

## Curriculum Vitae

### AMBAK KUMAR RAI

M.Sc. [Biotechnology (B.H.U., Varanasi)]

Ph.D. [A.I.I.M.S., New Delhi]



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Scopus Id: 35415719200  
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MNNIT ERP page: <https://mnnit.irins.org/profile/104609>

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#### PRESENT AFFILIATION:

Assistant Professor  
Department of Biotechnology  
Motilal Nehru National Institute of Technology  
Allahabad

#### CORRESPONDING ADDRESS:

Department of Biotechnology  
Motilal Nehru National Institute of Technology Allahabad  
Allahabad, U.P.-211004, India

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#### AREA OF SPECIALIZATION:

Medical Biotechnology, Immunology of Intracellular Infection(s), Immune regulation

#### TECHNICAL EXPERTISE:

Immune Techniques, Animal Cell Culture and Flow cytometry

#### EXPERIENCE: *Doctoral* :

All India Institute of Medical Sciences New Delhi; Title “Study of T cell mediated suppression of immunity in visceral leishmaniasis patients”

#### *Postdoctoral* :

1. Research Officer, All India Institute of Medical Sciences, New Delhi
2. Research Associate, National Institute of Immunology, New Delhi

3. CSIR Nehru Fellow, Central Drug  
Research Institute, Lucknow

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## Publications

### Publications 2005 - 2020



### Google Scholar



### List of publications:

1. Sheetal Saini, Sheetal Saini and Ambak Kumar Rai. Linoleic acid inhibits the release of *Leishmania donovani* derived micro vesicles and decreases its survival in macrophages. *Frontiers in Cellular and Infection Microbiology* 2020, 10: 406. Doi: 10.3389/fcimb.2020.00406. **IF-4.123**
2. Sheetal Saini, Ambak K Rai, Hamster, a close model for visceral leishmaniasis: Opportunities and Challenges, *Parasite Immunology*, 2020, Doi: 10.1111/PIM.12768 **Impact factor: 2.054**
3. Sheetal Saini, Sarath Kumar Kottarath, Amit Kumar Dinda, Anuradha Dube, Amogh Anant Sahastrabuddhe, Chandreshwar Prasad Thakur, Madhusudan Bhat, Ambak Kumar Rai, Preventive as well as therapeutic significances of linoleic acid in the containment of *Leishmania donovani* infection, *Biochimie*, 2020, 175: 13-22. **Impact factor: 3.413**
4. Sheetal Saini, Anuradha Dube, Amogh Anant Sahastrabuddhe, Chandreshwar Prasad Thakur, Sumit Joshi, Keerti Rawat, Ambak Kumar Rai. Comparison between immunoclinicopathological features of experimental and human visceral leishmaniasis by *Leishmania donovani*. *Acta Parasitologica* 2019, 1-11. **Impact factor: 1.53**

