Biplabendu Das

Genomics and Bioinformatics Cluster
Biological Sciences
University of Central Florida
Orlando, Florida
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Education

2022-2023 | *Deborah Gordon*
Postdoctoral research, Biology, Stanford University, USA; *offer accepted, starting in Summer*

2017-2022 | *Charissa de Bekker*
Doctor of Philosophy, Biology, University of Central Florida, USA; *expected Spring graduation*

2016-2017 | *Raghavendra Gadagkar*
Master of Science, Biology, Indian Institute of Science (IISc), India

2012-2016 | *Sylvia Cremer, Matthias Fürst, Raghavendra Gadagkar*
Bachelor of Science (Research), IISc, India; *Biology major and Earth Sciences minor*

Awards

2022 Travel Award, *IUSSI North American Section* | $1500
2022 Emmett Chappell Award, *Society for Research on Biological Rhythms (declined)* | $700
2022 Open access publishing funds, *UCF College of Graduate Studies* | $1500
2021 Presentation Fellowship, *UCF College of Sciences* | $500
2021 Travel Award, *UCF Student Government Association* | $600
2019 Best poster award, *ISEB2: Indo-Swiss Meeting on Evolutionary Biology*
2019 Presentation Fellowship, *UCF College of Sciences* | $800
2019 International Travel Award, *UCF Student Government Association* | $600
2019 International Travel Grant, *UCF Biology Department* | $450
2019 Best manuscript for 2018, *co-authored review paper in Myrmecological News*
2018 Arnold Havarlee Exploration Endowed Scholarship | $500
2018 Travel Award, *UCF Student Government Association* | $450
2018 Travel Grant, *UCF Biology Department* | $250
2017 ESEB Conference Travel Award *for International Students (declined)* | €1127
2016 Associate Member, *Sigma Xi - The Scientific Research Society*
2015 Sigma Xi Grant-in-Aid of Research (GIAR) grant (*bachelor thesis*) | €840
2015 ISTernship scholarship, *Institute of Science and Technology (IST), Austria* | €4000
2013-17 Kishore Vigyan Protsahan Yojana scholarship, *DST, India* | ₹ 2,60,000
2012-13 Innovation in Science Pursuit for Inspired Research scholarship, *DST, India* | ₹ 80,000
2007 Junior Scientist Award *at 15th National Children Science Congress, India*

Research

2017-present *Role of biological clocks in ant behavioral plasticity and parasitic manipulation of ant behavior* (Dissertation)
Supervisor Dr. Charissa de Bekker, Biological Sciences, University of Central Florida, USA

2021-present *Using machine learning to infer inter-species protein-protein interaction networks: revealing potential host proteins and biological processes targeted by behavior manipulating parasites* (collaboration with Ian Will and Dr. Charissa de Bekker)

2018-present *Epigenetic changes in carpenter ant brains during parasitic behavioral manipulation* (collaboration with Dr. Shelley Berger's lab at University of Pennsylvania)

2016-17 *Dynamics of food distribution in a colony of the primitively eusocial wasp Ropalidia marginata* (master's thesis)
Supervisor Prof. Raghavendra Gadagkar, Centre for Ecological Science (CES), IISc, India

2015-16 *Ant colony responses to viral infection* (bachelor thesis)
Supervisor Dr. Sylvia Cremer and Dr. Matthias Fürst, IST, Austria
Co-supervisor Prof. Raghavendra Gadagkar, CES, IISc, India

Publications

In-prep:

(**2022a**) ***Das, B.***, *Brouns, R., Will, I., Brachmann, A., de Bekker, C.* Biological clocks and parasitic life history strategies: a comparative study of the clocks of necrotrophic versus hemibiotrophic fungal entomopathogens.

(**2022b**) ***Das, B.***, *Brachmann, A., de Bekker, C.* Effects of infectious diseases on ant clock and clock-controlled output: disentangling the role of clocks in parasitic manipulation of host behavior as compared to host responses to general infection.

