

## Dr. Olivia Roth, Curriculum vitae

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Düsternbrookerweg 20, 24105 Kiel, Germany  
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### Research Experience & Education

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06/12 – present Junior Group leader at the Helmholtz Centre for Ocean Research Kiel (D)  
04/09 – 05/12 Postdoc at the GEOMAR Kiel (D) in the group of Prof. Thorsten Reusch  
05/06 – 03/09 “Evolutionary Ecology of Specificity in Invertebrate Immune Defence”  
PhD Thesis at the ETH Zürich (CH) and the Westfälische Wilhelmsuniversität Münster (D), Supervisors: Prof. Paul Schmid-Hempel & Prof. Joachim Kurtz  
10/04 – 04/06 “Male-biased sex-ratio distortion in a host-parasite system with horizontal -and vertical transmission (*Daphnia magna* & *Octosporea bayeri*)”  
Master thesis at the University of Basel, Supervisor: Prof. Dieter Ebert  
10/01 – 08/04 Bachelor of Science in Organismic Biology, University of Basel (CH)  
08/95 - 09/01 Matura at the Kantonsschule am Burggraben, St.Gallen (CH)

### Grants & Funding received

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11/12 Funding for ESEB13 symposium organisation from Volkswagen foundation (4'000€)  
04/12 Advanced Postdoc grant from Volkswagen foundation (276'300 €)  
03/12 FINE-AQUA (745'714 €) (PI: Thorsten Reusch, Catriona Clemmesen-Bockelmann, Co-PI: Olivia Roth, Christophe Eizaguirre)  
01/11 Funding for the organisation of the conference “Evolution at the Sea” from Volkswagen foundation (100'000€) (PI: Thorsten Reusch, Hinrich Schulenburg, and Olivia Roth)  
04/10 PhD grant for Susanne Landis from Volkswagen foundation (190'000 €) (PI: Thorsten Reusch, Olivia Roth, Anders Berglund; PhD student: Susanne Landis)  
12/09 Supplementary grant from Volkswagen foundation (20'000 €)  
04/09 Postdoc grant from Volkswagen foundation (241'500 €)  
03/09 Prospective Researcher Grant from the Swiss National Science Foundation (41'000 CHF) (awarded not accepted)  
12/08 Future Ocean Excellence cluster grant (50'000 €) (PI: Thorsten Reusch, Olivia Roth)

### Teaching Experience and Supervision of Students

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06/07 – present Supervision of students  
Phd students:  
**Susanne Landis**, GEOMAR 08/2009 – present  
**Anne Beemelmans**, GEOMAR, 01/2012 - present  
**Andrea Franke**, GEOMAR (co-supervision), 01/2012 – present  
**Isabel Keller**, GEOMAR, starting date: 12/2012

Master students:

**João Vicente de Camargo e Silva Gladek**, 11/2012 - present

**Agnes Hüttmann**, 10/2012 - present

**Lothar Miersch**, 02/2011 – 10/2011

**Simone Birrer**, ETH Zurich & GEOMAR, 10/2010 – 10/2011

**Isabel Keller**, GEOMAR, 02/2010 – 02/2011

**Chantal Kabus**, GEOMAR, 02/2010 – 12/2010

**Hendrik Eggert**, University of Münster, 01/2009 – 12/2009

**Bianca Komoll**, University of Münster, 01/2008 – 11/2008

Bachelor students:

**Verena Klein**, GEOMAR, 01/2012 – 09/2012

**Jonas Hilbert**, University of Münster, 11/2008 – 05/2009

Semester students:

**Jens Daniel**, University of Münster

**Annette Bernhard**, University of Münster

**Hendrik Eggert**, University of Münster

10/2012	Sexual selection, University of Kiel (D)
06/10 & 06/12	Marine Evolutionary Genetics Master Block Course, Kiel (D)
10/09 – present	Current topics in Evolutionary Ecology, Seminar for Master students, Kiel (D)
10/07 & 11/08	Host – Parasite – Coevolution Masters course, Münster (D)
07/06 – 03/09	Organising and running seminars for Graduate Students
05/07	Experimental Ecology Excursion with Jukka Jokela & Mathias Wegner, Ticino (CH)
02/05 & 05/06	Teaching assistant at Marine Biology Excursions to Elba (It) and Banyuls-sur Mer (F)

