



JAISHREE PAUL

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EDUCATIONAL AND PROFESSIONAL RECORD

Institution	Degree	Year	Field of Study / Research
Kanpur University, Kanpur	B.Sc.	1971	Botany, Zoology, Chemistry
Kanpur University, Kanpur	M.Sc.	1973	Botany (main), Microbiology, Biochemistry, Genetics
Indian Institute of Technology Kharagpur, W.B.	M.Phil.	1974	Applied Botany
Indian Institute of Technology Kharagpur, W.B.	Ph.D.	1980	Radiation Biology
School of Life Sciences, JNU, New Delhi	Post Doctoral	1981- 84	Microbial ecology of Terrestrial Microbes
School of Life Sciences, JNU, New Delhi	Research associate	1985-88	Degradation of cellulose using microbes
School of Life Sciences, JNU, New Delhi	UGC Research Scientist 'A'	1988-1996	Pretreatment of substrates using microorganisms
School of Life Sciences, JNU, New Delhi	UGC Research Scientist 'B'	1996-2004	Molecular epidemiology of amoebiasis
School of Life Sciences, JNU, New Delhi	UGC Research Scientist 'C'	2004 – till date	Inflammatory Bowel Disease and amoebiasis

TEACHING EXPERIENCE (28 YEARS)

- 1 Microbiology core course to M.Sc. Life Sciences Ist semester students.
- 2 Advanced Microbial Physiology course to M. Sc. III Semester students of School of Life Sciences.
- 3 General and Applied Microbiology course to M. Phil/Ph.D students of School of Life Sciences.

School of Life Sciences.

4 Conducting Microbiology Practical classes for M.Sc. I semester

5 In the past taught Microbial Ecology course to M. Sc students of School of Environmental Sciences, JNU for three years.

6 Teaching for several years, Microbial Biotechnology and Microbial Ecology course to teachers trainee for Academic Staff college, JNU.

CURRENT RESEARCH THEMES

* Interplay between gut bacteria during Inflammatory Bowel disease

* Determination of SNPs in the susceptibility genes of IBD and their association with the disease

* Role of ABC transporters during IBD

* Role of miRNA in modulating disease activity

* Functional analysis of susceptible genes of IBD

* Epidemiology of intestinal parasites- Entamoeba, Giardia and Cryptosporidium

PROJECTS HANDLED IN THE PRESENT POSITION (SINCE 1988) AS PRINCIPAL INVESTIGATOR

Current Research grants

"Contribution of dysregulated micro RNA in pathogenesis of Inflammatory Bowel disease" Funding agency: DBT (2015-2018) (amount 33 lakhs and thirty nine thousand) (as PI)

"Retrotransposons in Entamoeba histolytica: Genotypic variations, epidemiological tools and phenotypic consequences" as Co-PI (2011-2016) funded by DBT under "Program support on Molecular Parasitology"(amount ~80 lakhs shared PI and Co-PI)

Entamoeba histolytica bacterium interaction and the role of this interaction in intestinal pathogenesis- "Amoebac" under Indo-European collaboration on Biotechnology (2015-2018) (Total amount for Indian investigators Rs.158.52 lakhs)

"Fast detection of Intestinal parasites using multiplex PCR" Funding agency: University Grants Commission (2012-2015) (amount 12 lakhs)

Past Research Grants: (as PI)

"Epidemiology of Amoebiasis in North East India" The project is under head-Twining project funded by DBT (2011-2014) (amount 16 lakhs) (as Co-PI)

"Diversity of Intestinal microbiota in Inflammatory Bowel Disease patients studied

by Metagenomic approach". The project funded by CSIR (2010-2013) (amount 20 lakhs) (as PI)

Identification and Molecular characterization of bacterial flora in Inflammatory bowel disease. The project has been sanctioned by Department of science and Technology, New Delhi on January, 2007-2011 (amount 20 lakhs)

Replication of ribosomal DNA in *Entamoeba invadens* trophozoites and cysts. The project funded by CSIR, New Delhi (from 2005-2009) (amount 15 lakhs)

"Molecular Studies with Natural isolates of *Entamoeba histolytica* and *Entamoeba dispar*." The project being funded by DST, New Delhi (from 2002-2006) (amount 14 lakhs)

"Detection and analysis of Food borne parasites using molecular approaches". The project funded by ICMR, New Delhi (from 2003-2006) (amount 9 lakhs)

