

# Curriculum Vitae

Jeremias N. Brand

## Contact

Jeremias N. Brand  
Steinbühlallee 13  
4054 Basel  
+41 (0)79 779 96 52  
[jeremias.br@gmail.com](mailto:jeremias.br@gmail.com)  
ORCID: 0000-0001-6126-8279

## Languages

German ■■■  
English ■■■  
French ■□□  
Spanish ■□□

## IT Skills

R, Python, bash, javascript,  
HTML, PHP, git, vim,  
snakemake, SQL, MS  
Office, Illustrator,  
Photoshop, GIMP, ImageJ,  
High-Performance-  
Computing

## Wetlab Skills

Microscopy (DIC, SBFSEM,  
TEM), RNA extraction, PCR,  
Gel electrophoresis,  
Chromatography

## Education

- 11.2015 – 07.2020** PhD in Zoology, University of Basel, *Summa cum laude*,  
Supervised by PD Dr. Lukas Schärer  
*The Evolution of Sex Allocation and Hypodermic  
Insemination across the Flatworm Genus Macrostomum*
- 11.2017 – 03.2018** Visiting Scholar at University of Idaho, USA, Supervised  
by Prof. Luke J. Harmon
- 08.2013 – 04.2015** Master of Animal Biology, University of Basel, Grade –  
5.8/6.0  
Specialization in Evolutionary Biology  
*Flexibility and Phylogenetic Distribution of Sex  
Allocation in the Genus Macrostomum*
- 08.2009 – 06.2013** Bachelor of Organismal Biology, University of Basel,  
Grade – 5.0/6.0  
Specialization in Parasitology, Ecology, Evolutionary  
Biology and Plant Science

## Courses

- 09.2018** GreifOlution: 1st Greifswald Summer School on  
Mathematics of Evolution (7 days), Institute of  
Mathematics and Computer Science, University of  
Greifswald, DE.
- 09.2018** Comparative Genomics (3 days), Swiss Institute for  
Bioinformatics, Lausanne, CH.
- 05.2017** Computational Molecular Evolution (10 days), European  
Bioinformatics Institute,  
Wellcome Genome Campus, Hinxton, Cambridge, UK.
- 09.2017** Talking Science (1 day), University of Basel, CH
- 01.2016** Workshop on Genomics (14 days), Cesky Krumlov, CZ.
- 06.2014** Summer School in Evolutionary Biology (7 days),  
Guarda, CH

## Employment history

- 11.2015 – 04.2020** PhD candidate in Zoology, University of Basel.  
Supervised by PD Dr. Lukas Schärer
- 04. – 11.2015** Civil Service. Research Assistant at Institute for organic  
farming (FiBL), Frick, CH
- 02. – 08.2012** Civil Service. Technician and Research Assistant at  
Institute for Ecopreneurship, University of Applied  
Sciences and Arts Northwestern Switzerland, Muttenz,  
CH
- 07. – 09.2011** Civil Service. Nature conservation work. Verein mum,  
Zürich, CH

# Curriculum Vitae

## Publications

**Brand J. N.**, Wiberg R. A. W., Pjeta R., Bertemes P., Beisel C., Ladurner P. & Schärer L. 2020. *RNA-Seq of three free-living flatworm species suggests rapid evolution of reproduction-related genes*. BMC Genomics 21:462.

Schärer, L., **J. N. Brand**, P. Singh, K. S. Zadesenets, C.-P. Stelzer, and G. Viktorin. 2020. *A phylogenetically informed search for an alternative Macrostomum model species, with notes on taxonomy, mating behavior, karyology, and genome size*. Journal of Zoological Systematics and Evolutionary Research 58:41–65. <https://doi.org/10.1111/jzs.12344>

Neves R., **Brand J. N.**, Gan Q. and Reichert H. 2016. *First time surveying meiofauna in Singapore*. Raffles Bulletin of Zoology Supplement 34(I): 8-12.  
<http://zoobank.org/urn:lsid:zoobank.org:pub:52431AAA-09BD-4305-B9B7-EA78F989D8D7>

