Thermal Biology, Myrmecological News, Naturwissenschaften, Oecologia, Oikos, PeerJ, PLoS One, Proceedings of the Royal Society B, Rangeland Ecology and Management, Revista Brasileira de Entomologia, Scientific Reports, Trends in Plant Science

### **SERVICE AS PEER-REVIEWER FOR GRANTING AGENCIES**

2019 European Research Council (Advanced Grant)  
 2018 National Science Foundation, USA  
 Austrian Science Fund, Austria  
 2017 US-Israel Binational Agricultural Research and Development Fund (BARD: US-Israel)  
 Binational Science Foundation (BSF: US-Israel)

### **SERVICE AS PEER-REVIEWER ON GRANT REVIEW PANEL**

2018 Fundação para a Ciência e a Tecnologia, I. P. (FCT) (Reviewed 25 proposals (15 as lead reviewer) for the Central Portuguese Funding Agency)

### **UNIVERSITY SERVICE (RECENT)**

2021 Sustainability Committee, Department of Biology, UCPH  
 2018 Panelist and speaker in ERC Starting Grant Information Meeting, UCPH  
 2017-2018 Section for Ecology and Evolution weekly seminar organizer, UCPH  
 BIO-Conference organizing committee, UCPH

### **PEDAGOGICAL TRAINING**

2021 Course in PhD supervision, UCPH [planned]  
 2020-2021 Teaching and Learning in Higher Education (Universitetspædagogikum), UCPH  
 2018 Introduction to University Pedagogy, UCPH

### **TEACHING EXPERIENCE**

My teaching and assessment resume spans over 15 years, and includes many class formats at the BSc, MSc, and PhD levels including: 1) lectures with fewer than 10 to over 150 students, 2) research-based courses in the field with excursions lasting one day to six weeks, 3) lab-based exercises (including introduction to R-based statistics), and 4) exercises integrating field and lab research. I also have experience organizing entire courses. My current teaching includes the following graduate-level courses:

Invasion Biology (Head coordinator)

Spring 2019, 2020, 2021, 2022

Advanced Ecology (assistant coordinator)	Fall 2018, 2019, 2020, 2021
Evolutionary Ecology (now Head coordinator in 2021)	Fall 2018, 2019, 2020, 2021
Population Biology (lecturer)	Fall 2019, 2020, 2021
Macroecology (lecturer)	Fall 2017, 2018, 2019, 2020, 2021
Conservation Biology (Internal Censor)	Winter 2021, 2022 [planned]

## **PRESENTATIONS**

### ***Invited seminars***

- 2021 **Tupper Seminar, Smithsonian Tropical Research Institute, Panama (delivered online)**  
Symposium: Communal Nutrition, International Union for the Study of Social Insects, Toulouse, France (via Zoom)
- 2020 Liverpool University, Liverpool, UK (via Zoom)  
Novo Nordisk Foundation Center for Basic Metabolic Research, UCPH (via Zoom)
- 2019 Danish Oikos Society, Aarhus, Denmark
- 2018 Lund University, Departmental Seminar, Lund, Sweden  
**Tupper Seminar, Smithsonian Tropical Research Institute, Panama**  
Centre for Macroecology, Evolution and Climate, UCPH, Denmark  
Symposium: Latest frontiers in the nutritional ecology of social insects, Entomological Society of America, Vancouver, Canada
- 2017 North Carolina State University, Raleigh, USA  
University of Illinois at Urbana-Champaign, Urbana-Champaign, USA  
California State University, Fresno, USA
- 2016 University of Pierre and Marie Curie, Paris, France  
University of Regensburg, Regensburg, Germany  
Symposium: Physiological responses to environmental change, International Congress for Entomology, Orlando, Florida, USA  
Michigan State University, East Lansing, Michigan, USA  
University of Scranton, Pennsylvania, USA  
Jodrell Laboratory, Royal Botanic Gardens, Kew, London
- 2015 **Tupper Seminar, Smithsonian Tropical Research Institute, Panama City, Panama**  
Institute of Science and Technology, Vienna, Austria  
Centre for Social Evolution, UCPH, Denmark  
Centre for Macroecology, Evolution and Climate, UCPH, Denmark  
University of Oklahoma, Norman, USA  
Universite Paul Sabatier, Toulouse, France  
University of Pierre and Marie Curie, Paris, France
- 2014 Symposium: Nutrition: Behavior and Life History, International Society for Behavioral Ecology, New York
- 2013 **Tupper Seminar, Smithsonian Tropical Research Institute, Panama City, Panama**  
University of Oklahoma, Norman, Oklahoma  
University of Costa Rica, San Jose: Departmental Seminar
- 2012 Symposium: Social Insects and the emergence of novelty: from local rules to global behaviour.  
Entomological Society of America, Knoxville, Tennessee  
Gordon Conference Metabolic Ecology, Biddeford, Maine
- 2011 National Evolutionary Synthesis Center, Durham, North Carolina  
North Carolina State University, Raleigh, USA  
Eastern Tennessee State University, Johnson City, USA  
University of Tennessee, Knoxville, USA
- 2010 **Smithsonian Tropical Research Institute: Behavior Discussion Group, Panama**  
**Smithsonian Tropical Research Institute: Bambi Seminar on Barro Colorado Island, Panama**

