

# Tamanash Bhattacharya, PhD

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Basic Sciences Division  
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## EDUCATION

Doctor of Philosophy in Microbiology, Indiana University Bloomington December 2020

Bachelor of Technology (Major: Biotechnology), West Bengal University of Technology June 2008 - May 2012

## RESEARCH EXPERIENCE

1. Fred Hutchinson Cancer Research Center, Seattle, Washington, USA January 2021 – Present  
Basic Sciences Division  
Advisor: Harmit S. Malik, Ph.D.
2. Indiana University Bloomington, Indiana, USA December 2014 – December 2020  
Department of Biology  
Advisor: Richard W. Hardy, Ph.D. and Irene L.G. Newton, PhD.  
Thesis Title: Identifying the pathogen blocking mechanism of *Wolbachia pipientis*
3. School of Tropical Medicine, Calcutta, India April 2013 – April 2014  
Department of Biochemistry and Medical Biotechnology  
Position Held: Lab Assistant, Advisor: Anusri Tripathi, Ph.D.  
Project Title: Molecular Characterization of CHIKV infecting West Bengal Patient Population

## FELLOWSHIPS AND AWARDS

Indiana University Distinguished Dissertation Award	Spring 2021
Harold Weintraub Award (Nominated)	Spring 2021
Indiana University College of Arts and Sciences Dissertation Research Fellowship	Fall 2019
Midwest Virology Symposia Travel Award	Fall 2019
NIAID Travel Scholarship, Keystone Symposia	Summer 2019
10 <sup>th</sup> Wolbachia Conference Travel Award	Summer 2018
Best Oral Presentation 2 <sup>nd</sup> Place Award (10 <sup>th</sup> Wolbachia Conference)	Summer 2018
American Society for Virology Travel Awards	Summer 2016, 2018, 2020, 2021
Milton Taylor Fellowship	Spring 2018
Graduate Research Fellowship, Indiana University	Fall 2014

## PUBLICATIONS

1. **Bhattacharya T**, Yan L, Zaher H, Newton IL, Hardy RW. Differential viral RNA methylation contributes to pathogen blocking in *Wolbachia*-colonized arthropod. [bioRxiv. 2021 Jan 1. \(Under review\)](#)
2. Lindsey AR, **Bhattacharya T**, Hardy RW, Newton IL. *Wolbachia* and virus alter the host transcriptome at the interface of nucleotide metabolism pathways. [mBio. 2021 Feb 23;12\(1\).](#)
3. **Bhattacharya T**, Rice DW, Hardy RW, Newton I. 2020. Adaptive evolution in DNMT2 supports its role in the dipteran immune response. [bioRxiv:2020.2009.2015.297986. \(Under review\)](#)

4. **Bhattacharya T**, Newton ILG, Hardy RW (2020) Viral RNA is a target for Wolbachia- mediated pathogen blocking. [PLoS Pathogens 16\(6\): e1008513. https://doi.org/10.1371/journal.ppat.1008513](https://doi.org/10.1371/journal.ppat.1008513)
5. Lindsey AR\*, **Bhattacharya T\***, Newton IL, Hardy RW. Conflict in the Intracellular Lives of Endosymbionts and Viruses: A Mechanistic Look at Wolbachia-Mediated Pathogen-blocking. [Viruses. 2018 Mar 21;10\(4\):141.](https://doi.org/10.1186/s12975-018-0141-1) \*Denotes equal contributions.
6. **Bhattacharya T**, Newton IL. (2017) Mi Casa es Su Casa: How an Intracellular Symbiont Manipulates Host Biology. [Environmental microbiology. 2019 Sep;21\(9\):3188-96.](https://doi.org/10.1186/s12975-018-0141-1)
7. **Bhattacharya T**, Newton IL, Hardy RW. (2017) Wolbachia elevates host methyltransferase expression to block an RNA virus early during infection. [PLoS Pathogens. 2017 Jun 15;13\(6\): e1006427.](https://doi.org/10.1371/journal.ppat.1006427)
8. Dutta SK, **Bhattacharya T**, Tripathi A. Chikungunya virus: genomic microevolution in Eastern India and its in-silico epitope prediction. [3 Biotech. 2018 Jul 1;8\(7\):318](https://doi.org/10.1186/s12975-018-0141-1)

