

## BIOGRAPHICAL SKETCH

Name: **NITI PURI, Ph.D.**

Phone: +91-9910798582 (Mobile) +91-011-26738742 (Office) Web: <a href="https://www.jnu.ac.in/content/purin">https://www.jnu.ac.in/content/purin</a>	POSITION TITLE & ADDRESS Assistant Professor, Cellular and Molecular Immunology Lab, School of Life Sciences, Jawaharlal Nehru University, New Delhi 110067 India
Emails: <a href="mailto:purin@mail.jnu.ac.in">purin@mail.jnu.ac.in</a> <a href="mailto:niti_puri@hotmail.com">niti_puri@hotmail.com</a>	

**Academic Qualifications** :

B.Sc. (1984-1987)	Chemistry (Hons), University of Delhi, Delhi, India First division
M.Sc. (1987-1989)	Biotechnology, M.S. University, Vadodara, Gujarat, India First division: Thesis: "On the rationale of use of somatic cell genetical approach to increase the methionine content of <i>Vigna aconitifolia</i> " M.Sc. Dissertation, M.S. University, Vadodara, Gujarat, India
Ph.D (1989-1996)	Life Sciences (Immunology), Jawaharlal Nehru University, New Delhi, India Thesis: "Purification and characterization of two novel putative cytokines released by activated mouse spleen cells" Ph.D. thesis, Jawaharlal Nehru University, New Delhi"
PDF1 (1995-1996)	School of Life Sciences (Immunology), Jawaharlal Nehru University, New Delhi, India
PDF2 (1997-1999)	National Institute of Immunology, New Delhi, India
PDF3 (2000-2008)	Experimental Immunology Branch, National Institutes of Health, Bethesda MD USA

**Appointments:**

Tenure	Post	Institute/University	Duration
27 <sup>th</sup> May, 2008 till date	Assistant Professor in Immunology	School of Life Sciences, Jawaharlal Nehru University, New Delhi	13years, 7 months
7 <sup>th</sup> March, 2000 to 26 <sup>th</sup> May, 2008	Visiting Post Doctoral Fellow (first 5 years) and Visiting fellow in the Laboratory of Dr. Paul A. Roche	Experimental Immunology Branch, National Cancer Institute, National Institutes of Health, Bethesda, MD, USA	8 years, 2.5 months
19 <sup>th</sup> September, 1997 to 5 <sup>th</sup> November, 1999	Project Associate in a Department of Biotechnology, India project of Dr. Satish M. Totey	Embryo Biotechnology Laboratory, National Institute of Immunology, New Delhi	2 years, 1.5 months
19 <sup>th</sup> December, 1995 to 18 <sup>th</sup> December, 1996	Research Associate in a Department of Biotechnology, India project of Prof. Rajiv K. Saxena	Immunology Laboratory, School of Life Sciences, Jawaharlal Nehru University, New Delhi	1 year

**Personal Statement:**

**TEACHING:** I started teaching in the Immunology course conducted by Experimental Immunology Branch, National Cancer Institute, NIH, Bethesda MD, USA from 2003-2007. Thereafter, joining School of Life Sciences JNU in 2008 as an Assistant Professor in Immunology, I have been teaching full theory and practical Immunology core course for MSc students in Life Sciences. I have also helped in design of and taught a major portion of Immunology course to MSc Biotech students of SBT, JNU during 2012 and 2013. In addition to these, I have also taught as a Guest Lecturer to MSc students in the Dept of Genetics, DU, South Campus, New Delhi. I have also been teaching an advanced optional course in Current concepts in Immunology to the MPhil/PhD students of SLS, JNU. This is an ever evolving course based on novel discoveries in the field of Immunology discussed through student presentations of recent important published papers in the field. In addition, I have been teaching Basic Immunology, as well as Theoretical Background to Immunological Techniques to MPhil/PhD students of SLS. Recently I have updated the course contents of both the MSc, as well as the MPhil courses to bring them up to speed with current knowledge in Immunology, and also challenge students more for analytical thinking to apply their basic knowledge to solve problems in experimental and clinical Immunology.

I also give lectures on overview of the mammalian Immune System or Monoclonal antibodies and antibody engineering, as well as Applications of Flowcytometry to cell biology in the various Refresher courses for Life Sciences or Biotechnology conducted by the Academic Staff College, JNU, or in the Summer Research Program conducted by SLS, JNU every year as an outreach program for graduate and post graduate students from all over India.

**RESEARCH:**

\* We study molecular mechanisms that regulate immune cell function. Regulated exocytosis from secretory cells is a process in which external stimuli lead to the release of intracellular prestored soluble cargo into the extracellular space and insertion of granule-associated integral membrane proteins in the plasma membrane. This process is essential for the function of many different types of immune cells. In many cells a class of membrane-membrane fusion proteins termed SNAREs modulates exocytosis, however neither all the SNAREs that modulate regulated exocytosis in immune cells nor the mechanisms by which these SNAREs function been identified. Understanding the molecular mechanisms underlying regulated exocytosis in mast cells and other immune cells will provide us with a framework to address how pathological dysregulation of these processes can be manipulated. We are further exploring the role of SNARE machinery in regulating the kinetics of exocytosis, and it's regulation by sleep and implications for neuronal and immune cell networks in an interdisciplinary project involving other investigators.

\* Determination of effects of nanoparticles on mast cell exocytosis, certain parameters of acquired and natural immune system, and lung immunity are aimed at judging the suitability of nanoparticle use in diagnostics and therapeutics.

\* Our research is also aimed at determining the role of mast cell phagocytosis or exocytosis, and mast cell-macrophage interactions under normal conditions or during inflammation in anemia.

\* In addition, we are also interested in studying the molecular mechanisms of interactions of mast cells with pathogens like Mycobacterium, Leishmania, and Candida and the immune response mounted by mast cells for clearance of these pathogens.

A large part of our mast cell exocytosis and SNARE related work has already been published and is highly cited, also two more manuscripts are ready for publication. Part of our nanotoxicity studies have also been

published in high impact journals, and a few more manuscripts are under preparation. This work has also been presented in many national and international conferences. Overall our studies may provide us with novel approaches for vaccine development for Tuberculosis, and Leishmaniasis and also provide novel therapeutic targets for control/augmentation of MC responses in allergic/inflammatory disorders.

### **Merits and Fellowships :**

- March 2000 till March 2005 :Fogarty Fellow in the Laboratory of Dr. Paul A. Roche, Experimental Immunology Branch, National Cancer Institute, National Institutes of Health, Bethesda, MD, USA.
  - November 1994 till October 1995 :Senior Research Fellow (ICMR) in School of Life Sciences, J.N.U., New Delhi. Title of project : "Modulation of certain membrane receptors crucial for immunological interactions, by mouse natural killer-resistance inducing factor (NK-RIF)"
  - August 1991 till July 1994 :Senior Research Fellow (JNU-UGC) in School of Life Sciences, J.N.U., New Delhi
  - August 1989 to July 1991 :Junior Research Fellow (JNU-UGC) in School of Life Sciences, J.N.U., New Delhi
  - Passed with position in top 5% in CSIR-UGC-JRF Exam, 1988
  - Students Fellowship sponsored by Department of Biotechnology, Govt. of India, during M. Sc. (1987-1989)
  - Award for best poster presentation, 18<sup>th</sup> Annual meeting of the Indian Immunology Society, NII, New Delhi (October 1991)
  - Attended workshop on flowcytometry at Cancer Research Institute, Tata Memorial Centre, Bombay (June 1994).
- Member of professional organizations: Indian Immunology Society as a Life Member.

### Awards to students:

- Appreciation award to PhD student for oral presentation. Biosparks 2019: Celebrating Science, School of Life Sciences, Jawaharlal Nehru University New Delhi, India. (March, 2019)
- Award to PhD student for best scientific presentation. International Conference on "Trends in Biochemical and Biomedical Research, Advances and Challenges". Department of Biochemistry, Institute of Science, Banaras Hindu University, Varanasi, India. (February, 2018)
- Award to PhD student for best poster presentation, "Trends in Biochemical and Biomedical Research: Advances and Challenges", Department of Biochemistry, Institute of Science, Banaras Hindu University, Varanasi, India. (February, 2018)

- Award to PhD student for best oral presentation. Biosparks 2017, School of Life Sciences, Jawaharlal Nehru University, New Delhi. (March, 2017)
- Award to PhD student for best poster presentation. South Asian Biotechnology Conference-2017 Kathmandu, Nepal. ( March, 2017)
- Award to PhD student for best poster presentation. International conference on mitochondria in health and disease. School of Life Sciences, Jawaharlal Nehru University, New Delhi, India, (February, 2017)
- Award to PhD student for best poster presentation, Biosparks 2014, School of Life Sciences, Jawaharlal Nehru University, New Delhi (March 2014)
- Awards to PhD student for best oral presentation, Immunology day celebration held at All India Institute of Medical Sciences, New Delhi, April 2013; National conference on Biotechnology and biomedical Engineering held at Delhi Technological University, New Delhi, (April 2013)
- Award to PhD student for best poster presentation, Biosparks 2013, School of Life Sciences, Jawaharlal Nehru University, New Delhi (February 2013)
- Award to PhD student for best Oral presentation, Biosparks 2012, School of Life Sciences, Jawaharlal Nehru University, New Delhi (March 2012)
- Award to PhD student for best poster presentation, Biosparks 2011, School of Life Sciences, Jawaharlal Nehru University, New Delhi (March 2011)

### **Teaching Experience:**

2003-2007: Teaching in the Immunology Course in the Experimental Immunology Branch, National Cancer Institute, NIH, Bethesda MD, USA.

2008 till date: Teaching the theory and practical course in Immunology (2 credit) for M.Sc. in School of Life Sciences, Jawaharlal Nehru University, New Delhi, India

2010 till 2015: Teaching “ The Current Concepts in Immunology” course (3 credit) for M.Phil/Ph.D. in School of Life Sciences, Jawaharlal Nehru University, New Delhi, India

2016 till date: Teaching “ The Current Concepts in Immunology” course (2 credit) for M.Phil/Ph.D. in School of Life Sciences, Jawaharlal Nehru University, New Delhi, India

2012-2013: Teaching the theory course in Immunology (2 credit) for M.Sc. in School of Biotechnology, Jawaharlal Nehru University, New Delhi, India.

2015: Immunology to MSc Genetics students: Teaching as a Guest Faculty in Dept. of Genetics, Delhi University, South Delhi Campus, New Delhi, India.

2008-20017: Teaching in the Fundamentals of Modern Life Sciences for M.Phil./Ph.D. in School of Life Sciences, Jawaharlal Nehru University, New Delhi, India (Topics covered: Immunology).

2008-20017: Teaching in the Theoretical Foundations of Experiments for M.Phil./Ph.D. in School of Life Sciences, Jawaharlal Nehru University, New Delhi, India (Topics covered: Immunological techniques).

2009 till date: Teaching in the Refresher Course in Life Sciences for faculty conducted by the Academic Staff College, Jawaharlal Nehru University, New Delhi, India (Topics covered: Immunology , Cell Biology, Flowcytometry).

2009 till date: Teaching in the Summer School (UGC-Resource Networking) in School of Life Sciences, Jawaharlal Nehru University, New Delhi, India (Topics covered: Immunology).