- University of Oklahoma, Norman, Oklahoma  
 2009 Kansas State University, Manhattan, USA  
 Departmental retreat of Zoology, Lake Texoma, The University of Oklahoma  
 2008 Gordon Research Seminar: Metabolic Basis of Ecology, Biddeford, Maine. 2008.  
 Ecomunch Seminar, University of Oklahoma, Norman, USA  
 2007 **Smithsonian Tropical Research Institute: Bambi Seminar on Barro Colorado Island, Panama**

### ***Contributed talks at professional meetings***

- Shik, J.Z. (2021) Deconstructing a nutritional symbiosis to explore the rise of fungus-farming ants. European International Union for the Study of Social Insects, Toulouse, France (moved online).  
 Shik, J.Z. (2021) British Ecological Society meeting, Liverpool, UK (oral presentation canceled due to COVID).  
 Shik, J.Z. (2020) Nutritional niches reveal domestication tradeoffs in fungus-farming ants. International Congress of Entomology (oral presentation canceled due to COVID)  
 Shik, J.Z. (2018) Nutritional dimensions in insect-fungus co-evolution. Mini Symposium: Fungal ecology and evolution. Section for Ecology and Evolution, UCPH, Denmark.  
 Shik, J.Z., Oms, C.S., Arnan, X., Cerda, X., Boulay, R. (2018) Metabolic temperature sensitivity in ants. International Union for the Study of Social Insects. Florianopolis, Brazil.  
 Shik, J.Z., Wcislo, W. T., Boomsma, J.J. (2016) Nutrition mediates the expression of cultivar-farmer conflict in a fungus-growing ant. IUSSI Europe, Helsinki, Finland.  
 Shik, J.Z., Wcislo, W. T., Boomsma, J.J. (2016) Transitions in farming performance across the attine phylogeny. Oikos, Turku, Finland, 2016.  
 Shik, J.Z., Wcislo, W. T., Boomsma, J.J. (2016) Physiological consequences of social transitions in ants. International Congress of Entomology. Orlando, Florida, USA.  
 Shik, J.Z. (2015) Nutritional adaptations in the cultivars grown by fungus-growing ants. Plant-Insect-Microbe Interactions Symposium. UCPH, Denmark.  
 Shik, J.Z. (2014) Physiological transitions in farming ants. In the symposium: Nutrition: Behavior and Life History. International Society for Behavioral Ecology, New York, USA.  
 Shik, J.Z., Gomez, E., Santos, J.C., Kaspari, M., Boomsma, J.J., Wcislo, W.T. (2014) Physiology and the transition from hunting to farming in ants. International Union for the Study of Social Insects. Cairnes, Australia.  
 Shik, J.Z. (2014) The evolutionary ecology of fungus growing ants. Smithsonian Fellows Symposium, Panama City, Panama.  
 Shik, J.Z. (2013) Linking the traits of male ants with the ecological demands of diverse mating systems. Association of Tropical Biology and Conservation, San Jose, Costa Rica.  
 Shik, J.Z. (2012) Toward a general life history model of the superorganism. In the symposium: Social Insects and the emergence of novelty: from local rules to global behaviour. Entomological Society of America, Knoxville, TN.  
 Shik, J.Z., Kay, A.D., Silverman, J. (2012) Energy subsidies from aphid mutualists fuel invasive establishment by Argentine ants. Ecological Society of America, Portland, OR.  
 Shik, J.Z. (2012) Towards a comparative physiology of insect societies. The Gordon Research Conference: Metabolic Basis of Ecology, Biddeford, ME.  
 Shik, J.Z. (2009) Metabolic scaling links the traits of individual ants to their colonies. Ecological Society of America, Albuquerque, NM.  
 Shik, J.Z. (2008) Ant colony size and the scaling of reproductive effort. Ecological Society of America, Milwaukee, WI.  
 Shik, J.Z. (2008) The metabolic implications of ant colony size. Gordon Research Seminar: Metabolic Basis of Ecology, Biddeford, ME. 2008.