## ORAL PRESENTATIONS

1. **Bhattacharya T\***, Yan L, Zaher H, Newton ILG, Hardy RW. Microbiology and Immunology Postdoc Seminar Series, Department of Microbiology and Immunology, Dartmouth Geisel College of Medicine, May 13<sup>th</sup>, 2021. (*Invited talk*)
2. **Bhattacharya T\***, Yan L, Zaher H, Newton ILG, Hardy RW. 30<sup>th</sup> Annual Molecular Parasitology and Vector Biology Symposium. Center for Tropical and Emerging Global Diseases, University of Georgia. May 4<sup>th</sup>, 2021
3. **Bhattacharya T\***, Newton ILG, Hardy RW. Environmental Resilience Institute, Indiana University. October 10<sup>th</sup>, 2020.
4. **Bhattacharya T\***, Newton ILG, Hardy RW. American Society for Virology 39<sup>th</sup> Annual Meeting. Colorado State University in Fort Collins, CO. June 16-19, 2020 (Webinar presentation on 17<sup>th</sup> June 2020, In-person meeting canceled due to COVID-19 pandemic).
5. **Bhattacharya T\***, Newton ILG, Hardy RW. 1<sup>st</sup> Midwest Virology Symposium. The Ohio State University Infectious Diseases Institute. October 12<sup>th</sup>, 2019.
6. **Bhattacharya T\***, Lindsey ARI, Crawford JC, Newton ILG, Hardy RW. Microphiles Seminar Series, Indiana University. Bloomington, IN. April 15<sup>th</sup>, 2019.
7. **Bhattacharya T\***, Lindsey ARI, Crawford JC, Newton ILG, Hardy RW. 37<sup>th</sup> Annual Meeting of American Society for Virology. University of Maryland, College Park, Maryland. July 14-18, 2018.
8. **Bhattacharya T\***, Lindsey ARI, Crawford JC, Newton ILG, Hardy RW. 10<sup>th</sup> Wolbachia Conference 2018. Salem, MA. June 20<sup>th</sup> 2018. (2nd place award).
9. **Bhattacharya T\***, Newton ILG, Hardy RW. 36<sup>th</sup> Annual Meeting of American Society for Virology. Madison, WI. June 23-27, 2017.
10. **Bhattacharya T\***, Newton ILG, Hardy RW. 6<sup>th</sup> Annual Micro Retreat. Nashville, IN. October 21, 2017. (2nd place award).
11. **Bhattacharya T\***, Newton ILG, Hardy RW. Microphiles Seminar Series, Indiana University. Bloomington, IN. November 18, 2016.

## POSTER PRESENTATIONS

1. **Bhattacharya T\***, Kistler K, Malik HS. Society for Molecular Biology and Evolution Annual Meeting, July 4-8<sup>th</sup>, 2021.
2. **Bhattacharya T\***, Lindsey ARI, Newton ILG, Hardy RW. 8<sup>th</sup> Annual Micro Retreat. Nashville, IN. October 19<sup>th</sup>, 2019.
3. **Bhattacharya T\***, Lindsey ARI, Newton ILG, Hardy RW. 1<sup>st</sup> Midwest Virology Symposium. The Ohio State University Infectious Diseases Institute. October 12<sup>th</sup>, 2019.
4. **Bhattacharya T\***, Crawford JC, Lindsey ARI, Newton ILG, Hardy RW. Positive - Sense RNA Viruses, Keystone Symposia (E2). Killarney, Ireland. June 9-14, 2019.
5. **Bhattacharya T\***, Crawford JC, Lindsey ARI, Newton ILG, Hardy RW. Predicting and Controlling Microbiomes for Health, Industry, and the Environment Symposia. Purdue University, IN. May 13-14, 2019.
6. **Bhattacharya T\***, Newton ILG, Hardy RW. 1<sup>st</sup> Annual Biology of Intracellular Pathogens Retreat. Indianapolis, IN. June 22, 2017.

7. **Bhattacharya T\***, Newton ILG, Hardy RW. 5<sup>th</sup> Annual Micro Retreat. Nashville, IN. August 27, 2016.
8. **Bhattacharya T\***, Newton ILG, Hardy RW. 35<sup>th</sup> Annual Meeting of American Society for Virology. Blacksburg, VA. June 18-22, 2016.
9. **Bhattacharya T\***, Newton ILG, Hardy RW. 4<sup>th</sup> Annual Micro Retreat. Nashville, IN. September 12, 2015.
10. **Bhattacharya T\***, Newton ILG, Hardy RW. 22<sup>nd</sup> Midwest Microbial Pathogenesis Conference. Indianapolis, IN. August 28-30, 2015.

## TEACHING EXPERIENCE

M435 Virology Tissue Culture Lab (2019,2017)	Dr. Suchetana Mukhopadhyay
M315 Microbiology Lab (2018, 2017, 2015)	Dr. Carl Kulow
BIOL-L112 (2016)	Dr. Amy Berndsten
L113 Biology Lab (2015, 2020)	Dr. Jim Hengeveld, Dr. Karen Whitworth

## MENTORING

High-School Educator, Malik Lab Tim Renz (Foster High School, Tukwila, WA)	June 2021 – Present
Undergraduate Students, Hardy Lab Abigail Settle, BS student (Major: Biology) Megan Perkins, BS student (Major: Microbiology) Morgan Murphy, BS student (Major: Biology)	September 2016 – March 2020 September 2017 – December 2020 November 2019 – October 2020

## PROFESSIONAL MEMBERSHIPS

American Society for Virology	May 2015 – Present
Union of Concerned Scientists	May 2016 – Present
Society for Molecular Biology and Evolution	May 2021 – Present

## SCIENCE OUTREACH

Annual IU Science Fest	October 22 <sup>nd</sup> , 2016
Jim Holland Summer Program	June 28 <sup>th</sup> , 2016
Celebrate Science Indiana (CSI), Indianapolis, IN.	October 7 <sup>th</sup> , 2017
Jim Holland Summer Program	June 21 <sup>st</sup> , 2017
Jim Holland Summer Program	June 25-27 <sup>th</sup> , 2018
Celebrate Science Indiana (CSI), Indianapolis, IN	October 6 <sup>th</sup> , 2018
Annual IU Science Fest	October 27 <sup>th</sup> , 2018
Celebrate Science Indiana (CSI), Indianapolis, IN	October 5 <sup>th</sup> , 2019

## STUDENT ORGANIZATIONS

Biology International Club	August 2019 – December 2020
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## REFERENCES

Dr. Harmit S. Malik  
 Email: [hsmalik@fredhutch.org](mailto:hsmalik@fredhutch.org)  
 Phone: 206-667-5204

Dr. Richard W. Hardy  
 Email: [rwhardy@indiana.edu](mailto:rwhardy@indiana.edu)  
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Dr. Irene L.G. Newton  
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