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## RESEARCH INTERESTS

Interference competition in bacteria  
Bacterial interactions

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## METHODS

Experimental microbiology  
Fluorescence microscopy

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## ACADEMIC HISTORY

### Independent Research Fellow

5/2021 – 4/2024

Department of Biology, University of Oxford, United Kingdom  
*BBSRC Discovery Fellowship*

### Postdoctoral Researcher

11/2017 – 4/2021

Department of Biology, University of Oxford, United Kingdom  
*Postdoc Mobility Fellowship - Swiss National Science Foundation*  
Advisor: Prof. Kevin Foster

### PhD, Life Science Zurich Graduate School, University of Zurich, Switzerland

6/2013 – 9/2017

Thesis title: "Evolution of cooperation and virulence in an opportunistic pathogen"  
Advisor: Prof. Rolf Kümmerli

### Master of Science, Microbiology and Immunology, ETH Zurich, Switzerland

9/2011 – 4/2013

### Bachelor of Science, Biology, LMU Munich, Germany

9/2008 – 6/2011

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## PUBLICATIONS

**Granato ET**, Palmer JD, Kirk C, Sharp C, Shillcock G, Foster KR. Horizontal gene transfer can reshape bacterial warfare. *bioRxiv* (2024) <https://doi.org/10.1101/2024.08.28.610076>

**Granato ET\***, Smith WPJ\*, Foster KR. Collective protection against the type VI secretion system in bacteria. *The ISME Journal* (2023) <https://doi.org/10.1038/s41396-023-01401-4> (\*equal contribution)

**Granato ET**, Foster KR. The evolution of mass cell suicide in bacterial warfare. *Current Biology* (2020) <https://doi.org/10.1016/j.cub.2020.05.007>

Rezzoagli C, **Granato ET**, Kümmerli R. Harnessing bacterial interactions to manage infections: a review on the opportunistic pathogen *Pseudomonas aeruginosa* as a case example. *Journal of Medical Microbiology* (2020) <https://doi.org/10.1099/jmm.0.001134>

**Granato ET\***, Meiller-Legrand TA\*, Foster KR. The Evolution and Ecology of Bacterial Warfare. *Current Biology* (2019) <https://doi.org/10.1016/j.cub.2019.04.024> (\*equal contribution)

## PUBLICATIONS (cont.)

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Rezzoagli C, **Granato ET**, Kümmerli R. *In vivo* microscopy reveals the impact of *Pseudomonas aeruginosa* social interactions on host colonization. The ISME Journal (2019) <https://doi.org/10.1038/s41396-019-0442-8>

**Granato ET**, Ziegenhain C, Marvig RL, Kümmerli R. Low spatial structure and selection against secreted virulence factors attenuates pathogenicity in *Pseudomonas aeruginosa*. The ISME Journal (2018) <https://doi.org/10.1038/s41396-018-0231-9>

**Granato ET**, Kümmerli R. The path to re-evolve cooperation is constrained in *Pseudomonas aeruginosa*. BMC Evolutionary Biology (2017) <https://doi.org/10.1186/s12862-017-1060-6>

**Granato ET**, Harrison F, Kümmerli R, Ross-Gillespie A. Do Bacterial “Virulence Factors” Always Increase Virulence? A Meta-analysis of Pyoverdine Production in *Pseudomonas aeruginosa* as a Test Case. Frontiers in Microbiology (2016) <https://doi.org/10.3389/fmicb.2016.01952>

Kümmerli R, Santorelli L, **Granato ET**, Dumas Z, Griffin AS, West SA. Co-evolutionary dynamics between public good producers and cheats in the bacterium *Pseudomonas aeruginosa*. Journal of Evolutionary Biology (2015) <https://doi.org/10.1111/jeb.12751>

## SCHOLARSHIPS AND AWARDS

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<a href="#">FEMS Early Career Microbiologist Award</a>	6/2021
BBSRC Discovery Fellowship	2/2021
SNF Postdoc Mobility Fellowship	4/2019
SNF Early Postdoc Mobility Fellowship	11/2017
ASM Student and Postdoctoral Travel Award	3/2016
Research Fund of the University of Zurich (Forschungskredit)	1/2016
Student Oral Presentation Award, Evolutionary Medicine Conference, Zurich	7/2015
Scholarship of the German National Merit Foundation	9/2011

