

Name: Manju Jain
Designation: Assistant Professor
Centre: Biochemistry and Microbial Sciences
School: Basic and Applied Sciences
Central University of Punjab
Bathinda- 151001
E-mail ID: manujainmda@gmail.com
Mobile: 9816427672



Education

Ph.D. Life Sciences (Medical Microbiology and Immunology), Jawaharlal Nehru University, New Delhi (Aug 2002- March 2008)
M.Sc. Biotechnology , Allahabad University (1999- 2001)
B.Sc. Microbiology , Delhi University (1996-1999)

Experience

July 2008- Aug 2011	Postdoctoral fellow , MD Anderson Cancer Centre, Department of Molecular Carcinogenesis, Texas, USA. Area: T cell and thymus biology: Cellular and molecular crosstalk involved in thymus organogenesis, development and homeostasis
July 2012	Research Scientist at Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, Department of Hematology, Stem Cell Research Unit
Aug 2012- Dec 2015	Assistant Professor , Jaypee University of Information Technology Department of Biotechnology and Bioinformatics, Himachal Pradesh, India
Feb 2016-May 2017	DST-SERB, Fast Track Fellow , Centre for Biochemistry and Microbial Sciences, Central University of Punjab, Punjab, India
May 2017 - Present	Assistant Professor , Centre for Biochemistry and Microbial Sciences, Central University of Punjab, Punjab, India

Achievements/Awards/Scholarship

- **Travel Grant Award** from Global Thymus Network to attend 7th International T Cell Conference, Kyoto, Japan, 13th to 17th March, 2017
- **Second Best Poster Award** for work presented in 13th FIMSA Advanced Immunology Course- 17th -19th March, 2016
- **Young Scientist Award**, DST-SERB, Fast Track Fellow, 2014
- **AAI Abstract Trainee Award** from American Association of Immunologists, U.S. for oral presentation, 2011
- **Travel Grant Award** from ICGEB-Trieste, Italy cosponsored by Central European Initiative to attend the Theoretical and Practical Course on “Molecular Biology of Leishmania, 2006
- **Junior Research fellowship** awarded by Council for Scientific & Industrial Research (CSIR), New Delhi, India, 2002- 2004
- **Senior Research fellowship** awarded by Council for Scientific Industrial Research (CSIR), New Delhi, India, 2004- 2007

- Qualified **GATE** with a percentile of 96.42, 2002
- Recipient of **DBT studentship**, awarded by the department Biotechnology, New Delhi, for qualifying the national entrance test for Masters in Biotechnology, 1999-2001
- Offered training by Tata Institute of Fundamental Research, Division of Chemical Sciences, Bombay on 'Deuteration of recombinant HIV-1 protease for High Field NMR studies, Nov 2000- Jan 2001

Areas of Interest/ specialization: Understanding Immunobiology of clinically relevant diseases associated with an abnormal T cell effector immune response: Immune system is a physiological system dedicated for protective function. Under disease condition, specialized components of immune system respond to restore homeostasis. Nonetheless, immune-dysfunction is a characteristic of different clinically relevant diseases. In this context, I am focusing on diseases associated with defective cell mediated immunity. Thymus is the organ dedicated for normal T cell development and maturation. Dissecting out changes induced in thymus functionality under disease condition can help in understanding the rationale behind an altered peripheral cell mediated immune response in the context of specific disease models. An in depth understanding of thymus functionality has translational potential in context of rejuvenating immune-functionality in different immune-associated diseases. In this respect, I have an ongoing project on an infectious disease- Leishmaniasis. Apart from this, I am interested in looking at diseases like psoriasis- an autoimmune disease and neuronal disease models with immune-alteration and physiological process of age-associated immune-suppression. With a thrust on understanding how T cells are modulated in disease conditions, I want to answer, if and how thymus biology is altered directly/indirectly under these disease conditions. In light of molecular mechanistic, specific immune-modulators can be testified to rescue immune-defects in different diseases.

Publications

1. Saluja R, Kumar A, **Jain M**, Goel SK, Jain A, (2017). Role of Sphingosine-1-Phosphate in Mast Cell Functions and Asthma and Its Regulation by Non-Coding RNA. **Frontiers in Immunology**
2. Khandelwal A, Malhotra A, **Jain M**, Vasquez KM, Jain A, (2017). The emerging role of long non-coding RNA in gallbladder cancer pathogenesis. **Biochimie**
3. Dakshayani Lomada, **Manju Jain***, Madhava Reddy, Rhea Kang, John DiGiovanni, Ellen Richie, (2016). Stat3 Signaling Promotes Survival And Maintenance Of Medullary Thymic Epithelial Cells” mTEC development. **Plos Genetics**. * **Equal first co-author, IF= 7.53**
4. **Manju Jain** and Rentala Madhubala, (2008). Characterization and localization of ORFF gene from the LD1 locus of *Leishmania donovani*. **Gene**, Jun 15; 416 (1-2): 1-10, IF= 2.18
5. Bindu Sukumaran, **Manju Jain**, Peter J. Myler, Kenneth. D. Stuart and Rentala Madhubala, (2007). Creation of Tetracycline Regulatable Knockouts of ORFF Gene from the LD1 Locus of *Leishmania donovani*. **American Journal of Biochemistry and Biotechnology** 3(4): 207-215
6. **Manju Jain**, Vandana S. Dole, Peter J. Myler, Kenneth. D. Stuart and Rentala Madhubala, (2007). Role of Biopterin Transporter (BT1) Gene on Growth and Infectivity of *Leishmania*. **American Journal of Biochemistry and Biotechnology** 3(4): 199-206
7. Poonam Tewary, **Manju Jain**, Mayur H Sahani, Shailendra Saxena and Rentala Madhubala, (2005). A heterologous prime boost vaccination regime using ORFF DNA and recombinant ORFF protein confers protective immunity against experimental visceral leishmaniasis. **J. Infect. Diseases** 191: 2130-2137, IF= 6.2

