

## Asani Bhaduri

Assistant Professor

Cluster Innovation Centre, University of Delhi

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### Professional Experience

Working as Assistant Professor, Molecular and Computational Biology in **Cluster Innovation Centre, University of Delhi** for the past ten years. Received **Excellence Award for Teachers in Service** from **University of Delhi** on 22nd March 2023.

### Administrative Assignments (At University of Delhi and CIC, DU)

- Member, **Unnat Bharat Abhiyan Committee**, University of Delhi, (2023-)
- **Member Secretary, NEP Interdisciplinary Courses Committee** (2020-2022)
- **Member Secretary, NEP Implementation Committee**, University of Delhi, (2020-21)
- Editorial Board member, **Annual Report Committee**, University of Delhi, 2020, 2019, 2018.
- **Member Secretary, OneDU Flagship Committee**, University of Delhi (2020 -22)
- **Deputy Dean Research**, Research Council, University of Delhi (2019-21)
- Editorial Board member, **University of Delhi Brochure: Highlights**, 2019, 2018.
- **Convenor, Purchase Committee** CIC (2022-)
- **Convenor, IQAC Committee** CIC (2019 -2021)
- Convenor, Annual Report and Newsletter Committee CIC (2017-19)
- Convenor, Cultural and Extracurricular Committee CIC (2016-17).
- Member, Student Advisory Committee, Academic Sub-Committee, Maintenance Committee, Newsletter Committee (2015-16).
- Successful inception, coordination and completion of the first “Summer-Internship” of Cluster Innovation Centre held in June-July 2016.

### Educational Qualification

- **Ph.D. in Microbiology** from **Institute of Genomics and Integrative Biology (CSIR-IGIB)** and **Department of Microbiology, University of Delhi**, 2014. (PhD Thesis: Molecular and Biochemical Studies on Secretory Proteins of Mycobacteria)
- **M.Sc. in Botany** from Department of Botany, **University of Delhi**, 2003-05.
- **B.Sc. in Botany (Honours)** from **Presidency College**, University of Calcutta, 2000-03.
- **P.G. Diploma** in Intellectual Property Rights Law from **Indian Law Institute** 2008-09.

### Awards and Honours

- Received “**Excellence Award for Teachers in Service**”, University of Delhi, 22nd March 2023.
- Received **U21 Global Leadership Badge** (Universitas 21 and Common Purpose) December 2020.
- **First prize in Simulation Exercise Group Presentation** of Faculty Development Program on Climate Smart Governance at **Indian Institute of Public Administration**, June 25- July 6, 2018.
- “**Global Health Travel Award**” funded by the Bill & Melinda Gates Foundation to attend conference on “Tuberculosis Co-Morbidities and Immunopathogenesis”, Keystone Symposia, February 2016.
- “**EMBO Travel Grant**” to attend EMBO Practical Course on “Non-coding RNA in Infection” at Würzburg, Germany, September 18 – 24, 2016.
- “**Certificate of Appreciation, Selected Innovation Projects**”, University of Delhi 2016.
- “**Teaching Excellence Award for Innovation**” by University of Delhi, Foundation day, 2015.
- **Senior Research Fellowship** by CSIR 2008, 2010(extended), **JRF & Eligibility for Lectureship**, 2006.
- **National Scholarship** in Master’s Degree (Ranked 3<sup>rd</sup> in the University of Calcutta and 1<sup>st</sup> in the merit list of Entrance test of Delhi University).

### Consultation (Expert/Advisor/Resource Person)

- Expert Resource Person for **Public Health in Delhi Knowledge Cluster** under PSA, Govt. of India (2021).
- Technical advisor (pro bono) for IoT Healthcare Foundation (IHF) (2021-22)
- Consultancy (*pro bono publico*) on Urban Ecology and Urban Ecotourism to Delhi Greens (2019-20).

### Association With Professional Bodies

- Member (STAM), **India International Centre**
- Life member, **The Association of Microbiologists of India**.
- Member, **Bombay Natural History Society (BNHS)**.
- Associated with ‘**Translating India/ Understanding Diversity**’ and “**Humanities Matter**” Initiatives.