### **Papers presented in conferences and meetings :**

1. **Puri, N.**, Sarin, A., and Saxena, R.K. (1991) Partial purification and characterisation of Natural Killer-Resistance Inducing Factor from the culture supernatants of murine mixed lymphocyte cultures. 18th Annual meeting of Indian Immunology Society, NII New Delhi. Oct., 1991. (**Award winning poster**)

2. **Puri, N.**, and Saxena, R.K. (1993) A non-IL-2 proliferation inducing activity in mouse MLC-RIF preparation. XX- Annual Conference of Indian Immunology Society, Bhopal, Dec., 1993.

3. **Puri, N.**, and Saxena, R. K. (1995) A novel B-cell growth factor released by mouse spleen cells undergoing mixed lymphocyte reaction. XXII Annual Conference of Indian Immunology Society and National Symposium on Immunology of infectious diseases, Jawaharlal Nehru University, New Delhi, Dec., 1995.

4. Totey, S. M., Babu, S., **Puri, N.**, Mandal, A., Gulati, N., Anand, R., Garg, L., Kumar, V., and Brahmachari, V. (1998) Transgenic mouse models of human diseases. 67<sup>th</sup> Annual meeting of Society of Biological Chemists, India at Jawaharlal Nehru University, New Delhi, Dec., 1998.

5. **Puri, N.**, Mishra, M., Panda, A. K., and Totey, S. M. (1999) Effect of the codon following the ATG start site on the expression of ovine growth hormone in *Escherichia coli* 68th Annual meeting of Society of Biological Chemists, India at Indian Institute of Science, Bangalore. Dec.,1999.

6. **Puri, N.**, Gulati, N., Mandal, A., Anand, R., and Totey, S. M. (1999) Transgenic weanling mice expressing Neomycin resistance gene show signs of immunodeficiency. 68th Annual meeting of Society of Biological Chemists, India at Indian Institute of Science, Bangalore. Dec.,1999.

7. **Puri, N.**, and Roche, P. A. (2001) NSF-mediated SNARE “Priming” is required for regulated exocytosis from RBL mast cells. NIH Immunology Retreat, Warrenton, VA, USA, 2001.

8. **Puri, N.**, and Roche, P. A. (2001) NSF-mediated SNARE “Priming” is required for regulated exocytosis from RBL mast cells. 41<sup>st</sup> American Society for Cell Biology Annual Meeting, Washington D. C., USA, December 8-12, 2001.

9. **Puri, N.**, and Roche P. A. (2002) Lipid Raft association of SNARE proteins in RBL mast cells. NIH Immunology Retreat, Warrenton, VA, USA, 2002.

10. **Puri, N.**, and Roche, P. A. (2002) Lipid raft association of SNAP-23 and other SNARE proteins: implications for regulated exocytosis from RBL mast cells. 42nd American Society for Cell Biology Annual Meeting, San Francisco, CA, USA, December 14-18, 2002.
11. **Puri, N.**, and Roche, P. A. (2003) Lipid raft association of SNAP-23 and other SNARE proteins: implications for regulated exocytosis from RBL mast cells. NIH Membrane Microdomain Interest Group meeting, Bethesda, MD, USA, April 1st, 2003.
12. **Puri, N.**, and Roche, P. A. (2004) Ternary SNARE complexes are associated with lipid rafts in RBL mast cells. 44th American Society for Cell Biology Annual Meeting, Washington D. C., USA, December 4-8, 2004.
13. **Puri, N.**, Hepp, R. and Roche, P. A. (2005) Phosphorylation of SNAP-23 regulates exocytosis from mast cells. NIH Protein Trafficking Interest Group meeting, Bethesda, MD, USA, February, 2005.
14. **Puri, N.**, and Roche, P. A. (2005) Ternary SNARE complexes are associated with lipid rafts in RBL mast cells. Annual meeting of The American Association of Immunology, San Diego, CA, USA, April 2-6, 2005.
15. **Puri, N.**, Hohenstein, A. C., and Roche, P. A. (2005) VAMP-8 plays an important role in regulated exocytosis from mast cells but not from CTL. NIH Immunology Retreat, Warrenton, VA, USA, 2005.
16. **Puri, N.**, and Roche, P. A. (2007) Molecular mechanisms of regulated granule exocytosis from mast cells and CTL. Invited Seminar. School of Life Sciences, Jawaharlal Nehru University, New Delhi, India, March 2007. (*Invited Talk*)
17. **Puri, N.**, and Roche, P. A. (2007) Mast cells possess distinct secretory granule subsets whose exocytosis is regulated by different SNARE isoforms. NIH Immunology Retreat, Warrenton, VA, USA, October 2007.
18. **Puri, N.**, and Roche, P. A. (2007) Mast cells possess distinct secretory granule subsets whose exocytosis is regulated by different SNARE isoforms. 47th American Society for Cell Biology Annual Meeting, Washington D. C., USA, December 1-5, 2007.
19. **Puri, N.** (2008) Distinct secretory granule subsets in Mast cells. 35<sup>th</sup> Annual meeting of Indian Immunology Society, Institute of Life Sciences, Bhubaneswar, Orissa, India. December 12-14, 2008. (*Invited Talk*)
20. Kumari, M., **Puri, N.**, and Saxena R. K. (2008) Infection with BCG causes an inflammatory response in lung epithelial cells. 35<sup>th</sup> Annual meeting of Indian Immunology Society, Institute of Life Sciences, Bhubaneswar, Orissa, India. December 12-14, 2008.
21. **Puri, N.** (2009) Role of SNAREs in regulated exocytosis from mast cells reveals heterogeneity in mast cell secretory granules. Biosparks 2009, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. March 2009. (*Invited Talk*)
22. Sachar, S., **Puri, N.**, and Saxena R. K. (2009) Interaction of carbon nanoparticles with erythrocytes. School of Environmental Sciences, Jawaharlal Nehru University, New Delhi, India. 2009.

23. **Puri, N.** (2010) The role of SNAREs in the immune system. JNU Science Festival 2010, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. February 2010. (*Invited Talk*)
24. **Puri, N.** (2010) The antibody molecule and Immunological techniques. UGC-RNW Summer Research Program 2010, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. 24 June 2010. (*Invited Talk*)
25. Alam, A., **Puri, N.**, and Saxena R.K. (2011) Suppression of allo-immune cytotoxic T lymphocyte (CTL) response and activation of Natural Killer (NK) cells by acid functionalized single walled carbon nanotubes (AF-SWCNTs). National Review Meeting of Nanoscience and Nanotechnology, IIT Delhi, Feb 25-27, 2011.
26. Alam, A., **Puri, N.**, and Saxena R.K. (2011) Suppression of allo-immune cytotoxic T lymphocyte (CTL) response and activation of Natural Killer (NK) cells by acid functionalized single walled carbon nanotubes (AF-SWCNTs). School of Environmental Sciences, Jawaharlal Nehru University, New Delhi, India. March 2011.
27. Alam, A., Saxena, R. K., and **Puri N.** (2011) Augmentation of mast cell exocytosis by poly dispersed carbon nanotubes. Biosparks 2011, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. March 2011.
28. Kumari, M., Rizvi, Z.A., **Puri, N.**, and Saxena, R.K. (2011) Pathways of antigen or poly-dispersed carbon nanotube uptake and antigen presentation in murine primary lung epithelial cells. Biosparks 2011, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. March 2011. (**Award winning poster**).
29. **Puri, N.** (2011) Overview of the immune system and importance of mast cells. UGC-RNW Summer Research Program 2011, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. June 2011. (*Invited Talk*)
30. Alam, A., **Puri, N.**, and Saxena, R.K. (2011) Inhibition of *in-vivo* induction of anti-tumour cytotoxic T cell response by carbon nanotubes; International symposium organized by Society for Toxicology, IIS University, Jaipur, India, December 22- 24, 2011.
31. Agarwal , V., and **Puri, N.** (2012) The hydrophobic Cysteine-rich domain of SNAP-23 regulates its membrane association and regulated exocytosis from mast cells; Biosparks 2012, School of Life Sciences, Jawaharlal Nehru University, New Delhi, March 14<sup>th</sup>, 2012.
32. Priyanka, **Puri, N.**, and Tyagi, R. K. (2012) Novel insights into PXR isoforms and their relevance in cellular functions; Oral presentation at Biosparks 2012, School of Life Sciences, Jawaharlal Nehru University, New Delhi, March 15<sup>th</sup>, 2012 (**Award winning presentation**).
33. Naqvi, N., and **Puri, N.** (2012) Mechanisms and regulation of antigen uptake by macropinocytosis in rodent mast cells; Oral presentation at 39<sup>th</sup> Annual conference of Indian Immunology Society (Immunocon 2012), Benaras Hindu University, Varanasi, India, November 9-12, 2012.

34. Alam, A., Sachar, S., **Puri, N.**, and Saxena, R. K. (2012) Down regulation of allogenic cytotoxic T lymphocytes responses by poly-dispersed single walled Carbon Nanotubes; Oral Presentation at National Academy of Sciences 2012 at Benaras Hindu University, Varanasi, India, November 29- December 1, 2012.
35. Agarwal, V., and **Puri, N.** (2013) Differential regulation of membrane association and regulated exocytosis by individual cysteine residues in the hydrophobic linker region of SNAP-23 in mast cells; Biosparks 2013, School of Life Sciences, Jawaharlal Nehru University, New Delhi, February 15-16<sup>th</sup>, 2013.
36. Naqvi, N., and **Puri, N.** (2013) Mechanisms and regulation of antigen uptake by rodent mast cells; Biosparks 2013, School of Life Sciences, Jawaharlal Nehru University, New Delhi, February 15-16<sup>th</sup>, 2013. **(Award winning poster).**
37. Rizvi, Z. A., **Puri, N.**, and Saxena, R. K. (2013) Expression of CD1d molecule on mouse type I lung airway epithelial cells and its upregulation by BCG antigens; Biosparks 2013, School of Life Sciences, Jawaharlal Nehru University, New Delhi, February 15-16<sup>th</sup>, 2013.
38. **Puri, N.**, and Saxena, R. K. (2013) Interaction of Carbon Nanoparticles and their chemically modified forms with cells and organs *in vitro* and *in vivo*. Project Review meeting of Nano Mission, Department of Science and Technology, at CSIR-National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram, Kerala, India, February 21-22, 2013. **(Invited oral presentation)**
39. **Puri, N.** (2013) Exocytosis and endocytosis in interactions of the immune system with environment and their modulation. National Science Day, DST, Jawaharlal Nehru University, New Delhi, February 28<sup>th</sup>, 2013.
40. Saxena, R. K., Alam, A., Kumari, M., Sachar, S., and **Puri, N.** (2013) Suppression of murine T-helper and T-cytotoxic immune response by poly-dispersed single-walled carbon nanotubes. 10<sup>th</sup> International Conference on New Trends in Immunosuppression & Immunotherapy Barcelona, Spain from March 11-12, 2013.
41. Alam A, **Puri N**, Saxena RK (2013) Interactions of poly-dispersed Carbon Nanotubes with Cytotoxic T Lymphocyte: Toxicity vs Biomedical applications. National conference on Biotechnology and biomedical Engineering held at Delhi Technological University, New Delhi, April 2013. **(First Prize for Oral Presentation)**
42. Alam A, **Puri N**, Saxena RK (2013) Down regulation of allogenic cytotoxic T lymphocyte responses *in vitro* and *in vivo* due to interactions of poly-dispersed single walled Carbon Nanotubes. Immunology day celebration held at All India Institute of Medical Sciences, New Delhi, April 2013. **(Best Oral Presentation)**
43. **Puri, N.** (2013) Protein traffic in Immunology. UGC-RNW Summer Research Program 2013, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. 7 June, 2013. **(Invited Talk)**
44. Alam A, **Puri N**, Saxena RK (2013) Poly-dispersed single walled Carbon Nanotubes downregulate allogenic Cytotoxic T Lymphocyte responses *in vitro* and *in vivo*. XIII International Congress of Toxicology 2013, held at Seoul, South Korea, June 30-July 4, 2013. **(Poster Presentation).**
45. **Puri, N.** (2013) The molecular mechanisms of regulated exocytosis of various inflammatory mediators from mast cells. The 6<sup>th</sup> Programme Advisory Committee on Health Science, Department of Science and