5. Anu Singh, Pradip K Dutta, Hridyesh Kumar, Amit Kumar Kureel, Ambak Kumar Rai. Improved antibacterial and antioxidant activities of Gallic acid grafted chitin-glucan complex. *Journal of Polymer Research* 2019, 26(9), 234
6. Kashika Arora, Ambak Kumar Rai. Dependence of Leishmania parasite on host derive ATP: An overview of extracellular nucleotide metabolism in parasite. *Journal of Parasitic Diseases* 2019, 43(1), 1-13.
7. Pankaj Verma, Amit Kumar Kureel, Sheetal Saini, Satya Prakash, Smita Kumari, Sarath Kumar Kottarath, Sandeep Kumar Srivastava, Madhusudan Bhat, Amit Kumar Dinda, Chandreshwar Prasad Thakur. Leishmania donovani reduces the level of Retinoic acid-synthesizing enzymes in infected macrophages and favoring its own survival. *Parasitology Research* 2019, 118(1), 63-71.
8. Amit Kumar Kureel, Smita Kumari, Sheetal Saini, Satyaprakash, Bharat Singh, Ambak Kumar Rai. Identification of a novel transcript variant of the human CD6 gene that lacks exon 9. *Immunobiology*. 2019 Sep;224(5):666-671.
9. Sheetal Saini, Bharat Singh, Satya Prakash, Smita Kumari, Amit Kumar Kureel, Anuradha Dube, Amogh Anant Sahasrabuddhe, Ambak Kumar Rai. Parasitic load determination by differential expressions of 5-lipoxygenase and PGE2 synthases in visceral leishmaniasis. *Prostaglandins Other Lipid Mediat*. 2019 Nov 11;147:106390.
10. Anu Singh, P.K. Dutta, Hridyesh Kumar, Amit Kumar Kureel, **Ambak Kumar Rai**. Synthesis of chitin-glucan-aldehyde-quercetin conjugate and evaluation of anticancer and antioxidant activities. *Carbohydrate Polymers*, 2018, 193, 99–107. **Impact factor : 4.20**
11. K.J. Sindhu, Amit Kumar Kureel, Sheetal Saini, Smita Kumari, Pankaj Verma and **Ambak Kumar Rai**. Characterization of phosphate transporter(s) and understanding their role in *Leishmania donovani* parasite, *Acta Parasitologica*, 2018, 63(1), 75–88, **Impact factor: 1.116**
12. Anu Singha, Lavkusha, Amit Kumar Kureel, P.K. Dutta, Sushil Kumar, **Ambak Kumar Rai**. Curcumin loaded chitin-glucan quercetin conjugate: Synthesis, characterization, antioxidant, in vitro release study, and anti-cancer activity. *International Journal of Biological Macromolecules*, 2018, DOI: 10.1016/j.ijbiomac.2017.11.002, **Impact Factor: 3.138**
13. **Ambak Kumar Rai**, Chandreshwar Prasad Thakur, Prabin Kumar, Sheetal Saini, Amit Kumar Kureel, Smita Kumari, Tulika Seth & Dipendra Kumar Mitra. Decrease in the Frequency of Circulating CD56+CD161+ NK Cells in Human Visceral Leishmaniasis. *Immunological Investigations*, 2017, DOI:10.1080/08820139.2017.1402925, **Impact factor: 1.780**
14. **Ambak Kumar Rai**, Amar Singh, Ankit Saxena, Tulika Seth, Vinod Raina and Dipendra Kumar Mitra. Exonal switch down-regulates the expression of CD5 on blasts of acute T cell leukaemia. *Clinical and Experimental Immunology*, 2017, DOI:10.1111/cei.13019, **Impact factor: 3.41**