"rDNA mapping of *Entamoeba dispar*, a non pathogenic amoeba and its comparison with the pathogenic strain *Entamoeba histolytica*" as Principal Investigator funded by CSIR, New Delhi (Nov., 1998-October 2001)

"Detection and Evaluation of selected Bacterial species in the human gut with respect to fluxes in the diseased state". The project is being funded by UGC, New Delhi for three years (June 2001- May, 2004) (amount 6 lakhs)

PUBLICATIONS :

- 52 Research papers in peer reviewed journals
- Contributed Chapters in books (5)
- Authored singly a book entitled "Handbook of Disease causing Microbes" published jointly by Ane Books, Delhi and CRC Press (December, 2015)

Research papers in peer reviewed journals (last five years only)

Nath J, Shankar Ghosh, Baby Singha and Jaishree Paul (2015) "Molecular Epidemiology of Amoebiasis: a Cross-sectional Study among North East Indian Population" Plos NTD (#PNTD-D-15-00970) (accepted, November 2015)

Ranjha R, Aggarwal S, Bopanna S, Ahuja V and Paul J (2015) Site-Specific MicroRNA Expression May Lead to Different Subtypes in ulcerative colitis. Plos One DOI: 10.1371/journal.pone.0142869

Meena NK, Ahuja V, Meena K, Paul J (2015) Association of TLR5 Gene Polymorphisms in Ulcerative Colitis Patients of North India and Their Role in Cytokine Homeostasis. PLoS ONE 10(3): e0120697.

doi:10.1371/journal.pone.0120697

Reena K, Verma N, Verma AK, Vineet Ahuja V and Jaishree Paul (2015) Diversity and abundance of lactobacilli during ulcerative colitis in North Indian patients: a case control study. *Jr.Clinical Microbiol & Case Reports* Volume 1 : pp. 1-10 www.scientonline.org

Majumdar I and Paul Jaishree (2014) The deubiquitinase A20 in immunopathology of autoimmune diseases. *Autoimmunity* DOI: 10.3109/08916934.2014.900756

Nath J, Banyal N, Gautam DS, Ghosh SK, Singha B and Paul Jaishree (2014) Systematic Detection and association of Entamoeba species in stool samples from selected sites in India. *Epidemiol. Infect.*, Page 1 of 12. © Cambridge University Press doi:10.1017/S0950268814000715

Iyer LR, Nishant Singh, Anil Kumar Verma and Jaishree Paul (2014) Differential Expression and Immunolocalization of Antioxidant Enzymes in Entamoeba histolytica Isolates during Metronidazole Stress. *BioMed Research International* ID 704937, <http://dx.doi.org/10.1155/2014/704937>

Verma AK, Vineet Ahuja, and Jaishree Paul (2014) The Trend in Distribution of Q223R Mutation of Leptin Receptor Gene in Amoebic Liver Abscess Patients from North India: A Prospective Study. *BioMed Research International* ID 847132, <http://dx.doi.org/10.1155/2014/847132>

Verma N, Verma R, Kumari R, Ranja R and Paul Jaishree (2014) Effect of salicin on gut inflammation and selected groups of microbiota in dextran Sodium sulphate induced mouse model of colitis. *Inflamm. Research* 61;161-169.

Vandana Kumari, Lakshmi Rani Iyer, Riti Roy, Varsha Bhargava, Suchita Panda, Jaishree Paul, Verweij J, C. Graham Clark, Alok Bhattacharya, Sudha Bhattacharya (2013) Genomic distribution of SINEs in Entamoeba histolytica strains: Implication for genotyping. *BMC Genomics* 14:432

Verma R, Verma N and Paul Jaishree (2013) Expression of inflammatory genes in the colon of ulcerative colitis patients varies with activity both at the mRNA and protein level. *Eur Cytokine Netw.* Jul-Sep;24(3):130-8. doi: 10.1684/ecn.2013.0343.

Meena N.K, Verma R, Verma N, Ahuja V and Jaishree Paul (2013) TLR4 D299G Polymorphism Modulates Cytokine expression in Ulcerative Colitis. *J. Clin. Gastroenterol* 47(9):773- 80

Verma N, Verma R, Ahuja V and Paul J (2013) Profiling of ABC transporters during Active Ulcerative colitis and in vitro effect of inflammatory modulators".