Technology, at Civil Services Officers' Institute, Chanakyapuri, New Delhi, July 5-6, 2013. (*Invited oral presentation*)

46. **Puri, N.** (2013) Monoclonal antibodies and antibody engineering. 15<sup>th</sup> Refresher Course in Biotechnology, Academic Staff College, Jawaharlal Nehru University, New Delhi, India. 26<sup>th</sup> July, 2013. (*Invited Talk*)

47. Rizvi ZA, **Puri N** & Saxena RK. (2013) Up-regulation of CD1d mediated lipid antigen presentation pathway in lung epithelial cells exposed to *Mycobacterium bovis* (BCG). Immunocon 2013, 40<sup>th</sup> Annual conference of Indian Immunology Society, Department of Biochemistry, University College of Medical Sciences & GTB Hospital, University of Delhi, Delhi. November 15-17, 2013 (*Oral Presentation*).

48. Alam A., **Puri N.** and Saxena RK. (2013) Suppression of acquired and natural immune system by poly dispersed single walled Carbon Nanotubes. Immunocon 2013, 40<sup>th</sup> Annual conference of Indian Immunology Society, Department of Biochemistry, University College of Medical Sciences & GTB Hospital, University of Delhi, Delhi. November 15-17, 2013 (*Poster Presentation*).

49. Naskar P. and **Puri N.** (2013) Regulation of mast cell exocytosis by phosphorylation of SNAP-23. Immunocon 2013, 40<sup>th</sup> Annual conference of Indian Immunology Society, Department of Biochemistry, University College of Medical Sciences & GTB Hospital, University of Delhi, Delhi. November 15-17, 2013 (*Poster Presentation*).

50. Naqvi N. and **Puri N.** (2013) Interactions of mast cells with live and sonicated *Mycobacterium bovis* Bacillus Calmette-Guerin (BCG). Immunocon 2013, 40<sup>th</sup> Annual conference of Indian Immunology Society, Department of Biochemistry, University College of Medical Sciences & GTB Hospital, University of Delhi, Delhi. November 15-17, 2013 (*Oral Presentation*).

51. Agarwal V. and **Puri N.** (2013) Regulation of mast cell exocytosis by modulation of membrane association of SNAP-23 by its hydrophobic cysteine-rich domain. Immunocon 2013, 40<sup>th</sup> Annual conference of Indian Immunology Society, Department of Biochemistry, University College of Medical Sciences & GTB Hospital, University of Delhi, Delhi. November 15-17, 2013 (*Oral presentation*).

52. Rizvi ZA, **Puri N** & Saxena RK. (2013) *Mycobacterium bovis* (BCG) infection of the lung epithelial cells up-regulates the expression of key antigen presentation markers involved in the Cross presentation pathway. World Conference on Infectious Diseases, Chennai 18-22<sup>nd</sup> Dec, 2013 (*Oral Presentation*).

53. **Puri, N.** (2014) A basic overview of current concepts in Immunology. 19<sup>th</sup> Refresher Course in Life Sciences, Academic Staff College, Jawaharlal Nehru University, New Delhi, India. 23<sup>rd</sup> Jan, 2014. (*Invited Talk*)

54. Alam A., **Puri N.** and Saxena RK (2014) Suppression of acquired and natural immune system by poly dispersed single walled Carbon Nanotubes. Vistas of Life Science:Now and Beyond, JNU, New Delhi 13-15 February, 2014 (*Poster Presentation*).

55. Agarwal V., Naskar P. and **Puri N.** (2014) Post-translational modifications of SNAP-23 regulate its membrane association in resting and antigen-activated mast cells. Vistas of Life Science:Now and Beyond, JNU, New Delhi 13-15 February, 2014 (*Poster Presentation*).

56. Rizvi ZA, **Puri N** & Saxena RK., (2014) Poly-dispersed single walled carbon nanotubes inhibit the

machinery of antigen presentation through CD1d pathway. International conference on NanoSciTech, Chandigarh 13-15<sup>th</sup> Feb, 2014 (*Poster Presentation*).

57. Alam A., **Puri N.** and Saxena RK (2014) Polydispersed single walled carbon nanoparticles interact with and modulate adaptive and innate immune responses. Biosparks, School of Life Sciences, JNU, New Delhi. 21-22 March, 2014 (*Oral Presentation- as Emerging Sparks*).

58. Rizvi ZA, **Puri N** & Saxena RK. (2014) Unraveling the novel role of lung epithelial cells in immune defense and selective loss of this function upon Nanotoxicity. Biosparks, School of Life Sciences, JNU, New Delhi. 21-22 March, 2014 (*Oral Presentation- as Emerging Sparks*).

59. Agarwal V., Naskar P. and **Puri N.** (2014) Post-translational modifications of SNAP-23 regulate its membrane association in resting and antigen-activated mast cells. Biosparks, School of Life Sciences, JNU, New Delhi. 21-22 March, 2014 (*Award winning poster*)

**60. Puri, N.** (2014) Protein traffic in Immunology. UGC-RNW Summer Research Program 2014, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. 28<sup>th</sup> May, 2014. (*Invited Talk*)

61. Saxena R. K., Rizvi, Z.A., Alam A., Kumari M and **Puri N.** (2014) Modulation of antigen presentation and T cell responses by poly-dispersed single walled carbon nanotubes. European Society of Toxicology In Vitro 2014 International Conference, Egmond aan Zee, The Netherlands. June 10-13, 2014

62. **Puri, N.** (2014) Monoclonal Antibodies and antibody engineering. 16<sup>th</sup> Refresher Course in Biotechnology, Academic Staff College, Jawaharlal Nehru University, New Delhi, India. 30<sup>th</sup> July, 2014. (*Invited Talk*)

63. **Puri N.** (2015) Application of Flowcytometry (FACS) to cell biology, 20<sup>th</sup> Refresher Course in Life Sciences, Academic Staff College (Human Resource Development Centre), Jawaharlal Nehru University, New Delhi, Feb.5, 2015 (*Invited Talk*)

64. **Puri N.** (2015) Regulation of Mast Cell allergen response by dynamic membrane association of SNAP-23. South Asian Biotechnology Conference-2015, South Asian University, New Delhi. Feb. 12-14, 2015 (*Invited Talk*)

65. Naqvi N., and **Puri N.** (2015) Rodent Mast Cells take up Mycobacterial Antigens by Macropinocytosis. South Asian Biotechnology Conference-2015, South Asian University, New Delhi. Feb. 12-14, 2015

66. Rizvi ZA, **Puri N.**, and Saxena RK. (2015) Exposure to poly-dispersed single walled carbon nanotubes (AF-SWCNTs) causes inhibition of CD1d mediated lipid antigen presentation pathway in professional and non-professional antigen presenting cells (APCs). South Asian Biotechnology Conference-2015, South Asian University, New Delhi. Feb. 12-14, 2015

67. **Puri N.** (2015) Interactions of Mast Cells with Pathogens, Allergens, and Nanoparticles, and Molecular Mechanisms of their Effector Responses. National Science Day, DST and Jawaharlal Nehru University, Jawaharlal Nehru University, New Delhi, February 28<sup>th</sup>, 2015.

68. Naqvi N., and **Puri N.** (2015) Interaction of Mycobacteria with Mast cells leads to effector responses for extracellular pathogen clearance. Biosparks 2015, School of Life Sciences, Jawaharlal Nehru University, New Delhi. March 27-28, 2015.

69. Rizvi Z.A., **Puri N.**, and Saxena R.K. (2015) Exposure to poly-dispersed single walled carbon nanotubes (AF-SWCNTs) causes inhibition of CD1d mediated lipid antigen presentation pathway in professional and non-professional antigen presenting cells (APCs). Biosparks 2015, School of Life Sciences, Jawaharlal Nehru University, New Delhi. March 27-28, 2015.

70. Naskar P., and **Puri N.** (2015) Dynamic changes in membrane association of Synaptosomal-associated Protein of 23kDa (SNAP-23) in response to allergen challenge in Mast Cells. Biosparks 2015, School of Life Sciences, Jawaharlal Nehru University, New Delhi. March 27-28, 2015.

71. **Puri, N.** (2015) Mammalian Immune System. UGC-RNW Summer Research Program 2015, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. 16<sup>th</sup> June, 2015. (*Invited Talk*)

72. **Puri, N.** (2015) Interactions of mast cells with allergens, pathogens, and abnormal cells, and molecular mechanisms of their effector functions. Colloquium, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. 18 August, 2015. (*Invited Talk*)

73. Naskar P., and **Puri N.** (2015) Allergen challenge induces changes in localization of SNAP-23 in mast cells to facilitate release of inflammatory mediators by compound exocytosis. 42<sup>nd</sup> Annual conference of Indian Immunology Society Immunocon 2015, Rajendra Memorial Institute of Medical Sciences (ICMR), Department of Health Research, Ministry of Health and Family Welfare, Govt. of India, Agamkuan, Patna, Bihar. October 9-11, 2015.

74. Paudel S., and **Puri N.** (2015) Heterogeneity of mast cell responses to various environmental and pathogenic challenges. 42<sup>nd</sup> Annual conference of Indian Immunology Society Immunocon 2015, Rajendra Memorial Institute of Medical Sciences (ICMR), Department of Health Research, Ministry of Health and Family Welfare, Govt. of India, Agamkuan, Patna, Bihar. October 9-11, 2015.

75. Khurana G.K., Lynn A.M., Mallick B.N. and **Puri N.** (2015) Regulating the kinetics of regulated exocytosis in immune cells and neurons through differentially conserved motifs of SNARE proteins. 42<sup>nd</sup> Annual conference of Indian Immunology Society Immunocon 2015, Rajendra Memorial Institute of Medical Sciences (ICMR), Department of Health Research, Ministry of Health and Family Welfare, Govt. of India, Agamkuan, Patna, Bihar. October 9-11, 2015.

76. **Puri N.** (2015) Interaction of Mycobacteria and Leishmania with Mast cells leads to effector responses for extracellular pathogen clearance. 56<sup>th</sup> Annual Conference of Association of Microbiologists of India (AMI 2015) and International Symposium on "Emerging Discoveries in Microbiology", Jawaharlal Nehru University, New Delhi, December, 7-10, 2015. (*Invited Talk*)

77. Naqvi N. and **Puri N.** (2015) Interaction of Mycobacteria with Mast cells leads to formation of extracellular traps. 56<sup>th</sup> Annual Conference of Association of Microbiologists of India (AMI 2015) and International Symposium on "Emerging Discoveries in Microbiology", Jawaharlal Nehru University, New Delhi, December, 7-10, 2015.

