Kerstin JOHANNESSON (nee Janson)

EDUCATION

1986 Ph.D., University of Gothenburg, Sweden. Associate professor 1989. Professor 1999.

POSITIONS

1986-1998 Researcher and senior researcher funded by the Swedish Science Research Council (competitive grant applications).
1999-present Professor in Marine Ecology, University of Gothenburg

EARLIER FUNDING (Only major projects)

Main applicant (i.e. conceived and wrote applications) and principal investigator of:

- European Marine Genetic Biodiversity (EUMAR), 2001-2004. Total funding 18 mSEK. 5th FP EU
- Marine biodiversity- patterns and processes (MARBIPP), 2001-2006. Total funding 35 mSEK. Swedish EPA.
- Baltic Sea Genetic biodiversity (BALTGENE), 2009-2011. Total funding 16 mSEK. EU BONUS.
- Restoration of local cod stocks in Skagerrak (CODS), 2012-2014. Total funding 20 mSEK. Interreg.
- Baltic Sea Marine Biodiversity (BAMBI), 2014-2017. Total funding 35mSEK. EU-BONUS.
- Linnaeus Centre for Marine Evolutionary Biology (CeMEB), 2008-2018. Total funding 77 mSEK. (Funding increased by 10%+10% after top evaluations 2010 and 2015).

CURRENT FUNDING

- Swedish Research Council VR - project grant for investigation of intrinsic genetic barriers to gene flow in marine snails (PI)
- Swedish Research Council Formas - project gran for modellings the genetics of range expansions (PI)
- I am main collaborator in Roger Butlin's ERC advanced grant "Barriers"

SUPERVISION AND HOST

- **Supervisor (main or acting main) of 14 doctoral degrees**: Bo Johannesson 1996; Anette Ekendahl 1997; Johan Erlandsson 1998; Ulf Lindahl 2000; Lillemor Svärdh 2003; Lisbeth Jonsson 2005; Johan Hollander 2006; Marina Panova 2007; Petri Kemppainen 2008, Daniel Johansson 2013, Sara Saltin 2013, Elin Renborg 2014; Angelica Ardehed 2015; Gurpreet Kaur-Kahlun 2017.
- I am currently supervising 1 PhD student Björn Andersson, and co-supervising 4 PhD students Samuel Perini, James Reeve, Alexandra Kinnby and Martin Eriksson. I have earlier co-supervised >>10 PhD students that have graduated.
- **Host of 9 postdocs/young researchers**: Andrey Tatarenkov (Russia/USA, 2+2 years), Ricardo Pereyra (Mexico/UK). Gregory Charrier (France/USA, 4 years). Marina Panova (Russia), Mark Ravinet (UK, Japan, together with RK Butlin), Hernan Morales (Mexico, Australia), Emma Berdan (US, Germany, with Roger Butlin and

Maren Wellenreuther), Alan Le Moan (France, ongoing), Suda Ravindran (India, ongoing).

- **Host of 4 guest researchers**: Natalia Mikhailova (Russia, 3+3+3 mo), Andrey Granovitch (Russia, 3+3 mo), Emilio Rolán-Alvarez (Spain, 1 mo), Elizabeth Boulding (Canada, 2+1 mo).
- **Host of 3 guest professors** (competitive funding): Lamberg's guest professor Jon Havenhand (2002-2003). Tage Erlander's guest professor John McNamara (2007-2008). Tage Erlander's guest professor Roger Butlin (2013-2014). Waernska professuren Roger Butlin 2014-2015.

DISTINCTIONS

- Second prize for a popular science article in the magazine Forskning och Framsteg 2007
- The Börssällskapet Research Award 2009
- Elected member of the Royal Swedish Academy of Sciences 2011
- The Swedish Species Information Centre (Artdatabanken) Conservation Prize 2013
- The Royal Physiographic Society in Lund, Rosén's Linnaeus prize in zoology 2013
- Elected member of the Royal Society of Arts and Sciences in Gothenburg 2015
- Awarded the Swedish "Kunskapspriset" (Å-forsk) for communicating science to society 2016
- Nominated and finalist (top 3) to the Sweden Impact Award 2017 (for impact of science in society)

