

Brief Scientific Resume of Prof. Amar P. Garg

Vice Chancellor

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Throughout First class, M.Sc. (1975), Ph.D. (1981) with teaching experience of more than 43 years and research 45 years. Ex-Professor & Founder Head, Department of Microbiology, C.C.S. University, Meerut, Superannuated in the year 2016, worked as “Visiting Professor and OSD-Legal” for about 09 months in CCSU, Meerut, then as Pro Vice Chancellor in Jaipur National University, Jaipur (Rajasthan) for 15 months and presently working as Vice Chancellor, Shobhit University, Meerut. Founder Coordinator and in-charge at CCS University, Meerut for Applied Microbiology, Bioinformatics, Medical Microbiology, Food Microbiology, Safety & Quality Control; Acted as Member of various Committees, Academic Council, Executive Council, Board of Studies, Selection Committees *etc.*; specialized in academic reforms in educational field and education administration, recipient of “Best Teacher Award-2018” and 3rd Global Outreach Research and Education Award-2019 for “Excellence in Education Leadership” at Bangalore on July 31, 2019. Also awarded “Vaishya Shiromani Ratna-2019” by Vaishya Samaj Meerut for outstanding research contributions in Education. Elected Sectional President for the session 2020-21, Environmental Science of 108th Indian Science Congress. Awarded “Meerut Ratan” by International Intellectual Forum in its 41st Session in 2020; Leadership and Excellence Award by UNESCO-Centre for Peace-2020, Rotary Club International, (Meerut branch) on 5 September, 2020 honored as Leader in Education.

Worked as Commonwealth Academic Staff Fellow in The University Aston in Birmingham (U.K.) during 1982-83 with Professor G.J.F. Pugh on ecology of keratinophilic fungi and dermatophytes; continued the work in India and is known for research contributions on “Protection of Human Hair against Fungal Infections”, research contributions broadcasted on BBC, London three times and was awarded “Young Scientist Y.S. Murty Gold Medal” of the Indian Botanical Society in the year 1993 and Professor Hiralal Chakravarty Award of the Indian Science Congress Association in the year 1994; Worked as National Fellow of UGC in Delhi University in the year 1984-85; Availed Deutscher Akademischer Austauschdienst (DAAD) fellowship at the University of Freiburg im Br., Germany in the year 1986-1989 and 1990-1991 and at the University of Heidelberg, Germany in 1996-97 and 1997-98. During stay in Germany, a new semi-solid culture medium was developed for the culture of fungal colonies that allowed the full harvest of mycelium in colony form and facilitated the extraction of extracellular protein antigens also. Agar was replaced by a polyol compound “Lutrol FC-127” that was semi solid at room temperature and was liquid at 4°C and at more than 80°C, could be autoclaved easily and was inert substance. During two short visits at the University of Heidelberg, we were the first to demonstrate the contamination of fungal DNA in purified enzyme preparations of Zymolyase which was claimed by the manufacturer as DNA free preparation and was commonly used by molecular biologists for digesting the cell walls for obtaining biomolecules to be used in PCR and other experiments. On our recommendations, the manufacturer stopped claiming it contamination free. In view of the high quality of research publications, I was awarded the Commonwealth Academic Staff Fellowship by British Council for the second time at the University of Liverpool in U.K. in the year 1993-94 where we developed an eco-friendly biobleach process for the pulp and paper industry. A part of the work was carried out at UMIST, Manchester. We isolated thermophilic strain of *Streptomyces*

thermovialaceus that produced high activity extracellular cellulase free xylanases. 1-2 h pretreatment of pulps at 65 to 70 °C allowed the reduction of 35-40% of chlorine consumption during conventional CEDED bleach sequence without adversely affecting the paper qualities. The pretreatment with enzyme preparations also reduced the pollutants from the effluents. Other research contributions are that we emphasized on health of tissues during micro fungal ecological studies on plant surfaces; developed Improved technique to incorporate fatty acids / oils into culture media; assessed fungi toxicity spectrum of fatty acids & Indian hair oils, and rarity of hair fungal infections in India; developed new technique for quantitative isolations of microfungi from leaves; developed new technique for characterization of protein antigens in immunoblotting; immunoperoxidase staining technique for characterization of antigenicity by light microscopy; developed new technique for the production of macroconidia in *Microsporum gypseum*; found new technique for studying the fungi *in situ* in agar medium using Amido black staining; found selective technique for the isolation of three species of *Chrysosporium* from soil; Optimization of cellulase production and saccharification of lignocellulosic materials by *Gliocladium virens* and *Trichoderma reesei* QM 9414 mutant; Development of highly sensitive fungal primers for the diagnosis of *Aspergillus* and *Candida* infections in humans using PCR technique; Role of anti-oxidants in ageing; A rapid diagnostic cultural method for *Candida albicans*; A new software developed for “Multiple sources of Baker’s Yeast”, available on website: www.ccsu microbiol.org

My current research interest and publications are on “Human Microbiome” and we have isolated 72 species of bacteria from human colostrums that provide immunity to the new borne child. We have found the scissorian babies have lesser number of gut microbes than normal borne. Type of nutrition affects the quality of microbes in human colostrums. Lactic acid bacteria from various milk and milk products have been isolated and their bio-preservative potential has been assessed.

Guided 40 Ph.D.; 75 M.Phil. students and more than 100 PG students besides 3 students for DM (Medicine and Dermatology) in collaboration with medical faculties of L.L.R.M. Medical College, Meerut; published more than 110 research papers; Participated in more than two dozen International Conferences abroad, chaired various academic sessions in national and international conferences; delivered several keynote addresses and motivational lectures at various academic conferences and events, Member of more than a dozen of academic societies.

Was Dean, Faculty of Engineering (2002 and 2005); Associate Editor of the Journal of Indian Botanical Society (1996-2000); was elected as Zonal Member of Section-Environmental Sciences of ISCA. Member, Board of Governors of IJBST and reviewer of several research journals, Member of Advisory Board of various Educational Trusts running Higher Educational Institutions. Shobhit University, Meerut has got a new shape under my leadership and has made significant presence on world academic map, introduced real continuous evaluation system, “add on” courses and the “online” courses developed by UGC, developed an inexpensive simple “Rain water harvesting System” recently at Shobhit University, Meerut.

(Amar P. Garg)
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