## Research Articles

- Dubey N et al. (2021) Mycobacterium tuberculosis PPIA interacts with host integrin receptor to exacerbate disease progression, **Journal of Infectious Diseases**; 224 (8): 1383–1393 (<https://doi.org/10.1093/infdis/jiab081>). **Impact Factor: 7.75**
- Singh A et al. (2021) Comparative genomic analysis of *Mycobacteriaceae* reveals horizontal gene transfer mediated evolution of CRISPR-Cas system in the *Mycobacterium tuberculosis* complex, **mSystems** (<https://doi.org/10.1128/mSystems.00934-20>). **Impact Factor: 7.34**
- Pathak N et al. (2020) Phytochemical analysis and Antifungal activity of weed extracts against *Rhizoctonia* root rot in buckwheat (*Fagopyrum sp.*) **Biopesticide International** 16(2):125-131.
- Ahmad M, Singh S, **Bhaduri A\*** (2020) A Case Study of a Weekly Women's Market in an Urban Space: Mahila Bazaar, **Urban India** 40(II): 171-177.
- Sharma A, .... Parmar A, Pathak N, **Bhaduri A\*** (2020) Mapping Weekly Markets of Delhi: An Explorative Study of Hafta Bazaars, **Urbanisation** Vol. I-8, 2020.
- Misra R et al. (2019) Tuning the *Mycobacterium tuberculosis* alternative sigma factor SigF through the multidomain regulator Rv1364c and osmosensory kinase, protein kinase D, **Journal of Bacteriology** Mar 2019, 201 (7) e00725-18. Impact Factor: **3.49**
- Dhangar T K, Pathak A K, **Bhaduri A\*** (2018) Identification of Essential Genes for Metabolic Reactions in Mycobacterium tuberculosis through Flux Balance Analysis, **DU Journal of Undergraduate Research and Innovation** 4(1): 125-129.
- Ray A, **Bhaduri A**, Srivastava N, Mazumder S (2017) Identification of novel signature genes attesting arsenic-induced immune alterations in adult zebrafish (*Danio rerio*), **Journal of Hazardous Materials**. 321, 121-131. **Impact Factor: 14.224**
- Bhetariya P et al. (2016) Structural analysis of keto synthase domain in *Aspergilli* and its utility for detection, **Evolutionary Bioinformatics**. 12: 109–119. I.F: **2.03**
- **Bhaduri A**, Misra R, Dhamija N (2015) To eat or not to eat: understanding the tussle between mycobacteria and host autophagy, **Indian Journal of Microbiology** 55(4):456–459. doi: 10.1007/s12088-015-0541-9. I.F: **2.22**
- Maji A et al. (2015) Expression profiling of lymph nodes in tuberculosis patients reveal inflammatory milieu at site of infection, **Scientific Reports** 5, 15214. doi: 10.1038/srep15214. **Impact Factor: 4.99**
- Pathak N, **Bhaduri A**, Bhat KV, Rai A (2015) Tracking sesamin synthase gene expression through seed maturity in wild and cultivated sesame species - a domestication footprint, **Plant Biology** 17(5):1039-46. doi: 10.1111/plb.12327. **Impact Factor: 3.87**
- Singh LK et al., (2014) ClpC operon regulates cell architecture and sporulation in *Bacillus anthracis*, **Environmental Microbiology** 17: 855–865. **Impact Factor: 5.49**
- Dhasmana N, Singh LK, **Bhaduri A**, Misra R, Singh Y (2014) Recent Developments in Anti-dotes Against Anthrax, **Recent Patents on Anti-Infective Drug Discovery** 9(2): 83-96 (PMID: 25174439).
- **Bhaduri A** et al. (2014) *Mycobacterium tuberculosis* cyclophilin A uses novel signal sequence for secretion and mimics eukaryotic cyclophilins for interaction with host repertoire, **PLoS ONE** 9(2): e88090. **Impact Factor: 3.75**
- Devi K et al. (2013) Polymorphism in the partial hcnAB gene in hydrogen cyanide producing *Pseudomonas* species, **Geomicrobiology Journal**, 30: 2. 131-139. I.F: **2.30**
- Arora G et al. (2010) Understanding the Role of PknJ in *Mycobacterium tuberculosis*: Biochemical Characterization and Identification of Novel Substrate Pyruvate Kinase A, **PLoS ONE** 5(5): e10772. **Impact Factor: 3.75**

