University Faculty Details Page on DU Web-

Title	Prof.	First Name	JUGSHARAN SINGH	Last Name	VIRDI	PHOTOGRAPH

Designation	Professor
Department	Microbiology
Address (Campus)	University of Delhi South Campus, Benito Juarez Road, New Delhi – 110 021
(Residence)	House No. 12 (First Floor), Type 5, University of Delhi South Campus Housing, New Delhi – 110 021
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Web-Page	*microbio.du.ac.in* *http://www.du.ac.in/du/*

EDUCATION

Subject	*Institution*	*Year*	*Details*
IMMUNOLOGY (PhD)	Post-Graduate Institute of Medical Education & Research (PGI), Chandigarh	1986	Thesis topic: Studies on neutrophil functions in experimental folate deficiency and nutritional megaloblastic anemias
MICROBIOLOGY (M.Sc. Honours School)	Panjab University, Chandigarh	1977	Subjects: Physiology, genetics, immunology, pathogenics, Industrial, Advanced topics in microbiology
MICROBIOLOGY (B.Sc. Honours School)	Panjab University, Chandigarh	1975	Subjects: Microbiology, Biochemistry, Biophysics, Statistics, Bio-organics

CAREER PROFILE

Organization / Institution	*Designation*	*Duration*	*Role*
University of Delhi South Campus	Professor	2006 - till date	Teaching and Research
University of Delhi South Campus	Reader	1998 - 2006	Teaching and Research
University of Delhi South Campus	Lecturer	1988 - 1998	Teaching and Research
PGI MER, Chandigarh	Pool Officer	1987 - 1988	Research

TEACHING EXPERIENCE (SUBJECTS /COURSES TAUGHT)

- **Immunology (Interdisciplinary course)** to M.Sc. M.Phil. & PhD students of Department of Microbiology, and Department of Plant Molecular Biology & Biotechnology (PMBB) (w.e.f. 2009 – till date)**.**
- **Microbial Pathogenecity (Interdisciplinary course)** to M.Sc., M.Phil. & PhD students of Department of Microbiology and Department of Biochemistry (w.e.f. 2009 -till date).
- **General and Animal Virology** to M.Sc. students of Microbiology (1988-2004)**.**
- **Microbial Technology** to M.Phil. (Biotechnology) students (1997-2000).
- **General Virology** to M.Sc. (Biomedical Sciences) students of Ambedkar Cent for Biomed Res (ACBR), University of Delhi (1997-2009).
- **Course on - Pathogens in the environment** to M.Sc. (Environmental Biology) students, University of Delhi (1995-97).
- **Course on - Fundamental Immunology** to M.Sc. (Biotechnology) students of Barkatullah University (Bhopal), (2004. 2006, 2008).

- **Course on - Fundamental Immunology** to M.Sc. (Microbiology) students of Jiwaji University (Gwalior), (2009, 2010, 2011).
- **Course on - Food-borne Pathogens** to M.Sc (Microbiology) students of Jiwaji University (Gwalior), (20l0)**.**

HONORS & AWARDS

- **Discovery Award by BIRAC-Nesta (UK) for research project entitled – Resistance-genes-array rapid detection of AMR and algorithm driven therapy (2017)**
- **Best Lab Mentor (University Level) Award, Invitrogen Science Hero Awards 2016, San Francisco (USA) (2016)**
- **BIRAC-Nesta First Idea-thon Award for developing a rapid test for detection of Antimicrobial Resistance (AMR) in bacterial pathogens (March 2016)**
- **Y.S. Narayana Rao oration Award by Indian Council of Medical Research (ICMR) for working out the Molecular Epidemiology of *Yersinia enterocolitica* (a food- and water-borne enteric pathogen) in India (2006)**
- **INSA (Indian National Science Academy) visiting Fellowship (2005-2006)**
- **Scientific Research Poster presentation Awards in conferences (1994, 1997, 2005)**
- **University Gold Medal for securing first position in M.Sc. (Honours School) in Microbiology, Panjab University (1976)**

CURRENT RESEARCH

Combating Antimicrobial Resistance through Point of Care Diagnostics

One of the major reasons of the emergence of antimicrobial resistance (AMR) is the excessive use of antibiotics. It has been argued that development of rapid tests for detection of AMR has the potentiality to reduce the use of antibiotics substantially. The development of **point of care (POC) diagnostics or point of care tests (POCT)** will ensure accurate and quick treatment of infections, and reduction in the use of antibiotics. The POC tests / devices are simple, economical and require very less time to perform. These tests may be performed by the bedside of the patient, may require only a few minutes to perform, are technically very simple to perform and results may be interpreted unequivocally.

Developing a POC test for rapid detection of AMR is a challenge. The techniques which are currently available for AMR testing are severely constrained due to long duration with respect to the turnaround time which may take minimum of 48-72 hours as it usually requires culturing the pathogen.

The genomics based methods may completely circumvent the need to culture bacteria to determine resistance/susceptibility. The collaborating Departments of Microbiology and Biophysics at the University of Delhi South Campus (UDSC-AMR group) is developing **resistance-gene array based method** to detect the presence of resistance genes in the bacteria present in urinary tract infections (UTI). This would be coupled to an algorithm-based recommendations of the most appropriate antibiotic therapy in accordance with the WHO guidelines for the use of 'access', 'watch' and 'reserve' categories. A very large database of antibiotic resistance genes which is being updated regularly termed CARD (Comprehensive Antibiotic Resistance Database) in conjunction with the in-house developed (Srivastava et al (2014) CBMAR (Comprehensive Beta-lactamase Molecular Annotation Resource) is being used to develop the resistance-genes-array based POC test for detection of AMR.

PUBLICATIONS (LAST FIVE YEARS)

BOOKS/MONOGRAPHS

YEAR OF PUBLICATION	TITLE	PUBLISHER	CO-AUTHORS

2010 (Revised)	**Text Book of Biotechnology (XI Class)**	**Central Board of Sec. Edu. (CBSE), Delhi-92**	**Kannan K, Rajam MV, Nirmala K, Singh NK, Panda AK, Virdi JS & Others**
2010 (Revised)	**Practicals in Biotechnology (XI Class)**	**Central Board of Sec. Edu. (CBSE), Delhi-92**	**Kannan K, Kumar V, , Rajam MV, Pareek A , Panda AK, Virdi JS & Others**
2007	**Medical Microbiology (Block-3 of Course II: Microbiology II, UG Curriculum)**	**Indira Gandhi National Open University (IGNOU), New Delhi-68**	**Virdi JS**
2006	**Biology – Textbook for class XII**	**National Council of Edu. Res. & Training (NCERT), New Delhi-16**	**Narlikar JV, Muralidhar K, Rao TR, Virdi JS, Savithri Singh & Others**
2006	**e-Book on Immunology & Medical Microbiology**	**National Institute of Sci. Communication & Information Resources (NISCAIR), New Delhi-67**	**Ajit Singh, Madhu Pruthi & others, Virdi JS (Validator)**
2004	**Text Book of Biotechnology (XII Class)**	**Central Board of Sec. Edu. (CBSE), Delhi-92**	**Kannan K, Kumar V, Pareek A, Rajam MV, Panda AK, Virdi JS & Other**

