

# Curriculum Vitae

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## Personal

Name: Dr. rer. nat. Axel Gerhard Rossberg  
Citizenship: German, British  
Current Position: Reader in Theoretical Ecology  
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## Education

January '98 Doktor der Naturwissenschaften (Ph.D., physics), "summa cum laude" (beyond best regular grade)  
Dissertation Title: *The Amplitude Formalism for Pattern-Forming Systems with Spontaneously Broken Isotropy and some Applications*  
10/1994 – 09/1998 Universität Bayreuth, doctoral student, Supervisor: L. Kramer  
08/1994 Master of Arts, Supervisor: J. Swift  
10/1993 – 09/1994 University of Texas at Austin, 2 semesters, Major: Physics, Minor: Mathematics  
08/1992 Vordiplom (pre-diploma), "sehr gut" (best regular grade)  
10/1990 – 09/1993 Universität Würzburg, 6 semesters, Major: Physics, Minor: Computer Science

## Appointments

09/2015 – Reader, School of Biological and Chemical Sciences, Queen Mary University London, UK  
01/2013 – 08/2015 Honorary Lecturer, School of Environmental Sciences, University of East Anglia, UK  
01/2012 – 08/2015 Principal Scientist at Centre for Environment, Fisheries & Aquaculture Science, UK  
08/2010 – 08/2015 Senior Researcher Fellow (later part time) at School of Biological Sciences, Queen's University Belfast, UK  
08/2008 – 07/2010 Research Fellow at School of Biological Sciences, Queen's University Belfast, UK  
04/2007 – 08/2008 Research Scholar at IIASA (International Institute for Applied Systems Analysis), Austria  
04/2005 – 03/2006 Part-Time Lecturer at Sophia University, Tokyo, Japan  
10/2003 – 03/2007 Visiting Associate Professor at Center of Excellence "Environmental Risk Management for Bio/Eco-Systems", Yokohama National University, Japan  
04/2001 – 09/2003 Researcher at Center for Data Analysis and Modeling, Universität Freiburg, Germany  
10/2000 – 03/2001 Visiting Scholar at Department of Philosophy, Columbia University, New York, NY, U.S.A.  
10/1998 – 09/2000 Postdoctoral Researcher at Nonlinear Dynamics Group, Kyoto University, Kyoto, Japan  
10/1996 – 09/1998 Research Assistant at Department of Physics, Universität Bayreuth, Germany  
10/1995 – 09/1996 Teaching Assistant at Department of Physics, Universität Bayreuth, Germany

## Teaching

Undergraduate	09/2018 –	Queen Mary University London, Statistics in <i>Research Methods and Communication I &amp; II</i>
Undergraduate	09/2017 –	Queen Mary University London, Module Convener for undergraduate final year research projects
Post Graduate	10/2016	Queen Mary University London, <i>Statistics and Bioinformatics</i>
Post Graduate	01/2016 –	Queen Mary University London, <i>Ecological Theory and Applications</i>
Post Graduate	09/2015 –	Queen Mary University London, <i>Ecosystem Structure and Functioning</i>
Post Graduate	07/2014	DEVOTES Summer School at AZTI-Tecnalia, <i>Understanding the mechanics of marine food webs</i> and <i>Applying food-web theory for management and the Marine Strategy Framework Directive</i> (guest lectures)
Post Graduate	11/2013	School of Mathematics, University of East Anglia, <i>Why food webs are hard to model</i> (guest lecture)
Undergraduate	10/2010 – 12/2010	School of Biological Sciences, Queen's University Belfast, <i>Biochemical Methods, Experimental Design and Statistics</i> (lectures and practicals)
Undergraduate	04/2005 – 03/2006	Faculty of Comparative Cultural Studies, Sophia University, Tokyo, <i>Environmental Issues I&amp;II</i> (two full-semester lectures)
Post Graduate	04/2004 – 03/2007	Graduate School of Environment and Information Sciences, Yokohama National University, <i>Basic Methods of Theoretical Ecology and their Application</i> (three full-semester lectures, in Japanese)
Post Graduate	10/2001 – 02/2002	Fakultät für Physik, Universität Freiburg, <i>Concepts of Nonlinear Dynamics</i> (full semester lecture, co-tought with Jens Timmer, in German)
High-School	11/2001	Freiburg Seminar, City of Freiburg <i>The Four Capital Sins of Modeling</i> (in German)
Undergraduate	10/1995 – 09/1996	Department of Physics, University of Bayreuth, <i>Electrodynamics</i> (two full semester problem-solving classes, in German)