## Book Chapter and Proceedings

- Tiwary N K, Singh G, **Bhaduri A\*** (2021) Exploring The Relationship Between Emergence of Zoonotic Diseases and The Inhuman Touch of Habitat Loss and Wildlife Trade. In: Dutta J, Goswami S, Mitra A (eds) Multidimensional Approaches to Impacts of Changing Environment on Human Health, CRC Press, Taylor and Francis (Chapter 18). ISBN 9780367558499
- **Bhaduri A**, Shukla A (2019) Citizen Science as the New Face of Science Communication and Interdisciplinary Milieu. In: STEC 2019 proceedings, Teaching Learning Cell (TLC) of IIT BHU. [https://iitbhu.ac.in/contents/institute/central\\_facilities/tlc/doc/tlc\\_achivements\\_stec2019\\_proceedings.pdf](https://iitbhu.ac.in/contents/institute/central_facilities/tlc/doc/tlc_achivements_stec2019_proceedings.pdf)
- Pathak N, **Bhaduri A**, Rai A K (2017) Sesame: Bioactive compounds and health benefits. In: Mérillon J M, Ramawat K (eds) Reference series in Phytochemistry: Bioactive molecules in food Springer Publications. [https://doi.org/10.1007/978-3-319-54528-8\\_59-1](https://doi.org/10.1007/978-3-319-54528-8_59-1) ISBN 978-3-319-54528-8

## Books (Poetry)

- **Obosader Nirabhoron Kothaguli** (The inarticulate lines of melancholy) 2022, ISBN: 978-81-951621-3-0. Published by Kubopakhi Prokashan
- **Crazy Country** (A collection of limericks) 2021, ISBN: 978-81-943731-0-0, Published by Unific Publishing House, An Imprint of Delhi Greens

## Research Projects (Grants)

- **Institute of Eminence (IOE) Faculty Research Proposal (FRP) Scheme, University of Delhi** Identification and Characterization of Extremophiles from Jakrem Hot Spring, Meghalaya (2021-22).
- **IOE FRP scheme, University of Delhi** 'Analysis of NDL1 and its Interactome with Reference to Abiotic Stress Related Functions' (2020-21).
- **Start-Up Research Grant (Young Scientists)** by SERB, DST in 'Identification of virulence factors involved in the infection process of emerging and neglected food-borne pathogen *Campylobacter jejuni*' (2016-19).
- **University of Delhi Research and Development Grant** 'Tracking expression patterns of mycobacterial secreted virulence factors' (2015-16).
- **Innovation Project CIC-307** 'Developing an affordable three-dimensional Bioprinter facility' (2015-16).
- **Innovation Project CIC-206** 'Improving the current system of Junk management and recycling' (2013-15).

## Thesis Supervision

- 1 PhD (Anoop Singh, Co-supervised in Dept. of Zoology, Completed), 1 Masters and several B.Tech. thesis.

## Subjects Taught

- Understanding new biology, Methods for studying biological informational molecules, Integrative biology, Exploring biology - systems approach, Genes to genomes, Flow of information in living systems, Biological networks: from micro to macro niche, *in silico* biology, Systems Biology, Computational Neuroscience, Theory in practice: the art of project management, Environment science & ecosystem management, Business, Entrepreneurship and Innovation Management

## Webinars given

- Webinar on "Endemic to Pandemic: Historicity and Future Threats" in DEEP-C workshop on "Understanding Public Health from an Interdisciplinary Perspective" on 8th October 2021.
- Webinar on "Birds of India: Spotting, Identification and Habitat Distribution" in Symposium on Wildlife Conservation: Challenges, Efforts and Scope at Sri Venkateswara College, 20th March 2021.
- Webinar on "Birdwatching in India for Beginners" inaugural talk on the series Natural History of India organised by National Zoological Park, Delhi on 12th March 2021.
- Webinar presentation on "BLAST - Application in Covid-19 Studies" for "Bioinformatics: An Introduction for Beginners" organized by Miranda House, University of Delhi on 3rd July 2020.
- Webinar presentation on "Bharat ke Pakshi" organized by ITLS Academy Lucknow, 18th May 2020.
- Webinar presentation on "Birdwatching in India: Balcony to Bush" organized by Vivekananda College, University of Delhi on 17th May 2020.

