

Curriculum Vitae
DEBAPRIYO CHAKRABORTY
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Summary

- **Interested in infectious disease emergence**
- **PhD in population genetics**
- Postdoctoral experiences in **wildlife parasite ecology, disease modelling** and **surveillance**
- **Fulbright visiting scholar** to Duke University, USA
- Proficient in **statistical data analysis**
- Proven track record of **grant writing, budget development, fundraising, project planning, management** and **outreach**
- **Extensive fieldwork experience (12 years)**
- Lived and worked in **developed** (USA and UK) and **developing countries** (India and Bangladesh)
- Extensive experience in **multinational, multidisciplinary** and **multi-institutional collaborative** projects
- **Strong publication record**—12 (9 in internationally peer reviewed journal, 3 invited book chapters)
- Extensive **teaching and training experience**
- **Strong communication skills**

Education

PhD

Manipal University,

Aug 2007 – Jun, 2013

Supervisor: Prof Anindya Sinha

Thesis: Genes in Space and Time: Population Genetic Structure and Demographic History of Two Primate Species, the Arunachal Macaque *Macaca munzala* and Bonnet Macaque *Macaca radiata*

University of Calcutta, MSc

Kolkata, India

Zoology (specialization in Ecology)

Jun, 2003 – Mar, 2005

University of Calcutta, BSc

Kolkata, India

Zoology (with Botany and Chemistry)

Jun, 2000 – Mar, 2003

Research interests

- How do human impacts on environment (urbanisation, climate change, biodiversity loss and alien introduction) change host-pathogen ecology, evolution and genetics at human-livestock-wildlife interface?
- How do change in host behaviour and social connections alter host-pathogen interactions?
- Evolutionary history and population genetics of wildlife hosts and their pathogens
- Public health policy on emerging infectious diseases

Publications

Published, Accepted and Under review:

10. Vinning A, **Chakraborty D**, Young H and Nunn CL. Effects of Host Extinction and Vector Preferences on Vector-Borne Disease Risk in Phylogenetically Structured Host-Vector Communities. **Under review**
9. **Chakraborty D**, Reddy DM, Tiwari S and Umapathy G. 2019. Land Use Change Increases Wildlife Parasite Diversity in Anamalai Hills, Western Ghats, India. **Scientific Reports**, 9, 11975
8. Herrera JP, **Chakraborty D**, Rushmore J, Altizer S & Nunn CL. 2018. How Does Captivity Influence Parasitism? A Comparative Study of Wild and Captive Primates. **American Journal of Primatology**, 165, 118-119
7. **Chakraborty D**, Tiwari S, Reddy DM and Umapathy G. 2016. Prevalence of Gastrointestinal Parasites in Civets of Fragmented Rainforest Patches in Anamalai Hills, Western Ghats, India. **Journal of Parasitology**, 102, 463-467. doi: 10.1645/15-834
6. **Chakraborty D**, Hussain S, Reddy M, Raut S, Tiwari S, Kumar V and Umapathy G. 2015. Mammalian gastrointestinal parasites in the rainforest remnants of Anamalai Hills, Western Ghats, India. **Journal of Biosciences**, 40, 399 -406. doi: 10.1007/s12038-015-9517-5
5. **Chakraborty D**, Sinha A and Ramakrishnan U. 2015. Quaternary climate change and socio-behaviour together shaped the population structure of an edge primate species from Tibetan plateau. **American Journal of Primatology**, 77, 271-284. doi:10.1002/ajp.22343

4. **Chakraborty D**, Ramakrishnan U and Sinha A. 2014. Mixed fortunes: old expansion and recent decline in population size of a subtropical montane primate, the Arunachal macaque. ***PLoS ONE***, 9, e97061.
3. Malhi R S, Trask J S, Shattuck M, Johnson J, **Chakraborty D**, Kanthaswamy S, Ramakrishnan U, Smith D G. 2011. Genotyping single nucleotide polymorphisms (SNPs) across species in Old World Monkeys. ***American Journal of Primatology***, 73, 1031-1040.
2. Chakraborty S, **Chakraborty D**, Mukherjee O, Jain S, Ramakrishnan U and Sinha A. 2010. Genetic Polymorphism in the Serotonin Transporter Promoter Region and Ecological Success in Macaques. ***Behaviour Genetics***, 40, 672-679.
1. **Chakraborty D**, Ramakrishnan U, Panor J, Mishra C and Sinha A. 2007. Phylogenetic relationships and morphometric affinities of the Arunachal macaque *Macaca munzala*, a newly described primate from Arunachal Pradesh, northeastern India. ***Molecular Phylogenetics and Evolution***, 44, 838-849.