PEER- REWIEWED PUBLICATIONS

YEAR	TITLE OF THE PUBLICATION	JOURNAL	AUTHORS
2018	**Genetic environment of blaTEM-1, blaCTX-M-15, blaCMY-42 and characterization of integrons of Escherichia coli isolated from an Indian urban aquatic environment**	***Front Microbiol, 9, 382. doi: 10.3389/fmicb.2018.00382***	Singh, N.S., Singhal, N., and Virdi, J.S.
2017	**Integrons in Enterobacteriaceae: diversity, distribution and epidemiology.**	***Int J Antimicrob Agents, 51:167-176.***	Kaushik, M., Kumar, S., Virdi J.S., and Gulati, P.
2016	**MALDI-TOF MS in clinical parasitology: applications, constraints and prospects.**	***Parasitology,*** 2016 Jul 8:1-10. [Epub ahead of print]PMID:27387025	Singhal A, Kumar M & Virdi jjs
2016	***Escherichia coli* β-Lactamases: What Really Matters.**	***Front Microbiol***. 30;7:417. doi: 10.3389/fmicb.2016.00417. eCollection 2016.	Bajaj, P., Singh, N.S., & Virdi, J.S.
2016	**Resistance to amoxicillin-clavulanate and its relation to virulence-related factors in *Yersinia enterocolitica* biovar 1A**	***Indian J Med Microbiol*** 34:85-87	Singhal N, Kumar M and Virdi JS
2016	**Quinolone co-resistance in ESBL- or AmpC-producing *Escherichia coli* from an Indian urban aquatic environment and their public health implications.**	***Environ Sci Pollut Res*** 123(2):1954-1959.	Bajaj, P., Kanaujia, P.K., Singh, N.S., Sharma, S., Kumar, S., &

			Virdi, J.S.
2015	**MALDI-TOF mass spectrometry: an emerging technology for microbial identification and diagnosis.**	***Front Microbiol***, Aug 5;6:791. doi: .3389/fmicb.2015.00791.	Singhal, N., Kumar, M., Kanaujia, P.K., & Virdi, J.S
2015	**Analysis of iron acquisition and storage-related genes in clinical and non-clinical strains of *Yersinia enterocolitica* biovar 1A**	***APMIS***, 123(10):858-66	Kanaujia, PK, Bajaj, P, Virdi, JS
2015	**Structural variabilities in β-lactamase (blaA) of different biovars of *Yersinia enterocolitica*: Implications for β-lactam antibiotic and β-lactamase inhibitor susceptibilities.**	***PLoS One***10(4):e0123564	Singhal, N., Srivastava, A., Kumar, M., & Virdi, J.S
2015	**Distribution and molecular characterization of genes encoding CTX-M and AmpC β-lactamases in *Escherichia coli* isolated from an Indian urban aquatic environment.**	***Science of the Total Environment*.** 2015 Feb; 505: 350-6. doi:10.1016/j.scitotenv.2014.09.084	**Bajaj P, Singh, NS, Kanaujia, PK, Virdi JS**
2014	**CBMAR: a comprehensive β-lactamase molecular annotation resource.**	***Database (Oxford)*.** doi: 10.1093/database/bau111.	**Srivastava A, Singhal N, Goel M, Virdi JS, Kumar M**
2014	**Detection of *Yersinia enterocolitica* in food: an overview.**	***European J. Clinical Microbiol and Infectious Dis*,** doi. 0.1007/s10096-014-2276-7.	**Gupta V, Gulati P, Bhagat N, Dhar MS, Virdi JS**
2014	**Synthesis and biological evaluation of novel bisbenzimidazoles as *E.coli* topoisomerase 1A inhibitors as potential antibacterial agents**	***J. Medicinal Chemistry*,** 57: 5238-5257.	**Nimesh, Sur S, Sinha D, Yadav P, Anand P, Bajaj P, Virdi JS, Tandon V**
2014	**Molecular analysis of β-lactamase genes to understand their differential expression in strains of *Yersinia enterocolitica* biovar 1A**	***Scientific Reports*,** 4:5270.	**Singhal N, Kumar M, Virdi JS**
2014	**Molecular modelling and docking of novel laccase from multiple serotypes of *Yersinia enterocolitica* suggests differential and multiple substrate binding**	***Biochemical & Biophysical Res Communications,*** 449:157-162.	**Singh D, Sharma KK, Dhar MS and Virdi JS**
2014	**Identification of family specific fingerprints in β-lactamase families**	***Scientific World Journal Doi: 10.1155/2014/980572***	**Srivastava A, Singhal N, Goel M, Virdi JS, Kumar M.**
2014	**Preparation and antimicrobial action of three tryptic digested functional molecules of bovine lactoferrin**	***PLoS One*** 9 (3) e90011	**Rastogi N, Nagpal N….Virdi JS, Kaur P, Sharma S, Singh TP**
2013	**Strategies used by *Yersinia enterocolitica* to evade killing By the host: thinking beyond YOPS**	***Microbes and Infection*,** 16: 87-95.	**Dhar MS, Virdi JS**