## Invited Lectures/Dialogues

- Delivered a Talk on 'Research and Teaching in the Digital Age - Methods and Metrics' organised by Research and Development Cell, Gargi College, 12th October 2022.
- Delivered a talk on "Biodiversity of India: Spotting, Photo-documentation and Citizen Science" organised by Delhi University Botanical Society, Department of Botany, 6th June 2022
- Oral Presentation on "Analysing Ethical and Socio-Technological Aspects of Drone Rules, 2021 with Implications in Digital Mapping and Wildlife Conservation" at online International Conference "Geography and the Digital: Intersections and Conflations", 23-25 May 2022.
- Delivered a talk on "Birding in India: Roaming, Rewilding and Researching" at Centre for Wildlife Studies, KVASU, Pookode on 22nd November 2021.
- Conducted workshop on Journalism and wildlife at Delhi School of Journalism, January 13, 2020.
- Invited for Inaugural lecture "The Wild India: Camouflage, Photography, Documentation" for Synapse – The Zoological Society, Miranda House, University of Delhi, August 2019.
- Invited for a guest lecture "Life around us, Technology around the world" at Biotechnology Department, Gandhi Faiz-E-Aam College, Shahjahanpur, November 26, 2018.
- Invited for a talk in St. Stephen's College on "Birdwatching in India", October 9, 2018.
- Invited for a talk on "Citizen Science" in the valedictory session of Bloom-The Botany Society of Ramjas College, March 28<sup>th</sup>, 2018.
- Invited as resource person and delivered a talk on "Birds of India" in the Workshop "Birds: Watching and Beyond" at Centre for Earth Studies, Indraprastha College for Women, March 27, 2018.
- Delivered a talk on "Citizen Science: Stopgap Research or Way Forward" at Centre for Studies in Science Policy, JNU, February 7, 2018.
- Invited to Consultative Roundtable Dialogue "Humanities matter" at IIC, July 19, 2017.
- Special Invitee in "Vidyarthi Vigyan Manthan" 2016-17, National Camp conducted at IIT Delhi, May 27-28, 2017.
- Invited for lectures and practical demonstrations in add-on course on "Bioinformatics and *in silico* medicine" conducted by Miranda House, University of Delhi, Jan-March 2016.
- Invited to Katha/IGNOU consultative meeting and consequent discussions on 'Translating India/ Understanding Diversity' August 20, 2015.

## Workshops, Courses and Leadership Camps attended

- Participated in Workshop on "Science & Society" organized by VAC Committee (University of Delhi) in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College on October 20<sup>th</sup>, 2022.
- Completed DST-STUTI Training program "Application of Sophisticated Instruments in Chemistry, Biology and Material Sciences", at NEHU, Shillong, June 28-July 4<sup>th</sup>, 2022.
- Completed online certificate Course on 'Climate, Community and Conservation' organised by I.P. College during 21 August - 17 September 2021.
- Completed Universitas 21 Global Leadership Programme (November 05-18<sup>th</sup>, 2020) conducted by Universitas21 and Common Purpose.
- Participated in Entrepreneurship Development Program under Institution's Innovation Council (IIC MHRD) Innovation Ambassador Training Series at AICTE Headquarters, New Delhi on November 2<sup>nd</sup>-3<sup>rd</sup>, 2019.
- Successfully completed UGC-sponsored Refresher Course in Life Sciences with 'A' grade at CPDHE, University of Delhi, June 28- July 11, 2019.
- Attended Symposium on Self Organization in Biology, Department of Biophysics, March 16, 2019.
- Attended Institutional Ethics Review Board (IERB) Workshop on "Ethics in Research", Jawaharlal Nehru University, December 20<sup>th</sup>, 2018.
- Successfully completed Faculty Development Program on Climate Smart Governance at Indian Institute of Public Administration (IIPA) June 25 - July 6, 2018.
- Successfully completed UGC-sponsored Orientation Course with 'A' grade at CPDHE, University of Delhi, November 21- December 19, 2017.
- Bio-entrepreneurship and Bio-enterprise creation workshop at IISER, Mohali, September 2-3, 2016.
- Workshop at YETI (Young Ecologists Talk and Interact) January 17, 2016.
- Technology Enriched Instruction Workshop "Faculty Development for the 21st Century" organised by PHD Chamber of Commerce and Industry and Microsoft September 30, 2015. Awarded 'Microsoft Faculty Fellow' certificate.
- Workshop on 'Renovating bacterial taxonomy with Bioinformatics' by National Bureau of Agriculturally Important Microorganisms (NBAIM) & Department of Zoology, University of Delhi, May 14-15, 2015.
- Third Novartis BioCamp – a biotechnology leadership camp in India, August 1-3, 2011.
- Attended training course in IPR from National Institute for Intellectual Property Management, Nagpur, India, 2009-10.
- First CSIR workshop on Biosafety and Biosecurity organized at Indian Institute of Integrative Medicine, Jammu, January 29 – 31, 2007.

## Conference/Workshop Organised

- Organising Committee Member on National Seminar on Innovation in Education through Public-Private-Partnership Model in Higher Education, 13-15 March, 2023.
- Part of organising Team in National seminar on Innovation and Opportunities in Marine Bioresources & Biotechnology, 21st August 2021.
- Advisory Member and Part of Organising Team in DEEP-C workshop on 'Public Health in Urban Settings' 2021.

