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- 5** Education
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|------|--|
| 1983 | M. D. [Doctor of Medicine in Pathology]
University of Bombay [India] |
| 1979 | M. B., B. S. [Bachelor of Medicine and Surgery]
University of Poona [India] |

6 Professional experience

June 2017-onwards Agharkar Chair at the Agharkar Research Institute, Agarkar Road, Pune 411004, India (and adjunct faculty member at the Indian Institute of Science Education and Research (IISER), Pune, India, at the Translational Health Science and Technology Institute (THSTI), Faridabad, India, and at the Christian Medical College, Vellore, India)

1991-2017 Scientist at the National Institute of Immunology, New Delhi, India; working on antigen processing, T and B cell development, activation and tolerance.

1988 to 1990 Research Associate of the Howard Hughes Medical Institute in the Section of Immunobiology, Yale University School of Medicine, New Haven, USA; working on mechanisms of antigen processing and T cell receptor ontogeny.

1987 to 1988 Research Associate at the Rosentiel Research Center, Brandeis University, Waltham, USA; working on mechanisms of idiotypic dominance, B cell repertoire development and isotype switching using transgenic systems.

1986 to 1987 Wellcome Trust Research Fellow at the London School of Hygiene and Tropical Medicine, London, UK; working on idiotype-isotype-affinity linkages in antibodies.

1983 to 1986 Research Associate at the Haffkine Institute, Bombay, India, and the London School of Hygiene and Tropical Medicine, London, UK; working on epidemiology, immune responses, virus distribution and localisation in viral hepatitis.

1980 to 1983 Research Fellow at the Haffkine Institute, Bombay, India; working on developing animal disease models to evaluate indigenous drugs and on antigenic analysis of the human hepatocyte plasma membrane in liver diseases.

7 Publications

Invited or review papers

- 1 Ghooi RB Rath S Bhide MB (1980) Compound 48/80- induced mouse paw edema - a new model for antianaphylactic screening. *Aspects Allergy Appl Immunol* 14 41
- 2 Rath S Bal V Mohite BJ Naik SR Zuckerman AJ Kamat RS (1988) Anti-idiotypic humoral and cellular responses to antibody to hepatitis B surface antigen in acute and chronic hepatitis B virus infections. *Viral Hepatitis and Liver Disease* (Ed Zuckerman AJ) Alan R Liss New York 660
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- 10 Rath S (1994) Science and technology : a perspective for the poor. *Econ Polit Weekly* 29 2916
- 11 Rath S (1995) Book review : *Annual Review of Immunology 1995*. *Current Science* 69 945
- 12 Bal V Rath S (1997) The immune system and bodily defence : why do we need an immune system? *Resonance* 2(1) 25
- 13 Bal V Rath S (1997) The immune system and bodily defence : how do parasites and the immune system choose their dances? *Resonance* 2(2) 17
- 14 Rath S Bal V (1997) The Nobel prize in physiology or medicine : how do T lymphocytes recognize their immune targets? *Resonance* 2(2) 90
- 15 Bal V Rath S (1997) The immune system and bodily defence : how does the immune system organize itself so as to connect target recognition to expected functions? *Resonance* 2(6) 25

- 16 Pashine A Mendiratta SK Thatte J Rath S Bal V (1997) Differential abilities of antigen presenting cells to generate peptide-MHC complexes. Immunomodulation (ed Upadhyay SN) Narosa Publishing House New Delhi 70
- 17 Bal V Rath S (1997) The immune system and bodily defence : how does the immune system recognize everything under the sun? Resonance 2(9) 6
- 18 Bal V Rath S (1997) The immune system and bodily defence : how does the immune system generate a truly infinite repertoire capability? Resonance 2(11) 8
- 19 Rath S (1997) Book review : Annual Review of Immunology 1997. Current Science 73 1025
- 20 Bal V Rath S (1998) The immune system and bodily defence : how does the immune system live with a randomly generated repertoire? Resonance 3(1) 15
- 21 Basu SK Rath S (1998) Animal experimentation rules in India. Science 282 415
- 22 Rath S (1998) Book review : Therapeutic strategies for modulating the inflammatory diseases. Current Science 75 1194
- 23 Rath S (2000) The pipe dream of new vaccines for old problems. Issues Med Ethics 8(1) 18
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- 26 Rath S (2003) Footprints in the sand: wild oats and armchair travels. The Book Review (accepted for publication)
- 27 Rath S (2004) Windmills in the head: the shape of nuclear militarism in South Asia. Seminar 544:?
- 28 Rajagopal D Bal V George A Rath S (2004) Diversity & overlap in the mechanisms of processing protein antigens for presentation to T cells. Indian J Med Res. 120:75
- 29 Chaudhry A Rath S (2006) Immune evasion and the Nef protein of HIV-1. Diversity and overlap in the mechanisms of processing protein antigens for presentation to T cells. Modern Asp. Immunobiol. (<http://www.mai-journal.com/html/rath.html>)
- 30 Rath S (2008) Cui bono? - 'Lesser harms: the morality of risk in medical research'. Ind J Med Ethics 3: 143
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- 32 Rath S Purkayastha P (2010) Genetically modified crops: public perceptions. Biotech News 5(2) 100
- 33 Salam N Rane S Das R Faulkner M Gund R Kandpal U Lewis V Mattoo H Prabhu S Ranganathan V Durdik J George A Rath S Bal V (2013) T cell ageing: effects of age on development, survival and function. Indian J Med Res 138 595
- 34 Prabhu SB Khalsa JK Banerjee H Das A Srivastava S Mattoo HR Thyagarajan K Tanwar S Das DS Majumdar SS George A Bal V Durdik JM Rath S (2013) Role of apoptosis-inducing factor (Aif) in the T cell lineage. Indian J Med Res 138 577

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Original peer-reviewed papers

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- 2 Bal V Rath S Bhide MB (1982) Inhibition of certain biological effects of diphtheria toxin by an indigenous agent: a preliminary report. *Bull Haffkine Inst* 10 82
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- 4 George A Rath S Kamat RS (1986) Differential regulation of effector responses of cell-mediated immunity in experimental salmonellosis. *Clin Exp Immunol* 63 327
- 5 Rath S Bal V Bhide MB (1986) A study of mineralisation in experimental fracture repair by tetracycline deposition. *Indian J Med Res* 83 202
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- 7 George A Nair R Rath S Ghosh SN Kamat RS (1987) Regulation of cell-mediated immunity in mice immunized with *Salmonella enteritidis*. *J Med Microbiol* 23 239
- 8 Mohite BJ Rath S Bal V Kamat SA Marathe SN Zuckerman AJ Kamat RS (1987) Mechanisms of liver cell damage in acute hepatitis B. *J Med Virol* 22 199
- 9 Bal V Amin S Rath S Kamat SA Zuckerman AJ Kamat RS (1988) Virological markers and antibody responses in fulminant viral hepatitis. *J Med Virol* 23 75
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- 12 Rath S Devey ME (1988) IgG subclass composition of antibodies to HBsAg in circulating immune complexes from patients with hepatitis B virus infections. *Clin Exp Immunol* 72 164
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