15. **Ambak Kumar Rai**, Dipendra Kumar Mitra. HIV induced suppression of host immunity: relevance to Mycobacterium tuberculosis infections. *HIV & AIDS Review*, 2017, 16(1), 1-15.
16. Anil Kumar Jaiswal, K. Bhaskara Rao, Pragati Kushwaha, Keerti Rawat, Ram K. Modukuri, Prashant Khare, Sumit Joshi, Shikha Mishra, **Ambak K. Rai**, Koneni V. Sashidhara, Anuradha Dube. Development of *Leishmania donovani* stably expressing DsRed for flow cytometry-based drug screening using chalcone thiazolyl-hydrazone as a new antileishmanial target. *International Journal of Antimicrobial Agents*, 2016, 48, 695–702, **Impact factor: 4.097**
17. **Ambak K. Rai**, Prabin Kumar, Sheetal Saini, Chandreshwar P. Thakur, Tulika Seth and Dipendra K. Mitra Increased level of soluble adenosine deaminase in bone marrow of visceral leishmaniasis patients: an inverse relation with parasite load. *Acta Parasitologica*, 2016, 61(3), 645–649; ISSN 1230-2821, **Impact factor: 1.116**
18. Praachi Tiwari, Pankaj Verma, Amit Kumar Kureel, Sheetal Saini, **Ambak Kumar Rai**. Pi inhibits intracellular accumulation of methylglyoxal in promastigote form of *L. donovani*. *Molecular and Biochemical Parasitology*, 2016, 207(2), 89–95, **Impact factor: 2.536**
19. **Ambak K. Rai**, Shivesh Sharma and Vasu Punj. Orchestration of Host-Pathogen Interaction: Relevance of Iron in Generation of Potent Anti-*M. tuberculosis* Immunity. *Current Pharmaceutical Biotechnology*, 2014, 15(12), 1095-1104, **Impact factor: 2.459**
20. **Ambak K. Rai**, Chandreshwar P. Thakur and Dipendra K. Mitra. Impaired Expression of CD26 Compromises T Cell Recruitment in Human Visceral Leishmaniasis. *European Journal of Immunology*, 2010, DOI: 10.1002/eji.201141912, **Impact factor: 4.227, Cited by 9**
21. **Ambak K. Rai**, Chandreshwar P. Thakur, Amar Singh, Tulika Seth, Sandeep K. Srivastava, Pushpendra Singh and Dipendra K. Mitra. Regulatory T Cells Suppress T Cell Activation at the Pathologic Site of Human Visceral Leishmaniasis. *PloS ONE*, 2010, 7(2), e31551. DOI:10.1371/journal.pone.0031551, **Impact factor: 2.806, Cited by 44**
22. **Ambak Kumar Rai**, Chandreshwar Prasad Thakur, Tulika Seth and Dipendra Kumar Mitra. Enrichment of Invariant NKT Cells in the Bone Marrow of Visceral Leishmaniasis Patients. *Parasite Immunology*, 2011, 33(12), 688-691, **Impact factor: 2.493, DOI: 10.1111/j.1365-3024.2011.01328.x, Cited by 7**
23. **Ambak K. Rai**, Chandreshwar P. Thakur, T. Velpandian, Surendra K. Sharma, Balram Ghosh, Dipendra K. Mitra. High Concentration of Adenosine in Human Visceral Leishmaniasis: Despite Increased ADA and Decreased CD73. *Parasite Immunology*, 2011, 33 (11), 632-636, **Impact factor: 2.493, DOI: 10.1111/j.1365-3024.2011.01315.x, Cited by 13**
24. **A. K. Rai**, C. P. Thakur, T. Seth, D. K. Mitra. Early activated Th-1 type and dominantly non-invariant natural killer T (CD3<sup>+</sup>CD161<sup>+</sup>V $\alpha$ 24<sup>-</sup>) cells in bone marrow among visceral leishmaniasis patients. *International Journal of Parasitology*, 2011, 41, 1069–1077,

**Impact factor: 3.730.** ISSN: 0020-7519, DOI:10.1016/j.ijpara.2011.05.010, **Cited by 2**

25. C.P.Thakur, Amit Kumar, D.K. Mitra, **Ambak K Rai**, Arun K. Sinha and Alok Ranjan. Improving Outcome of Treatment of Kala-Azar by Supplementation of Amphotericin B with Physiologic Saline and Potassium Chloride. *American Journal of Tropical Medicine and Hygiene*, 2010, 83(5), 1040–1043, **Impact factor: 2.795**
  26. Dipendra K Mitra, Beenu Joshi, Amit K Dinda, **Ambak K. Rai**, B K Girdhar, Kiran Katoch, Maninder S Bindra and Utpal Sengupta. Induction of lepromin reactivity in cured lepromatous leprosy patients: Impaired chemokine response dissociates protective immunity from delayed-type hypersensitivity. *Microbes and Infection*, 2009, 11(14-15), 1122-30, **Impact factor: 2.453, Cited by 7**
  27. Ankit Saxena, **Ambak Rai**, Vinod Raina, Tulika Seth and Dipendra Kumar Mitra Expression of CD13/Aminopeptidase N in precursor B cell leukemia: Role in growth regulation of B cells. *Cancer Immunology and Immunotherapy*, 2009, 59(1), 125-135, **Impact factor: 4.711, Cited by 9**
  28. Manju Sengar\*, **Ambak K. Rai\***, Ankit Saxena, Amar Singh, Vinod Raina, Tulika Seth, Atul Sharma, Sameer Bakhsi, Rajive Kumar, Dipendra K. Mitra Acute leukemia: Diagnosis improved by flow cytometry in addition to morphology. *Asia Pacific Journal of clinical Oncology*, 2009; 5: 55–65, **Impact factor: 1.959. \* shared first author, Cited by 5**
  29. A.Panigrahi, J. A. Siddiqui, **A. Rai**, A. Margoob, Khaira A, D. Bhowmik, S.C. Tiwari, S. Guleria and N.K. Mehra. Allosensitization to HLA and MICA is an important measure of renal graft outcome. *Clinical Transplants*, 2007, 49-55, **Impact factor: 1.923, Cited by 7**
  30. M. Singh, **A. K. Rai**, S. M. Singh Gender dimorphism in the progressive in vivo growth of a T cell lymphoma: involvement of cytokines and gonadal hormones. *Journal of Reproductive Immunology*, 2005, 65(1) ,17-32, **Impact factor: 2.798, Cited by 25**
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#### **BOOK CHAPTER**