## Co-scholastic Interests (Arts and Aesthetics, Environment and Wildlife, Music, Photography)

### Popular Articles

- Parliament of Owls: Hoots from India, Indian Literature: 334, Sahitya Academy, March-April 2023
- Photo Essay on The Other Types of Sparrows around us, DelhiGreens 2022  
<https://delhigreens.com/2022/03/20/photo-essay-on-the-other-types-of-sparrows-around-us/>
- Junglimerick Special Bird Edition, Saevus 2021, <https://www.saevus.in/junglimerick-special-bird-edition/>
- Ehretia Tree and the Birds of Delhi, DelhiGreens 2020  
<http://delhigreens.com/2020/04/23/ehretia-tree-and-the-birds-of-delhi/>
- Junglimericks in Lockdown, Saevus 2020, <https://www.saevus.in/junglimericks-in-lockdown/>
- Junglimericks Again, Saevus 2019 <https://www.saevus.in/junglimericks-again/>
- Delhi's Hafta Bazaars: Markets That Survived the Rise and Fall of Empires, Sahapedia, 2019  
<https://www.sahapedia.org/delhis-hafta-bazaars-markets-survived-rise-and-fall-empires>
- What's in a Sentence?, Hare School Nostalgia, 2019.
- On World Water Day, Reflecting on the Lost Tihar Jheel, DelhiGreens 2019  
<http://delhigreens.com/2019/03/22/on-world-water-day-reflecting-on-the-lost-tihar-jheel/>
- Junglimericks Revisited, Saevus 2018 <http://www.saevus.in/junglimericks-revisited/#>
- The Less-sought Long-tails, Saevus, 2018 <http://www.saevus.in/the-less-sought-long-tails/>
- Junglimericks: In the Crazy Wilds of India, Saevus, 2018  
<http://www.saevus.in/junglimericks-crazy-wilds-india/>.
- Let them Spread their Wings, The Hindu, 2017.  
<http://www.thehindu.com/society/let-them-spread-their-wings/article18523246.ece>.
- The Cherished Uncommon Man, The Hindu, 2017.  
<http://www.thehindu.com/society/The-cherished-uncommon-man/article17075311.ece>.
- Out of Play, The Hindu, 2016.  
<http://www.thehindu.com/todays-paper/tp-features/tp-metroplus/Out-of-play/article16160512.ece>
- On a High with Art, The Hindu, 2015.  
<http://www.thehindu.com/todays-paper/tp-features/tp-metroplus/on-a-high-with-art/article7339911.ece>.

### Birding and Bird Festivals

A passionate wildlife enthusiast, covered birding and wildlife in over 20 States and 4 UTs of India in past 10 years. Loves to popularize Environment and wildlife through writing and talk.

- Participated in 1st Tansa Bird Survey February, 2023.
- Participated in BNHS Bird Survey at NSG compound Manesar, December 2022.
- Participated in 1st Mahananda Bird Festival 2021.
- Invited to Dudhwa National Park Bird Count January, June 2019.
- Participated in Uttarakhand Spring Bird Festival 2017, 2018.
- Participated Uttar Pradesh International Bird Festival, 2017, 2018.

### Media Coverage for Birds, Talks, Committees

- <https://www.hindustantimes.com/education/news/du-forms-panel-for-framing-syllabi-of-6-courses-to-be-introduced-under-nep-101632285928601.html>
- <https://timesofindia.indiatimes.com/city/bareilly/rare-red-headed-vulture-spotted-in-dudhwa/articleshow/69848359.cms>
- <https://www.dailypioneer.com/2019/india/4-new-avian-species-spotted-in-dudhwa-forest--official.html>
- <https://timesofindia.indiatimes.com/city/bareilly/three-new-types-of-birds-spotted-in-dudhwa-forfirsttime/articleshow/67615916.cms>

### Music

- Learned violin under the guidance of Late Prof. Sisirkana Chowdhury, Previously Head, Bowing Department, Ustad Ali Akbar Khan College of Music, California, U.S.A. (1990-2005).
- Attended workshops by Late Ustad Ali Akbar Khan and Pt. Buddhadeb Dasgupta at Rajya Sangeet Academy Kolkata (1999-2002).

### Fine Arts

Presently engaged in abstract, wildlife and handicraft photography.

- Photographs for the book "Putuler Shatshotero – Essays on Dolls & Toys of Bengal" by Agnibarna Bhaduri, 2018.
- Photograph featured in Saevus, Nicephoto 2012, The Hindu, Avesnest, Website of University of Delhi, University of Illinois, Calendar of Delhi School of Economics (2022, 2021)