

## BUDHADITYA MUKHERJEE

**D.O.B:** 26<sup>th</sup> August, 1984,

**Nationality:** Indian

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**Languages:** English, Hindi, Bengali



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### PAST AND CURRENT POSITIONS:

2019- present: Assistant Professor, School of Medical Science and Technology, IIT-Kharagpur.

**Research interest:** Host-parasite interaction related to disease transmission of intracellular protozoan pathogens, primarily: *Leishmania*, *Toxoplasma* and *Plasmodium*.

2017-2019: **Post-Doctoral Fellow**, in Professor Dominique SOLDATI-FAVRE lab, Department Microbiology and Molecular Medicine, University of Geneva.

2015-2017: **EMBO Post-Doctoral Fellow**, in Professor Dominique SOLDATI-FAVRE lab, Department Microbiology and Molecular Medicine, University of Geneva.

**Research Interest:** Host parasite interaction in Apicomplexan parasites (*P. falciparum*, *T. gondii*) and role of Post-translational modifications in Apicomplexan infection

2014-2015: **Post-Doctoral Fellow**, in Professor Jay Bream lab Department of Molecular (4 months) Microbiology and Immunology, Johns Hopkins Bloomberg School of Public Health

**Research Interest:** Immunoregulatory role of Interleukin-10 in colitis model of infection.

2009-2014: **Ph.D.** Department of Infectious disease and Immunology, Indian Institute of Chemical Biology (IICB), India, under supervision of Dr. Syamal Roy.

Thesis entitled "Differential Modulation of host cells by antimony sensitive and antimony sensitive and antimony resistant clinical *Leishmania donovani* isolates."

**Research Interest:** Host parasite interaction and mechanism of drug action in context of antimony resistant *L. donovani* infection.

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### ACADEMIC BACKGROUND:

2006-2008 **Master in Genetics (1<sup>st</sup> Class)** – Ballygunge Science College, University of Calcutta, India.

2007, May-2007, July **Summer Intern** under supervision of Dr. Nitai P. Bhattacharyya, Crystallography & Molecular Biology Division, Saha Institute of Nuclear Physics, India.

**Research Interest:** Functional dissection of a differentially expressed microRNA, has-mir-130a in Cervical and Leukemic cell lines, and cloning of its precursor in Sense and anti-sense orientations.

2003-2006 **Bachelor in Zoology (1<sup>st</sup> Class)**, University of Calcutta, India.

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### AWARDS AND FELLOWSHIP:

2018 **Pfizer Research Award** in the area of infectious diseases, rheumatology and immunology.

2018 **INSA Medal for Young Scientist**

2015/2016 **Swiss Government Excellence Scholarship**

2014/2015 **EMBO long term European Fellowship**

2014 **ParaFrap International Fellowship**

2009-2014 **CSIR, India, National Eligibility Test (NET) PhD Fellowship**

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#### PERSONAL TRAINING:

- **Certified in Laboratory Animal Science** from 12<sup>th</sup> to 23<sup>rd</sup> March, 2018, from RESAL, Lausanne, accredited as FELASA Category B Course 038/12 by T&T FELASA board and recommended by the Swiss Federation of Cantonal Veterinary Surgeons (ASCV) for recognition by all authorities responsible for animal experimentation.
  - **EMBO Laboratory Management course** for Post Docs in Leimen, DE 14<sup>th</sup>-16<sup>th</sup> March, 2017.
  - Certification course in **Research Integrity Certification and Assessment Biomedical Sciences from EPIGEUM**, 13<sup>th</sup> January, 2016.
  - Attended “**Training Programme on Laboratory Safety: Radiation Safety, Chemical Safety & Bio-Safety**” organized by CSIR-Indian Institute of Chemical Biology, Kolkata on 7<sup>th</sup> September, 2009.
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#### SUPERVISION/MENTORING:

July 21<sup>st</sup>-July 28<sup>th</sup>, 2018 **Module Instructor** for **Middle Eastern Biology of Parasitism (MeBOP)**, University of Bern, Switzerland.

2017-2019 **Master student supervisor** responsible for supervising 2 months internship and 1-year Master’s project, University of Geneva, Switzerland.

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#### INDUSTRIAL COLLABORATION:

Working in collaboration with UCB Celltech (UK), a branch of UCB Pharma S.A. and Medicines for Malaria Venture (MMV) to develop and perform high throughput assay to screen inhibitors against late stage aspartic proteases of Plasmodium (PfPMIX and PfPMX) with an aim to generate a library for clinical trial. Tenure of collaboration: From March 2017-December, 2018. **Funding secured 40,000 USD**

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#### SCIENTIFIC PUBLICATIONS (SEE LIST):

2011-2018 **Total 9 publications, with 4 first author** in peer-reviewed journals including *EMBO J*, *PNAS* etc...