Manuscripts in preparation:

Chakraborty D, Tiwari S, Reddy DM and Umapathy G. Urbanisation Alters Wildlife Parasite Seasonality in Anamalai Hills, India. Intended for *Journal of Animal Ecology*.

Chakraborty D, Sinha A and Ramakrishnan U. Molecular Evidence Reveals Effect of Pleistocene Glaciation on the Demographic History in a Human Commensal Primate in Southern India. Intended for *Scientific Reports*.

Chakraborty D, Sinha A and Ramakrishnan U. Effect of Human Migration in South Asia and Climate Change on Bonnet macaque (*Macaca radiata*) Evolutionary History. Intended for *American Journal of Primatology*.

Invited Book Chapters:

Chakraborty D. Urbanization and Infectious Disease Burden: Challenges for India. Chapter for ***Indian Urbanisation and its Consequences***, to be published from Azim Premji University, Bangalore. **Accepted**

Sinha A, **Chakraborty D**, Datta A, Gama N, Kumar, R S, Madhusudan M D, Mendiratta U, Ramakrishnan U and Mishra C. 2013. Arunachal macaque *Macaca munzala*. In: **Mammals of South Asia: Ecology volume 1** (eds A J T Johnsingh and N Manjrekar), Universities Press, Hyderabad, India.

Chakraborty D and Smith D G. Anthropogenic Influences on Macaque Populations and Their Genetic Consequences. 2013. In: **The Macaque Connection: Cooperation and Conflict between Humans and Macaques** (eds S. Radhakrisna and A. Sinha), Springer(India), New Delhi.

Online article:

Chakraborty D. 2018. Is Global Warming Making Us Sicker?
<https://thewire.in/environment/is-global-warming-making-us-sicker>

Research experience

Centre for Infection, Immunity and Evolution, University of Edinburgh, UK
Visitor (Oct, 2018 – Apr, 2019)

Project: Development of collaboration and project proposal

- Influence of resource provisioning on host-parasite interaction in a wild rodent model

EcoHealth Alliance, NYC, New York

Senior Research Scientist (Oct, 2016 – Sep, 2018)

Project: PREDICT 2: Emerging Pandemic Threats (EPT) program in India (funded by US Agency for International Development; USAID)

- Detection of novel zoonotic viruses
- Identification of spillover pathways
- Capacity building and public outreach in high-disease risk regions

Dept of Evolutionary Anthropology, Duke University, Durham, NC

Fulbright Postdoctoral fellow (Oct, 2014 – Sept, 2016)

Project 1: Environmental Change and Vector-borne Disease (VBD) Transmission

- Modelled vector-borne disease spread in bipartite host-vector networks
- Public health implication in estimating VBD spillover risk in human-modified landscape

Project 2: Host Migration and Parasite Community

- Change in disease ecology when hosts travel between environments
- Implication in migration and disease research

LaConES, CSIR-CCMB, Hyderabad, India

Post-doctoral Research associate (Oct, 2013 – Sept, 2014)

Project: Parasite Ecology at Human-Wildlife Interface

- Zoonotic disease risk in human-modified landscape
- Potential implication in identifying wildlife reservoirs of human parasites including many Neglected Tropical Diseases (NTDs) such as Ascariasis and Strongyloidiasis

Research and management skills

Field biology:

- Ecological data collection
- Non-invasive and invasive wildlife and human sampling
- Tick collection and mosquito trapping
- Mist-netting, trapping of rodents, bats and nonhuman primates

Parasitology:

- floatation and sedimentation methods
- Mosquito and tick identification
- Compound microscopy

Animal and human behaviour:

- *Ad libitum* and qualitative sampling
- Focal-animal sampling
- Instantaneous and scan sampling
- Interviews and town-hall meetings

Molecular biology:

- PCR, RT-PCR and Gel electrophoresis
- Sanger sequencing
- Microsatellites and Single Nucleotide Polymorphism (SNP) markers
- Molecular cloning
- Pyrosequencing

Data science:

- R, SQL and GIT
- Data analysis—multivariate analysis, GLM and mixed models
- Community ecology methods (diversity analysis, clustering, ordination)
- Functional programming (simulation models)
- Infectious disease dynamics models
- Network analysis (Bipartite and social)
- Phylogenetic and Comparative phylogenetic methods
- Population genetic methods
- ArcGIS and Niche modelling

Project management:

- Adept at working in multidisciplinary and multicultural teams

- Strategic planning and leadership in resource-poor environment
- Multilingual (English, Bengali and Hindi) with strong communication skills, verbal and written
- Skilled in government outreach in developing countries and diplomatic negotiator
- Self-organized and risk manager

