

# Biplabendu Das

Genomics and Bioinformatics Cluster  
Biological Sciences  
University of Central Florida  
Orlando, Florida  
*biplabendu.das[at]gmail.com*

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

## Research

**2017-present** *Do zombie-ants keep time? An investigation of the chronobiological basis for parasitic manipulation of host behavior.* (Dissertation; on-going)

Supervisor Dr. Charissa de Bekker, Biological Sciences, University of Central Florida, USA

**2021-present** *Using machine learning and yeast-two-hybrid to infer inter-species protein-protein interaction networks: revealing the potential host proteins and biological processes that are targeted by behavior manipulating parasites.* (collaboration with Ian Will and William Beckerson; on-going)

Supervisor Dr. Charissa de Bekker, Biological Sciences, University of Central Florida, USA

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

**2016-17** *Dynamics of food distribution in a colony of the primitively eusocial wasp Ropalidia marginata* (master's thesis; completed)

Supervisor Prof. Raghavendra Gadagkar, Centre for Ecological Science (CES), IISc, India

**2015-16** *Ant colony responses to viral infection* (bachelor thesis; completed)

Supervisor Dr. Sylvia Cremer and Dr. Matthias Fürst, IST, Austria

Co-supervisor Prof. Raghavendra Gadagkar, CES, IISc, India

## Publications

### In-prep:

(2022) **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.

(2022) **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 **Poster**, Society for Research on Biological Rhythms Biennial Conference (applied)

### Completed:

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](#))

## 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**, for 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, Beta Psi Omega Honors Society  
2018 **Outreach**, UCF STEM Day co-organizer  
2018 **Outreach**, UCF Arboretum Spring Fest co-organizer; science outreach event  
2018 **Outreach**, UCF STEM Day organizer; science outreach event for middle school students  
2016 **English teacher**, refugee camp, Austria