1. Immunology of Tuberculosis. In: *Tuberculosis* (2010) Mitra DK, **Rai AK** (S.K. Sharma Eds) JayPee Publication 2<sup>nd</sup> Edition 108-123 ISBN 978-81-8448-514-1
  2. Factors Associated with Neuropsychological Impairment in HIV Infection. In: *HIV infection/Book 4*, Rai Y, Dutta T, **Rai A K**, Intech open access publishers, ISBN 979-953-307-190-8.
  3. Immunology of Tuberculosis. In: *Tuberculosis* (2010) Mitra DK, **Rai A.K., Singh A.** (S.K. Sharma Eds) JayPee Publication 3<sup>rd</sup> Edition 108-123 ISBN 978-81-8448-514-1(Under publication)
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**INDEXED PUBLISHED ABSTRACT**

1. **Rai AK**, Srivastava SK, Singh A, Thakur CP, Mitra DK. Impairment of stimulation dependent induction of CD26 compromises T cell recruitment in human visceral leishmaniasis. **Clinical Immunology** 2008,127(1), S78
2. Panigrahi A., J. Shidhiki, **A. Rai**, A. Margoob, D. Bhowmik, S.C. Das, S. Guleria, S.N. Mehta, N.K. Mehra. Humoral Immune Response mediated by anti-donor, anti-HLA and MICA antibody repertoire s associated with renal allograft rejection. **Indian Journal of Transplantation**, 2008, 2, 30
3. Ambak Kumar Rai, K J Sindhu, A K Kureel, S Saini, S Kumari and P Verma, Characterization of phosphate transporter(s) and understanding their role in *Leishmania donovani* parasite, **Journal of Infectious Diseases & Therapy**, 2017, 5:2

**RESEARCH PROJECTS:**

| S. No.                           | Title of the Project                                                                                                                                            | Funding agencies                                | Amount          |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------|
| <b>As Principal Investigator</b> |                                                                                                                                                                 |                                                 |                 |
| 1                                | Estimation of Vitamin A (VitA) and Arachidonic Acid (AA) among Visceral Leishmaniasis Patients                                                                  | MNNIT Allahabad ( <i>In-house</i> )             | Rs. 2,00,000/-  |
| 2                                | Study to investigate the function of CD6 on acute T cell lymphoblastic leukemia                                                                                 | TEQIP-II                                        | Rs. 5,00,000/-  |
| 3                                | Study of arachidonic acid pathway in human visceral leishmaniasis: therapeutic efficacy of $\alpha$ -linoleic acid as a dietary supplement with sodium antimony | Department of Science and Technology, New Delhi | Rs. 20,50,000/- |
| 4                                | Study to investigate the therapeutic efficacy of CD5 blocking in treatment of T cell lymphoblastic leukemia                                                     | Department of Biotechnology, New Delhi          | Rs. 24,69,000/- |
| 5.                               | Study to establish infection of <i>L. donovani</i> through intradermal route in hamsters and its pathological validation                                        | Department of Biotechnology, New Delhi          | Rs. 25,26,750/- |
| <b>As co-investigator</b>        |                                                                                                                                                                 |                                                 |                 |
| 6.                               | Characterization of                                                                                                                                             | Department of                                   | Rs. 24,95,000/- |