#### **International Presentations, Invited talks, Posters and Conferences**

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10/12	Invited talk at the Swiss Federal Institute of Technology Zurich (ETH) (CH)
09/12	Invited talk at the University of Copenhagen (DK)
07/12	Invited talk at the University of Kiel (D)
06/12	2 <sup>nd</sup> Fish Genome Meeting , Oslo University (NO)
04/12	Invited talk at the University of Basel (CH)
04/12	Invited talk at the Natural Science Museum, Madrid (E)
01/12	1st Fish Genome Meeting (talk), Johann Heinrich von Thünen-Institute, Hamburg (D)
12/11	Invited talk at the Institute for Evolutionary Biology, University of Münster (D)
12/11	Invited talk at the EAWAG, Dübendorf (CH)
11/11	Evolution at the Sea, VW Evolutionary Biology Status Symposium (Poster) (2 <sup>nd</sup> price, Poster awards), Puan Klent (D)
08/11	ESEB, 13 <sup>th</sup> Congress of the European Society for Evolutionary Biology (talk & chair of general session), Tübingen (D)
04/11	SYNGBIO conference (talk), Fiskebäckskil, (SWE)
06/10	60 <sup>th</sup> Lindau Nobel Laureate Meeting, Lindau, (D)
05/10	VW Evolutionary Biology Status Symposium (talk), Fraueninsel Chiemsee (D)
10/09	Fish Evolution 2009 (poster), Berlin (D)
05/09	ESF Conference (talk), Obergurgl (A)
10/08	National Meeting for Developmental & Comparative Immunology (talk), Giessen (D)
07/08	Volkswagen Evolutionary Biology Summer School (invited talk), Carolinensiel (D)
08/07	ESEB, 11 <sup>th</sup> Congress of the European Society for Evolutionary Biology (talk), Uppsala (SWE)
04/07	ESF Conference (poster), Obergurgl (A)
11/05	Joint Host-Parasite Meeting (talk), Basel (CH)

## Course participation

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09/12 Coaching for academic group leaders  
04/12 R-course  
06/09 Summer course on marine evolutionary & ecological genomics in Roscoff, France

## Conference organisation

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11/11 Evolution at the Sea, 3<sup>rd</sup> VW Status Symposium for Evolutionary Biology on Sylt Island (D) with Hinrich Schulenburg & Thorsten Reusch  
11/06 Joint host-parasite meeting at ETH Zurich (CH)

## Reviewer activity

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BMC Ecology; BMC Evolutionary Biology; Biology Letters; Ecological Entomology; Evolution; Evolutionary Ecology; Functional Ecology; Journal of Animal Ecology; Journal of Arachnology; Journal of Ethology; Journal of Insect Physiology; Malaria Journal; Marine Biology; Molecular Ecology; Naturwissenschaften; Oikos; PLoS One; Proceedings of the Royal Society London, Series B

## Collaborators

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**Kjetill Jakobsen**, University of Oslo, Norway  
**Martin Kalbe**, MPI for Evolutionary Biology, Plön, Germany  
**Dominik Refardt**, Theoretical Biology, ETH Zurich, Switzerland  
**Roland Regoes**, Theoretical Biology, ETH Zurich, Switzerland  
**Lasse Riemann**, Marine Biology, University of Copenhagen, Denmark  
**Gunilla Rosenqvist**, Department of Biology, University of Trondheim, Norway  
**Walter Salzburger**, Zoological Institute, University of Basel, Switzerland  
**Jörn Schar sack**, Institute for Evolutionary Biology, University of Münster, Germany  
**Mathias Wegner**, AWI Waddensea Station Sylt, Germany

## Additional qualifications

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Motorboat driving licence  
Biological security laboratories 2 permit (potential human pathogens)