Digestive Diseases and Sciences 58, 2282-2292. DOI 10.1007/s10620-013-2636-7

R. Ranjha and J. Paul (2013) Micro-RNAs in inflammatory diseases and as a link between inflammation and cancer. *Inflamm. Res.* 62, 343-355. DOI 10.1007/s00011-013-0600-9

Kumari R, Ahuja V and Paul J (2013) Fluctuations in butyrate producing bacteria in ulcerative colitis patients of North India. *World J. Gastroenterology* 19, 3404-3414. DOI:10.3748/wjg.v19.i22.3404

Prasad KS, Ramanathan AL, Paul Jaishree, Subramanian V, Prasad R (2013) Biosorption of arsenite (As⁺³) and arsenate (As⁺⁵) from aqueous solution by *Arthrobacter* sp. biomass. *Environmental Technology* DOI:10.1080/09593330.2013.786137

Verma R, Ahuja V, Paul Jaishree (2012) Detection of single-nucleotide polymorphisms in the intron 9 region of the nucleotide oligomerization domain-1 gene in ulcerative colitis patients of North India. *J Gastroenterol Hepatol.* 27:96-103. doi: 10.1111/j.1440-1746.2011.06832.x

Verma A.K., Ravi Verma R, Ahuja V and Jaishree Paul (2012) Real-time analysis of gut flora in *Entamoeba histolytica* infected patients of Northern India. *BMC Microbiology* 12:183 doi:10.1186/1471-2180-12-183

Prasad K.S, P. Srivastava P, Subramanian, V & Jaishree Paul (2012) Biosorption of As (III) Ion on *Rhodococcus* sp. WB-12: biomass characterization and Kinetic Studies. *Separation Science and Technology* 46, 2517-2525

Singh N , Bhattacharya S and Jaishree Paul (2011) Dynamics of DNA synthesis during the trophozoite to cyst differentiation cycle of *Entamoeba invadens*. *Experimental Parasitology* 127 : 329–333

Verma R, Verma A.K., Ahuja V and Jaishree Paul (2010) Real-Time Analysis of Mucosal Flora in Patients with Inflammatory Bowel Disease in India. *Journal of Clinical Microbiol.* 48: 4279–4282

Chapters in Books

Jaishree Paul, Rekha Rani and Shweta Srivastava (2009) Modulation of Resident Flora by Metronidazole during amoebiasis. Pp. 71-76, In: *Antimicrobial Resistance: From Emerging threat to Reality* (Ed. Lawrence), Narosa Publishing house, New Delhi (ISBN 978-81-8487-060-2)

Jaishree Paul, Anil Kumar Verma and Ravi Verma (2007) Role Of Gut Flora In Inflammatory Bowel Disease- A State Of Art. *Communicating Current Research*

and Educational Topics and Trends in Applied Microbiology A. Méndez Vilas (Ed.)
©FORMATEX, Spain 2007 pp. 705-718

Jaishree Paul (2007) Molecular probes for detection of *Entamoeba histolytica* and its strain variations. In: "New Frontiers of Environmental Biotechnological Application" Published by the ENVIS Centre on Environmental Biotechnology . (Ed. S.C. Santra) pp. 138-160.

Jaishree Paul and Prasad S.K. (2006). Microbial Intervention in Arsenic Rich Environment. an overview. pp. 327-355, In Chauhan A.K.and Varma A (eds.) Microbes: Health and Environment. (Microbiology Series 3), I.K. International Publishing House Pvt.Ltd. (ISBN 81-88237-51-5)

Jaishree Paul and A. K. Varma (1998) Microbial degradation of xenobiotics- An Overview In Microbes: for Health, wealth and sustainable environment (ed. A.K. Varma) Malhotra Publishing House, New Delhi pp. 413-432

Awards and recognition received (last 5 years)

Recipient of University travel grant for attending Gastro-intestinal Microbial ecology conference , 9-11th Nov, 2010 at Kosice, Slovakia.