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|--|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--|
|  | epigenetically deregulated genes in colorectal adenomas/carcinomas using next generation sequencing technologies for development of novel biomarkers | Biotechnology, New Delhi |  |
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#### EXPERIENCE OF ADMINISTRATIVE SKILLS:

1. Various responsibilities at the departmental level [**Exam OC (2012-14 and 2020 onwards), Time Table In-charge (2014-16), Information OC/In-charge (2016-18), Laboratory In-charge (2016-18), Central facility lab OC (2020 onwards)**] in the Department of Biotechnology, Motilal Nehru National Institute of Technology Allahabad, Allahabad.
2. Warden of different hostels [**International Hostel-B (IH-B) and Sarojini Naidu Girls' Hostel (SNGH; 2015-17), C.V. Raman Hostel (2017-19), Swami Vivekanand Hostel (2019 onwards)**] in Motilal Nehru National Institute of Technology Allahabad.
3. Continuing as **Proctor (Boys')** in Motilal Nehru National Institute of Technology Allahabad.
4. Served as **Member Swachhta Ambassador Committee**, Motilal Nehru National Institute of Technology Allahabad, Allahabad for a period of two years.
5. Served as Member in Technical Committee of Center for Promoting Innovation (CPI) and Center for Medical Diagnostics and Research (CMDR) Motilal Nehru National Institute of Technology Allahabad, Allahabad.
6. Served as **Member Secretary of Institute Ethics Committee (IEC)** in Motilal Nehru National Institute of Technology Allahabad, Allahabad [2013-19].

#### EXPERIENCE OF ORGANIZATIONAL SKILLS:

1. Organizing Coordinator of **International Conference on Biotechnological Interventions for Societal Development (BioSangam 2020)** held at Motilal Nehru national Institute of Technology Allahabad, Allahabad from February 21-23, 2020.
2. Organizing Coordinator of **International Conference on Innovations and Translational Dimensions: Food, Health & Environmental Biotechnology (BioSangam 2018)** held at Motilal Nehru national Institute of Technology Allahabad, Allahabad from March 09-11, 2018.

3. Organized two weeks **Global Initiative of Academic Network (GIAN) course entitled ‘Genomics, Personalized Medicine and Ethics’** at Motilal Nehru national Institute of Technology Allahabad, Allahabad from March 21-23, 2017 with foreign faculty **Dr. Vasu Punj, Associate Professor, Keck School of Medicine, University of Southern California.**
  4. Organizing coordinators in **National workshop on Biotechnological Intervention for Societal Development** at Center for Medical Diagnosis and Research (CMDR), Motilal Nehru national Institute of Technology Allahabad, Allahabad from March 21-23, 2017
  5. Organizing Coordinator of **International Conference on Translational Biotechnology (BioSangam 2016)** held at Motilal Nehru national Institute of Technology Allahabad, Allahabad from February 4-6, 2016
  6. Treasurer in self-financed short term **workshop on DNA Sequencing: Applications in Diagnostics and Health Care Innovation** at Center for Medical Diagnosis and Research (CMDR), Motilal Nehru national Institute of Technology Allahabad, Allahabad from December 08-14, 2015
  7. Organizing coordinators in self-financed short term **workshop on Flow Cytometry: Applications in Research, Diagnostics and Health Care Innovation** at Center for Medical Diagnosis and Research (CMDR), Motilal Nehru national Institute of Technology Allahabad, Allahabad from December 15-21, 2015
  8. Treasurer in the short term training program **‘Biotechnology, Health and Diagnosis’** held at Center for Medical Diagnosis and Research (CMDR), Motilal Nehru national Institute of Technology Allahabad, Allahabad from January 24-28, 2015.
  9. Organizing Coordinator of **International Conference on Health, Environment and Industrial Biotechnology (BioSangam 2013)** held at Motilal Nehru national Institute of Technology Allahabad, Allahabad from November 21-23, 2013.
  10. Organizing Coordinator and Main Teacher in the short term training program **‘Frontier in Biotechnology’** held at Motilal Nehru national Institute of Technology Allahabad, Allahabad from May 28-June 1, 2013.
  11. Organizing Coordinator and Main Teacher in the short term training program **‘Human Health and Environment Sustainability’** held at Motilal Nehru national Institute of Technology Allahabad, Allahabad from June 4-8, 2013.
  12. Organizing Secretary and Treasurer of National Symposium **“Nanotechnology in Medicine”** held on 13<sup>th</sup> January 2007 at AIIMS, New Delhi, INDIA organized by Society of Young Scientists (SYS).
  13. Organizing Secretary and Treasurer of National Symposium **“Immunity to Infection”** held on 8<sup>th</sup> October 2007 at AIIMS, New Delhi, INDIA organized by Society of Young Scientists (SYS).
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**LIST OF INVITED LECTURES DELIVERED:**