2013	**Exogenous phage recombinase-independent inactivation Of chromosomal genes in *Yersinia enterocolitica*.**	***J. Microbiological Methods*** 95:102-106.	**Dhar MS, Kumar P, Virdi JS**
2013	**Interaction of *Yersinia enterocolitica* biovar 1A with cultured cells *in vitro* does not correlate with the clonal groups.**	**J Medical Microbiology, 62: 1807-1804.**	**Dhar MS, Virdi JS**
2013	***Mycobacterium tuberculosis* cyclophilin A uses novel signal sequences for secretion and mimics eukaryotic cyclophilins for interaction with host protein repertoire.**	***PLoS One*** 9(3) e88090	**Bhaduri A, Misra R,……. Arora G, Virdi JS, Y Singh**
2013	**Detection, distribution and characterization of novel superoxide dismutases from *Yersinia enterocolitica* biovar 1A.**	***PLoS One*** 8 (5) e63919	**Dhar MS, Gupta V, Virdi JS**
2012	**Identification and distribution of putative virulence genes in clinical strains of *Yersinia enterocolitica* Biovar 1A by suppression subtractive hybridization**	***J. Applied Microbiology*** 113: 1263-1272	**Kumar P, Virdi JS**
2011	**Proteomic analysis of arsenite-mediated multiple antibiotic resistance in *Yersinia enterocolitica* biovar 1A**	***J. of Basic Microbiology*** 51:1-8	**Mallik S, Virdi JS, Johri A**
2010	**The enigma of *Yersinia enterocolitica* biovar 1A**	***Critical Reviews in Microbiology*****,** 37: 25-39.	**Bhagat N, Virdi JS**
2010	**Genetic relationship between clinical and non-clinical strains of *Yersinia enterocolitica* biovar 1A as revealed by mutilocus enzyme electrophoresis (MLEE) and mutilocus sequence typing (MLRT).**	***BMC Microbiology*****, *10: 158.***	**Mallik S, Virdi JS**
2010	**Whole cell protein profiling reiterate phylogenetic relationships among strains of *Yersinia enterocolitica* biovar 1A as discerned earlier by different genotyping methods.**	***J. Applied Microbiology*****,** 109: 946-952.	**Mallik S, Virdi JS**
2009	**Molecular and biochemical characterization of urease and survival of *Yersinia enterocolitica* biovar 1A in acidic pH *in vitro***	***BMC Microbiology*** 9, 262.	**Bhagat N, Virdi JS**
2009	**Multilocus variable number tandem repeat (VNTR) analysis as a tool to discern genetic relationships among strains of *Yersinia enterocolitica* biovar 1A**	***J. Applied Microbiology*****,** 107:875-884.	**Gulati P, Varshney RK, Virdi JS**
2008	**Amelioratory effects of zinc supplementation on *Salmonella*-induced hepatic damage in the murine model.**	***Digestive Diseases and Sciences*****,** 53: 1063-1070.	**Rishi P, Kaur P, Virdi JS, Shukla G, Koul A**
2007	**Characteristics of beta-lactamases and their genes (*bla A* and *bla B*) in *Yersinia intermedia* and *Y. fredricksenii***	***BMC Microbiology*****; 7, 25.**	**Mittal S, Mallik S, Sharma S, Virdi JS**
2007	**The *rrn* locus and *gyr*B genotyping confirm the existence of two clonal groups in *Yersinia enterocolitica***	***Research in Microbiology*****,** 158: 236-243.	**Sachdeva Gulati P, Virdi JS**
2007	**Distribution of virulence-associated genes in *Yersinia enterocolitica* biovar 1A co-relates with clonal groups and not the source of isolation**	***FEMS Microbiology Letters*****,** 266:177-186.	**Bhagat N, Virdi JS**
2007	**Genetic diversity of pathogenic micro-organisms and their medical and public health significance**	***Indian J. Medical Microbiology*****, 23: 2-3. (GUEST EDITORIAL)**	**Virdi JS, Gulati P, Pai M**
2006	**Molecular characterization of beta-lactamase gene *blaA* and *bla B* of *Yersinia enterocolitica* biovar 1A**	***FEMS Microbiology Letters*****,** 257:319-327.	**Sharma S, Mittal S, Mallik S, Virdi JS**
2005	**Molecular heterogeneity in *Yersinia enterocolitica* and *Y. enterocolitica*-like organisms: Implications for epidemiology, typing and taxonomy**	***FEMS Immunology and Medical Microbiology*** 45:1-10.	**Sachdeva P, Virdi JS**

2005	**Interaction of *Yersinia enterocolitica* biovar 1A of diverse origin with cultured cells *in vitro***	***Japanese J. of Infectious Diseases*, 58: 31-33.**	**Singh I, Virdi JS**
2004	**Repetitive elements sequence (REP/ERIC)-PCR based genotyping of *Yersinia enterocolitica* biovar 1A reveal existence of limited number of clonal groups**	***FEMS Microbiology Letters*, 240:193-201.**	**Sachdeva P, Virdi JS**
2004	**Production of *Yersinia* stable toxin (YST) and the distribution of *yst* genes in *Yersinia enterocolitica* biovar 1A**	***J. Medical Microbiology*, 53:1065-1068.**	**Singh I, Virdi JS**
2004	**Detection and assay of beta-lactamases in clinical and non-clinical strains of *Yersinia enterocolitica* biovar 1A**	***J. Antimicrobial Chemotherapy*, 54: 401-405.**	**Sharma S, Ramnani P, Virdi JS**
2004	***In Vitro* antibiotic susceptibilities of *Yersinia enterocolitica* biovar 1A**	***World J. Microbiol & Biotechnol*, 20: 329-331.**	**Singh I, Virdi JS**
2003	**Emerging water-borne pathogens**	***Applied Microbiology & Biotechnology*, 61:423-428.**	**Sharma S, Sachdeva P, Virdi JS**
2003	**Comparison of tryptone glucose yeast (TGY) extract agar with nutrient agar for enumeration of heterotrophic plate count in sewage**	***Pollution Research*, 22: 65-66.**	**Sharma S, Kuhad RC, Virdi JS**
2 003	**Isolation and characterization of *Yersinia enterocolitica* from diarrheic human subjects and other sources**	***Current Science*, 84:1353-1355.**	**Singh I, Bhatnagar S, Virdi JS**
2003	**Susceptibility of environmental isolates of *Yersinia enterocolitica* (Biotype 1A) to chlorine and heavy metals**	***Indian Journal of Microbiology* 43:199-201.**	**Mittal N, Virdi JS**
2003	**Microbial contamination of various water sources in Delhi**	***Current Science*, 84:1398-1399.**	**Sharma S, Singh I, Virdi JS**
2001	**Arsenite-induced multiple antibiotic resistance phenotype in environmental isolates of *Yersinia enterocolitica***	***Current Microbiology* 43:144-146.**	**Virdi JS, Sinha I, Rajendran P, Singh I**
2000	**Differentiation of non-pathogenic (biotype 1A) Yersinia enterocolitica from pathogenic serotypes by sodium acetate utilization**	***J. Medical Microbiology*, 49: 674.**	**Sinha I, Virdi JS**
2000	**Arsenic and cadmium resistance in environmental isolates of *Yersinia* enterocolitica and *Yersinia intermedia***	***Canadian Journal of Microbiology* 46:481-484**	**Bansal N, Sinha I, Virdi JS**
2000	**Virulence plasmid (pYV)-associated susceptibility of *Yersinia enterocolitica* to chlorine and heavy metals**	***Journal of Applied Microbiology* 89:663-667**	**Bansal N, Sinha I, Virdi JS**
2000	**Isolation of *Yersinia enterocolitica* and *Yersinia intermedia* from wastewaters and their biochemical and serological characteristics**	***Current Science* 79:510-51**	**Sinha I, Choudhary, I, Virdi JS**

TOTAL PUBLICATION PROFILE (OPTIONAL)

Books / Monographs…….	**5**
In Indexed/ Peer Reviewed Journals……	**60**
Conference Presentations…… ……	**15**

