Amit Lahiri, PhD

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Science investigator with five years of experience in human genetics with emphasis on genetic factors implicated in immune disorders.

- Recipient of Independent funding as principal investigator from the Crohn's and Colitis Foundation of America (2013-2015).
- Documented record in research design, writing and publishing completed research – which includes several first author, peer reviewed manuscripts in high-profile journals.
- Strong background in cellular mechanisms leading to human immune diseases, with proficiency in immunology, biochemistry, molecular biology and cell biology techniques and biostatistics.
- History of recognition by receipt of fellowships and merit awards for academic performance.
- Work has been cited in over 300 publications.

RESEARCH AND PROFESSIONAL EXPERIENCE

Icahn School of Medicine at Mount Sinai, New York City, New York.

Scientist in the Rheumatology Department: 2016 - present

Currently working to better understand the pathophysiology and genetics of Rheumatoid Arthritis or RA.

Yale University School of Medicine, New Haven, Connecticut

Post doctoral Research Scientist : 2011- 2016

- Investigated how recently identified genetic risk factors of various auto-immune and inflammatory disorders affect diverse immunological outcomes. Determined role and mechanisms of interactions between gut microbiota and the host in immunological processes. Performed investigations in primary cells and tissues from healthy human controls and patients and in mouse models.
- Published the completed research in various peer reviewed scientific journals.
- Reviewed manuscripts for scientific journals [PloS One].

- Designed projects for postdoctoral scholars, trained them in laboratory techniques, and helped them with manuscipt writing.
- Technical Expertise: multicolour flow cytometry (including machine handling) , ELISA, western blot, confocal microscopy (including machine handling), qPCR, CHIP, radiolabelled kinase assays, bacterial killing assays, luciferase-reporter assays, siRNA transfection, RNA microarrays, cloning and protein purification, genotyping, mammalian cell culture, statistical methods, mice tissue sectioning, *in vivo* and *in vitro* T cell proliferation assays, extensive mice immunology work in various colitis models.

Indian Institute of Science (IISc), Bangalore, India.

Research Associate : *Department of Microbiology and Cell Biology* **2009-2010**

- Studied the role of arginase, that exerts an important immune modulatory function.
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PhD – *Department of Microbiology and Cell Biology* **2004-2009**

- Investigated the role of arginine transporters, TLR9 and ROS in immunology.
- Independently investigated several projects by designing and carrying out experiments, consulting literature and experts.
- Supervised and designed projects for undergraduate students.
- Wrote and published the completed research in various peer reviewed scientific journals.
- Frequently presented and explained research results to an audience of 50 or more including professors and students.
- Improved lab protocols for protein and DNA manipulation.

EDUCATION

PhD, Microbiology and Cell Biology **2009**
Indian Institute of Science (IISc), Bangalore, India.

MSc, Biochemistry
Calcutta University, Kolkata, India **2004**

BSc, Chemistry
Presidency College, Kolkata, India **2002**

HONORS & AWARDS

Research Fellowship Award, Crohn and Colitis Foundation of America as Principal Investigator: 2013-2015 [Support of $180,000]

M.Sreenivasaya Gold Medal for best PhD thesis, Indian Institute of Science, India : 2009-2010

98.4 Percentile in the All India Graduate Aptitude Test in Engineering (GATE), All India Rank-78: 2004

PUBLICATIONS *(in chronological order)*

1. **Lahiri A**, Hedl M, Abraham C. Characterization of a novel human ORF involved in mitochondrial immune function and its role in human IBD and mouse colitis model. ***Nature communications: 2017*** *(in press).*

2. **Lahiri A**, Hedl M, Abraham C. MTMR3 risk allele enhances innate receptor-induced signaling and cytokines by decreasing autophagy and increasing caspase-1 activation. *Proc Natl Acad Sci USA*, 2015 Aug 18;112 (33):10461-6.

3. Wu X, **Lahiri A,** Sarin R, Abraham C. T Cell-Extrinsic CD18 Attenuates Antigen-Dependent CD4 T cell Activation *In Vivo*. *J Immunol.* 2015, 194(9):4122-9.

4.**Lahiri A**, Abraham C. Activation of pattern recognition receptors up-regulates metallothioneins, thereby increasing intracellular accumulation of zinc, autophagy, and bacterial clearance by macrophages. *Gastroenterology* 2014, 147(4):835-46. (*Impact factor: 16.7*).

5.Hedl M**, Lahiri A**, Ning K, Cho JH, Abraham C. Pattern recognition receptor signaling in human dendritic cells is enhanced by ICOS ligand and modulated by the Crohn's disease ICOSLG risk allele. *Immunity* 2014 , 40(5):734-46.

6. Wu X, **Lahiri A**, Haines GK 3rd, Flavell RA, Abraham C. NOD2 regulates CXCR3-dependent

CD8+ T cell accumulation in intestinal tissues with acute injury. *J Immunol*. 2014 , 192(7):3409-18.

7. Marathe SA , **Lahiri A** , Negi VD, Chakravortty D . Typhoid fever & vaccine development: a partially answered question. *Indian J Med Res*. 2012, 135: 161-9.

8. Allam US, Krishna MG,Sen M, Thomas R, **Lahiri A**, Gnanadhas DP, Chakravortty D. Acidic pH induced STM1485 gene is essential for intracellular replication of Salmonella. *Virulence*. 2012, 3(2) : 122-135.