78. Paudel S., and **Puri N.** (2015) Heterogeneity Of Mast Cell Responses To Various Microbial Pathogen derived And Environmental Toxins. 56<sup>th</sup> Annual Conference of Association of Microbiologists of India (AMI 2015) and International Symposium on "Emerging Discoveries in Microbiology", Jawaharlal Nehru University, New Delhi, December, 7-10, 2015.

79. Ahuja K. , Beg M.A., Naqvi N., **Puri N.**, Chaudhury A., Nakhasi H., Salotra P., and Selvapandiyan A. (2015) Characterization of A Vesicle Associated Amastigote Specific Hypothetical Protein In *Leishmania donovani* 56<sup>th</sup> Annual Conference of Association of Microbiologists of India (AMI 2015) and International Symposium on “Emerging Discoveries in Microbiology”, Jawaharlal Nehru University, New Delhi, December, 7-10, 2015.
80. **Puri N. (2015)** When the immune system goes rogue: Allergies– no longer the bane of the developed world alone. 4<sup>th</sup> 3-week Special Winter School, UGC-Human Resource Development Centre, Jamia Millia Islamia, Jamia Nagar, New Delhi-25, December 29, 2015. (*Oral presentation*)
81. Paudel S., and **Puri N. (2016)** Heterogeneity in tumor cells’ responses to mast cell mediators. Jawaharlal Nehru University, New Delhi, February 9-10, 2016.
82. **Puri N. (2016)** Animal experimentation in Immunology research and its alternatives for animal welfare. Hands on Workshop for Handling and Care of Laboratory Animals, School of Life Sciences, Jawaharlal Nehru University, New Delhi, February 11-14, 2016. (*Invited Talk*)
83. **Puri N. (2016)** Exploring the novel mechanisms of Mast cell mediated immune effector responses for pathogen clearance and tumor surveillance. Science Day 2016, Jawaharlal Nehru University, New Delhi, February 26, 2016.
84. Naskar P. and **Puri N. (2016)** Role of SNAP-23 phosphorylation in dynamic changes in membrane association of SNAP-23 during allergen challenge in Mast Cells Biosparks 2016, School of Life Sciences, Jawaharlal Nehru University, New Delhi. March, 2016.
85. Paudel S. and **Puri N. (2016)** Interaction of Mast cells may lead to inhibition or tolerance in different tumor cells. Second National Summit of Health and Population Scientists in Nepal. Government of Nepal, Nepal Health Research Council, Kathmandu, Nepal, April 11-12, 2016.
86. **Puri, N. (2016)** Protein traffic in Immune Cells. UGC-RNW Summer Research Program 2016, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. 6<sup>th</sup> June, 2016. (*Invited Talk*)
87. **Puri, N. (2016)** Allergies: when the immune system goes rogue. 6<sup>th</sup> Orientation Programme, UGC-HRDC, Jawaharlal Nehru University, New Delhi, India. 3<sup>rd</sup> August, 2016. (*Invited Talk*)
88. **Puri, N. (2016)** Interactions of mast cells with allergens, pathogens, and abnormal cells, and molecular mechanisms of their effector responses. Colloquium, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. 19<sup>th</sup> August, 2016. (*Invited Talk*)
89. Paudel S. and **Puri N. (2017)** Mast cells mediators cause growth arrest and loss of mitochondrial function specifically in YAC-1 but not in EL-4, P815 and L1210 tumor cell lines. International conference on mitochondria in health and disease. School of Life Sciences, Jawaharlal Nehru University, New Delhi, India, Feb 10-11, 2017. (*Award Winning Poster*)
90. Khurana G.K., Naqvi N., Naskar P., Sharma P., Paudel S., Verma R. and **Puri N. (2017)** Role of Mast cells in infectious and non-infectious diseases. National Science day symposium 2017. Department of Science and Technology (Government of India) and Jawaharlal Nehru University, New Delhi, Feb-28, 2017.

91. Varma R. and **Puri N. (2017)** Dampening of mast cell secondary responses to allergen by various primary challenges *in vitro*. South Asian Biotechnology Conference-2017 Kathmandu, Nepal. March 16-18, 2017. (**Best Poster Award**)

92. Ahuja K., Beg M.A., **Puri N.**, Krishnan A., Tandon R., Chaudhury A., Salotra P., Nakhasi H., and A. Selvapandiyani, A. **(2017)** Characterization of Centrin4 protein in *Leishmania donovani* towards development of novel vaccine candidates. UGC (DRS-I), DST (SERB) and ICAR Sponsored National Seminar on Biotechnology in Health Care: Challenges and Opportunities March 2017 Jamia Hamdard, New Delhi, India

93. Naqvi N. and **Puri N. (2017)** Interaction of Mast Cells with intracellular pathogens. Oral Presentation in “Emerging Sparks”, Biosparks 2017, School of Life Sciences, Jawaharlal Nehru University, New Delhi. March 30-31, 2017.

94. Naskar P. and **Puri N. (2017):** The dynamics of SNAP-23 membrane localization in mast cells undergoing exocytosis and their regulation by phosphorylation Biosparks 2017, School of Life Sciences, Jawaharlal Nehru University, New Delhi. March 30-31, 2017. (**Award winning oral presentation**)

95. Sharma P. and **Puri N. (2017)** A new role of mast cells as scavengers *in vitro* and *in vivo* for clearance of erythrocytes damaged due to oxidative stress. Biosparks 2017, School of Life Sciences, Jawaharlal Nehru University, New Delhi. March 30-31, 2017. (**Oral presentation**)

96. Naskar P., and **Puri N. (2017)** Phosphorylation of SNAP-23 regulates its dynamic subcellular localization and regulated exocytosis in mast cells. Immunology 2017, Annual Meeting of the American Association of Immunologists, Washington D.C., USA. May 12-16, 2017.

97. Selvapandiyani A., Naqvi N., Ahuja K., Dey R., Nakhasi H., and **Puri N. (2017)** Mast cells' interaction with *Leishmania* leads to effector responses in reducing initial parasite load. Immunology, Annual Meeting of the American Association of Immunologists, Washington D.C., USA. May 12-16, 2017.

98. Naqvi N., Ahuja K., Selvapandiyani A., Dey R., Nakhasi H., and **Puri, N. (2017)** Interaction of *Leishmania* with Mast cells leads to effector responses for extracellular pathogen clearance: 6<sup>th</sup> World Congress on Leishmaniasis, Toledo, Spain, May 16-20, 2017.

99. Ahuja K., Beg M.A., Naqvi N., **Puri N.**, Chaudhury A., Nakhasi H., Salotra P., and Selvapandiyani A. **(2017)** Characterization of A Vesicle Associated Amastigote Specific Hypothetical Protein (30b in *Leishmania donovani*: 6<sup>th</sup> World Congress on leishmaniasis, Toledo, Spain, May 16-20, 2017.

100. Ahuja K., **Puri N.**, Krishnan A., Salotra P., Nakhasi H., and Selvapandiyani A. **(2017)** Cell division specific virulent genes in *Leishmania* as potential targets for Leishmaniasis elimination. 6<sup>th</sup> World Congress on Leishmaniasis, Toledo, Spain, May 16-20, 2017.

101. **Puri, N. (2017)** Advances in Immunology UGC-RNW Summer Research Program 2017, School of Life Sciences, Jawaharlal Nehru University, New Delhi, June 9<sup>th</sup>, 2017. (**Invited Talk**)

102. **Puri, N. (2017)** Interactions of mast cells with allergens, pathogens, and abnormal cells, and molecular mechanisms of their effector responses. Colloquium, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. 23<sup>rd</sup> August, 2017. (**Invited Talk**)

103. **Puri, N. (2017)** Regulation of Mast Cell allergen response by specific SNAREs, their complexes and post-translational modifications. 86<sup>th</sup> Annual Conference of Society of Biological Chemists 2017 (SBC 2017) on “Emerging Discoveries in Health and Agriculture”, Jawaharlal Nehru University, New Delhi. November 16-19, 2017. (*Invited Talk*)
104. Sharma, P. and **Puri, N. (2017)** Erythrophagocytosis by Mast cells: Implications in chronic inflammatory and autoimmune diseases. 86<sup>th</sup> Annual Conference of Society of Biological Chemists 2017 (SBC 2017) on “Emerging Discoveries in Health and Agriculture”, Jawaharlal Nehru University, New Delhi. November 16-19, 2017.
105. Varma, R.. and **Puri, N. (2017)** Re-exposure of mast cells to allergen leads to reduced mast cell mediator release. 86<sup>th</sup> Annual Conference of Society of Biological Chemists 2017 (SBC 2017) on “Emerging Discoveries in Health and Agriculture”, Jawaharlal Nehru University, New Delhi. November 16-19, 2017.
106. Sharma, P. and **Puri, N. (2018)** Role of mast cells in erythrophagocytosis of oxidatively damaged erythrocytes in vitro and in vivo: International Congress of cell biology “The dynamic cell: Molecules and networks to form and function”, Centre for Cellular & Molecular Biology (CSIR-CCMB), Hyderabad, India. January 27-31, 2018.
107. Varma, R. and **Puri, N. (2018)** Repeated exposure to IgE and allergen causes decline in mast cell mediator release on secondary challenge. International Congress of cell biology “The dynamic cell: Molecules and networks to form and function”, Centre for Cellular & Molecular Biology (CSIR-CCMB), Hyderabad, India. January 27-31, 2018.
108. Khurana, G.K., Aggarwal, V., Vishwakarma, P., Lynn, A.M. , Mallick, B.N. and **Puri, N. (2018)** Unraveling the Phylogenetic divergence of the SNARE domain and its role in regulating the Kinetics of exocytosis in Mast cells. International Congress of cell biology “The dynamic cell: Molecules and networks to form and function”, Centre for Cellular & Molecular Biology (CSIR-CCMB), Hyderabad, India. January 27-31, 2018.
109. Sharma, P. and **Puri, N. (2018)** A novel role of mast cells in erythrophagocytosis during chronic inflammatory and autoimmune diseases: “Trends in Biochemical and Biomedical Research: Advances and Challenges”, Department of Biochemistry, Institute of Science, Banaras Hindu University, Varanasi, India. February 13-15, 2018. (*Award winning poster*)
110. Paudel S. and **Puri N. (2018)** Differential histamine receptor expression and signaling cause heterogeneity in tumor cell response to mast cell mediators. International Conference on “Trends in Biochemical and Biomedical Research, Advances and Challenges”. Department of Biochemistry, Institute of Science, Banaras Hindu University, Varanasi, India. Feb 13-15, 2018 (*Best scientific presentation award*)
111. Srivastava, R., Naqvi, N., Ahuja, K., Selvapandiyam, A., and **Puri, N. (2018)** Unravelling the mast cell’s responses to direct interaction with *Leishmania tropica*. Biosparks 2018: Exploring the new dimensions, School of Life Sciences, Jawaharlal Nehru University, New Delhi. February 23-24, 2018.