## INVITED CONFERENCE PRESENTATIONS

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Invited presentation <b>Microbiology Society Focus Meeting “Evolution”, Manchester, United Kingdom</b>	11/2022
Plenary Lecture <b>FEMS Conference on Microbiology, Belgrade, Serbia</b>	7/2022
Invited presentation <b>World Microbe Forum (ASM/FEMS virtual conference)</b>	6/2021
Invited presentation <b>Microbial Ecology &amp; Evolution Virtual Conference</b>	8/2020

**INVITED SEMINARS**

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MRC Centre for Molecular Bacteriology and Infection (CMBI) Seminar Series Imperial College London, United Kingdom	02/2023
Systems Biology Department Colloquium National Centre for Biotechnology, Madrid, Spain	02/2023
Fall Seminar Series Max Planck Institute for Evolutionary Biology, Plön, Germany	12/2021
Research Group Leader Selection Symposium Max Planck Institute for Terrestrial Microbiology, Marburg, Germany	11/2021
Molecular Microbiology Division Seminar Series University of Dundee, United Kingdom	10/2021
Department of Biology Invited Seminar Series University of Oxford, United Kingdom	10/2021
Collaborative Research Centre (CRC) AquaDiva Seminar Series Friedrich-Schiller-University, Jena, Germany	6/2021
Life Science & Medical School Seminar Series University of Warwick, United Kingdom	1/2021
Zam Iqbal Research Group Seminar European Bioinformatics Institute, Cambridge, United Kingdom	10/2020
Centre for Life's Origins and Evolution (CLOE) Summer Symposium University College London, United Kingdom	6/2020
Swiss Federal Inst. of Aquatic Science & Technology (EAWAG) Departmental Seminar ETH Zurich, Switzerland	4/2020
Junior Awards for Microbiology University of Birmingham, United Kingdom	6/2019

**CONFERENCE ORGANIZATION**

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<a href="#">Microbial Ecology &amp; Evolution (MEEhubs) 2024</a> <i>Co-lead organization of international conference</i> <i>Development of novel conference format (hybrid multi-hub)</i> <i>Lead organization of Oxford hub</i>	11/2021 – 1/2024
18 <sup>th</sup> Congress of the European Society for Evolutionary Biology (ESEB), Prague, Czech Republic <i>Organization of conference symposium</i> "The art of microscopic war – interference competition in microbes"	8/2022

**CONTRIBUTED CONFERENCE PRESENTATIONS**

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Gordon Research Seminar – Microbial Population Biology, Andover, NH, USA <i>Oral presentation</i>	7/2023
Gordon Research Conference – Microbial Population Biology, Andover, NH, USA <i>Poster presentation</i>	7/2023
18 <sup>th</sup> Congress of the European Society for Evolutionary Biology (ESEB), Prague, Czech Republic <i>Poster presentation</i>	8/2022
Microbiology Society Annual Conference, Edinburgh, United Kingdom <i>Oral presentation (event cancelled due to COVID19)</i>	4/2020
International $\mu$ BOX Meeting at Oxford, United Kingdom <i>Poster presentation</i>	9/2019
17 <sup>th</sup> Congress of the European Society for Evolutionary Biology (ESEB), Turku, Finland <i>Oral presentation</i>	8/2019
International Meeting on Phenotypic Heterogeneity and Sociobiology of Bacterial Populations (SPP1617), Hohenkammer, Germany <i>Poster presentation</i>	3/2019
17 <sup>th</sup> International Symposium on Microbial Ecology (ISME), Leipzig, Germany <i>Poster presentation</i>	8/2018
1 <sup>st</sup> International TRANSIT workshop on Cross-disciplinary Research, York, United Kingdom <i>Oral presentation</i>	4/2018
16 <sup>th</sup> Congress of the European Society for Evolutionary Biology (ESEB), Groningen, Netherlands <i>Oral presentation</i>	8/2017
116 <sup>th</sup> General Meeting of the American Society of Microbiology (ASM), Boston, USA <i>Poster presentation</i>	6/2016
Behaviour, Ecology, Environment and Evolution Meeting, University of Zurich, Switzerland <i>Oral presentation</i>	3/2015
15 <sup>th</sup> Congress of the European Society for Evolutionary Biology (ESEB), Lausanne, Switzerland <i>Poster presentation</i>	8/2015
Evolutionary Medicine Conference, Zurich, Switzerland <i>Oral presentation</i>	7/2015
15 <sup>th</sup> International Symposium on Microbial Ecology (ISME), Seoul, South Korea <i>Poster presentation</i>	8/2014
Workshop in Evolutionary Biology, Guarda, Switzerland <i>Oral presentation</i>	6/2014