Book Reviews…….	**11**
e-articles……..	**1**

PUBLIC SERVICE / UNIVERSITY SERVICE / CONSULTING ACTIVITY

- **Chairman, Governing Body, Maharaja Agrasen College, University of Delhi (206, 2017)**
- **Member, Board of Studies in Immunology & Virology, Amity University, NOIDA (2017)**
- **Member, Board of Studies in Biotechnology, IIS University, Jaipur (2017)**
- **Member, Board of Studies in Biotechnology, Gautam Buddha University, NOIDA (2016, 2017)**
- **University Representative, Guru Nanak Dev Khalsa College, University of Delhi (2017)**
- **DBT Nominee, Institute Biosafety Committee (IBSC), Central University of Haryana, Mahendragarh (2017, 2018)**
- **Co-ordinator for NAAC for Department of Microbiology, UDSC, New Delhi (2015, 2016)**
- **Member, RDC in Biotechnology, Netaji Subhash Institute of Technology (NSIT), New Delhi (2015, 2016)**
- **Member, Faculty Selection Committee for Microbiology, PDM University, Bahadurgarh (Haryana) (2016)**
- **Member, Faculty Selection Committee for Microbiology, Central University of Haryana (2015, 2016)**
- **Member Board of studies in Microbiology, Central University of Haryana (2015, 2016)**
- **Member, Academic Audit Committee, Maharishi Dayanand University (MDU), Rohtak (2016)**
- **Member, Academic Audit Committee, Central University of Haryana, Mahendragarh (2016)**
- **VC Nominee and External Member, Departmental Research Committee (DRC), Dept of Biophysics, UDSC (2014).**
- **UGC Nominee to DRS-II, Special Assistance Programme (SAP) of Guru Nanak Dev University, Amritsar (2013, 2014).**
- **Co-ordinator, Special Assistance Programme (SAP) of the UGC to Dept. of Microbiology, University of Delhi (2012-16).**
- **Mentor, Innovation project on Potable water in Delhi/NCR: Quality, Resources and Remediation, RLA College (2014).**
- **Member, Natl Organizing Committee, Intl. Symp on Problems of Listeriosis (ISOPOL), ICAR Res. Complex, Goa (2013).**
- **Member, PG Board of Studies, Natl. Institute of Food Tech. Entrepreneurship and Management (NIFTEM) (2012).**
- **Member, Task Force - Enabling Young: Redefining Education, University of Delhi (2013).**
- **Member, Standing Committee on Academic Affairs, University of Delhi (2013).**
- **DBT Nominee to Institute Biosafety Committee (IBSC), J.P. Institute of Information Technology, NOIDA (2012, 2013).**
- **Member, DBT Expert Committee for reviewing pre-proposals from J&K State in area of Biotechnology (2013).**
- **Chair (Session3), 7th Asian Conf. on Lactic Acid Bacteria (ACLAB), organized under the aegis of THSTI, Gurgaon (2013).**
- **Chair (One selection committees), Selection of M.Sc.-Ph.D. Combined Degree Program, ACBR, Uni of Delhi (2013).**
- **Invited as an Expert and to be External Supervisor for PhD thesis in the area of Microbiology, IGNOU (2013).**
- **Invited as Member, Board of Studies (BOS) in Biotechnology, IIS University, Jaipur (2013).**
- **Guest Faculty, Indian Agricultural Research Institute (IARI), New Delhi (2012, 2013, 2014).**
- **Member, Committee to provide guidelines for creation/usage of Plant Growth Facility, UDSC (2013).**
- **Member, Organizing Committee, 54TH Annual Conference of Assoc of Microbiologists of India, MDU, Rohtak (2013).**
- **Member, Institute Academic Committee, Institute of Microbial Technology, Chandigarh (2011, 2012).**
- **Member, Board of studies (BOS) in Microbiology, Thapar University, Patiala (2011).**
- **VC Nominee, Dept. Research Committee (DRC), Ambedkar Centre for Biomed Res (ACBR), Univ of Delhi (2010-2012).**

- **Member, Governing Body, Maitreyi College, University of Delhi (2013, 2014).**
- **Treasurer, Maitreyi College, University of Delhi (2014).**
- **Member, Managing Committee, Saramati Hostel Post-Graduate Mens' Hostel, Univ. of Delhi South Campus (2012).**
- **Member, Admission Committee of Saramati Post-Graduate Mens' Hostel, University of Delhi South Campus (2012).**
- **Member, Purchase Committee, Aravali Post-Graduate Mens' Hostel, Uni of Delhi South Campus (2010).**
- **Member, Disciplinary Committee constituted by the Provost, Saramati Post-Graduate Mens' Hostel, UDSC (2010).**
- **Member, Delhi University Library System (DULS) Committee for purchase of e-resources (2008, 2009).**
- **Member, Committee to look into Water and Electricity Problems at UDSC (2010).**
- **Member, Governing Body: Ramlal Anand College (University of Delhi) (2009, 2014).**
- **VC Nominee & Member, Governing Body, Delhi College of Arts and Commerce (DCAC) (2013).**
- **Treasurer, Governing Body, Delhi College of Arts and Commerce (DCAC) (2013).**
- **Member, Library Committee, University of Delhi South Campus (2013).**
- **University Representative, Governing Body, Lady Harding College (University of Delhi) (2008).**
- **Member, Governing Body, Motilal Nehru College (University of Delhi) (2012).**
- **External Member, Faculty of Life Sciences, Maharishi Dayanand University (MDU), Rohtak (2013).**
- **Member, M.Phil. (Biotechnology) Committee, University of Delhi South Campus (2009-2014).**
- **Member, Board of Studies (BOS) in Agricultural Microbiology, Aligarh Muslim University (Aligarh) (2011, 2012).**
- **Convener (Committee for Mol. Bio. Bioinformatics), Selection of IMTECH-JNU PhD Admission (2011).**
- **Visiting Faculty, Department of Microbiology, Jiwaji University (Gwalior) (2010).**
- **Visiting Faculty, Department of Biotechnology, Barkatullah University (Bhopal) (2004.2006. 2008).**
- **Member, Research Degree Committee (RDC), CCS University (Meerut) (2010).**
- **Member, Research Degree Committee (RDC), Jiwaji University (Gwalior) (2010, 2011, 2012).**
- **Member, Research Degree Committee (RDC), Barkatullah University (Bhopal) (2010).**
- **Member, Research Degree Committee (RDC), Himachal Pradesh University (Shimla) (2011).**
- **Member, Board of Studies (BOS) in Microbiology, Himachal Pradesh University (Shimla) (2013).**
- **Member, Board of Studies (BOS) in Microbiology, ITM University, Gwalior (2012).**
- **On Faculty Promotion Panel, King Abdul Aziz University, Jeddah (Saudi Arabia) (2011).**
- **On Faculty Selection Panel, CCS Haryana Agricultural University (Hisar) (2011).**
- **Special Invitee and Expert, Bureau of Indian Standards (BIS), FAD, Drinking Water Sectional Committee (2008).**
- **Observer, Plant Molecular Biology M.Sc. Entrance Test Examination (2011, 2012, 2013, 2014)**
- ***Peer reviewer for International and National scientific journals:***