## Contributions to international conferences

### Oral presentations

**Brand J. N.**, Viktorin G., Beisel C., Harmon L. J. & Schärer L. 2019. *Frequent transitions to a hypodermic sperm design and correlated effects on copulatory organ morphology in Macrostomum flatworms*. Biology of Spermatzoa 15, Nynäsgård, SE

**Brand J. N.**, Viktorin G., Beisel C., Harmon L. J. & Schärer L. 2019. *Evolution of sex allocation and its correlates in the flatworm genus Macrostomum*. Simultaneous and Sequential Hermaphroditic Organisms Workshop, Salford, UK

**Brand J. N.**, Viktorin G., Beisel C. & Schärer L. 2019. *Frequent convergent evolution of hypodermic mating in a flatworm genus revealed by phylogenomics*. Biology 19, Zürich, CH

**Brand J. N.**, Viktorin G. & Schärer L. 2018. *Transcriptome based phylogenomics reveal convergent evolution of hypodermic insemination in Macrostomum flatworms*. 17. Annual Meeting of the Swiss Systematics Society, Bern, CH

**Brand J. N.**, Viktorin G. & Schärer L. 2018. *Frequent origins of hypodermic insemination in a free-living flatworm genus*. International Symposium on Flatworm Biology, Alghero, IT

**Brand J. N.** & Schärer L. 2017. *Plastic adjustment of sex allocation tracked in individual hermaphrodites*. Simultaneously Hermaphroditic Organisms Workshop, Lund, SE

**Brand J. N.** & Schärer L. 2016. *A phylogenomic approach to understand sexual trait evolution in hermaphrodites*. 10th International Macrostomum Meeting, Basel, CH

**Brand J. N.** & Schärer L. 2015. *Flexible sex allocation in Macrostomum lignano*. 9th International Macrostomum Meeting, Innsbruck, AU

### Poster presentations

**Brand J. N.**, Viktorin G. & Schärer L. 2018. *Frequent origins of hypodermic insemination in a free-living flatworm genus*. 1. Summer school on Biomathematics, Greifswald, DE

**Brand J. N.**, Salvenmoser W. & Schärer L. 2017. *Exaggeration of a sperm trait in four newly discovered flatworm species*. Biology of Spermatzoa 14, Sheffield, GB

**Brand J. N.**, Janssen T., Vizoso D. B. & Schärer L. 2017. *Comparing phylogenies inferred with few or many genes in a flatworm genus*. Conference of the European Society of Evolutionary Biology, Groningen, NL

**Brand J. N.** & Schärer L. 2015. *Comparative phylogenetic analysis of sex allocation evolution in the hermaphroditic flatworm genus Macrostomum*. Poster at the Conference of the European Society of Evolutionary Biology, Lausanne, CH

# Curriculum Vitae

## Publications in preparation

**Brand J. N.**, Viktorin G., Beisel C., Harmon L. J. & Schärer L. In preparation. *Frequent shifts to hypodermic insemination and correlated evolution of sperm and genital morphology in a genus of flatworms*. (Chapter III of PhD thesis)

**Brand J. N.**, Harmon L. J. & Schärer L. In preparation. *The evolution of sex allocation and its correlates in a genus of simultaneous hermaphrodites*. (Chapter IV of PhD thesis)

**Brand J. N.** & Schärer L. In preparation. *Synapomorphies and molecular data suggest a radiation of *Macrostomum* flatworms in Lake Tanganjika*.

Wiberg R. A. W., **Brand J. N.** & Schärer L. In preparation. *Elevated dN/dS ratios in reproduction related genes of a flatworm genus*.

Singh P., **Brand J. N.** & Schärer L. In preparation. *Evolution of the suck behaviour, a postcopulatory female resistance trait in a hermaphroditic flatworm genus*.