**Contributed talks (not presented by me)**

- Leal-Dutra C.A., Yuen L.M., Conlon B.H., **Shik J.Z.** (2021) A domesticated fungal cultivar recycles its cellular contents as nutritional rewards for its leafcutter ant farmers. International Union for the Study of Social Insects (IUSSI) North-West Europe Annual Meeting, Online.
- Conlon B.H., **Shik, J.Z.** (2021) Inter-kingdom communication between ants and fungi. Section for Microbial and Chemical Ecology, Department of Biotechnology and Biomedicine, The Technical University of Denmark, Kongens Lyngby, Denmark.
- Conlon, B.H., **Shik, J.Z.** (2020) The key to a good relationship: inter-kingdom communication in a fungal-ant nutritional symbiosis. International Union for the Study of Social Insects (IUSSI) North-West Europe Annual Meeting, Online.
- Bolander, M., Andersen J.E., **Shik, J.Z.** (2021) Nutrient flow through the domesticated farming systems of the Panamanian leafcutter ant *Acromyrmex echinatior*. NWE-IUSSI Winter Meeting, Online.
- Crumiere, A., **Shik, J.Z.** (2019) Nutritional provisioning of fungal cultivars by leafcutter ants. European Society of Evolutionary Biology, Turku Finland.
- Pedersen J.S., Krabbe, B.A., Shik, J.Z. (2018) Pharaoh ant workers regulate nutrition to prioritize colony growth over individual survival. International Union for the Study of Social Insects. Florianopolis, Brazil.
- Kooij, P.W., Gaya, E., **Shik, J.Z.**, Dentinger, B.T.M. (2017) On the origin of mutualisms: where did fungus farming in ants begin? European Society of Evolutionary Biology, Groningen, The Netherlands.
- Kooij, P.W., Gaya, E., **Shik, J.Z.**, Dentinger, B.T.M. (2016) On the origin of mutualisms. 8th Brazilian Congress for Mycology, Florianopolis, Brazil.
- Kooij, P.W., **Shik, J.Z.**, Gomez, E., Wcislo, W., Boomsma, J.J. (2014) Fast—growing fungal crops grown by the ant *Trachymyrmex cornetzi* appear more resistant the fungal pathogen. *Escovopsis*. Northwest European Society for the Study of Social Insects, London, UK.
- Silverman, J., **Shik, J.Z.**, Schal, C. (2012) Nutrient regulation and post-ingestive utilization in glucose averse German cockroaches. Entomological Society of America, Knoxville, Tennessee, USA.
- Kay, A.D., **Shik, J.Z.**, Van Alst, A., Miller, K.A., Kaspari, M. (2011) Diet composition does not affect ant colony tempo. Entomological Society of America, Reno, Nevada, USA.

**Poster presentations**

- Conlon, B.H., **Shik, J.Z.** (2021) The key to a good relationship: inter-kingdom communication in a fungus-ant nutritional symbiosis. Annual Congress of the Danish Microbiological Society (DMS), Copenhagen, Denmark.
- Leal-Dutra C.A., Yuen L.M., Conlon B.H., **Shik J.Z.** (2021) A domesticated fungal cultivar recycles its cellular contents as nutritional rewards for its leafcutter ant farmers. Annual Congress of the Danish Microbiological Society (DMS), Copenhagen, Denmark.
- Contreras Serrano, M., Conlon, B., **Shik, J.Z.** (2020) Resiliency to plant toxins in domesticated fungal cultivars of leafcutter ants. International Union for the Study of Social Insects, NW Europe meeting, Online.
- Bolander, M., Elmggaard Andersen, J., Crumiere, A., **Shik, J.Z.** (2020) Gardening behaviors in leafcutter ants. International Union for the Study of Social Insects, NW Europe meeting, Online.
- Oberweiser, M., Beres, Z., **Shik, J.Z.**, Adams, R.M.M. (2017) Unraveling a Panamanian caterpillar/ant mutualism. Ohio State University Student Research Symposium, Columbus, USA.
- Mularo, A.J., **Shik, J.Z.**, Adams, R.M.M. (2017) Dynamics of pseudoscorpions in a neotropical rainforest. Ohio State University Student Research Symposium, Columbus, USA.
- Rytter, W., Michelsen, A., **Shik, J.Z.** (2016) Tracing the flow of nutrients through the complex symbiotic network of the leafcutter ant *Atta colombica* using stable isotopes. IUSSI Europe, Helsinki, Finland.
- Rytter, W., **Shik, J.Z.** (2016) The leafcutter lunchbox: linking digestive physiology and foraging behavior of four Panamanian leafcutter ant species. Oikos, Turku, Finland.
- Wall, B.M., Jones, T.H., **Shik, J.Z.**, Adams, R.M.M. (2015) Evolution of alarm signals: a comparative study of exocrine gland chemistry in attine ants with a special focus on alarm pheromones. International Society of Chemical Ecology, Stockholm, Sweden.