## TEACHING

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<b>Lead course organizer and examiner</b> , Experimental Evolution Department of Biology, University of Oxford	2/2019 – 4/2024
<b>Teaching assistant</b> , Evolutionary Microbiology Faculty of Science, University of Zurich	2/2014 – 4/2017
<b>Teaching assistant</b> , General Microbiology Department of Biology, LMU Munich	3/2010

## SUPERVISION AND MENTORING

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<b>Thesis Committee Member</b> , Department of Biochemistry, University of Oxford Formal examination, assessment, and guidance of MSc student	1/2023 – 6/2023
<b>Co-supervision of graduate rotation student</b> , Department of Biology, University of Oxford	1/2023 – 3/2023
<b>DPhil Admissions Committee Member</b> , Department of Biology, University of Oxford Formal assessment and interviewing of prospective PhD students	2/2023
<b>Transfer of Status Assessor</b> , Department of Biology, University of Oxford Formal examination, assessment, and guidance of DPhil student	1/2023
<b>Mentoring Program</b> , Department of Biology, University of Oxford Co-development of a mentoring program between postdocs and PhD students. Regular mentoring activity	11/2019 – 6/2022
<b>Supervision of Master student</b> , Department of Biology, University of Oxford	10/2021 – 5/2022
<b>Supervision of Bachelor student</b> , Department of Biology, University of Oxford	4/2020 – 4/2021
<b>MEEVirtual Mentoring Program</b> Mentoring of junior researchers attending a scientific conference	8/2020
<b>PhD Mentoring Program, Life Science Graduate School Zurich</b> Mentoring of junior PhD students	6/2014 – 9/2017
<b>Supervision of laboratory internship</b>	1/2015- 4/2015

## INSTITUTIONAL AND SUPPORT ACTIVITIES

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<b>EMBL Career Webinars</b> Invited seminar on “Networking for academics”	9/2024
<b>Personnel Committee – Research Staff Representative</b> Department of Biology, University of Oxford, United Kingdom	10/2021 – 4/2024
<b>FutureProfs</b> , Department of Biochemistry, University of Oxford, United Kingdom Founder of a peer-to-peer support group among postdoctoral researchers working towards an academic career	11/2019 – present
<a href="#">Blog – Days in the Life of a Senior Postdoc</a> Article on senior postdoc working hours	10/2024
<a href="#">Blog – Days in the Life of a Postdoc</a> Article on postdoc working hours	12/2022

## INSTITUTIONAL AND SUPPORT ACTIVITIES (cont.)

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<a href="#">Blog – How to apply for a Postdoc Fellowship</a>	3/2022
<a href="#">Blog – How to deal with “failed” experiments</a> also published in <a href="#">The Microbiologist</a>	4/2021
<b>Early Career Researcher Network</b> , University of Oxford, United Kingdom Organization of scientific, social, and training events for early career researchers Personnel Committee Representative; Social media & Outreach Representative	9/2018 – 7/2021
<a href="#">Blog – How to ask a question after a seminar</a>	7/2021
<a href="#">Blog – Asking for help with your project</a>	10/2020
<b>Committee for Appointment of Faculty</b> , University of Zurich, Switzerland Representative for mid-level faculty	2017

## OUTREACH

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<b>Social Media</b> <a href="#">Active X/Twitter profile</a> with >28'000 followers <a href="#">Active BlueSky profile</a> with >2'000 followers Regular interactions with general public and dissemination of scientific content	2010 – present
<b>Reptile Rescue Centre</b> Science communication and social media contributor Reptilienauffangstation München (Reptile Rescue Centre Munich)	7/2024 – present
<b>History of Science project</b> Researcher & writer for web resource on the history of science Collaboration with <a href="#">Dr. Freya Harrison (Univ. of Warwick)</a>	2/2024 – present
<b>Graphic novel</b> Scientific advisor for <a href="#">graphic novel on microbiology</a> Collaboration with Dr. Corrado Nai	1/2024 – present
<b>‘Museum of Revelatory Fakes’ Podcast</b> <a href="#">Interview</a> about my experience of being at the center of a fake news story on vaccine risks	3/2023
<b>Museum of Revelatory Fakes</b> Advisor for an <a href="#">art project</a> on scientific misinformation in the media	3/2023
<b>‘Tidbits of Research’ Podcast</b> <a href="#">Interview</a> about my research and life as a scientist, aimed at a general audience	5/2022
<b>FEMS Podcast – ‘Microbes and Us’</b> <a href="#">Interview</a> about my research, career development in academia and more	7/2021
<b>Microbial Literacy Project</b> Co-development of a <a href="#">child-centric microbiology education framework</a> for use in UK education Topic: Microbial Communities and Social Behaviour	9/2020 – 4/2021
<b>Skype A Scientist</b> Video-calling classrooms around the world as part of the “Skype A Scientist” initiative	4/2019 – 6/2020