  PloS One, PloS Pathogens, BMC Microbiology, BMC Infectious Diseases, FEMS Microbiology Letters, J. Antimicrobial Chemotherapy, J. Applied Microbiology, Microbiology (UK), J. Medical Microbiology, J. Basic Microbiology, J. Infections in Developing Countries, International J. Biomedical Sciences, International J. Hygiene & Environmental Health, J. Biotechnology & Biomedicine, International J. Integrative Biology, Indian J. Microbiology, Current Science, J. Food Sci & Technology, Polish J. Food Science, Pearson Publications. J Infectious Diseases and Immunity, Oxford University Press India, Tata Mac Graw Hill Publishing, European J Clin Microbiol and Infect Dis, Acta Pediat Microbiologica Immunol Scandinavica (APMIS)
- **Joint Secretary, Association of Microbiologist of India (2008, 2009, 2010).**
- **Participated in DBT-BCIL (Biotech Consortium India Ltd) to strengthen regulatory compliance by IBSC (Institute**

Biosafety Committee) Jan 29, 2009.

- **Attended Indo-German Workshop on Epidemiology of Infectious Diseases, University of Hyderabad, Nov 28-30 2008, Hyderabad.**
- **Special invitee, DBT task force on Microbial Consortia Development. Meeting held at TERI (Southern Regional Centre), Bangalore October 23-24, (2008).**
- **Associate Editor, Gut Pathogens (BioMed Central Journal) (2010, 2011).**
- **Editor (Medical Microbiology Section) Indian Journal of Microbiology (Springer) (2008, 2009, 2010)**
- **Member, University Court, University of Delhi (w.e.f 2008 - Till date).**
- **Treasurer, Ramlal Anand College New Delhi (2009).**
- **Treasurer, Delhi Unit II, Association of Microbiologist of India (AMI) (w.e.f. 1997 – Till date).**
- **In-charge – Biomerieux (Vitek-2), Biolog & Omnilog, Central Instrumentation Facility, UDSC, New Delhi (2009-2011).**
- ***PhD EXAMINER/ SUBJECT EXPERT / PAPER SETTER & EVALUATOR / CURRICULUM DEVELOPMENT / OTHER ACADEMIC ACTIVITIES:***

  Indian Institute of Science (IISc), Institute of Microbial Technology (IMTEC), Natl. Institute of Plant Genome Research (NIPGR), Jawaharlal University (JNU), Institute of Genomics and Integrative Biology (IGIB), Indian Agricultural Research Institute (IARI), National Institute of Immunology (NII), All India Institute of Medical Sciences (AIIMS), Netaji Subhash Institute of Technology (NSIT), TERI University (New Delhi), National Institute of Food Technology entrepreneurship and Management (NIFTEM), Thapar University (Patiala), Indian Institute of Integrative Medicine (Jammu), Ambedkar Centre for Biomedical Research (ACBR), Guru Gobind Singh Indraprastha University, Welcome Trust Foundation, DBT, DST, CSIR, ICMR, Panjab Univ., Kurukshetra Univ., Lifecare Innovation Pvt. Ltd. (UDSC), Defense Research and Development Establishment (DRDE), Maharishi Dayanand Univ., Maharishi Dayanand Saraswati Univ., Himachal Pradesh Univ., Guru Nanak Dev Univ., Aligarh Muslim Univ., G.B. Pant University of Agriculture & Technology, National Dairy Research Institute (NDRI), Amity Univ., PGIMS (Lucknow), Mysore Univ., Central Institute for Fisheries Technology, B.R. Ambedkar University, Kalyani Univ., Rani Durgawati Univ., HNB Univ., Chhatapati Sahuji Maharaj Univ, Jamia Millia Islamia, Jamia Hamdard Univ., Guru Jhambeshwar Univ., Miranda House, Ramjas College, Ramlal Anand College, Gargi College, Swami Shraddhanand College, DAV Colleges Managing Committee, V.P. Patel Chest Institute; HNB University, Mata Vaishnodevi University, Jadavpur Uni, Punjab Technical University (PTU), Banaras Hindu University (Varanasi), Central University of Rajasthan (Kishangarh). Central University of Haryana (Mahendragarh), IIS University (Jaipur), Himalayan University (Itanagar), Utkal University (Bhubaneswar), National Inst Sci Edu Res, NISER (Bhubaneswar), Veer Narmad South Gujarat University,

- **Revised the teaching programs (Theory) under Semester System, in the subjects of Immunology, Virology and Pathogenic Microbes for B. Sc. (Hons.) Microbiology students of Delhi University (2009).**
- **Revised the curriculum for conducting practicals under Semester System, in the subject of Immunology and Pathogenic Microbes for M. Sc. (Microbiology) students (2009).**
- **Served as cultural co-ordinator between the department and the cultural council of the University.**
- **Coordinated in conducting educational-cum-scientific tours for M. Sc. Students of the department.**
- **Delivered invited talk on "Career Opportunities in Microbiology" at DAV Centenary Public School, Oct. 22nd, 1999.**
- **Member, Admission Committee, Indira Gandhi Institute of Physical Education and Sports Sciences (Years 2006 and 2005), University of Delhi**
- **Member, Library Committee, University of Delhi South Campus (2012, 2013, 2014).**
- **Member, Purchase Committee, University of Delhi South Campus.**
- **Member, Institute Biosafety Committee (IBSC), University of Delhi South Campus (w.e.f. 2000 – till date).**
- **Member, Selection Committee for Merit Promotion Scheme (Microbiology), for Delhi University Colleges.**
- **Member, Animal House Committee, University of Delhi South Campus (2005, 2008).**
- **Regularly served as a member of the 'University Observers Team' for the smooth conduct of Annual & Entrance**

Examinations of the University of Delhi.