**Over 279 citations, h-index: 8**

**Google Scholar link:** [scholar.google.co.in/citations?user=8bV7mn8AAAAJ&hl=en](https://scholar.google.co.in/citations?user=8bV7mn8AAAAJ&hl=en)

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#### INVITED PRESENTATIONS AND POSTERS (SEE LIST):

2013-2017 Over 7 oral presentations and 2 poster presentations in National and International Congress and Institutional visits.

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#### LIST OF SCIENTIFIC PUBLICATIONS:

- **Budhaditya Mukherjee\***, Francesca Tessaro, Juha Vahokoski, Inari Kursula, Jean-Baptiste Marq, Leonardo Scapozza and Dominique Soldati-Favre. (2018). Modeling and resistant alleles explain the selectivity of antimalarial compound 49c towards apicomplexan aspartyl proteases. *EMBO J*, 37(7), e98047. (IF: 9.9)  
<http://emboj.embopress.org/content/37/7/e98047.long>
- Paco Pino, Reto Caldelari, **Budhaditya Mukherjee**, Juha Vahokoski, Natacha Klages, Bohumil Maco, Christine R. Collins, Michael J. Blackman, Inari Kursula, Volker Heussler, Mathieu Brochet and Dominique Soldati-Favre. (2017). A multi-stage antimalarial targets the plasmepsins IX and X essential for invasion and egress. *Science*, 358(6362), 522-528. (IF: 35.26) <http://science.sciencemag.org/content/358/6362/522.long>
- Dogga SK, **Mukherjee B**, Jacot D, Kockmann T, Molino L, Hammoudi PM, Hartkoorn RC, Hehl AB, Soldati-Favre D. (2017). A drugable secretory protein maturase of Toxoplasma essential for invasion and egress. *Elife*, 6. pii: e27480. (IF: 7.7) <https://elifesciences.org/articles/27480>
- **Mukherjee B\***, Paul J, Mukherjee S, Mukhopadhyay R, Das S, Naskar K, Dujardin JC, Saha B, Roy S. (2015). Antimony-Resistant Leishmania donovani Exploits miR-466i To Deactivate Host MyD88 for Regulating IL-10/IL-12 Levels during Early Hours of Infection. *J. Immunol*, 195(6):2731-42. (IF: 5.1)  
<http://www.jimmunol.org/content/195/6/2731.long>
- Mukherjee S, **Mukherjee B\***, Mukhopadhyay R, Naskar K, Sundar S, Jean C. Dujardin JC, Roy S. (2014). Imipramine exploits Histone deacetylase 11 to increase IL-12/IL-10 ratio in macrophages infected with antimony resistant Leishmania donovani and clears organ parasite in experimental infection. *J. Immunol*, 193(8):4083-94. (IF: 5.1)  
<http://www.jimmunol.org/content/193/8/4083.long>

- **Mukherjee B\***, Mukhopadhyay R, Bannerjee B, Chowdhury S, Mukherjee S, Naskar K, Allam US, Chakravortty D, Sundar S, Dujardin JC, Roy S. (2013). Antimony resistant Leishmania donovani upregulates IL-10 to overexpress host multi drug resistant protein1. **Proc Natl Acad Sci U S A**, 110(7): E575-82. (IF: 10.4)  
<http://www.pnas.org/content/110/7/E575.long>
- Mukherjee S, **Mukherjee B**, Mukhopadhyay R, Naskar K, Sundar S, Dujardin JC, Das AK, Roy S. (2012). Imipramine is an Orally Active Drug against Both Antimony Sensitive and Antimony Resistant Leishmania donovani Clinical Isolates in Experimental Infection. **PLoS Negl Trop Dis**, 6(12): e1987. (IF: 4.45)  
<http://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0001987>
- Chowdhury S, Mukherjee T, Mukhopadhyay R, **Mukherjee B**, Sengupta S, Chattopadhyay S, Jaisankar P, Roy S, Majumder HK. (2012). The lignan niranthin poisons Leishmania donovani topoisomerase IB and favours a Th1 immune response in mice. **EMBO Mol Med**, 4(10): 1126-43. (IF: 9.5)  
<http://embomolmed.embopress.org/content/4/10/1126.long>
- Mukhopadhyay R, Mukherjee S, **Mukherjee B**, Naskar K, Mondal D, Decuypere S, Ostyn B, Prajapati VK, Sundar S, Dujardin JC, Roy S. (2011). Characterisation of antimony-resistant Leishmania donovani isolates: biochemical and biophysical studies and interaction with host cells. **Int J Parasitol**, 41(13-14):1311-21. (IF: 3.6)  
<https://www.sciencedirect.com/science/article/pii/S0020751911002219?via%3Dihub>

# IF-Impact Factor for 5 years according to 2016 rankings, Journal Citation Reports (Thomson Reuters)

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