## Publications

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15. Haase D\*, **Roth O\***, Kalbe M, Schmiedeskamp G, Schar sack JP, Rosenstiel B & Reusch TBH. Functional absence of MHC class II mediated immunity in pipefish *Syngnathus typhle*. Submitted  
\* authors contributed equally
14. Joop G, **Roth O**, Schmid-Hempel P & Kurtz J. Balancing external and internal immune defences in an insect. Submitted
13. **Roth O**, Klein V, Beemelmans A, Schar sack JP & Reusch TBH (2012). Male pregnancy and bi-parental immune priming. *American Naturalist*, online. [doi: 10.1086/668081](https://doi.org/10.1086/668081)
12. Birrer S, Reusch TBH & **Roth O** (2012). Lowered salinity under global change will impair pipefish immune defence. *Fish & Shellfish Immunology*, 33: 1238-1248. [doi: http://dx.doi.org/10.1016/j.fsi.2012.08.028](http://dx.doi.org/10.1016/j.fsi.2012.08.028)
11. Landis SH, Sundin J, Rosenqvist G & **Roth O** (2012). Behavioural adjustments of a pipefish to a bacterial *Vibrio* infection. *Behavioral Ecology and Sociobiology*, 66: 1399-1405. [doi: 10.1007/s00265-012-1395-3](https://doi.org/10.1007/s00265-012-1395-3)
10. **Roth O**, Keller I, Landis SH, Salzburger W & Reusch TBH (2012). Hosts are ahead in a marine host-parasite coevolutionary arms race: innate immune system adaptation in pipefish *Syngnathus typhle* against *Vibrio* phylotypes. *Evolution*, 66: 2528-2539. [doi: 10.1111/j.1558-5646.2012.01614.x](https://doi.org/10.1111/j.1558-5646.2012.01614.x)

9. Landis SH, Kalbe M, Reusch TBH & **Roth O** (2012). Consistent pattern of local adaptation during an experimental heat wave in a pipefish-trematode host-parasite system. *Plos One*, 7: e30658.
8. **Roth O**, Scharsack, JP, Keller I & Reusch TBH (2011). Bateman's principle and immunity in a sex-role reversed pipefish. *Journal of Evolutionary Biology* 24 (7), 1410-1420. [doi:10.1111/j.1420-9101.2011.02273.x](https://doi.org/10.1111/j.1420-9101.2011.02273.x) \*  
\* paper selected by the faculty of 1000
7. Asshoff R & **Roth O** (2011). Fostering students' inquiry skills: Developmental time & offspring rates of flour beetles. *The American Biology Teacher* 73 (4), 232-237. [doi:http://dx.doi.org/10.1525/abt.2011.73.4.9](http://dx.doi.org/10.1525/abt.2011.73.4.9).
6. **Roth O**, Kurtz J, Reusch TBH (2010). A summer heat wave decreases the immunocompetence of the mesograzer, *Idotea baltica*. *Marine Biology* 157 (7), 1605-1611. [doi:10.1007/s00227-010-1433-5](https://doi.org/10.1007/s00227-010-1433-5)
5. **Roth O**, Joop G, Eggert H, Hilbert J, Daniel J, Schmid-Hempel P & Kurtz J (2010). Paternally derived immune priming for offspring in the red flour beetle, *Tribolium castaneum*. *Journal of Animal Ecology* 79 (2), 403-410 . [doi:10.1098/rspb.2008.1157](https://doi.org/10.1098/rspb.2008.1157)
4. **Roth O** & Kurtz J (2009). Phagocytosis mediates specificity in the immune defence of an invertebrate, the woodlouse *Porcellia scaber* (Crustacea: Isopoda). *Dev Comp Immunol* 33 (11), 1151-1155. [doi:10.1016/j.dci.2009.04.005](https://doi.org/10.1016/j.dci.2009.04.005)
3. **Roth O**, Sadd BM, Schmid-Hempel P & Kurtz J (2009). Strain-specific priming of resistance in the red flour beetle, *Tribolium castaneum*. *Proc R Soc B-Biol Sci* 276, 145-151. [doi:10.1098/rspb.2008.1157](https://doi.org/10.1098/rspb.2008.1157)
2. **Roth O** & Kurtz J (2008). The stimulation of immune defence accelerates development in the red flour beetle (*Tribolium castaneum*). *Journal of Evolutionary Biology* 21 (6), 1703-1710. [doi:10.1111/j.1420-9101.2008.01584.x](https://doi.org/10.1111/j.1420-9101.2008.01584.x)
1. **Roth O**, Ebert D, Vizoso DB, Bieger A & Lass S (2008). Male-biased sex-ratio distortion caused by *Octosporea bayeri*, a vertically and horizontally transmitted parasite of *Daphnia magna*. *International Journal for Parasitology* 38; 969-979. [doi.10.1016/j.ijpara.2007.11.009](https://doi.org/10.1016/j.ijpara.2007.11.009)