9. Allam US, Krishna MG, **Lahiri A**, Joy O, Chakravortty D. *Salmonella enterica* serovar typhimurium lacking hfq gene confers protective immunity against murine typhoid. *PLoS One*. 2011, 6(2):e16667.

10. **Lahiri A**, Ananthalakshmi TK, Nagarajan AG, Ray S, Chakravortty D. TolA Mediates Differential Detergent Resistance Pattern between the Salmonella serovars Typhi and Typhimurium . *Microbiology.* 2011,157(Pt 5): 1402-15.

11. **Lahiri A***, Das P*, Lahiri Ay, Sen M, Iyer N, Kapoor N, Balaji KN, Chakravortty D. Cationic amino acid transporters and *Salmonella typhimurium* ArgT collectively regulate arginine availability towards intracellular Salmonella growth. *PLoS One* . 2010, 5(12): e15466.
(* *Joint first author*)

12. **Lahiri A**, Lahiri Ay, Das P, Vani J, Shaila MS, Chakravortty D. TLR 9 activation in dendritic cells enhances salmonella killing and antigen presentation via involvement of the reactive oxygen species. *PLoS One*. 2010, 5(10):e13772.

13. **Book Chapter**: Chakravortty D, **Lahiri A**, Das P. Chapter 26: Toll Receptors in Relation to Adjuvant Effects in 'Vaccinology: Principles and Practice', Morrow et al, Wiley-Blackwell Publications, Oxford, 2012.

14. **Lahiri A***, Das P*, Lahiri A, Chakravortty D. Modulation of the arginase pathway in the context of microbial pathogenesis: a metabolic enzyme moonlighting as an immune modulator. *PLoS Pathog*. 2010, (6) : e1000899.(* *Joint first author*)

15. **Lahiri A**, Lahiri Ay, Iyer N, Das P, Chakravortty D.Visiting the Cell Biology of Salmonella Infection. *Microbes Infect*. 2010, 12 (11) : 809-18.

16. Nagarajan AG, Karnam G, **Lahiri A**, Allam US, Chakravortty D. Reliable means of diagnosis and serovar determination of blood-borne Salmonella strains: quick PCR amplification of unique genomic loci by novel primer sets. *J Clin Microbiol*. 2009,47(8): 2435-41.

17. Das P, **Lahiri A**, Lahiri Ay, Chakravortty D. Novel Role of the Nitrite Transporter NirC in Salmonella Pathogenesis: SPI2-Dependent Suppression of Inducible Nitric Oxide Synthase in the Activated macrophages. *Microbiology*. 2009, 155(Pt 8):2476-89.

18. **Lahiri A**, Das P, Chakravortty D. Salmonella Typhimurium: Insight into the multi-faceted role of the LysR-type transcriptional regulators in Salmonella. *Int J Biochem Cell Biol*. 2009, 41(11):2129-33.

19. **Lahiri A**, Das P, Chakravortty D Engagement of TLR signaling as adjuvant: towards smarter vaccine and beyond. *Vaccine*. 2008, 26(52) : 6777-83.

20. **Lahiri A**, Das P, Chakravortty D. The LysR-type transcriptional regulator Hrg counteracts phagocyte oxidative burst and imparts survival advantage to Salmonella enterica serovar Typhimurium. *Microbiology*. 2008, 154 (Pt 9) : 2837-46.

21. **Lahiri A***, Das P*, Chakravortty D. Arginase modulates Salmonella induced nitric oxide production in RAW264.7 macrophages and is required for Salmonella pathogenesis in mice model of infection. *Microbes Infect.* 2008, 10(10-11):1166-74. (* *Joint first author*)

CONFERENCE CONTRIBUTIONS

Selected for **Oral presentation** of research at 'Advances in Inflammatory Bowel Diseases' - 2013, held at Florida, USA.

Title : Chronic NOD2 induced Autophagy and Bacterial killing is dependent on Metallothionein mediated Zinc accumulation.

Participated and presented poster in XXIX All India Cell Biology Conference and Symposium, Lucknow, India, 2006.

PERSONAL INFORMATION

Nationality: Indian
Age: 35 Years, Permanent address: Narendrapally, Chakdaha, Dist. Nadia, West-Bengal-741222, India

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Amit Lahiri
Yale University
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300 Ceder Street
New Haven, 06511
UNITED STATES

November 23, 2016

Re: Confirmation of Review for the Journal *PLOS ONE*.

To Whom It May Concern,

This letter is to certify that Amit Lahiri is an active reviewer for the journal *PLOS ONE*. Dr. Lahiri has reviewed six papers for *PLOS ONE*.

PLOS ONE, a peer-reviewed journal from the not-for-profit Public Library of Science (PLOS), launched in 2006 as an efficient and economical venue for disseminating research in all areas of science and medicine. Today it is the largest journal in the world, publishing over two thousand articles per month. The underlying philosophy is that all research, if well-performed and well-reported, has something of value to offer the scientific community and, accordingly, *PLOS ONE's* editorial criteria focus on the technical quality of the work rather than on any subjective judgments such as perceived impact or relevance to a specialist field.

Sincerely,

Kathleen McGowan
Publications Assistant
PLOS ONE
Public Library of Science