MAIN ACADEMIC ASSIGNMENTS

1997- 00 Head of the new Department of Marine Ecology, University of Gothenburg
2000- 07 Director of the Tjärnö Marine Biological Laboratory (75 staff).
1999- 00 Member of the Biology Board of the Science Research Council
2000- 02 Member of the committee for environmental research at the Swedish EPA
2001- 03 Chairman of the ecology committee of the Science Research Council
2005 Member of the biodiversity committee of the Science Research Council
2005- 06 Chairman of the Environmental Protection Agency research committee
2007 Chairman of panel evaluating the Sars Centre, University of Bergen
2007- 09 Board of the Swedish Research Council; Science and Technology
2009- Advisory board of the Linnaeus centre CanMove, Univ of Lund
2011- 15 Advisory board of Kiel Cluster of Excellence Future Oceans
2012- 15 Director of the multidisciplinary Centre for Marine Environmental Research at University of Gothenburg
2013- Crafoord prize committe (Ecology) of the Royal Acad. of Sciences, Sweden
2013-19 Board of Swedish Foundation Mistra (Deputy chair 2016-)
2016-18 Board of the Swedish Research Council; Science and Technology
2018- Director of Tjärnö Marine Laboratory
2019- Advisory Board of GEOMAR, Kiel
2019- Board of the Swedish Foundation for Strategic Research

I have been faculty opponent in Norway 6 times and in Finland 1 time. I regularly evaluated applications for different research councils (Sweden, Norway, Finland, UK, US), and applicants for lecturer and professors positions (Norway, Sweden, Germany, UK). I have been the responsible organiser of three large international conferences and additionally a handful of small international workshops/conferences.

PUBLICATION RECORD

- I have authored and co-authored 135 peer-reviewed journal publications, 6 peer-reviewed book chapters and one edited book.
- I am first or last author of 3/4 of these papers indicating major involvement.
- Web of Science (9 Sept 2020): 5164 citations, h-index 44, 1 highly cited
- Google Scholar (23 Jan 2020): 7500 citations, h-index 51, i10 index 113
- Mean number of citations per item is 38 (WoS). Ten of my 1st or single-authored papers are cited >100 times each (WoS).
- >500 publications for which I am NOT listed as co-author are the result of large research projects/programmes with me as principle investigator (Marbipp, BONUS-BaltGene, BONUS-Bambi, CodS, CeMEB).
- ORCID 0000-0003-0176-7986.

MOST RECENT PUBLICATIONS (UNSELECTED)

112. Rafajlović M, Kleinhans D, Gulliksson C, Fries J, Johansson D, Ardehed A, Sundqvist L, Pereyra RT, Mehlig B., Jonsson PR, **Johannesson K**, 2017. Neutral processes forming large clones during colonisation of new areas. Journal of Evolutionary Biology 30:1544-1560.

113. Barth JMI, Berg PR, Jonsson PR, Bonanomi S, Corell H, Hemmer-Hansen J, Jakobsen KS, **Johannesson K**, Jorde PE, Knutsen H, Moksnes PO, Star B, Stenseth NC, Svedäng H, Jentoft S André C, 2017. Genome architecture enables local adaptation of Atlantic cod despite high connectivity. Molecular Ecology 26:4452-4466.

114. Le Pennec G, Butlin RK, Jonsson PR, Larsson AI, Lindborg J, Bergström E, Westram AM, **Johannesson K**, 2017. Adaptation to dislodgement risk on wave-swept rocky shores in the snail *Littorina saxatilis.* PLoS ONE 12:e0186901.

115. Jonsson PR, Kotta J, Andersson HC, Herkul K, Virtanen E, Nyström Sandman A, **Johannesson K**, 2018. High climate velocity and population fragmentation may constrain climate-driven range shift of the key habitat former *Fucus vesiculosus* in the Baltic Sea. Diversity and Distribution 24:892–905.

116. Reusch TBH, Dierking J, Andersson HC, Bonsdorff E, Carstensen J, Casini M, Czajkowski M, Hasler B, Hinsby K, Hyytiäinen K, **Johannesson K**, Jomaa S, Jormalainen V, Kuosa H, Kurland S, Laikre L, MacKenzie BR, Margonski P, Melzner F, Oesterwind D, Ojaveer H, Refsgaard JC, Sandström, Schwarz G, Tonderski K, Winder M, Zandersen M, 2018. The Baltic Sea as a time machine for the future coastal ocean. Science Advances 4:eaar8195.

117. Westram AM, Rafajlovíc M, Chaube P, Faria R, Larsson T, Panova M, Ravinet M, Blomberg A, Mehlig B, **Johannesson K**, Butlin R, 2018. Clines on the seashore: The genomic architecture underlying rapid divergence in the face of gene flow. Evolution Letters 2:297-309

118. **Johannesson K**, Ring A-K. Johannesson KB, Renborg E, Jonsson PR, Havenhand JN,

2018. Oceanographic barriers to gene flow promote genetic subdivision of the tunicate *Ciona intestinalis* in a North Sea archipelago. Marine Biology 165:126.