112. Mehtani, D., Paudel, S., and **Puri, N. (2018)** Selective inhibitory effect of histamine, a potent mediator secreted by mast cells, on T cell lymphoma *in vitro*. Biosparks 2018: Exploring the new dimensions, School of Life Sciences, Jawaharlal Nehru University, New Delhi. February 23-24, 2018.
113. Varma R. and **Puri N. (2018)** Exploring global therapeutic approaches for allergic diseases by dampening of mast cell responses. National Science Day, Department of Science and Technology (Government of India) and Jawaharlal Nehru University, New Delhi, Feb-28, 2018.
114. Khurana, G.K., Aggarwal, V., Vishwakarma, P., Lynn, A.M. , Mallick, B.N. and **Puri, N. (2018)** Accelerating the inflammatory mediator release by Mast cell mediator release by comparing and modifying SNARE proteins. National Science Day, Department of Science and Technology (Government of India) and Jawaharlal Nehru University, New Delhi, Feb-28, 2018.
115. **Puri N. (2018)** Introduction to Animal Bio-safety Level (ABSL) –I, II, III, and IV facilities and their monitoring Workshop for Handling & care of Laboratory Animals, School of Life Sciences, Jawaharlal Nehru University, New Delhi. May 28<sup>th</sup> – June 2<sup>nd</sup> , 2018 (*Invited Talk*)
116. **Puri N. (2018)** Current concepts in Immunology and its applications. UGC-RNW Summer Research Program 2018, School of Life Sciences, Jawaharlal Nehru University, New Delhi, June 22<sup>nd</sup> , 2018. (*Invited Talk*)
117. Mehtani D., Paudel S. and **Puri N., (2018)** Histamine, a potent secretory mediator of Mast Cell, selectively inhibits T cell lymphoma growth *in vitro*, *Immunocon 2018*, 45th Annual meeting of Indian Immunology Society, held at Translational Health Science and Technology Institute (THSTI), Faridabad, India, November 1<sup>st</sup> – 3<sup>rd</sup>, 2018
118. **Puri N. (2019)** Heterogeneity in Mast cell responses and their effects during infection by different *Leishmania* species may lead to immunity or evasion, International conference on the innovations for the elimination and control of Visceral Leishmaniasis, organized by the Institute of Molecular Medicine, Jamia Hamdard, New Delhi, at Holiday Inn, Aero City, New Delhi. Nov 28<sup>th</sup> -30<sup>th</sup>, 2018 (*Invited Talk*)
119. **Puri N. (2019)** Animal models in Immunology Research: Ethical Evaluation of Research Protocols and Alternatives to animals, Workshop for Handling & care of Laboratory Animals, School of Life Sciences, Jawaharlal Nehru University, New Delhi. Feb 4<sup>th</sup> –7<sup>th</sup> , 2019 (*Invited Talk*)
120. **Puri N. (2019)** Ethical Evaluation of Research Protocols involving experimental animals, Symposium and training on “Ethical use of laboratory animals” (EULA 2019), organized by Central Animal House Facility and Centre for Faculty Development, Jamia Hamdard, New Delhi, Feb 14<sup>th</sup> , 2019 (*Invited Talk*)
121. **Puri N. (2019)** How innate immune cells like Mast cells affect immunity or evasion during Leishmaniasis?, National Science Day 2019, “Science for the people and the people for science”, organized by the Department of Science and Technology (Government of India), New Delhi and Jawaharlal Nehru University, New Delhi, at Convention Centre, Jawaharlal Nehru University, New Delhi. Feb 28<sup>th</sup> , 2019 (*Invited Talk*)
122. Varma R. and **Puri N. (2019)** Exploring mast cell secondary responses and their modulation after allergen challenge. National Science Day 2019, “Science for the people and the people for science”, organized by the Department of Science and Technology (Government of India), New Delhi and Jawaharlal

Nehru University, New Delhi, at Convention Centre, Jawaharlal Nehru University New Delhi, India. Feb 28, 2019.

123. Agasti S., Naskar P., Sharma P., Khurana G. K. and **Puri N. (2019)** Cellular and molecular mechanisms of mast cells effector function in allergies and inflammatory diseases, National Science Day 2019, “Science for the people and the people for science”, organized by the Department of Science and Technology (Government of India), New Delhi and Jawaharlal Nehru University, New Delhi, at Convention Centre, Jawaharlal Nehru University New Delhi, India. Feb 28, 2019.

124. Varma R. and **Puri N. (2019)** Modulation of mast cell responses to allergen by inducing tolerance with various primary challenges. Biosparks 2019: Celebrating Science, School of Life Sciences, Jawaharlal Nehru University New Delhi, India. March 15-16, 2019 (**Appreciation Award for Oral Presentation**).

125. Agasti S., and **Puri N. (2019)** Studies on phosphorylation dynamics of SNAP-23 in mast cell exocytosis. Biosparks 2019: Celebrating Science, School of Life Sciences, Jawaharlal Nehru University New Delhi, India. March 15-16, 2019.

126. Srivastava R., Naqvi N., Jain P., Sethi S. C., Komath S. S. and **Puri N. (2019)** Glycosylphosphatidylinositol (GPI) anchored proteins of *Candida albicans* are important for virulence or evading the immune response of the first defenders of the host. *Immunocon 2019*, 46th Annual meeting of Indian Immunology Society, December 2019.

127. Agasti S., Agarwal V. and **Puri N. (2019)** Importance of membrane association dynamics of SNAP-23 during release of inflammatory mediators from mast cells in response to allergen challenge and its regulation by post translational modifications, *Immunocon 2019*, 46th Annual meeting of Indian Immunology Society, December 2019

128. **Puri N. (2019)** Exploring Cell Biology of Immune Responses to Infectious Agents by Flowcytometry. A training programme on Modern Biology with focus on Infectious Diseases, Sponsored by Department of Health Research (Ministry of Health and Family Welfare, GOI), at JH-Institute of Molecular Medicine, Jamia Hamdard, New Delhi, November 18- December 14, 2019 (**Invited Talk**)

129. **Puri N. (2020)** Animal models in Immunology Research: Ethical Evaluation of Research Protocols and Alternatives to animals, Workshop on Handling and Care of Laboratory Animals, School of Life Sciences, Jawaharlal Nehru University New Delhi, India. February 15-19, 2020. (**Invited Talk**)

130. **Puri N. (2020)** Direct interaction between the innate immune cells of the host and *Candida albicans*: Predicting the virulence, Amity Institute of Biotechnology, Amity University Haryana, Amity Education Valley Gurgaon-122413, India. March, 12, 2020. (**Invited Talk**)

131. **Puri N. (2020)** Molecular mechanisms of effector innate immune responses in infectious and non-infectious diseases-in search of novel therapeutic and vaccine targets, November 30, 2020 Department of Molecular Medicine, Jamia Hamdard, New Delhi, India 110062 (**Invited Talk**)

132. **Puri N. (2020)** Multipronged mast cell effector responses and their evasion: facilitating pathogen clearance or persistence, International conference on innovations in Biotechnology and Life Sciences



(ICIBLS 2020) Organized by Department of Biotechnology, Delhi Technological University from December 18th -20th, 2020. (*Invited Talk*)

133. Mehtani D., Paudel S., **Puri N.**, (2020) "Differential growth regulation of lymphoid neoplasms by mast cells or their mediators via opposite modulation of histamine receptors". ICIBLS 18th to 20th December, 2020

134. Agasti S. and **Puri N.** (2020) Oral presentation, abstract [ICIBLS/AB/245] entitled "Regulation of inflammatory mediator release by mast cells during allergic response by dynamic phosphorylation of t-SNARE SNAP-23". published in the Conference Proceedings of the first International Conference on Innovation in Biotechnology and Life Sciences (ICIBLS) organized by Department of Biotechnology, Delhi Technological University from 18th to 20th December, 2020. (*Oral presentation*)

135. Srivastava R , Naqvi N , Jain P. , Sethi S. C. , Komath S.S. and **Puri N.**(2020)International conference on innovations in Biotechnology and Life Sciences (ICIBLS 2020). Direct Interaction of host innate immune cells with *Candida albicans* point to a significant role for Glycosylphosphatidylinositol (GPI) anchored proteins of *Candida albicans* in virulence. Organized by Department of Biotechnology, Delhi Technological University from December 18th -20th, 2020. (I S B N: 978-93-88647-32-8; DOI:10.6084/m9.figshare.13947833).

136. Agasti S. and **Puri N.**, (2021) abstract entitled on "*Importance of Spatial and Temporal Regulation of SNAP-23 Localization in Activated Mast Cells by Transient Phosphorylation*" published in The FASEB journal <https://doi.org/10.1096/fasebj.2021.35.S1.03420> in the Conference Proceedings of the American Society for Biochemistry and Molecular Biology (ASBMB)-(27<sup>th</sup> April-30<sup>th</sup> April), 2021, International Conference.

137. **Puri N.** (2021) Proteomic approach to target innate immune mast cell responses in hypersensitivity and inflammatory diseases, Guest Lecture at Department of Biotechnology, School of Engineering and Technology, Sharda University. 20<sup>th</sup> July, 2021 (*Invited Talk*)

138. Mehtani D., Paudel S. and **Puri N.** (2021) Mediators released by mast cells modulate growth and survival of cancer stem cells in lymphoid neoplasms. DELHI HEALTHCARE SUMMIT – 2021: 5 World Cancer Congress – 2021:5 World Congress on Drug Discovery and Development- 2021, Department of Hemato-Oncology, Rajiv Gandhi Cancer Institute and Arjyopa Healthcare, India 25 - 26 September, 2021

139. **Puri N.** (2021) Exploring cell biology of immune responses to infectious agents by flow cytometry, 26<sup>th</sup> Refresher Course in Life Sciences & Biotechnology, Human Resource Development Centre-JNU, Jawaharlal Nehru University, New Delhi, December 10, 2021 (*Invited Talk*)

140. **Puri N.** (2022) Utilizing Flowcytometry to study cellular responses of innate immune cells to allergens and pathogens, Summer Undergraduate Research Programme (SURP), Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi, Delhi-110007, June 6, 2022 (*Invited Talk*)