Recipient of FLU foundation fellowship for participating in the Amebosis meeting at the 5th European Congress on Tropical Medicine and International Health, 24-28 May, 2007 held at Amsterdam, The Netherlands;

Felicitated by the Vice Chancellor of Andhra University, Vishakhapatnam, India for delivering a lecture in the Human Genetics Department January, 2010

Attended National/International Seminars (last 5 years)

Probiotics: From bench to Community from 7th – 8th March, 2015 organized by Yakult India Microbiota and Probiotic Science Foundation held at The Grand , New Delhi. India

Invited speaker at Joint International Tropical Medicine Meeting (JITMM 2014), and Food- and Water-Borne Parasitic Zoonoses (FBPZ8), held on 2-4 December 2014 at Centara Grand & Bangkok Convention Centre at Central World ; Topic: "Genotyping *Entamoeba* strains and their differential tolerance to antiamebic drugs"

"Interplay Among Commensal Bacteria Involved in The Pathogenesis of Ulcerative Colitis" Lecture delivered at Biodesign Institute at Arizona State University, USA on 14th may, 2014

"Fluctuations of Luminal Bacteria in Ulcerative colitis patients using Molecular Probes"- Department of Gastroenterology, Rutgers University, USA on 7th June, 2013

"Identification of differentially expressed miRNA in Ulcerative colitis patients with different extent of disease" presented at the Gordon Research Conference held from 9-13th June , 2013 at Stone Hill College, MA, USA

Lunch Talk at the Faculty of Tropical Medicine, Mahidol University on "Host and Parasitic factors decides the final outcome of Amoebiasis" on 7th December, 2012, Bangkok

Invited for presenting a poster "Role of TLR4 polymorphism in modulation of cytokine expression in Inflammatory Bowel Disease patients. Jaishree Paul, Naresh K. Meena and Vineet Ahuja at Asia Pacific Digestive week, 5-8th December, 2012 held at Queen Sirikit National Convention center, Bangkok , Thailand.

Invited speaker at Joint International Tropical medicine meeting 2012 on "World situation of Amoebiasis/ Identification of a new species of Entamoeba" on 12th December, 2012 at Centara Grand Bangkok Convention center, Bangkok

Invited lecture on "Interaction of host and parasitic factors in the outcome of amoebiasis " at the EMBO global Lecture course and symposium on amoebiasis: Exploring the biology and the pathogenesis of Entamoeba held at Khajuraho, India, March, 2012

"Epidemiology of Amoebiasis" at the Gurucharan college, Silchar (Assam University), on 9th February, 2012

Invited to deliver lectures on Microbiology Course to post graduate students at Gandhinagar, Central University of Gujarat (11-12 November, 2011)

Jaishree Paul, Verma R and Ahuja V - Invited lecture delivered at International Scientific Conference on Gastro-Intestinal Microbial Ecology, 9-11th Nov.,(2010), Kosice, Slovakia. "Association of mucosal flora and genetic polymorphism of NOD1 gene with IBD patients of Northern India."

High throughput diagnostic technique for detection of SNPs in NOD1 gene of Ulcerative colitis patients in India. A lecture delivered in the Biotechnology Department of Indian Institute of Technology, Kharagpur on 25th January, 2010.

Jaishree Paul invited lecture on "SNP analysis in Inflammatory Bowel disease" in Human Genetics Department of Andhra University, Vishakhapatnam, March, (2010)

Memberships of committees (outside JNU)

Annual member of American society of Microbiology

Life member of Association of Microbiologists of India

Local Organising committee member of EMBO Global Exchange Lecture Course & Symposium on "Amoebiasis: Exploring the Biology and the Pathogenesis of Entamoeba" held during 4-7th , March 2012 at Khajuraho, India.

Co-coordinator: Summer research programme 2009, SLS, JNU

SUPERVISION

Ph.D. degree awarded to eight Ph.D students since 2003

Currently supervising 4 Ph.D students

Woman scientist 1 (funded by DBT)

Research associate 1 (funded by EU project)

One student was awarded D.M. degree from Gastroenterology Department, AIIMS, New Delhi (as co-supervisor)

M.Phil degree awarded to 4 students.

Fourteen students from different universities, completed their summer and winter training program under my supervision each for a period of 3 to six months

ADMINISTRATIVE/ ACADEMIC JOBS

Participated in different administrative jobs of the school including 1. maintenance of Central Instrumentation Facility Supervised Flow Cytometry facility and 3. currently supervising the Tissue Culture facility

1 Participated in the examination duties and setting question papers and evaluation work and conducting Viva during the entrance examinations for M.Sc and M.Phil/Ph.D programs.



Deepshikha



Ravi



Lakshmi



Anil



Nirmal

MEMBERS OF MY RESEARCH GROUP



Neha



Surbhi



Ishani



Raju



Naresh



Reena