- Shik, J.Z.**, Gomez, E., Wcislo, W.T., Boomsma, J.J. (2015) Nutrition mediates cultivar-farmer conflict in a primitive fungus-growing ant. European Society for Evolutionary Biology, Lausanne, Switzerland.
- Shik, J.Z.** (2010) Using metabolic scaling to examine how ant colonies work: the case of *Pheidole* majors. The International Union for the Study of Social Insects, Copenhagen, Denmark.

### ***Symposium organizer***

- 2020 [planned] *Insect eco-physiology*, International Congress for Entomology (every 4<sup>th</sup> year), Helsinki, Finland, (Co-organized) [now delayed until 2022]
- 2018 *Social insect eco-physiology across scales*, International Union for the Study of Social Insects (every 4<sup>th</sup> year), Guarujá, Brazil (Co-organized)
- 2016 *Physiological responses to environmental change*, International Congress for Entomology (every 4<sup>th</sup> year), Orlando, Florida, USA (Co-organized)

## **OUTREACH ACTIVITIES**

### ***Consulting and presentations***

- 2021 Consulting with the Copenhagen Zoo, Advised on the establishment and maintenance of a leafcutter ant colony in the permanent exhibit
- 2020 Blog post for International Union for the Study of Social Insects NW Europe, monthly newsletter
- 2018 Panelist and speaker in ERC Starting Grant information meeting at UCPH
- 2014-2017 Culture Night, an annual Friday evening event mid-October, for which I organized the social insect booth, Copenhagen, Denmark
- 2016 Consulted with the Copenhagen Zoo on a new exhibit on ecology and evolutionary biology and a new leafcutter ant husbandry project
- 2015 Collaborated with Professors Jacobus Boomsma and Christian Peeters, and artist Naret Phansua on educational cartoon titled '*The fungus growing ants: from simple gardening to industrial farming*'. This movie was shown in natural history museums in France and is planned to be used in Denmark as well.
- 2013 Association for Biology Laboratory Education, led symposium participants in a field and lab exercise about ants. Durham, North Carolina, USA.
- 2012 Talk at high school: The North Carolina School of Science and Mathematics, '*The Social Insects*'. Raleigh, North Carolina, USA.
- 2010 Panel on '*Careers in the Biological Sciences*'; Graduate student representative, The University of Oklahoma, Norman, USA.
- 2010 Darwin Day lecture for the lay public, '*The evolution of eusociality*', The University of Oklahoma, Norman, USA.

### ***In the media***

- 2021 Coverage of 2021 Ecology Letters paper by ERC commission (interview and video for general audience)
- 2020 Media coverage of my 2020 paper in *Nature Ecology and Evolution*, Altmetric score: 97<sup>th</sup> percentile (ranked 7,844<sup>th</sup>) of 381,140 tracked articles
- Article by the European Research Council in the 'research stories' section of their website
  - TV2 News televised Interview show
  - Weekendavisen (Danish newspaper) "*Hvis Jens Hansen var en myre*"
  - Smithsonian Institution Newsletter "*The Darwinian diet: you are what you eat*"
  - COSMOS magazine
  - The Statesman (Indian newspaper)
  - Press release covered by: Phys.org, EurekAlert, ScienMag, AZO Life Sciences, Iflscience
- 2017 Coverage of my ERC Starting Grant

- Magisterbladet (Danish newspaper) “*Myrer er dygtige landmænd*”
- 2016 Media coverage of my 2016 paper in *Proceedings of the National Academy of Sciences*, Altmetric score: 97<sup>th</sup> percentile
  - Weekendavisen (Danish newspaper) “*Med gødning skal svampen tæmmes*”
  - Videnskab.dk (Danish magazine)
- 2016 Media coverage of my 2016 paper in *Animal Behaviour*
  - Australia’s Science Channel “*Do ant farmers forage with a lunchbox?*”
- 2014 Smithsonian Institution Newsletter “*How much energy is needed to farm fungus?*”
- 2012 Media coverage of my 2012 paper in *Biology Letters*
  - ScienceDaily.com “*Research predicts growth, survival of ‘superorganism’ ant colonies*”

### **OTHER ACADEMIC EXPERIENCES**

- Workshops* Ant Biodiversity Data Synthesis Meeting, Okinawa Institute of Technology, Japan (2019)  
DNA barcoding meeting, Diversity in a Panamanian fungus growing ant community, UCPH, Denmark (2017)
- Courses since PhD* Respirometry Course, Sable Systems International, Berlin, Germany (2013)  
Respirometry Course, Sable Systems International, Las Vegas, NV (2008)  
Soil Acarology Course, The Ohio State University Acarology Laboratory, Columbus, OH, USA (2006)  
The Ant Course, California Academy of Sciences & Harvard University Museum of Comparative Zoology, Portal, AZ (2005)
- Memberships* European Society for Evolutionary Biology  
International Union for the Study of Social Insects  
British Ecological Society  
Danish Oikos Society