- **From time to time served as observer for entrance examinations (Medical, Engineering, Computer and Management) conducted by the University.**
- **In charge, Central Instrumentation Facility of the department.**
- **Member, various departmental committees.**
- **In charge for keeping leave records of technical and laboratory staff.**
- **Superintendent for conducting annual theory and practical examinations.**

MEMBERSHIP OF SCIENTIFIC SOCIETIES

- **Life member,** International Society for General and Evolutionary Microbiology **(ISOGEM).**
- **Life Member,** Indian Association of Medical Microbiologist **(IAMM).**
- **Life Member,** Association of Microbiologist of India **(AMI).**
- **Life Member,** Society of Biological Chemists of India **(SBC).**
- **Life Member**, Probiotic Society of India **(PAi).**
- **Editor (Medical Microbiology section), Indian Journal of Microbiology (2009, 2010).**
- **Member (Editorial Board) Indian Journal of Microbiology (2009, 2010).**
- **Member Central Council, Association of Microbiologist of India (2000, 2001, 2003).**

BOOK REVIEWS PUBLISHED

1. **Virdi JS (2006). Structural biology of microbial pathogenesis. ASM Press, Washington, D.C.** *Current Science* 91:120-21.
2. **Virdi JS (2005). Microbial genomes. Humana Press, New Jersey.** *Current Science* 89:1273-1275.
3. **Virdi JS (2005). Microbial diversity and bioprospecting, ASM Press, Washington, D.C.** *Current Science* 88: 1326-1327.
4. **Virdi JS (2005). Viruses and the evolution of life, ASM Press, Washington, D.C.** *Current Science* 89:208-209.
5. **Virdi JS (2005). Microbial evolution. Gene establishment, survival and exchange, ASM Press, Washington, D.C.** *Current Science* 88:990-991.
6. **Virdi JS (1995). Bacterial pathogenesis of plants and animals: Molecular and cellular mechanisms. Springer-Verlag, Berlin,** *Current Science* 69: 1032-1033.
7. **Virdi JS (1995). Molecular genetics of bacterial pathogenesis, ASM Press, Washington, D.C.** *Current Science* 69: 624-625.
8. **Virdi JS (1995). Bacterial pathogenesis: A molecular approach, ASM Press, Washington, D. C.** *Current Science* 68: 343-344.
9. **Virdi JS (1994). Annual review of immunology, Vol. II, Annual Reviews Inc., Palo Alto.** *Current Science* 66: 321-322.
10. **Virdi JS (1993). Molecular biology of bacterial infection: current status and future perspectives. Cambridge University Press, Cambridge.** *Current Science* 65: 798-799.
11. **Virdi JS (1993). Molecular basis of bacterial pathogenesis, Vol. IX, Academic Press, New York.** *Current Science* 64: 118-119.

PROJECTS (MAJOR GRANTS / COLLABORATIONS)

MAJOR GRANTS

- **2017 – Title: Resistance-genes-array based rapid detection of AMR and algorithm driven therapy**
  (Team Lead – Prof. J.S.Virdi and UDSC AMR Group – Dr. Manish Kumar, Dr. Priyanka Bajaj, Ms. Abhishikha Srivastava, Dr. Neelja Singhal, Mr. Nambram Somendro Singh)
  Funding Agency: DBT-BIRAC-Nesta (UK)
  Status: On-going

- **2016 – Title: Role of probiotic lactic acid bacteria in modulating antibiotic resistance in Bacteria**
  (PI: Prof. J.S.Virdi, Department of Microbiology, University of Delhi South Campus).
  Funding Agency: Indian Council of Medical Research (ICMR)
  Status: Sanctioned

- **2014 - Title: Loop-mediated isothermal amplification (LAMP) test for detection of *Yersinia enterocolitica*: an emerging food-borne enteropathogen**
  (PI: Prof. J.S.Virdi; Co-PI Dr. Manish Kumar, In collaboration with Department of Microbiology and Department of Biophysics, University of Delhi South Campus).
  Funding Agency: **Department of Biotechnology (DBT)**
  Status: On-going

- **2012 - Title: Comparative genomics of β-lactamase genes including *in-silico* analysis to identify sequences for β-lactamase inhibitors**
  (PI: Prof. J. S. Virdi; Co-PI: Dr. Manish Kumar and Dr. Manisha Goel, In collaboration with Department of Microbiology and Department of Biophysics, University of Delhi South Campus).
  Funding Agency: Indian Council of Medical Research (ICMR)
  Status: On-going

- **2012 - Title: Role of Probiotic lactic acid bacteria in modulating antibiotic susceptibilities of enteric pathogens**
  Funding Agency: Indian Council of Medical Research (ICMR)
  (PI: J.S.Virdi)
  Status: Sanctioned

- **2009 - Title: Detection and analysis of emerging water-borne pathogens in the River Yamuna under an interdisciplinary project entitled –** Development of indicators for anthropogenic, environmental and chemical stress on urban ecosystem: A study of aquatic and terrestrial ecosystems of Yamuna River catchment from National Capita Region (Delhi).
  Funding Agency: DU-DST-PURSE Programme
  (Programme Coordinator: Prof Kottapalli S. Rao, In collaboration with Department of Botany (K.S. Rao), Department of Zoology (Prof. Neeta Sehgal & Dr. D.K. Singh), Department of Chemistry (Dr. Rajeev Gupta), Department of Geology (Dr. Vikrant Jain & Dr. Pankaj Srivastava), Department of Physics and Astrophysics (Dr. Awadesh Prasad) & Department of Statistics (Dr. Ranjita Misra) , University of Delhi)
  Status: Completed

- **2008 - Title: Relationship between virulence and immune response to clinical and non-clinical strains of *Yersinia enterocolitica* isolated from India.**
  (PI: J.S.Virdi)
  Funding Agency: Indian Council of Medical Research (ICMR)
  Status: Completed

- **2006 -Title: Uncovering genomic differences between clinical and non-clinical strains of *Yersinia enterocolitica* isolated from India.**
  Funding Agency: Indian Council of Medical Research (ICMR)
  (PI: J.S.Virdi)
  Status: Completed

- **Title: Multilocus variable number tandem repeats analysis for typing of *Y. enterocolitica* isolated from India and other parts of the world.**
  Funding Agency: Indian Council of Medical Research (ICMR)
  (Fellowship project to Ms. Pooja Gulati (*nee* Sachdeva) under supervision of Dr. J.S.Virdi)
  Status: Completed

- **Title: Studies on β-lactamases and ESBL of strains *Yersinia enterocolitica* isolated from India.**
  Funding Agency: Defenses Res. & Development Organization (DRDO)
  (Fellowship project to Mr. Sachin Sharma under supervision of Dr. J.S.Virdi)
  Status: Completed

- **2002 - Title: Molecular characterization of *Y. enterocolitica* isolated from India.**
  Funding Agency: Department of Biotechnology (DBT)
  (PI: Dr. J.S.Virdi)

Status: Completed

- **2002 - Title: Biodiversity of aerobic gram-positive bacteria under All India Co-coordinated Project on Taxonomy**
  Funding Agency: Ministry of Environment and Forests (MoEF).
  (In collaboration with Prof. T. Satyanarayana and Dr. R.C.Kuhad, Department of Microbiology, UDSC)
  Status: Completed