## List of Publications

1. Raval, A., **Puri, N.**, and Saxena, R. K. (1997) Generation of human class I major histocompatibility complex activating factor in serum free medium and its partial characterization. J. Biosci. 22(22):59-68. Impact Factor:1.65 *Citations 3*
2. **Puri, N.**, Raval, A., and Saxena, R. K. (1997) Species specificity of a novel factor which augments the expression of MHC class I antigens on tumor cell lines. Exp. Mol. Med. 29(2):129-132. Impact Factor: 5.418 *Citations 4*
3. Raval, A., **Puri, N.**, Rath, P. C., and Saxena R. K. (1998) Cytokine regulation of expression of class I MHC antigens. Exp. Mol. Med. 30(1):1-13. Impact Factor: 5.418 *Citations 34*
4. **Puri, N.**, and Saxena, R. K. (1998) Partial purification and characterization of a novel murine factor that augments the expression of class I MHC antigens on tumor cells. Exp. Mol. Med. 30(2):93-99. Impact Factor: 5.418 *Citations 4*
5. **Puri, N.**, and Saxena, R. K. (1998) Induction of proliferation in resting B-cells by a factor released by activated mouse spleen cells. Exp. Mol. Med. 30(4):199-204. Impact Factor: 5.418 *Citations 1*
6. **Puri, N.**, Appa Rao, K. B. C., Menon, S., Panda, A. K., Tiwari, G., Garg, L. C., and Totey, S. M. (1999) Effect of the codon following the ATG start site on the expression of ovine growth hormone in *Escherichia coli*. Protein Expression Purif. 17(2):215-223. Impact Factor:1.569 *Citations 14*
7. Vaidyanathan, V. V., **Puri, N.**, and Roche, P.A. (2001) The last exon of SNAP-23 regulates granule exocytosis from mast cells. J. Biol. Chem. 276: 25101-25106. Impact Factor: 5.157 *Citations 71*
8. **Puri, N.**, and Roche, P. A. (2001) NSF-mediated SNARE “priming” is required for regulated exocytosis from RBL mast cells. Molecular Biology of the Cell 12: 70A-71A. Impact Factor: 3.528
9. **Puri N.**, and Roche P.A. (2002) Lipid raft association of SNAP-23 and other SNARE proteins: implications for regulated exocytosis from RBL mast cells. Molecular Biology of the Cell 13: 506A-506A. Impact Factor: 3.528 *Citations:1*
10. **Puri, N.**, Kruhlak, M. J., Whiteheart, S. W. and Roche, P. A. (2003) Mast cell degranulation requires N-Ethylmaleimide-Sensitive Factor mediated SNARE disassembly. J. Immunol. 171: 5345-5352. Impact Factor:4.626 *Citations 75*
11. **Puri, N.** and Roche, P. A. (2004) Ternary SNARE complexes are associated with lipid rafts in RBL mast cells. Molecular Biology of the Cell 15: 75A-75A. Impact Factor: 3.528
12. **Puri, N.** and Roche, P. A. (2005) Ternary SNARE complexes are associated with lipid rafts in RBL mast cells. FASEB Journal 19(4):A35-A36. Impact Factor: 4.966
13. Hepp, R., **Puri, N. (equal contribution with 1<sup>st</sup> author)**, Hohenstein, A. C., Crawford, G. L., Whiteheart, S. W. and Roche, P. A. (2005) Phosphorylation of SNAP-23 regulates exocytosis from mast cells. J. Biol. Chem. 280(8): 6610-6620. Impact Factor: 5.157 *Citations 133*
14. **Puri, N.** and Roche, P. A. (2006) Ternary SNARE complexes are enriched in lipid rafts during mast cell exocytosis. Traffic 7: 1482-1494. Impact Factor:4.038 *Citations 110*

15. **Puri, N.** and Roche, P. A. (2008) Mast cells possess distinct secretory granule subsets whose exocytosis is regulated by different SNARE isoforms. Proc. Natl. Acad. Sci., U.S.A. 105(7): 2580-2585. Impact Factor: 9.412 *Citations 218*
16. Saxena, R.K., Bhardwaj N., Sachar, S., **Puri, N.**, and Khandelwal, S. (September, 2012) A double *in vivo* biotinylation (DIB) technique for objective assessment of aging and clearance of mouse erythrocytes in blood circulation. Transfusion Medicine and Hemotherapy 39:335-341. Impact Factor: 1.937 *Citations 18*
17. Alam A., Sachar S., **Puri N.**, Saxena R.K. (2013) Interactions of polydispersed single-walled carbon nanotubes with T cells resulting in downregulation of allogeneic CTL responses *in vitro* and *in vivo*. Nanotoxicology 7(8):1351-60. Impact Factor: 5.306 [*Included as a Key Nanotechnology Article on Global Medical Discovery web-portal (globalmedicaldiscovery.com)*]. *Citations 24*
18. Rizvi Z.A., **Puri N.**, and Saxena R.K. (2014) Inhibition of CD1d pathway of antigen presentation by acid functionalized single-walled carbon nanotubes (AF-SWCNTs) in professional and non-professional antigen presenting cells, Toxicology Letters 229S, S40–S252 (Abstract). Impact Factor:3.569
19. Rizvi Z.A., **Puri N.**, and Saxena R.K. (May, 2015) Evidence of a functional CD1d lipid antigen presentation pathway in murine alveolar epithelial cells, J. Immunol. 194(1 Supplement):113.9 (Abstract APP3P.108) Impact Factor: 4.626
20. Rizvi Z.A., **Puri N.**, and Saxena R.K. (Septemper, 2015) Lipid antigen presentation through CD1d pathway in mouse lung epithelial cells, macrophages and dendritic cells and its suppression by poly-dispersed single-walled carbon nanotubes, Toxicology in Vitro 29(6):1275-1282. doi: 10.1016/j.tiv.2014.10.022. Epub 2014 Nov 4 Impact Factor:2.959; *Citations:20*
21. Selvapandiyan A., Ahuja K., **Puri N.** and Krishnan A. (December, 2015) Implications of co-infection of *Leptomonas* in visceral leishmaniasis in India, Parasitology 142(14):1657-62. Impact Factor:2.783 *Citations 10*
22. Priyanka, Kotiya D., Rana M., Subbarao N, **Puri N.** and Tyagi R.K. (January, 2016) Transcription regulation of nuclear receptor PXR: role of SUMO-1 modification and NDSM in receptor function, Molecular and Cellular Endocrinology 420:194-207 Impact Factor:3.871; *Citations:14*
23. Alam A., **Puri N.**, Saxena R.K. (September, 2016) Uptake of polydispersed single-walled carbon nanotubes and the attendant decline of cellular functions of mouse NK cells undergoing activation J. Immunotoxicology 13(5):758-65 DOI: 10.1080/1547691X.2016.1191562 Impact Factor:2.78. *Citations: 12*
24. Naskar P., and **Puri N.\*** (May, 2017) Phosphorylation of SNAP-23 regulates its dynamic subcellular localization and regulated exocytosis in mast cells. J. Immunol. 198(1 Supplement):67.14 (Abstract) Impact Factor: 4.626 *Citations 1(\*Corresponding author)*
25. Selvapandiyan A., Naqvi N., Ahuja K., Dey R., Nakhasi HL, and **Puri N.\*** (May, 2017) Mast cells' interaction with *Leishmania* leads to effector responses in reducing initial parasite load. J. Immunol. 198(1 Supplement):68.12 (Abstract) Impact Factor: 4.626 (\**Corresponding author*)
26. Paudel S., Naqvi N., and **Puri N.\*** (July, 2017) Allergen and pathogenic challenges initiate

heterogeneous responses in mast cells. International Research Journal of Natural and Applied Sciences 4(7):74-88. Impact Factor:5.46 (\**Corresponding author*)

27. Naskar P., and **Puri N.\* (September, 2017)** Phosphorylation of SNAP-23 regulates its dynamic membrane association during Mast Cell exocytosis. Biology Open 6(9):1257-69 doi: 10.1242/bio.025791 Impact Factor:2.029. *Citations:16* (\**Corresponding author*)

28. Naqvi N., Ahuja K. , Selvapandiyam A., Dey R., Nakhasi H., and **Puri, N.\* (October, 2017)** Role of Mast Cells in clearance of *Leishmania* through extracellular trap formation. Scientific Reports 7: 13240 | DOI:10.1038/s41598-017-12753-1 Impact Factor:3.998. *Citations:34* (\**Corresponding author*)

29. Naskar P, Naqvi N., and **Puri N.\* (March, 2018)** Blocking dephosphorylation at Serine 120 residue in t-SNARE SNAP-23 leads to massive inhibition in exocytosis from mast cells. J. Biosciences. 43(1):127-138 DOI:10.1007/s12038-018-9740-y Impact Factor:1.65. *Citations 2* (\**Corresponding author*)

30. Sharma P., and **Puri N.\* (2018)** A new role for mast cells as scavengers for clearance of erythrocytes damaged due to oxidative stress Immunology Letters 199: 23-35 (https://doi.org/10.1016/j.imlet.2018.04.002) Impact Factor:3.276. *Citations:12* (\**Corresponding author*)

31. Ahuja K. , Beg M.A., Sharma, R., Saxena A., Naqvi N., **Puri, N.**, Rai P.K., Chaudhury A., Duncan R., Salotra P., Nakhasi H., and Selvapandiyam A. (**August 2018**) A novel signal sequence negative multimeric glycosomal protein required for cell cycle progression of *Leishmania donovani* parasites. BBA Molecular Cell Research 1865(8): 1148-1159 (https://doi.org/10.1016/j.bbamcr.2018.05.012 ) Impact Factor: 4.739. *Citations:2*

32. Jain P., Sethi S.C., Pratyusha V.A., Garai P., Naqvi N., Singh S., Pawar K., **Puri N.** and Komath S.S. (**June, 2018**) Ras signaling activates glycosylphosphatidylinositol anchor biosynthesis via the GPI-N-acetylglucosaminyl transferase (GPI-GnT) in *Candida albicans* J. Biol. Chem. **293(31)**, 12222-12238 Impact Factor: 5.157 *Citations 10*

33. Khurana, G.K., Vishwakarma P., **Puri N.\***, and Lynn A.M.\* (**July 2018**) Phylogenetic Analysis of the vesicular fusion SNARE machinery revealing its functional divergence across Eukaryotes Bioinformatics 14(7),361-368, Impact Factor:5.61 *Citations 5*(\* *Co-corresponding authors*)

34. Sharma P., and **Puri N.\* (2018)** Data confirming murine erythrocyte opsonization and oxidative damage and live microscopic analysis of oxidatively damaged erythrocyte uptake by mast cells, Data in Brief 20: 1645-1652, Impact Factor: 1.13 (\**Corresponding author*)

35. Rizvi Z.A., **Puri N.\***, and Saxena R.K. (**December 2018**) Evidence of CD1d pathway of lipid antigen presentation in mouse primary lung epithelial cells and its up-regulation upon *Mycobacterium bovis* BCG infection. PLoS One. 2018 Dec 31;13(12):e0210116. doi: 10.1371/journal.pone.0210116. eCollection 2018 Impact Factor:2.74 *Citations 6* (\**Corresponding author*)

36. Varma R., and **Puri N.\* (2019)** Allergen induced tolerance and modulation of mast cell responses involves specific signaling, European Journal of Immunology: 49: 585-586 Impact Factor: 4.235 (\**Corresponding author*)

37. Varma R., and **Puri N.\* (October 2019)** Dampening of mast cell secondary responses to allergen involves specific signalling and epigenetic changes, Cell Immunol. 2019 Oct;344:103944. doi: 10.1016/j.cellimm.2019.103944. Epub 2019 Jun 8, Impact Factor:4.078 (\**Corresponding author*) **Citations 1**

38. Jain P., Garai P., Sethi S. C., Naqvi N., Yadav B., Kumar P., Singh S. L., Yadav U., Bhatnagar S., Rahul, **Puri N.**, Muthuswami R. and Komath S. S. (**June 2019**) Modulation of azole sensitivity and filamentation by *GPII5*, encoding a subunit of the first GPI biosynthetic enzyme, in *Candida albicans*, Scientific Reports **9**, Article number: 8508 Impact Factor: 3.998 **Citations 3**

39. Agarwal V., Naskar P., Agasti S., Khurana, G.K., Vishwakarma P., Lynn A.M., Roche P. A., and **Puri N.\* (October, 2019)** The Cysteine-rich Domain of Synaptosomal-associated Protein of 23 kDa (SNAP-23) regulates its Membrane Association and Regulated Exocytosis from Mast Cells, Biochim Biophys Acta Mol Cell Res. 2019 Oct;1866(10):1618-1633. doi: 10.1016/j.bbamcr.2019.06.015. Epub 2019 Jun 29. Impact Factor: 4.739 **Citations:7** (\**Corresponding author*)