119. Faria R, Chaube P, Morales H, Larsson T, Lemmon AR, Lemmon EM, Rafajlovic M, Panova M, Ravinet M, **Johannesson K**, Westram AM, Butlin RK. 2019. Multiple chromosomal rearrangements in a hybrid zone between *Littorina saxatilis* ecotypes. Molecular Ecology 28:1375-1393.
120. Rivas MJ, Saura M, Pérez-Figueroa A, Panova M, Johansson T, André C, Caballero A, Rolán-Alvarez E, **Johannesson K**, Quesada H. 2018. Populations genomics of parallel evolution in gene expression and gene sequence during ecological adaptation. Scientific Reports 8:16147.
121. De Wit P, Yamada K, Panova M, André C, **Johannesson K**. 2018. Diet-dependent gene expression highlights the importance of Cytochrome P450 in detoxification of algal secondary metabolites in a marine isopod. Scientific Reports 8:16824.
122. Sandström A, Lundmark C, Andersson K, **Johannesson K**, Laikre L. 2018. Understanding and bridging the conservation-genetic gap in marine conservation. Conservation Biology 33:725-728.
123. Faria R, **Johannesson K**, Butlin RK, Westram AM. 2019. Evolving inversions. Trends in Ecology and Evolution 34:239-248. (Equal contribution all authors, KJ corresponding author.)
124. Kotta J, Vanhatalo J, Jänes H, Orav-Kotta H, Rugiu L, Jormalainen V, Bobsien I, Viitasalo M, Virtanen E, Nystrom Sandman A, Isaeus M, Leidenberger S, Jonsson P, **Johannesson K**. 2019. Integrating experimental and distribution data to predict future species patterns. Scientific Reports 9:1821.
125. Kinnby A, Pereyra RT, Havenhand JN, De Wit P, Jonsson PR, Pavia H, **Johannesson K**. 2019. Factors affecting formation of adventitious branches in the seaweeds *Fucus vesiculosus* and *F. radicans*. BMC Ecology 19:22
126. Morales H, Faria R, **Johannesson K**, Larsson T, Panova M, Westram AM, Butlin RK. 2019. Genomic architecture of parallel ecological divergence: beyond a single environmental contrast. Science Advances 5:eaav9963.
127. Hudson J, **Johannesson K**, McQuaid CD, Rius M. 2020. Secondary contacts and genetic admixture shape colonisation by an amphiatlantic epibenthic invertebrate. Evolutionary Applications 13:600-612
128. **Johannesson K**, Zagrodzka Z, Faria R, Westram AM, Butlin RK. 2020. Is embryo abortion a postzygotic barrier to gene flow between *Littorina* ecotypes? Journal of Evolutionary Biology 33:342–351
129. Sotela G, Duvetorp M, Costa D, Panova M, **Johannesson K**, Faria R. 2020. Phylogeographic history of flat periwinkles, *Littorina fabalis* and *L. obtusata*. BMC Evolutionary Biology 20:23
130. De Wit P, Jonsson PR, Pereyra RT, Panova M, André C, **Johannesson K**. 2020. Spatial genetic structure in a crustacean herbivore highlights the need for local considerations in Baltic Sea biodiversity management. Evolutionary Applications (in press).
131. Westram AM, Faria R, Butlin RK, **Johannesson K**. 2020. Inversions and evolution. eLS_A29007 ("Advanced article" in press)
132. Stankowski S, Westram AM, Zagrodzka ZB, Eyres I, Broquet T, **Johannesson K**, Butlin RK. 2020. The evolution of strong reproductive isolation between sympatric intertidal snails. Philosophical Transactions of the Royal Society B (Biology) (in press).
133. Perini S, Rafajlovic M, **Johannesson K**, Westram AM, Butlin RK. 2020. Assortative

mating, sexual selection and their consequences for gene flow in *Littorina*. Evolution 74:1482-1497

134. Kinnby A, Jonsson PR, Ortega-Martinez O, Töpel M, Pavia H, Pereyra RT, **Johannesson K**. 2020. Combining an ecological experiment and a genome scan show idiosyncratic responses to salinity stress in local populations of a seaweed. Frontiers in Marine Science 7:470. doi: 10.3389/fmars.2020.00470.
135. Leder E, Svensson O, ...**Johannesson K**, Kvarnemo L. A postglacial establishment of locally adapted fish populations over a steep salinity gradient. Journal of Evolutionary Biology (in press)
136. Nunez JCB, Stephen Rong S, Damian-Serrano A, Burley JT, Elyanow RG, Ferranti DA, Neil KB, Glenner H, Alm Rosenblad M, Blomberg A, **Johannesson K**, Rand DM. Ecological load and balancing selection in circumboreal barnacles. Molecular Biology and Evolution (in press)
137. Faria R, ...**Johannesson** K. et al. Genetic and morphological divergence between Littorina fabalis ecotypes in Northern Europe. Journal of Evolutionary Biology (in press)
138. **Johannesson** K, Le Moan A, Perini S, André C. A Darwinian laboratory of multiple contact zones. Trends in Ecology and Evolution (corrected proof online) https://doi.org/10.1016/j.tree.2020.07.015