1. Delivered talk in the online 7<sup>th</sup> International Conference on “Challenges and Opportunities in Medical, Environmental and Biotechnological Research” (GenoPro-2020) during December 10-11, 2020 organized by Invertis University, Bareilly-U.P.
  2. Delivered keynote address entitled ‘Immunophenotyping of rare immune cell subset(s) as well as delineation of their functional characteristic(s)’ in a One day National Seminar on “Recent Trends In Biotechnology” on 8<sup>th</sup> September, 2018 organized by Pillai College of Arts, Commerce and Science, New Panvel, Mumbai
  3. Delivered talk entitled ‘Immunophenotyping of rare immune cell subset(s) as well as delineation of their functional characteristic(s)’ in the short term training program ‘Molecular Techniques in Biotechnology’ organized by Dr. Anjana Pandey, Head Department of Biotechnology, MNNIT Allahabad.
  4. Delivered talk entitled ‘Application of flowcytometer in diagnosis and research’ in the short term training program ‘Biotechnology, Health and Diagnosis’ organized by Dr. Shivesh Sharma, Convenor, Center for Medical Diagnosis and Research (CMDR), MNNIT Allahabad.
  5. Conducted a practical workshop on ‘Data Analysis in Flowcytometer’ in the short term training program ‘Biotechnology, Health and Diagnosis’ organized by Dr. Shivesh Sharma, Convenor, Center for Medical Diagnosis and Research (CMDR), MNNIT Allahabad.
  6. Delivered talk entitled ‘Understanding the immune response to nanoparticle: A litmus test for its efficacy’ in the short term training program ‘Bionanotechnology’ organized by Dr. Anjana Pandey, Head Department of Biotechnology, MNNIT Allahabad.
  7. A lecture entitled ‘Understanding metabolic pathway(s) of *L. donovani* for development of alternate treatment option’ delivered by Ambak Kumar Rai in a workshop cum National Seminar on “Frontiers in Ethnomedicinal Research: Traditional to Translational” from 9-11<sup>th</sup> March, 2015 at Indira Gandhi National Tribal University, Amarkantak (M.P.).
  8. A lecture entitled ‘Application of flowcytometer in diagnosis and research’ delivered by Ambak Kumar Rai in a self financed short term course on “Biotechnology, Health and Diagnostics” from January 24-28, 2015 by Centre of Medical Diagnostics and Research, MNNIT Allahabad.
  9. A lecture entitled ‘Understanding the immune response to nanoparticle: A litmus test for its efficacy’ delivered by Ambak Kumar Rai in a self financed short term course on “Nano-biotechnology” from January 23-29, 2015 by Department of Biotechnology, MNNIT Allahabad.
  10. A lecture entitled ‘Immunophenotyping of rare immune cell subset(s) as well as delineation of their functional characteristic(s)’ delivered by Ambak Kumar Rai in a self financed short term course on “Hands on training on molecular techniques in Biotechnology” from January 16-22, 2015 by Department of Biotechnology, MNNIT Allahabad
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**DOCTORAL THESIS (Ph.D.) GUIDED:**