Teaching and advising

2015: Thesis committee member of Sania Rahim (Undergrad), Duke University, NC for project in Sciurid disease ecology

2011: Taught primate genetics as part of Primatology course at National Institute of Advanced Studies, IISc Campus, Bangalore 560012, INDIA

2010: Population genetics tools in conservation Biology: PhD course, Nature Conservation Foundation, Mysore, INDIA

2008: Mentored Girish Bidesshee (Undergrad intern), Bangalore University, Bangalore, India in molecular phylogenetics

2007: Conducted molecular phylogenetics module as part of Conservation genetics workshop, National Centre for Biological Sciences (TIFR), GKVK Campus, Bellary Road, Bangalore 560 065, INDIA

Fellowships and grants

2015: Fellowship to attend **EcoHealthNet workshop** at Tufts University, MA; EcoHealth Alliance, NY. **\$500**

2015: **One Health Training Course**. Duke Global health Institute, Durham, NC (**Tuition fee waived**)

2015: **Post-doctoral Research Fund**. Duke Global health Institute, Durham, NC **\$2,000**

2014: **Fulbright-Nehru postdoctoral grant** to Duke University, NC **\$80,000**

2011: Research grant to support **outstanding student for primate-oriented research projects with a strong theoretical component**. International Primatological Society (IPS) **\$1,500**

2010: **Asia – Hope Fellowship**. Japan Society for the Promotion of Science (JSPS) **\$2,500**

2010: **Student Conference on Conservation Science (SCCS)**

Scholarship. SCCS, Bangalore (**Registration fee waived in favour of Oral presentation**)

2009: Scholarship and travel award to attend **Next Generation Genome Analysis in Non-Model Organisms** at Storrs, University of Connecticut, USA. American Genetic Association (AGA) **\$2,000**

2008: Scholarship to attend **Summer Institute in Statistical Genetics 2008** at Seattle, University of Washington, USA (Declined). University of Washington, USA

2007: Fellowship to attend **Workshop in Molecular Evolution** at Rio de Janeiro, Brazil (Declined). European Molecular Biology Organisation (EMBO), German

1998: National Scholarship, Government of West Bengal, India

Invited speaker

April, 2019. **Wildlife and their Parasites in a Changing World.** Indian Institute of Science Education and Research, Mohali, India

March, 2019. **Emerging Infectious Diseases: Wildlife Parasites in a Changing World.** India Bioscience-Young Investigator Meeting, 2019, Guwahati, India

January, 2019. **Urbanization and Infectious Disease Risk, with an Emphasis on India.** School of Development, Azim Premji University, Bangalore, India

November, 2018. **How does Resource Supplementation Change Parasite Dynamics across Biological Scales?** School of Biological Sciences, University of Edinburgh, UK

September, 2018. **Seminar: Wildlife Parasites and Emerging Disease Risk.** Department of Biology, Indian Institute of Science Education and Research, Berhampur

August, 2018. **Seminar: Infectious Disease Risk in a Changing World.** Division of Biological and Life Sciences, Ahmedabad University, Ahmedabad, India

July, 2018. **One Health and Outbreak Surveillance Symposium, 2018.** Centre for Infectious Diseases Epidemiology and Research (CIDER), National University of Singapore, Singapore

April, 2018. **From ecology to global health: Defining One Health concept.** Dept. of Biology, Integral University, Lucknow, India

Nov., 2014. **Disease Ecology of Dilution Effect.** Dept. of Evolutionary Anthropology, Duke University, Durham, NC

July, 2012: **Molecular Ecology and Population Genetics of Indian Macaques.** The 3rd International Symposium on Southeast Asian Primate Research, Bangkok, Thailand.

March, 2012. **Philopatry and Dispersal of Females in a Social Primate, Bonnet Macaque *Macaca radiata*.** Maulana Azad College, Kolkata, India

December, 2010. **Tools in conservation genetics,** Nature Conservation Foundation, Mysore, India

June, 2010. **Macaque Population Genetics.** National Centre for Biological Sciences, Bangalore, India

June, 2009. **Of Monkeys and of Men: ecology from individuals to the species.** Maulana Azad College, Kolkata, India

Jan. 2007. **A molecular phylogenetic insight into macaque evolution.** Phylo-retreat, Bangalore, India

Academic services

Reviewer

PLOS ONE
EcoHealth
Current Science
Tropical Ecology
Health and Security
BMC Evolutionary Biology
American Journal of Primatology
Conservation Genetics resources

Academic memberships

International Society for Evolution, Medicine, and Public Health (ISEMPH)

Other services

Reviewer: EcoHealthNet
(<https://www.ecohealthalliance.org/program/ecohealthnet>)