## Institutional responsibilities

**02.2016 – 12.2017** Host and organization “Interaction Seminar”, Zoological Institute, Basel, CH

**02.2009 – 12.2009** Member of Student Parliament, Studierendenrat, SKUBA, Two terms, University of Basel, CH

## Supervision of junior researchers

**Tanja Koch** and **Anaïs Galli** (3<sup>rd</sup> year BSc., 6 week project). 02.-03.2017.  
*Hypodermic insemination and selfing in newly discovered *Macrostomum* species*.  
Block course “Zoology and Evolution”. Project co-supervisor. University of Basel, CH

**Alessandra Lochmatter** and **Michaela Zwyer** (3<sup>rd</sup> year BSc., 6 week project). 02.-03.2016.  
*Sperm dynamics in *Macrostomum hystrix* after hypodermic self-insemination*.  
Block course “Zoology and Evolution”. Project co-supervisor. University of Basel, CH

**Naomi Reichlin** (High school student, High school thesis, 3 month project). 01.-03.2014.  
*Schwimmgeschwindigkeit in Abhängigkeit der Körpergrösse in *Macrostomum* Plattwürmern*.  
Supervisor. University of Basel, CH

## Teaching activities

**Morphometrics and Image Analysis** Teaching assistant in 8h practical (3<sup>rd</sup> year BSc.)  
03.2017 & 03.2019, University of Basel, CH

**Marine Biology and Biogeochemistry** Teaching assistant in 10 day field course (MSc. Level).  
06.2015 & 06. – 07.2017, University of Basel, Elba, IT

**Flatworm Biology** Teaching assistant in 8h practical (3<sup>rd</sup> year BSc.)  
03.2015, 03.2016, 03.2017, University of Basel, CH

**Wikipedia Writing Week** Teaching assistant in one week of practical (3<sup>rd</sup> year BSc.)  
02.2016, University of Basel, CH

## Scientific reviewing activities

Reviewer for: **Zoological Science** (ISSN: 0289-0003) and **Ethology, Ecology & Evolution** (ISSN: 0394-9370)

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## Active memberships in scientific societies

Member: **European Society of Evolutionary Biology & Swiss Systematics Society**

## Organization of conferences

- 11.2016** 10th International Macrostomum Meeting  
Assisted in planning and organizing of the conference, Basel, CH
- 07.2012** Conference on Managed Aquifer Recharge (MAR), Main organiser, Basel, CH  
*Meeting for EU-Project partners from India and Germany*
- 03.2011** Theme week "Critical Science", Main organiser, Biozentrum, Basel, CH  
*One week of discussion and lectures with scientists, journalists and educators*
- 08.2009 – 12.2015** Co-founder and organizer of a lecture series every semester for “Freethinkers Basel”  
*An organization for the promotion of critical thinking and interdisciplinary exchange*

## Outreach activities

**Brand J. N.** 2017. *Sex and Violence in the Beach*. Science Slam 17, Basel, CH

**Brand J. N.** 2011. Theme week – „Critical Science“. Biozentrum University of Basel, CH  
Main organiser. *One week of interdisciplinary discussion and lectures with scientists, journalists and educators.*

## Awards and grants

### Awards

- 09.2018** Best Poster Award at 1st Summer School for Biomathematics, Greifswald, DE
- 10.2017** 2<sup>nd</sup> Place Basel Science Slam 17, Basel, CH
- 01.2016** Winner genome assembly competition at Genomics Workshop, Cesky Krumlov, CZ

### Grants

- 09.2019** Travel Grant, University of Basel, (880 CHF)
- 09.2018** Deutscher Akademischer Austauschdienst (DAAD)– Sponsored participation in Summerschool
- 09.2018** Deutscher Akademischer Austauschdienst (DAAD) – Travel Grant: 250 EURO
- 08.2017** Travel Grant, University of Basel (360 CHF)
- 06.2017** Travel Grant, University of Basel (1750 CHF)
- 02.2011** Grant to organize Theme Week "Critical Science", Mercator Foundation Switzerland, 4500 CHF