



Arup Sarkar, Ph.D., Post-Doc

Professor

Area: Infection Biology and Immunology, Apoptosis Driven Infection, Cell Biology

Affiliation: Trident School of Biotech Sciences & Advanced Research Group, Trident Academy of Creative Technology

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Year of Joining: October 2014

Education

Ph.D.	Immunology and Cell Biology	University of Lubeck, Germany, 2009
M.Sc.	Zoology	University of North Bengal, 1999

Other details

- ✚ Successfully completed the technical training course on human embryonic stem cell/ induced pluripotent stem cell culture held at Massachusetts Human Stem Cell Bank, UMASS MEDICAL SCHOOL May 17th - 19th 2011
- ✚ Successfully completed IDEAS 4.0 SOFTWARE TRAINING provided by Tad George, Director of Biology, Amnis Inc, held on May 12th 2011 at University of Virginia
- ✚ Obtained training for monoclonal antibody production by hybridoma techniques at Lymphocyte culture centre of University of Virginia from October- November, 2010
- ✚ Successfully completed the Flow cytometry introduction course offered by University of Virginia, October 18th - 21st 2010

Academic Experience

- ✚ Research associate, Department of Cell Biology and Molecular Genetics, University of Maryland, College Park, USA November 2013-September 2014
- ✚ Post-Doctoral scholar, Department of Pathology, University of California, San Diego, USA September 2011-Oct 2013
- ✚ Research Associate, Department of Medicine, Division of Gastroenterology and Hepatology University of Virginia, USA March 2010-August 2011

Research Focus

- ✚ Immunity to intracellular pathogens and their adaptation strategy into host cell
- ✚ Innate immune regulation during systemic disease
- ✚ Advanced biomedical diagnostic techniques in systemic disease

Publications

- 📄 Soumita Das, **Arup Sarkar**, Sarmistha Sinha Choudhury, Katherine A. Owen, Victoria Castillo, Sarah Fox, Lars Eckmann, Michael R. Elliott, James. E. Casanova and Peter. B. Ernst. Engulfment and Cell Motility Protein 1 (ELMO1) Has an Essential Role in the Internalization of *Salmonella* Typhimurium Into Enteric Macrophages That Impact Disease Outcome (Accepted in *Cellular and Molecular Gastroenterology and Hepatology* with present affiliation)
- 📄 Soumita Das*, **Arup Sarkar***, Kieran A. Ryan*, Sarah Fox, Alice T. Hawley, Ignacio J. Juncadella, Diane Bimczok, Lesley E. Smythies, Paul R. Harris, Kodi S. Ravichandran, Sheila E. Crowe, Phillip D. Smith, Peter B. Ernst. Brain Angiogenesis Inhibitor 1 (BAI1) is expressed by Gastric Phagocytes during Infection with *Helicobacter pylori* and Mediates the Recognition and Engulfment of Human Apoptotic Gastric Epithelial Cells (* **Equal first authorship**) *FASEB J.* 2014 May; 28(5): 2214-2224.
- 📄 **Sarkar A***, Aga E*, Bussmeyer U, Bhattacharyya A, Möller S, Helberg L, Behnen M, Solbach W, Laskay T. Infection with *Leishmaniamajor* activates ERK1/2 and modulates various apoptotic pathways to inhibit neutrophils spontaneous apoptosis (* **Equal first authorship**) *Med Microbiol Immunol.* 2013 Feb; 202(1): 25-35
- 📄 **Sarkar A**, Helberg L, Bhattacharyya A, Behnen M, Wang K, Lord J, Möller S, Kohler M, Solbach W, Laskay T. Infection with *Anaplasma phagocytophilum* activates the PI3K/ Akt and NF- κ B survival pathways in neutrophil granulocytes. *Infect Immun.* 2012 Apr; 80(4): 1615-1623
- 📄 Bussmeyer U*, **Sarkar A***, Broszat K, Lüdemann T, Möller S, van Zandbergen G, Bogdan C, Behnen M, Dumler JS, von Loewenich FD, Solbach W, Laskay T. Impairment of gamma interferon signaling in human neutrophils infected with *Anaplasma phagocytophilum*. (* **Equal first authorship**) *Infect immun.*

Talk / Presentations

- 📄 Elmo-1 Regulates the Induction of Autophagy and Bacterial Clearance During *Salmonella* Infection, 17th International Congress of Mucosal Immunology (ICMI 2015), July 14-18, 2015, Berlin, Germany (Selected for **Oral presentation**)
- 📄 The Role of the BAI1-ELMO1 Engulfment Pathway in the Induction of the Autophagy and Host Inflammatory Responses, 16th International Congress of Mucosal Immunology (ICMI 2013), July 17-20, 2013, at the Westin Bayshore in Vancouver, BC, Canada (**poster presentation**)
- 📄 Modulation of neutrophil apoptosis by *Anaplasma phagocytophilum*, International symposium on novel functions of neutrophil granulocytes “ Neutrophil granulocytes revisited” September 10-12, 2009, Lubeck, Germany (**Oral presentation**)

- 📌 Modulation of neutrophil apoptosis by the intracellular pathogens *Anaplasma phagocytophilum* and *Leishmania major*, Joint Annual Meeting of Immunology of the Austrian and German Societies (ÖGAI, DGFI), September 3-6, 2008, Vienna, Austria (**Poster presentation**)
- 📌 Pathway of inhibition of respiratory burst and its restoration upon IFN γ treatment on *Anaplasma phagocytophilum* infected neutrophils, 12th symposium “ Infection and Immune defense”, 2008, Rothenfels, Germany (**Oral Presentation**)

Professional / Academic Affiliation

- 📌 Teaching M.Sc (Biotech) students and guiding them for their project work
- 📌 Being a Research Professor actively involved in writing research grants

Achievements & Awards

- 📌 **AGA travel scholarship** for attending the AGA institute’s Gastrointestinal Response to Injury Symposium held on **September 28 – October 1, 2010** at Scottsdale, Arizona, USA
- 📌 Award for **the best scientific poster** “Modulation of neutrophil apoptosis by the intracellular pathogens *Anaplasma phagocytophilum* and *Leishmania major*” presented at international symposium on novel functions of neutrophil granulocytes “Neutrophil granulocytes revisited” held on **September 10-12 2009**, at Lubeck, Germany

Research Projects

PROJECT TITLE	FUNDING AGENCY
Unraveling the innate immune cells metabolism in the establishment of <i>Leishmania</i> infection	INFECT-ERA/DBT GOVT. OF INDIA
Understanding the role of IL-1 β on host macrophages in the establishment of early <i>Leishmania</i> infection	ICMR, GOVT. OF INDIA

Motivational note