Published:

(**2022**) *de Bekker, C.* and ***Das, B.*** Hijacking time: How *Ophiocordyceps* fungi could be using ant host clocks to manipulate behavior. *Parasite Immunology e12909*

(**2021**) ***Das, B.*** and *de Bekker, C.* Time-course RNASeq of *Camponotus floridanus* forager and nurse ant brains suggests links between plasticity in the biological clock and behavioral division of labor. *BMC Genomics 23, 57*

(**2020**) *Will, I.*, ***Das, B.***, *Trinh, T., Brachmann, A., Ohm, R. A., de Bekker, C.* Genetic underpinnings of host manipulation by *Ophiocordyceps* as revealed by comparative transcriptomics. *G3: Genes, Genomes, Genetics*

(**2018**) *de Bekker, C., Will, I.,* ***Das, B.***, *Adams, R.M.M.* The ants (Hymenoptera: Formicidae) and their parasites: effects of parasitic manipulations and host responses on ant behavioral ecology. *Myrmecological News 28:1-24*

Academic presentations

Upcoming:

2022 **Invited Symposium Talk**, 19th IUSSI International Congress, USA (accepted)
2022 **Invited Symposium Talk**, Entomological Society of America, British Columbia (accepted)

Past:

2022 **Guest Lecture,** Animal Behavior course, University of North British Columbia (virtual)
2022 **Invited Talk,** Global Talk Series, Society for Research on Biological Rhythms (virtual)
2021 **Poster**, Gordon Research Conference on Chronobiology, USA (postponed)
2021 **Talk**, Gordon Research Seminar on Chronobiology, USA (postponed)
2021 **Talk**, Allee Competition, Animal Behavior Society meeting, USA (virtual)
2021 **Poster**, Graduate Research Forum, UCF (virtual)
2021 **Poster**, Cold Spring Harbor Symposium on Biological Timekeeping (virtual)

2019 **Lightning talk**, Genomics & Bioinformatics Cluster Showcase, UCF
2019 **Poster**, Genomics & Bioinformatics Cluster Showcase, UCF
2019 **Poster**, Graduate Research Forum, UCF
2019 **Poster**, 12th ANeT, World Ant Forum in Bangkok, Thailand
2019 **Poster**, 2nd Indo-Swiss meeting in Evolutionary Biology in Bengaluru, India

Workshops & Softwares

2018 ***Ants of the Southwest.*** Workshop hosted by American Museum of Natural History
Venue: Southwest Research Station (SWRS), Arizona, USA (attendee)

2021 ***Shiny app for comparative genomics and transcriptomics.*** Open-source software to compile and visualize data from multiple -omics datasets for a given species. (author, link to app)

2021 ***timecourseRnaseq: an R package to analyze time-course RNAseq data.*** Provides functions to run GO/PFAM enrichment analyses and plot results. (author, link to package)

Teaching

2021-2021: **Graduate Teaching Associate**, Biology II- Laboratory
2018-2020: **Head Graduate Teaching Associate**, Principles of Ecology Lab
2019-2020: **Introduction to R-programming**, part of Principles of Ecology Lab (link to tutorial)
2017-2018: **Graduate Teaching Assistant**, Biology II - Laboratory
2016-2018: **Official tutor**, Chegg Inc.

Mentoring

Graduate students:

2020-2022: **Roos Brouns**; **visiting master's student from Utrecht University, Netherlands**
Training: bioinformatics and analyses of time-course fungal RNASeq data

Undergraduate students:

2021-current: **Rowan Hassan**; **senior undergrad, Research assistant**
Training: automated behavioral tracking, quantifying rhythmicity, data analyses in R

2019-2021: **Zaynah Sahib; senior undergrad, Research assistant**
Training: fungal culturing, infections, effects of diseases on ant social behavior
Best poster award at 2021 UCF Undergraduate Research Forum

2018-2019: **Meghan Flynn; senior undergrad, Teaching assistant**
Training: assisting and teaching upper-level undergraduate ecology laboratory

2018-2019: **Brianna Santamaria; senior undergrad, Research assistant**
Training: ant husbandry, fungal culturing, controlled ant infections, monitoring disease

Outreach & services

2021-present **Equality, Diversity, Inclusion, and Justice Committee**, IUSSI 2022
2021 **Peer-reviewer,** Myrmecological News
2021 **Symposia co-organizer**, Animal Behavior Society Meeting 2021
2021 **Conference organization**, CSHL Symposium on Biological Timekeeping
2019 **Outreach** at Orlando Science Center; co-organizer
2019 **Peer-reviewer,** Annals of Entomological Society of America
2019 **Core administrative member,** Biology Graduate Student Association, UCF
2019 **Invited talk** on graduate school applications, UCF Beta Psi Omega Honors Society
2018 **Outreach**, UCF STEM Day and UCF Arboretum Spring Fest