40. Paudel . S., Sharma. P and **Puri. N.\* (2019)** The Immunosenescence, inflammaging, and their implications for cancer and anemia. **Book Chapter in Models, Molecules and Mechanisms in Biogerontology** [Springer Nature Singapore Pte Ltd., 2019; P. C. Rath (ed.)] 297-319 [https://doi.org/10.1007/978-981-13-3585-3\\_14](https://doi.org/10.1007/978-981-13-3585-3_14) **Citations 4**(\**Corresponding author*)

41. Paudel . S., Mehtani. D. and **Puri. N.\* (November 2019)** Mast cells differentially regulate growth of lymphoid neoplasms by opposite modulation of histamine receptors Frontiers in Oncology Front oncol. doi: 10.3389/fonc.2019.01280 · Impact Factor:6.244 **Citations 3** (\**Corresponding author*)

42. Valmiki S., Ahuja V., **Puri N.** and Paul J. (**January 2020**) miR-125b and miR-223 Contribute to Inflammation by Targeting the Key Molecules of NFκB Pathway. Front. Med. 6:313. doi: 10.3389/fmed.2019.00313 Impact Factor:3.9 **Citations:15**

43. Naqvi N., Srivastava R., Selvapandiyan A., and **Puri, N.\* (October, 2020)** Host Mast Cells in Leishmaniasis: Friend or Foe? Trends in Parasitology 36(12):952-956 <https://doi.org/10.1016/j.pt.2020.09.010> , Impact Factor:9.014 (\**Corresponding author*) **Citations 3**

44. Agasti S. and **Puri N.\* (April, 2021)** Importance of Spatial and Temporal Regulation of SNAP-23 Localization in Activated Mast Cells by Transient Phosphorylation. The FASEB journal <https://doi.org/10.1096/fasebj.2021.35.S1.03420> (Abstract in the Conference Proceedings of ASBMB 2021), Impact Factor:5.955 (\**Corresponding author*)

45. Naqvi N., Srivastava R. , Naskar P., and **Puri, N.\* (May, 2021)** Mast Cells modulate early responses to *Mycobacterium bovis* Bacillus Calmette-Guerin by phagocytosis and formation of extracellular traps. Cellular Immunology 365(2021):104380 <https://doi.org/10.1016/j.cellimm.2021.104380> Impact Factor:4.078 (\**Corresponding author*) **Citations 1**

46. Gupta A., Sinha K. M., Abdin M. Z., **Puri N.** and Selvapandiyan A.(**September, 2021**) NDK/NME proteins: A host pathogen interface perspective towards therapeutics. Current Genetics <https://doi.org/10.1007/s00294-021-01198-9> Impact Factor:3.661 **Citations 1**

47. Mehtani D. and **Puri N.\* (September, 2021)** Steering mast cells or their mediators as a prospective novel therapeutic approach for the treatment of hematological malignancies. *Frontiers in Oncology* <https://doi.org/10.3389/fonc.2021.731323> Impact Factor:6.244 (\***Corresponding author**)

48. Mehtani D. and **Puri N.\* (2022)** Immunological paradox for maintaining normal flora: it is all by design, not by chance. **Book Chapter** in “Microbial crosstalk with immune system, new insights in cancer therapeutics” to be published with Elsevier Publications; Asmita Das (ed.) (*in press*) (\***Corresponding author**)

49. Naqvi N., Srivastava R., Selvapandiyan A., and **Puri, N.\* (2022)** Understanding the heterogeneity in Mast Cell role in host defense during Leishmaniasis (*Book Chapter communicated*) (\***Corresponding author**)

50. Selvapandiyan A., **Puri, N.**, Salotra P., Nakhasi H. and Ganguly N. K. (**2021**) Prevention of Visceral Leishmaniasis using vaccination: A review of worldwide efforts (*Book Chapter under preparation*)

51. Sharma P. and **Puri N.\* (2022)** New insights into role of mast cells in clearance of oxidatively damaged erythrocytes *in vivo* (*manuscript under preparation*) (\***Corresponding author**).

52. Agasti S., Suleman M. and **Puri N.\* (2022)** Spatial and temporal regulation of SNAP-23 localization in activated Mast Cells by transient phosphorylation is important for degranulation during allergen challenge (*manuscript under preparation*) (\***Corresponding author**)

53. Srivastava R., Anwar F., Selvapandiyan A. and **Puri N.\* (2021)** Exploring the “Trojan horse” characteristics of mast cells during *Leishmania* infection (*manuscript under preparation*) (\***Corresponding author**)

54. Khurana G.K., Vishwakarma P., Suleman M., Mallick B. N., Lynn A.M.\*, and **Puri N.\* (2021)** Detailed phylogenetic analysis of the vesicular fusion SNARE machinery to reveal its functional divergence across Eukaryotes and the conserved motifs (*manuscript under preparation*) (\***Corresponding authors**)

#### Patents:

1. Priyanka, **Puri, N.**, and Tyagi, R. K.

**Title of Invention:** GENERATION AND CHARACTERIZATION OF HYBRIDOMA CLONES PRODUCING MONOCLONAL ANTIBODIES AGAINST SPECIFIC DOMAINS OF HUMAN PREGNANE AND XENOBIOTIC RECEPTOR (PXR)

(**Indian patent published on 09/11/2018**)

(Application No.201711016149 A)

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#### Completed Research Projects:

Grant Agency	Title of the project and Reference number	Duration (from mm/yy to mm/yy)	Percentage of time devoted/ being devoted/ to be devoted, in man months	Amount in lakh Rs.
DST	To explore the relationship between the age of erythrocyte in blood circulation and their susceptibility to stress and anemia inducing agents	2009-2012	(As a Co-PI till June 2011, as a PI from July 2011)	Rs. 34.85 Lacs
DST	Interactions of carbon nano-particles and their chemically modified forms with cells and organs <i>in vitro</i> and <i>in vivo</i>	2009-2013	(As a Co-PI till June 2011, as a PI from July 2011)	Rs 1.35332 Crores
DST	To determine the molecular mechanisms of regulated exocytosis of various inflammatory mediators from mast cells	2011-2014	(As a PI)	Rs. 40.72 Lacs
DST	Modulation of erythroid line of differentiation and erythrocyte turnover in mouse model of autoimmune hemolytic anemia	2013-2016	(As a Co-PI)	Rs. 39.912 Lacs
UGC (UPE II)	Role of SNARE machinery in regulating the kinetics of exocytosis: it's regulation by sleep and implications for neuronal and immune cell networks	2014-2019	(As a PI)	Rs. 23.0 Lacs
ICMR	Role of mast cells in phagocytosis/clearance of erythrocytes	July 2015 - June 2018	(As a PI)	Rs. 26.356 Lacs
DST-SERB	Identification and characterization of centrin protein interacting partners/related pathways of <i>Leishmania donovani</i> to assess their role in parasite virulence	28-09-2016 to 27-09-2019	(As a Co-PI)	Rs. 61.104 Lacs

### Research Projects:

Grant Agency	Title of the project and Reference number	Duration (from mm/yy to mm/yy)	Percentage of time devoted/ being devoted/ to be devoted, in man months	Amount in lakh Rs.
DST	To explore the relationship between the age of erythrocyte in blood circulation and their susceptibility to stress and anemia inducing agents (SR/SO/HS-133/2007)	2009-2012	(As a Co-PI till June 2011, as a PI from July 2011)	Rs. 34.85 Lacs
DST	Interactions of carbon nano-particles and their chemically modified forms with cells and organs <i>in vitro</i> and <i>in vivo</i> (SR/NM.NS-50/2008)	2009-2013	(As a Co-PI till June 2011, as a PI from July 2011)	Rs 1.35332 Crores
DST	To determine the molecular mechanisms of regulated exocytosis of various inflammatory mediators from mast cells (SR/SO/HS-0122/2009)	2011-2014	(As a PI)	Rs. 40.72 Lacs
DST	Modulation of erythroid line of differentiation and erythrocyte turnover in mouse model of autoimmune hemolytic anemia (SO/HS-0261/2012)	2013-2016	(As a Co-PI)	Rs. 39.912 Lacs
ICMR	Role of mast cells in phagocytosis/clearance of erythrocytes (61/3/2012-BMS)	July 2015 - June 2018	(As a PI)	Rs. 26.356 Lacs

<b>UGC (UPE II)</b>	Role of SNARE machinery in regulating the kinetics of exocytosis: it's regulation by sleep and implications for neuronal and immune cell networks (ID-54)	2014-2019	(As a PI)	Rs. 23.0 Lacs
<b>DST-SERB</b>	Identification and characterization of centrin protein interacting partners/related pathways of <i>Leishmania donovani</i> to assess their role in parasite virulence (EMR/2015/000874)	28-09-2016 to 27-09-2019	(As a Co-PI)	Rs. 61.104 Lacs
<b>ICMR</b>	Centre for Advanced Research & Excellence in Leukemic Stem Cells (LSC) for Prognosis and Treatment (CARE-LSCPT) in Acute Myeloid Leukemia (55/4/10/CARE-AML/2018-NCD-II)	01-03-2019 to 29-02-2024	(As a Co-PI)	
<b>DST-SERB</b>	Proteomics study to reveal differential protein interactions of SNAP-23 due to dynamic post-translational modifications during allergen induced mast cell activation (CRG/2019/003651)	13-02-2020 to 12-02-2023	(As a PI)	Rs. 60.2356 Lacs
<b>ICMR (DHR)</b>	Gene functional analysis and development of Live attenuated vaccine candidates of leishmania parasites against leishmaniasis using CRISPR cas9 approach (GIA/2/VBD/2021/ECD-II)	March, 2022 to March, 2025	(As a Co PI)	Rs.

### Meetings Organized/participated:

### Workshops/Conferences Organized:

1. Member organizing committee, International Symposium on *Novel Strategies for Targeted Prevention and Treatment of Cancer* : December, 19-20<sup>th</sup>, 2008: at Jawaharlal Nehru University, New Delhi, India
2. Workshop: Basic Flowcytometry Training (in collaboration with BD Biosciences): May 18<sup>th</sup> -20<sup>th</sup>, 2010: at School of Life Sciences, Jawaharlal Nehru University, New Delhi.
3. UGC-Networking Resource Centre-Summer Research Programme 2010: 20<sup>th</sup>, May-26<sup>th</sup>, June, 2010: at School of Life Sciences, Jawaharlal Nehru University, New Delhi.
4. Biosparks 2011: March 2011: at School of Life Sciences, Jawaharlal Nehru University, New Delhi.
5. Symposium: Molecular Genetics and Immunology: Journey through the Decades: September 1<sup>st</sup>, 2011: at School of Life Sciences, Jawaharlal Nehru University, New Delhi.
6. Advanced Instrumentation Research Facility (JNU) - Beckman Coulter Flow Cytometry Workshop: October, 30<sup>th</sup> -31<sup>st</sup>, 2012: at Advanced Instrumentation Research Facility, Jawaharlal Nehru University, New Delhi.
7. Summer Research Programme 2013; 27<sup>th</sup> May, 2013 to 28<sup>th</sup>, June 2013; As an Organizer, under UGC Resource Network, School of Life Sciences, Jawaharlal Nehru University, New Delhi.
8. Four decades of School of Life Sciences; 13<sup>th</sup> -15<sup>th</sup> February, 2014; As one of the Organizers, School of Life Sciences, Jawaharlal Nehru University, New Delhi.