RECENT BOOK CHAPTERS COMMENTARIES AND SHORT LETTERS

Väinölä R and **Johannesson K**. 2017. Genetic diversity and evolution. In *Biological Oceanography of the Baltic Sea* (ed. Snoeijs Leijonmalm P). Springer.

Westram AM and **Johannesson K**. 2016. Parallel speciation. In *Encyclopedia of Evolutionary Biology* (ed. Kliman R). Elsevier. p. 212-219.

Panova M, Aronsson HR, Cameron A, Dahl P, Godhe A, Lind U, Ortega-Martinez O, Pereyra R, Tesson SVM, Wrange A-L, Blomberg A, **Johannesson K**. 2016. DNA extraction protocols for whole genome sequencing in marine organisms. In *Marine genomics: Methods and Protocols*. (ed. Bourlat S). Springer.

Johannesson K, Butlin RK, Panova M, Westram M. 2017. Mechanisms of Adaptive Divergence and Speciation in *Littorina saxatilis*: Integrating Knowledge from Ecology and Genetics with New Data Emerging from Genomic Studies. In *Population Genomics*: *Marine Organisms* (eds. M. Oleksiak MF and Rajora P). Springer.

Johannesson K. 2017. A life-cycle approach to species barriers. Molecular Ecology 26: 3321–3323.

Wulff A, **Johannesson K**. 2019. Bring the ocean to the classroom - Introducing experimental studies to teachers with fair or no science knowledge. In *Exemplary Practices in Marine Science Education* (eds. G Fauville, DL Payne, MM Marrero, A Lantz-Andersson, F Crouch.) Springer.

Laikre L, Hoban S, Bruford MW, Segelbacher G, Allendorf FW, Gajardo G, González Rodríguez A, Hedrick PW, Heuertz M, Hohenlohe PA, Jaffé R, **Johannesson K**, Liggins L, MacDonald AJ, OrozcoterWengel P, Reusch TBH, Rodriguez-Correa H, Russo, IRM, Ryman N, Vernesi C. 2020. Post-2020 goals overlook genetic diversity. Science 367:1083-1084.

PRESENTATIONS AT INTERNATIONAL CONFERENCES (past 10 years)

- 2009. The Darwin Jubilee Symposium in Stockholm. Arranged by the Natural History Museum in Sweden. **Invited plenary speaker**.
- 2009. Origin of Species – 150 years later. A Kristineberg Symposium arranged by the Wennergren Foundation. **Invited speaker.**
- 2010. First European Conference on Speciation Research. International conference arranged by IIASA, Vienna. **Invited plenary speaker**.
- 2011. **Invited speaker** at TED^{x} University of Gothenburg. Distributed globally over internet.
- 2011. Mathematical science for biological systems. Joint symposium between the Korean Academy of Science and Technology and the Royal Academy of Sciences, Stockholm. **Invited plenary speaker**.
- 2012. BaltSens Project Conference 2012. Stockholm. **Invited speaker**.
- 2012. Dynamic Days Europe 2012. Gothenburg. **Invited plenary speaker**.
- 2014. Malacological Society London. **Invited speaker**.
- 2015. ASLO conference, Granada, Spain. **Invited speaker** to Baltic Sea session.
- 2015. Gordon Conference on Speciation, Ventura California. **Invited speaker**.
- 2017. Population Genetic Group, 50th Anniversary, Cambridge. Contributed talk.
- 2018 Marine Evolution, Strömstad. Contributed talk.

PUBLIC OUTREACH

Seminars for schools and public audiences, interviews for newspapers/radio/TV, popular science articles on biodiversity and marine management, program leader for 10 childrens TV programmes (Havsforskarna). Yearly courses for teachers and pre-school teachers, (The Sea in the classroom). Five courses in marine ecology for active fishermen.

MOST RECENT POPULAR SCIENCE PUBLICATIONS

Johannesson K & Liljenström S. 2017. Genetisk mångfald som gör skillnad. Havsutsikt 2/2017, 19-21.

Johannesson K & Liljenström S. 2020. Snäckans supergener visar hur arter bildas. Forsknings och Framsteg 4/2020.

For a full list of publications, please contact me at **Kerstin.Johannesson@gu.se**