International/National Conferences and Workshops

1. Poster Presentation on “Thymus is a target organ in Visceral Leishmaniasis: A new piece in the Immunology of Leishmaniasis”, 7th International T Cell Conference, organized by Global Thymus Network, 13th to 17th March, 2017, Kyoto, Japan
2. 13th FIMSA Advanced Immunology Course-17th -19th March, 2016
3. Poster Presentation on “Investigating the role of thymus in mediating host immune-modulation in Visceral Leishmaniasis”, 13th FIMSA Advanced Immunology Course-17th -19th March, 2016 with 10 Credit hours
4. Oral Presentation “Investigating the role of thymus in mediating host immune-modulation in Visceral Leishmaniasis”, Immunocon 2015, Oct-9-11, Patna, Bihar, India
5. Poster Presentation, “Stat 3 regulated thymic function” 83rd Annual Meeting of Society of Biological Chemists, Dec, 2014, Bhubaneswar, Odisha, India
6. DST-Sponsored “Confocal and Live Imaging Microscopy” workshop, Jan-2014, JNU, New Delhi.
7. CME in Immunology: “Immunology for Clinicians”, April-2013, PGIMER, Chandigarh.
8. Oral and Poster presentation on “Stat3 activation plays a role in mTEC development” M. Jain; D. Lomada; M. Reddy; R. Kang; J. DiGiovanni; E. Richie at American Association of Immunologist meeting, May 13-17th, 2011, San Francisco, U.S. **Work published as abstract in The Journal of Immunology, 2011, 186, 64.20**, Copyright by The American Association of Immunologists
9. Oral presentation on “ Stat3 activation in mTEC development” at Thymus Summit, October 21-24, 2010, MD Anderson Cancer Centre, Austin, Texas, U.S.
10. Theoretical and Practical Course on “Molecular Biology of Leishmania”, 2006, CEI- Central European Initiative, ICGBE-Trieste, Italy.
11. Workshop covering “Experimental Approaches To Studying Host-Pathogen Interactions”, 2006, ICGBE, New Delhi, India
12. Poster presentation on “Creation of Tetracycline Regulatable Knockouts of ORFF gene from the LD1 locus of *Leishmania donovani*” Bindu Sukumaran, Manju Jain, Peter J. Myler, Kenneth D. Stuart and Rentala Madhubala at 75th Annual Meeting of Society of Biological Chemists (India; JNU, New Delhi; December 8-11, 2006)
13. Oral presentation at International Centre for Genetic Engineering and Biotechnology, New Delhi, India in a Workshop covering “Experimental Approaches To Studying Host-Pathogen Interactions” (30th October-10th November, 2006.
14. Poster presentation on “Prime Boost- A jump-start strategy for vaccine against experimental visceral leishmaniasis” Poonam Tewary, Manju Jain and Rentala Madhubala at Asian Regional Workshop on Intracellular Pathogens, International Training and Research in Emerging Infectious Diseases, School of Life Sciences, Jawaharlal Nehru University, New Delhi.

Research Grants

- **Ongoing: DST sponsored Fast Track Project-** “Investigating the role of thymus in mediating host immune- modulation in Visceral Leishmaniasis”, 30.3 lakhs

Research Guidance

1. M. Tech, Biotechnology, dissertation project: **1** (Completed)
2. B. Tech, Biotechnology, dissertation project completed: **2** (Completed)
3. Junior Research Fellow for 1 year (2014-2015) in the project entitled: “Investigating the role of thymus in mediating host immune-modulation in Visceral Leishmaniasis”
4. Ph.D. guidance: **1** (As a co-supervisor, Ongoing)

Teaching Experience: 4.0 years, B. Tech/ M. Tech/M.Sc./ Ph.D. / MD scholars

Subjects: Immunology, Immunotechnology (Theory and Practical), Microbiology and Immune System (Theory and Practical), Immuno-informatics, Clinical Diagnostics, Metabolic Engineering, Animal Tissue Culture Technology (Theory and Practical), Cell Biology, Advanced Molecular and Cell Biology (Theory and Practical), Genetic Engineering, Techniques in Life sciences, Basics of Microbiology.

Collaboration

- Prof. Ellen Richie, MD Anderson Cancer Centre, Texas, US, Department of Epigenetics and Molecular Carcinogenesis,
- Prof. Vinay Shanker, Head, Dermatology, Indira Gandhi Medical College (IGMC), Himachal
- Dr. Ajeet Negi, Assistant Prof. Dermatology
- Dr. G KVerma, Assistant Prof. Dematology, IGMC
- Prof. Sudarshan K. Sharma, Prof. Deptt. Of Pathology IGMC
- Dr. Rajesh Ramachandran, Assistant Prof, Deptt of Biological Sciences, IISER, Manauli,
- Dr. Aklank Jain, Associate Prof, Centre for Animal Sciences, Central University of Punjab
- Prof. Greg Matlashewski, Department of Microbiology and Immunology, McGill University, Montreal, Canada

Additional information

- Life Member- Indian Immunological Society
- Past Member- American Association of Immunologists
- Training course certifying safe handling of radioactive materials in research and clinical laboratories at MD Anderson Cancer Center.
- Virus Safety Training course at MD Anderson Cancer Centre
- Involved in setting, operational animal house facility: IAEC member at Jaypee University (JUIT), Himachal
- Member of Project Evaluation Committee, JUIT
- Member of Synapse Committee: Departmental Club for academic and extracurricular activities at JUIT