**OUTREACH (cont.)**

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<b>Article in <i>New Scientist</i> magazine</b>	3/2020
Contribution to <a href="#">popular science article</a> on my recent publication	
<b>Chalk Talk Seminar</b> , Dunn School of Pathology, University of Oxford, United Kingdom	11/2019
Scientific presentation for a general audience, run by the <i>Oxford Scientist</i> magazine	
<b>Science Jam</b> , Department of Biology, University of Oxford, United Kingdom	5/2019
Organization of - and participation in – an intradepartmental outreach event	
<b>Oxford Scientist School</b> , Oxford, United Kingdom	1/2019
Guest judge for science writing competition for Secondary school pupils	
<b>Teaching on Twitter</b>	10/2018
Lecturer for the 1 <sup>st</sup> worldwide online open access microbiology course (“EUROMicroMOOC”)	
<b>‘Bacterial World’ Exhibition</b>	10/2018
Contribution of microscopy images to exhibition in the Natural History Museum of Oxford	
<b>UNIQ Summer School</b> , University of Oxford, United Kingdom	8/2018
Demonstrator for practical classes on antibiotics, delivered to state school students	
<b>Science Lab Zurich</b> , Faculty of Science, University of Zurich, Switzerland	2/2017
Guided tour through microbiology laboratories for local high school students	
<b>International Physics Olympiad</b> , Faculty of Science, University of Zurich, Switzerland	7/2016
Guided tour through microbiology laboratories for international high school students	
<b>Info Day Biology</b> , Department of Biology, ETH Zurich, Switzerland	3/2012
Oral presentation of Master’s degree in Biology at ETH to local high school students	
<b>Open Day Biochemistry</b> , Max-Planck-Institute of Biochemistry, Martinsried, Germany	10/2010
Assistance in presentation of biochemistry research to the general public	

**PEER REVIEW ACTIVITY - JOURNALS**

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- Nature Microbiology
- Nature Comms
- Current Biology
- eLife
- mBio
- PLOS Pathogens
- The ISME Journal
- Proc Soc B
- iScience
- Comms Biology
- Microbial Ecology
- PLOS One
- Microbiology
- Biofilm
- FEMS Microbiology Ecology
- BMC Evolutionary Biology
- Journal of Emerging Investigators

**PEER REVIEW ACTIVITY – FUNDING AGENCIES**

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- Swiss National Science Foundation (SNF)
- UKRI - Medical Research Council (MRC)
- UKRI - Biotechnology and Biological Sciences Research Council (BBSRC)

**ADVANCED TRAINING (selection)**

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<b>Clear Writing for Science Communication</b> (4 h) National Institute for Science Communication (NaWik), Karlsruhe, Germany	10/2024
<b>Social Media in Science Communication</b> (4 h) National Institute for Science Communication (NaWik), Karlsruhe, Germany	8/2024
<b>Foundations of Science Communication</b> (8 h) National Institute for Science Communication (NaWik), Karlsruhe, Germany	8/2024
<b>Leadership Training</b> (24 h), University of Oxford, United Kingdom	9/2022
<b>Race Awareness Training</b> (1.5 h), University of Oxford, United Kingdom	7/2022
<b>Mentorship Training</b> (4 h), University of Oxford, United Kingdom	10/2019
<b>Public Engagement with Research</b> (2 h), University of Oxford, United Kingdom	2/2019
<b>Mentorship Training</b> (30 h), Life Science Zurich Graduate School, Zurich, Switzerland	1/2016
<b>Voice Training and Presentation Skills</b> (30 h), Center for Advanced Training, Zurich, Switzerland	5/2014
<b>Project Management for Research</b> (30 h), Center for Advanced Training, Zurich, Switzerland	10/2013