| S. No. | Year | Name of student         | Thesis title                                                                                                                          | Status  |
|--------|------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1.     | 2013 | Pankaj Verma            | Role of Vitamin A on immune response against <i>Leishmania donovani</i>                                                               | Awarded |
| 2.     | 2014 | Amit Kumar Kureel       | Study to investigate the expression and function of CD6 on acute T cell lymphoblastic leukemia.                                       | Awarded |
| 3.     | 2014 | Sheetal Saini           | To evaluate Role of eicosanoid(s) in organ specific immunity in visceral leishmaniasis                                                | Awarded |
| 4.     | 2015 | Smita Kumari            | Study to investigate the therapeutic efficacy of CD5 blocking in treatment of T cell lymphoblastic leukemia                           | Ongoing |
| 5.     | 2016 | Satyaprakash            | Study to understand the mechanism involved in impaired accumulation of cholesterol in <i>Leishmania donovani</i> infected macrophages | Ongoing |
| 6.     | 2017 | Bharat Singh            | Study to understand the expression and function of CD5 in geriatric individuals                                                       | Ongoing |
| 7.     | 2019 | Ranjeet Bahadur Chaubey | State of The Art not delivered yet                                                                                                    |         |

**PG DISSERTATION(S) GUIDED:**

| S. No. | Year | Name of student    | Thesis title                                                                                                                                | Status  |
|--------|------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1.     | 2013 | Adarsh Chiranjeevi | Targeting Glyoxalase pathway in <i>Leishmania donovani</i> : A computational molecular docking approach.                                    | Awarded |
| 2.     | 2014 | Kashika Arora      | To study the ATP metabolism and its effect on extracellular inorganic phosphate levels in 10romestigote from of <i>L. donovani</i> parasite | Awarded |
| 3.     | 2015 | Sindhu K J         | Study to understand the Phosphate Transpoter(s)in promestigote form of <i>Leishmania donovani</i>                                           | Awarded |
| 4.     | 2016 | Pavitra Ramdas     | Study to understand the detoxification of methylglyoxal in promastigote from <i>Leishmania donovani</i> parasite                            | Awarded |
| 5.     | 2017 | Sonam              | Study to explore the presence of Leishmania RNA viruses in clinical isolates of Leishmania donovani                                         | Awarded |
| 6.     | 2018 | Swarnima Gupta     | Study to investigate the exonal switch of <i>cd5</i> gene in hypoxia treated PBMCs samples among healthy humans                             | Awarded |

**UG DISSERTATION(S) GUIDED:**

| Sl. No. | Year | Name of the student                         | Thesis Title                                                                                                                        | Status  |
|---------|------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1.      | 2013 | Alok Singh<br>Dinesh Kumar Jaiswal          | Study of Anti- <i>Leishmania</i> activity of Agave species                                                                          | Awarded |
| 2.      | 2014 | Praachi Tiwari                              | A Study to Understand Accumulation of Methylglyoxal in <i>L. donovani</i> with Focus on Glyoxalase Pathway: a Potential Drug Target | Awarded |
| 3.      | 2014 | Akhilesh Kumar<br>Gupta Prashant<br>Jaiswal | Molecular docking of ATP diphospho-hydrolase from <i>L. Donovanii</i>                                                               | Awarded |
| 4.      | 2015 | Arya                                        | Study to explore linkage between methylglyoxal and levels of Pi in <i>L. donovani</i>                                               | Awarded |
| 5.      | 2015 | Ashish Kumar<br>Gautam Amit Meena           | Interactive voice response (IVR) based direct monitoring of drug adherence among tuberculosis patients                              | Awarded |
| 6.      | 2016 | Lisha Verma<br>Kumar Gaurav                 | Transporter protein specific to methylglyoxal other than AQP1 in <i>L. donovani</i>                                                 | Awarded |
| 7.      | 2017 | Manish Awasthi<br>Kuldeep<br>Priyanjali     | Targeting glycosomal and cytosolic GAPDH enzymes for development of drug against <i>Leishmania donovani</i>                         | Awarded |
| 8.      | 2018 | Komal Sethia                                | Study to investigate all isoforms of CD6 in hypoxia treated PBMCs samples among healthy humans                                      | Awarded |
| 9.      | 2018 | Zeeshan Ali and<br>Arvind B                 | In-silico designing of inhibitor against phosphate transporters of <i>L. donovani</i> parasite                                      | Awarded |
| 10.     | 2019 | Keshav Singh and<br>Tejavath Ajith          | Study to design inhibitor(s) against aqua-glyceroporin transporters in <i>L. donovani</i>                                           | Awarded |
| 11.     | 2020 | Nimisha Gupta and<br>Aman Joshi             | Ongoing                                                                                                                             |         |