9. Participated in Biosparks 2014; 21-22 March, 2014, in the Panel of Judges for Poster presentation and Visual Sparks; School of Life Sciences, JNU, New Delhi.

10..Member organizing committee, International Symposium on *Current Advances in Radiobiology, Stem Cells and Cancer Research*: February, 19-21<sup>st</sup>, 2015: at Jawaharlal Nehru University, New Delhi, India

11. Participated in Biosparks 2015; 27-28 March, 2015, in the Panel of Judges for Poster presentation; School of Life Sciences, JNU, New Delhi.

12.Organizer Advanced Instrumentation Research Facility (JNU) - Workshop on “Flow Cytometry and its applications and wet Lab” Organized by AIRF JNU-Beckman Coulter India Pvt. April, 12<sup>th</sup> -13<sup>th</sup>, 2016: at Advanced Instrumentation Research Facility, Jawaharlal Nehru University, New Delhi.

13. Organizer Gian Course: “Membrane Biogenesis, Porosomes, Health and Disease: Molecular Underpinnings of Secretions and Membrane Fusions in Cells” June 19-25, 2016 School of Life Sciences, Jawaharlal Nehru University, New Delhi.

14. Member organizing committee, 6th Annual Conference of Society for Mitochondrial Research and Medicine-India, International Conference on Mitochondria in Health and Disease, February, 10-11th, 2017: at Jawaharlal Nehru University, New Delhi, India

15. Participated in 14th International Symposium on Cancer Prevention and Therapeutics (Virtual Meeting), 2021, as Co-chair for Poster presentation session. 16th-17th March 2021 Organized by School of Life Sciences & Special Centre for Systems Medicine Jawaharlal Nehru University, New Delhi, INDIA

16. Organizer of Workshop: Basic Flowcytometry Training (in collaboration with BD Biosciences): November 29<sup>th</sup> – December 1<sup>st</sup>, 2021: at Central Instruments Facility, School of Life Sciences, Jawaharlal Nehru University, New Delhi.

17. Participated in 15th International Symposium on Recent Trends in Cancer Prevention and Interception- Bench to Bedside (Virtual Meeting), 2022, as Co-chair for Poster presentation session. 22nd-23rd February 2022 Organized by School of Life Sciences & Special Centre for Systems Medicine Jawaharlal Nehru University, New Delhi, INDIA

18. Organizer of Workshop: Demonstration and Presentation for Nanolive 3D Cell Explore Imaging System at SLS JNU (in collaboration with Biotron Healthcare): 8<sup>th</sup> March, 2022: at Central Instruments Facility, School of Life Sciences, Jawaharlal Nehru University, New Delhi.

19. Organizer of Workshop: CIF, SLS, JNU visit by a team of students of Maitreyi College, DU: 24<sup>th</sup> March, 2022: at Central Instruments Facility, School of Life Sciences, Jawaharlal Nehru University, New Delhi.

### **Memberships of Boards/Committees (Outside JNU)**

1. Member of IAEC (Institutional animal ethics committee), South Asian University, Akbar Bhawan, Chanakyapuri, New Delhi
2. External Expert on Student Review Committee (SRC) for PhD students, Dept. of Biotechnology, Delhi Technological University, New Delhi

3. External Examiner for MTech, Dept. of Biotechnology, Delhi Technological University, New Delhi
4. Life member, Indian Immunology Society, India
5. Member Doctoral Committee of two Ph. D. students, Laboratory Oncology Unit, Dr. B R A IRCH, AIIMS, New Delhi-110029. (2016 onwards)
6. Member Doctoral Committee of one Ph. D. student, National Institute of Immunology, Aruna Asaf Ali Marg, New Delhi-110067. (2018 onwards)
7. Member Doctoral Advisory Committee of one Ph. D. student, ICMR-National Institute of Pathology, Safdarjung Hospital Campus, New Delhi 110029. (2019 onwards)

**Number of students awarded Research Degrees under my supervision:**

1. Ms. Nilofer Naqvi, M.Phil. 2012  
Title of Thesis: “A comparison of antigen uptake mechanisms and their regulation in rodent mast cells and macrophages”
2. Dr. Nitin Bhardwaj, Ph.D. 2013 (under my co-supervision)  
Title of Thesis: “Mechanism of modulation of erythropoiesis and erythrocytes turnover in mice in response to oxidative stress induced by the herbicide paraquat”
3. Dr. Sumedha Sachar, Ph. D. 2013 (under my co-supervision)  
Title of Thesis: “Interaction of carbon nanotubes and their chemically derived forms with murine erythroid and lymphoid cells *in vitro* and *in vivo*”
4. Dr. Anwar Alam, Ph.D. 2014 (under my co-supervision)  
Title of Thesis: “Modulation of certain parameters of acquired and natural immune system by poly-dispersed single walled carbon nanotubes”
5. Dr. Zaigham Abbas Rizvi, Ph.D. 2016 (under my co-supervision)  
Title of Thesis: “Alternative pathways of presentation of antigens from *Mycobacterium bovis* BCG in professional and non-professional antigen presenting cells and their modulation by carbon nanoparticles”
6. Dr. Sreoshi Chatterjee, Ph.D. 2016 (under my co-supervision)  
Title of Thesis: “Modulation of erythropoietic activity and erythrocyte turnover pattern in mouse anemia induced by exposure to cadmium and anti-erythrocyte auto-antibodies”
7. Dr. Pieu Naskar, Ph.D. 2018  
Title of Thesis: “The dynamics of SNAP-23 membrane localization in mast cells undergoing exocytosis and their regulation by phosphorylation”
8. Dr. Nilofer Naqvi Ph.D. 2018

Title of Thesis: “Interaction of rodent mast cells with intracellular pathogens”

9. Mr. Sandeep Paudel Ph.D. 2018

Title of Thesis: “Novel cancer therapeutic avenues involving mast cells and their mediators”

10. Ms. Priyanka Sharma Ph.D. 2019

Title of Thesis: “Role of mast cells in phagocytosis and clearance of erythrocytes damaged due to oxidative stress”

11. Dr. Swati Ph.D. 2019 (under my co-supervision)

Title of Thesis: “Exploring the role of microRNA dysregulation in the pathogenesis of ulcerative colitis”

12. Dr. Gagandeep Khurana Ph.D. 2019 (Prof. B.N. Mallick co-supervisor)

Title of Thesis: “A phylogenetic study on evolution of SNARE protein family and role of SNAP-23/SNAP-25 subfamily in regulating the kinetics of exocytosis in mast cells and neurons”

13. Dr. Rangati Varma Ph.D. 2020

Title of Thesis: “Cellular and molecular mechanisms of Mast Cell responses to primary and secondary antigen challenge”

### **Mentor/Supervisor**

**PhD** – 6 as co-Supervisor (Awarded); 6 as Supervisor (Awarded); and 5 as Supervisor (current), one as co-supervisor

**MPhil** – 1 (awarded);

**MSc** – 16 (awarded);

**Trainees** - 15

### **Administrative Experience: Member of Committees In Jawaharlal Nehru University**

Animal House Advisory Committee: 2009-2022

Core-Faculty-in-charge for Flowcytometry at AIRF, JNU: 2012-onwards

JNUTA nominee for JNU Daycare advisory committee: 2015

Member, Academic Council: 2017 till 2019

### **In School of Life Sciences, Jawaharlal Nehru University**

Faculty Committee, SLS, 2008 onwards

Special Committee, SLS, 2008 onwards

Central Instrumentation Facility Committee: 2009 onwards (Also Flowcytometry Faculty-in charge)

Animal House Advisory Committee: 2009 onwards

MSc Seminar Committee: 2011-2014

Nude Mice Facility Committee: 2009 onwards

Admission Committee: 2012-2014

Equipment Purchase Committee: 2012

Doctoral Committee 1 (Cell Biology, Developmental Biology, and Immunology) to advise and evaluate the progress of MPhil/PhD students : 2008-2018

M.Phil. Seminar & Term Paper Committee: 2015 onwards

M.Sc. Dissertation Committee: 2015-2017

Central Cell Culture Facility Faculty-in-charge: 2016-2021

M.Sc. Laboratory Faculty-in charge: 2017 onwards

M.Sc. Admission Committee: 2018-2021

M.Sc. Seminar Committee: 2018 onwards

RAC to advise and evaluate the progress of MPhil/PhD students: 2018 onwards

Ph.D. Admission Committee 2021-onwards

**Chairperson** Central Instrumentation Facility Committee: 2021 onwards

### **Outside Jawaharlal Nehru University**

External expert for the Technical Specification Committee for purchase of Flowcytometer (2010-2011), Department of Transplant Immunology & Immunogenetics, AIIMS, Ansari Nagar, New Delhi-110029

External expert in Student Review Committee (For PhD students) (2013-till date), Department of Biotechnology, Delhi Technological University, Main Bawana Road, Shahbad, Daulatpur, Delhi-110042

External Examiner for MTech, Dept. of Biotechnology, Delhi Technological University, Main Bawana Road, Shahbad, Daulatpur, Delhi-110042 (2014-2015)

Member of IAEC (Institutional animal ethics committee), South Asian University, Akbar Bhawan, Chanakyapuri, New Delhi (2015 onwards)

Member Doctoral Committee of a Ph. D. student, Laboratory Oncology Unit, Dr. B R A IRCH, AIIMS, New Delhi-110029. (2016 onwards) (one more 2019 onwards)

Expert Member, Selection Committee for selection of Research Associate in the project entitled, "Centre for excellence in Vaccine Delivery using Biodegradable polymeric particles" funded by DBT, National Institute of Immunology, Aruna Asaf Ali Marg, New Delhi-110067. (2016)

External Expert Member, Selection Committee for selection of Laboratory Technician in the project entitled, "Centre for excellence in Vaccine Delivery using Biodegradable polymeric particles" funded by DBT, National Institute of Immunology, Aruna Asaf Ali Marg, New Delhi-110067. (2016)

External expert for the Technical Specification Committee for purchase of Microarray, Laboratory Oncology Unit, Dr. B R A IRCH, AIIMS, New Delhi-110029. (2016-2017)

Member, Special constituted purchase committee for procurement of Flow Cytometer, National Institute of Immunology, Aruna Asaf Ali Marg, New Delhi-110067. (2017)

External Expert, Review Committee to consider the case of promotion of eligible Technical Officer-II in Level-7 of Pay Matrix as per the provisions of the Recruitment Rules & Promotion Policy of the Institute, National Institute of Immunology, Aruna Asaf Ali Marg, New Delhi-110067. (2018)

Member Doctoral Committee of one Ph. D. student, National Institute of Immunology, Aruna Asaf Ali Marg, New Delhi-110067. (2018 onwards)

Member Doctoral Advisory Committee of one Ph. D. student, ICMR-National Institute of Pathology, Safdarjung Hospital Campus, New Delhi-110029. (2019 onwards)

External Expert Member, Selection Committee for selection of Research Associate in the project entitled, “A novel Vaccine evaluation platform to support SARS-CoV2 Vaccine development in resource-limiting setting” funded by BIRAC, DBT, National Institute of Immunology, Aruna Asaf Ali Marg, New Delhi-110067 (December, 2020)

**Areas of Research Interest:**

- \* Molecular mechanisms of regulated exocytosis and protein traffic in immune cells (mast cells and CTL) in health and disease
- \* Role of mast cells in erythrophagocytosis
- \* Interaction of nanoparticles with immune effector cells