- **2002 - Title: Bacteriocin diversity among environmental isolates of lactic acid bacteria - search for an effective biopreservative.**
  (PI: Prof. Sheela Srivastava, Co-PI: Dr. J.S.Virdi, In collaboration with Departments of Genetics and Department of Microbiology)
  Funding Agency: Council of Scientific and Industrial Research (CSIR)
  Status: Completed

- **2000 - Title: Pathogenicity of *Yersinia enterocolitica* of human and animal origin**
  Funding Agency: Indian Council of Medical Research (ICMR)
  (Fellowship project to Dr. Itender Singh under supervision of Dr. J.S.Virdi)
  Status: Completed

- **2000 - Title: Microbial load of water and the prevalence of emerging water-borne pathogens in Delhi.**
  Funding Agency: Department of Science and Technology (DST).
  (PI: Dr. J.S.Virdi)
  Status: Completed

- **1997 - Title: Role of bacterivorous zooplanktons in reducing microbial load in wastewater.**
  Funding Agency: Ministry of Environment and Forests (MoEF).
  (PI**:** Prof T.R. Rao, Co-PIs: Dr. J.S.Virdi & Dr. R.C. Kuhad, In collaboration with Department of Zoology, University of Delhi)**.**
  Status: Completed

COLLABORATIONS

INTERNATIONAL

1. **Prof. G.S. Chhatwal, Division of Microbiology**
   Helmholtz Center for Infection Research, Braunschweigh (Germany) (2008 under DAAD Programme)

2. **Prof. Petra Dersch**
   Technical University of Braunschweigh (Germany) (2008 under DAAD Programme)
   (Subject: Proteomics of the multiple antibiotic resistance in *Yersinia enterocolitica*)
   Programme: DAAD Fellowship Programme

NATIONAL

Collaborators with Jointly Funded Research Projects:

1. **Dr. Manish Kumar & Dr. Manisha Goel, Department of Biophysics (UDSC) – Joint Funding from ICMR.**
   (**Title**: Comparative genomics of β-lactamases including *in-silico* analysis to identify sequences for β-lactamase inhibitors)

2. **Dr. Manish Kumar, Department of Biophysics (UDSC) - Joint Funding from BIRAC-Nesta.**
   (**Title:** Resistance-genes-array based rapid detection of AMR and algorithm driven therapy)

3. **Dr. Manish Kumar, Department of Biophysics (UDSC) – Joint Funding from DBT.**
   (**Title**: Development of a loop-mediated isothermal amplification (LAMP) test for detection of Yersinia enterocolitica in food)

4. **Prof. Kottapalli S. Rao, Prof. Neeta Sehgal, Dr. D.K. Singh, Dr. Rajeev Gupta, Dr. Awadesh Kumar, Dr. Vikrant Jain, Dr. Pankaj Srivastava, Dr. Ranjita Misra – Joint Funding from DU-DST-PURSE Programme.**
   (Title; Anthropogenic factors affecting the river Yamuna; WP6- Detection and analysis of emerging water-borne pathogens)

5. **Prof. Sheela Srivastava, Department of Genetics (UDSC) – Joint Funding from CSIR.**
   (Title: Bacteriocin production from environmental strains of lactic acid bacteria (LAB).

6. **Prof. T. Satyanarayana & Prof. R.C. Kuhad (UDSC) – Joint Funding from Ministry of Environment & Forests.**
   (Title: All India coordinated project on bacterial taxonomy – Gram positive Bacteria (*Bacillus*, Actinomycetes and *Lactobacillus*)

7. **Prof. T.R. Rao, Department of Zoology – Joint Funding from Ministry of Environment & Forests.**
   (Title: Role of zooplanktons in reducing microbial load of wastewaters)

Collaborators without Formal Joint Research Projects:

1. **Dr. Atul K. Johri, School of Life Sciences, Jawaharlal Nehru University, New Delhi (India)**
   (**Subject**: Proteomics of the multiple antibiotic resistance in *Yersinia enterocolitica*)

2. **Prof. Yogendra Singh, Institute of Genomics and Integrative Biology (IGIB), Delhi (India)**
   (**Subject**: Secretory proteins of *Mycobacterium tuberculosis* and their role in virulence)

3. **Prof. Praveen Rishi, Department of Microbiology, Panjab University, Chandigarh (India)**
   (**Subject**: Antimicrobial potential of cryptdins against pathogenic bacteria including *Yersinia enterocolitica*)

4. **Prof. Vibha Tandon, Department of Chemistry, University of Delhi, Delhi (India)**
   (**Subject**: Synthesis and development of novel inhibitors for Topoisomerase 1A of *E.coli* as antibacterial agents)

5. **Dr. K.K. Sharma, Assistant Professor, Maharishi Dayanand University (MDU), Rohtak (India)**
   (**Subject**: Role of laccases in pathogenic potential of *Yersinia enterocolitica*)