**ACADEMIC QUALIFICATION**

| <b>Examination</b> | <b>School/<br/>College</b>        | <b>Board/<br/>University</b>          | <b>Subject</b>                   | <b>Year</b> | <b>Div.</b>           |
|--------------------|-----------------------------------|---------------------------------------|----------------------------------|-------------|-----------------------|
| <b>B.Sc.</b>       | St. Andrews college,<br>Gorakhpur | D.D.U. University,<br>Gorakhpur, U.P. | Zoology,<br>Botany,<br>Chemistry | 2000        | <b>I<sup>st</sup></b> |
| <b>M.Sc.#</b>      | School of<br>Biotechnology        | B.H.U., Varanasi                      | Biotechnology                    | 2003        | <b>I<sup>st</sup></b> |
| <b>NET JRF</b>     | ---                               | CSIR, New Delhi                       | Life Sciences                    | June, 2003  | <b>Qualified</b>      |
| <b>GATE</b>        | ----                              | GATE                                  | Biotechnology                    | 2003        | <b>Qualified</b>      |
| <b>Ph.D.*</b>      | Dept. of T.I.I.                   | AIIMS, New Delhi                      | Immunology                       | Dec, 2010   | <b>Awarded</b>        |

# **Title of the Post graduate dissertation thesis:** Effect of castration on tumor bearing mice.

\* **Title of the thesis:** Study of T cell mediated Immunosuppression in human visceral leishmaniasis.

**RESEARCH/ACADEMIC POST HELD:**

| <b>Name of the post</b>                 | <b>Institute</b>  | <b>Tenure</b> |            | <b>Remark</b> |
|-----------------------------------------|-------------------|---------------|------------|---------------|
|                                         |                   | <b>From</b>   | <b>To</b>  |               |
| CSIR-Junior Research Fellow             | AIIMS, New Delhi  | 01/05/2004    | 30/04/2006 | Completed     |
| CSIR-Senior Research Fellow             | AIIMS, New Delhi  | 01/05/2006    | 30/04/2009 | Completed     |
| AIIMS Institute Fellow                  | AIIMS, New Delhi  | 01/05/2009    | 31/01/2010 | Availed       |
| DBT- Project Junior Research Fellow     | AIIMS, New Delhi  | 20/02/2010    | 20/01/2011 | Resigned      |
| Project Research Officer                | AIIMS, New Delhi  | 28/01/2011    | 31/12/2011 | Resigned      |
| Research Associate                      | N.I.I., New Delhi | 17/01/2012    | 29/03/2012 | Resigned      |
| CSIR Nehru Science Post-doctoral fellow | C.D.R.I., Lucknow | 02/04/2012    | 23-10-12   | Resigned      |
| Assistant Professor                     | MNNIT Allahabad   | 29-10-12      | -----      | Continuing    |

**PERSONAL DETAILS:**

Father's name - Late Sh. Suresh Narain Rai

Mother's name - Smt. Manju Rai

Spouse's name - Dr. Yogita Rai

Date of Birth - 09-07-1982

Marital status - Married

Nationality - Indian

Languages - Hindi, English

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