## (Co-)Supervision and Tutoring

2018	BSc	Bilal Ashraf Sahi, <i>Interaction diversity of communities residing within prey-predator, mutualistic and host-parasitic network types</i>
2018	MSc	Thomas Julian Del Santo O'Neill, <i>Assessment of management options to attain Maximum Sustainable Yield from multiple interacting stocks in the North Sea</i>
2017 –	PhD	Jacob Louis Dinner O'Sullivan, <i>Spatially explicit theoretical community ecology</i> .
2016 –	PhD	Orestes Gutierrez al-Khudhairi, <i>Ecological constraints and adaptation of attack rates</i> .
09/2015 –	BSc	Personal academic advisor to several students
2014	Guest Student	Nao Takashina, <i>Maximum sustainable yield in size-structured populations</i>
2012	Summer Student	Rebecca Reid, <i>Total reproductive value as an index for stock size of commercial fish</i>
2009 – 2013	PhD	Tak Fung, <i>Sustainable fisheries and the diversity of marine communities: A theoretical investigation</i> , co-supervised with Keith Farnsworth
2005 – 2006	Bachelor	Kaori Yanagi (Statistics of trophic interaction strengths), co-supervised with Takashi Amemiya
2004 – 2005	Bachelor	Takuo Yumura (Analysis of food-web topology), co-supervised with Takashi Amemiya
2002 – 2003	Diploma	Kilian Bartholomé, <i>Non-linear data analysis for vortex flow-meters</i> , co-supervised with Jens Timmer
1997 – 1998	Diploma	Anke Lindner, <i>Three-dimensional Pattern formation in liquid crystals</i> , co-supervised with Lorenz Kramer

## Grants, Awards and Scholarships

2019 – 2022	BBSRC funded LIDo iCASE studentship with Cefas to study <i>Methods and policy pathways to optimize production of multiple interacting fish stocks</i>
2020 – 2024	NERC <i>Mechanisms and prediction of large-scale ecological responses to environmental change</i> , £1.21M for QMUL
2016 – 2018	NERC MERP <i>Marine Ecosystems Research Program Work Package 3 (awarded separately)</i> , £500k, £55k for QMUL.
2015 – 2018	Cefas Service contract, £75k for QMUL
2014 – 2018	Co-I and WP leader in NERC/Defra-funded <i>Marine Ecosystems Research Program</i> , £4M (£300k for Cefas, £70k for QMUL)
2013	The monograph <i>Food Webs and Biodiversity: Foundations, Models, Data</i> , ISBN 9-780470973-55-4, wins PROSE Award in the category "Biological Sciences"
2012 – 2016	EU-FP7 DEVOTES ( <i>Innovative Tools for Understanding and Integrated Assessment of Good Environmental Status (GES) of Marine Waters</i> ), €9M (€560 for Cefas)
2012 – 2018	Co-I for FizzyFish ( <i>Response of ecosystems and fisheries to management in a changing environment</i> ) Defra project to develop management options for fisheries and climate-change impacts, M1228, £1.25M for Cefas
2012 – 2018	Co-PI for MYFISH EU-FP7 collaboration to operationalise Maximum Sustainable Yield, €5M (€220k for QUB)
1998 – 2000	JSPS/Alexander von Humboldt Foundation research fellowship, ¥7,200,000 (≈£50,000)
1998	City of Bayreuth: "Best dissertation of the year"
1994 – 1996	Deutsche Forschungsgemeinschaft: research fellowship
1993 – 1994	Studienstiftung des Deutschen Volkes (German National Merit Foundation): regular fellow

## Editorial Work

- 2015 – Editor, *Theoretical Ecology*
- 2008 – Associate Editor, *The American Naturalist*
- 2007 – Host of the *foodwebs* mailing list (<http://foodwebs.info>)
- 2007 – Guest editor, Special Section on Current Food-Web Theory in *Ecological Complexity* 5(2), 2008 (together with Katsuhiko Yoshida)

## Society Memberships

- 06/2010 – British Ecological Society
- 08/2010 – International Union for the Conservation of Nature
- 04/2008 – The American Society of Naturalists
- 11/2005 – 01/2007 Ecological Society of Japan
- 08/2005 – 08/2015 Ecological Society of America
- 04/2005 – 01/2007 Society of Evolutionary Studies (Japan)
- 08/2004 – 08/2008 Japanese Society of Mathematical Biology
- 09/2000 – 10/2008 American Physical Society
- 02/1999 – 01/2007 Physical Society of Japan
- 10/1994 – 08/2008 Deutsche Physikalische Gesellschaft

## Other Responsibilities

- 2015 – 2018 Expert Advisor to Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), Lead Author of Regional Assessment for Europe and Central Asia
- 2012 – 2015 UK delegate to the expert group on Food Webs at OSPAR
- 2012 – 2015 Cefas representative at the Healthy and Biologically Diverse Seas Evidence Group, advising UK governmental agencies
- 2009 – 2015 UK delegate to the International Council for the Exploration of the Sea (ICES), contributing to numerous working groups and workshops related to marine biodiversity.
- 2001 – 2003 Guest-speaker program at Center for Data Analysis and Modeling, Freiburg
- 1996 – 1998 Administration of computing facilities at Department for Theoretical Physics, U Bayreuth

## Programming Experience

C, C++, FORTRAN, R, Mathematica, Matlab, Sage, AWK, Perl, Lisp, FOURTH, Assembler.  
Contributions to the X.org touchpad driver contained in all major Linux distributions.

## Language Skills

German (native), English, Japanese, Portuguese, Italian

## Publications

As of August 2020, over 100 scientific publications, including contributions to *Trends in Ecology and Evolution* (impact factor 15.3), *Nature Sustainability* (12.1), *Nature Communications* (10.7), *Physical Review Letters* (7.7), *Advances in Ecological Research* (6.3), *Proceedings of the Royal Society B* (5.3), *Ecology* (5.0), and *The American Naturalist* (4.5). ISI number of citations: over 1700; ISI h-index: 27.