INVITED LECTURES

1. **AMR Discovery Awards - Experiences of Award Winning Teams** - BIRAC-Nesta AMR Discovery Awards 2017 and Outreach Event, BIRAC, New Delhi, Jul 5, 2017.
2. **From *Yersinia* Genomics to Point of Care testing for Antibiotic Resistance -** International Conference on Advances in Plant and Microbial Biotechnology PMB-2017, Jaypee Institute of Information Technology (JIIT), Feb 2-4, NOIDA (UP)
3. **Microbial Genomics: New paradigm on the horizon** - Advanced Lecture Series in Microbiology – An Interdisciplinary Approach, Part-2: Microbial Genomics, Bhaskaracharya College of Applied Sciences, New Delhi, Mar 8, 2017
4. **Genomic insights into clinical and environmental strains of *Yersinia enterocolitica* isolated from India** - 7th National Science Day 2017, University of Delhi South Campus, New Delhi, Feb 27-28, 2017
5. **Resistance-genes-array based rapid detection of AMR and algorithm driven therapy -** BIRAC-Nesta AMR consultative meet, New Delhi, Mar 22, 2017
6. **Biosafety in the Laboratory** - Workshop for Technical Personnel, IIT (Delhi), Aug 27, 2016
7. **Antimicrobial Resistance in India – Practices, Perils and Remedies**. Symposium on AMR, Bhaskaracharya College of Applied Sciences (Dwarka), under the aegis of Star College Scheme of DBT, New Delhi, March, 2016.
8. **Microbiology – Basic understanding and recent developments** at Atma Ram Sanatan Dharma College (ARSD) under the aegis of Star College Scheme of DBT, New Delhi, Jan 2016.
9. **Techniques to Technology – Microbiology** at Maitreyi College, under the aegis of Star College Scheme of DBT, New Delhi, Dec, 2015.
10. **Microbiology on the threshold of a revolution: Genomes, informatics and automation**, 56TH Annual Conference of Association of Microbiologists of India (JNU), Nov. 2015
11. **Genomic insights for relationship of environmental and clinical strains of *Yersinia enterocolitica* isolated from India.** International conference on Microbes in Environmental Management and Biotechnology, **Barkatullah University (Bhopal), July 1-3, 2011.**
12. **Research on *Yersinia* and some efforts to generate intellectual property**. National conference on Intellectual Property – Generation and Protection, Maharishi Dayanand University (Rohtak), April 23, 2011.
13. **The Indian experience with emerging water-borne pathogens**, Jai Prakash Mukund Lal Institute of Technology, Radaur (Kurukshetra University), Mar 5, 2011
14. **Genomic studies on *Yersinia enterocolitica* isolated from India**, MICROCON - 2011, Panjab University, Chandigarh Jan 10, 2011.
15. **Genomic analysis of strains of *Yersinia enterocolitica* isolated from India**, 27th Annual Conference of Society of Biological Chemists of India, Bangalore, Dec 13-15, 2010.
16. **Genomic analysis of *Yersinia enterocolitica* isolated from India.** National conference on Medical Biotechnology – Vision 2020. Maharishi Dayanand University (Rohtak) Apr 16-18, 2010.
17. **Genomic analysis of *Yersinia enterocolitica* – a food and water-borne enteropathogen**, School of Sciences, Jiwaji University (Gwalior), National Science Day celebrations, Mar 27, 2010.
18. **Genomic analysis of strains of *Yersinia enterocolitica* isolated from pigs, pork, wastewater and humans**. 10th Indian Veterinary Congress, Jabalpur Veterinary College (Jabalpur), Mar 11-12, 2010.
19. **Epidemiology of pathogens – Genomics *versus* Proteomics,** Workshop on *in silico* Proteomics, Barkatullah University (Bhopal), Sept. 2009.
20. **The Indian experience with *Yersinia enterocolitica*** – Dolphin Institute of Biomedical Sciences (Dehradun), Oct 10, 2010.
21. **The epidemiology of *Yersinia enterocolitica* in India**. Institute of Allied Sciences and Computer Applications (IASCA), ITM Universe, Gwalior, Apr 2009.
22. **Phylogenetic relationships of *Yersinia enterocolitica* as revealed by the study of different genes.** CPDHE Course at Department of Zoology, University of Delhi, Feb 10, 2009
23. **The molecular epidemiology of *Yersinia enterocolitica***. Deptt. of Animal Biotechnology, CCS Haryana Agricultural University, Hisar, Jan 2009

24. **The Indian experience with Yersinia enterocolitica- an enteropathogen**. 49th Annual conference of Association of Microbiologists of India and IntI symposium on Microbial Biotechnol: Diversity, Genomics and Metagenomics, University of Delhi, Nov 18-20, 2008.
25. **The Indian experience with *Yersinia enterocolitica* – an emerging food- and water-borne enteropathogen**. Annual meeting of the Society of Biological Chemists of India, Venkateswara University (Tirupati) Nov 25-27, 2007.
26. **Molecular and serological characteristics of *Yersinia enterocolitica* isolated from India. All India coordinated project in taxonomy (AICOPTAX) programme**, Agrhakar Research Institute (Pune), Dec 22, 2006.
27. **Molecular and serological diversity of *Yersinia enterocolitica* isolated from India**. **International Conference on Microbial diversity: Current perspective and potential applications,** University of Delhi South Campus (New Delhi), Apr 16-18, 2005.
28. **The Indian experience with *Yersinia enterocolitica*: a food- and water-borne enteropathogen**. 2nd International Conference on Recent Advances in Biomedical & Therapeutic Sciences – 2005, Bundelkhand University (Jhansi), Jan 6-8, 2005.
29. **Emerging pathogens -The Indian experience with *Yersinia enterocolitica*' Academic Staff College, Jamia Millia Islamia (New Delhi)**, Aug 25, 2005.
30. **Diversity and pathogenicity of Indian *Yersinia enterocolitica* species.** IUPAC International Conference on Biodiversity and Natural Products, University of Delhi (Delhi) Jan. 26-31, 2004.
31. **Drinking water safety: Application of hazard analysis critical control plan (HACCP). 5th International Food Convention. Central** Food Technological Research Institute (CFTRI), Mysore, Dec 5-8, 2003.
32. **Microbial load of water and emerging water-borne pathogens**, Natl Inst of Communicable Dis (NICD), New Delhi, Mar 12, 2003.
33. **Serological and molecular characteristics of *Yersinia enterocolitica* isolated from India.** 44th Annual conference of Association of Microbiologists of India, University of Agricultural Sciences (Dharwad), Nov 12-14, 2003.
34. **Indian Experience with *Yersinia enterocolitica***. 43rd Annual Conference of Association of Microbiologists of India. CCS Haryana Agricultural University (Hisar), Dec 11-13, 2002.
35. **The Indian experience with *Yersinia enterocolitica* – an emerging food and water-borne enteropathogen**. 71st Annual meeting of the Society of Biological Chemists of India. Panjab Agricultural University (Ludhiana), Nov 14-16, 2002.
36. **Modern tools for bacterial taxonomy. Department of Microbiology**. Maharishi Dayanand Saraswati University (Ajmer), Nov 30, 2002.
37. **Microbiological threats due to water contamination: overview and emerging water-borne pathogens**. **International Conference on water-quality management: South Asian perspectives** (International Life Sciences Institute), 2001

INDIAN STRAINS SUBMITTED **(>300 CULTURES):**

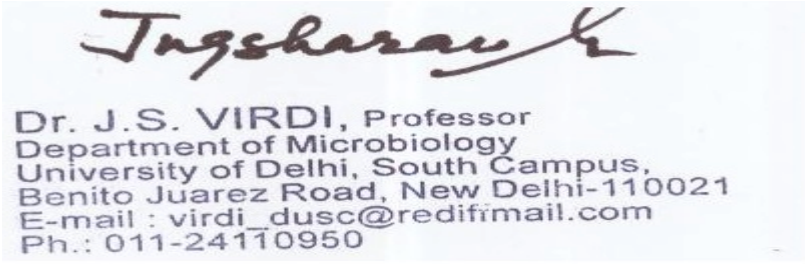
- The strains of *Yersinia enterocolitica* isolated from diarrheic patients, pigs, pork and wastewater submitted to three International & national culture collections:

INTERNATIONAL CULTURE COLLECTIONS:

- ***Yersinia* National Reference Laboratory and WHO collaborating center, Pasteur Institute, France.**
- **Central Public Health Laboratory (CPHL), Public Health Laboratory Services (PHLS), Colindale (UK).**

NATIONAL REPOSITORY:

- **Microbial Type Culture Collection (MTCC) & Gene Bank, Institute of Microbial Technology (IMTECH), Chandigarh, India**



(Signature of Faculty Member with Official Stamp)

Dated: March 26, 2018