

RESUME**Ranjit S. Sarpal**

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Highlights of Qualifications

- Ph.D., 34 publications in refereed journals, a patent and several presentations in industry/conferences.
- Over 15 years of R & D, manufacturing and tech transfer experience in academia, biotech and pharmaceutical industry in directing, supervising and executing protein/peptide/vaccine/small molecules formulations and dosage form development, lyophilization, liposomes, emulsions, and other colloid based nanocarriers, analytical and chromatographic techniques, spectroscopy, photochemistry, bio-physical and environmental chemistry.
- Developed analytical methods using analytical separations techniques, lyophilization, lipid extrusion, calorimetry, light scattering, centrifugation, UV/VIS, fluorescence and various other spectroscopy techniques
- Acted as a liaison between industry and academia, directed several projects, multitasking, supervised laboratory staff, completed many management trainings, established drug delivery labs. Received several fellowships, excellent writing, communication and computer skills, team player, focussed career oriented, motivated.

INDUSTRIAL EXPERIENCE***Merck & Co.: March, 2003 Onwards***

Working in the sterile biologics technology transfer group of Merck Manufacturing Division in West Point, PA. Primary responsibilities include partnering with multifunctional teams (Capital, Regulatory, R&D, Operations, Validation etc.) to provide technical support ranging from rudimentary media preparation to more advanced lyophilization unit operations to build a new biologic manufacturing facility in North Carolina. Lead the Performance Qualification (PQ) efforts for sterile process unit operations in the new facility. Implement 6 σ and lean manufacturing tools on the equipment and processes. Develop, modify and transfer manufacturing processes to the Merck manufacturing facilities. Managing people, projects, partnering with many cross functional teams.

Wyeth: October, 2000 to March, 2003

Worked in Wyeth Vaccine R & D division. Primary responsibilities included formulation and process development, characterization, scale up and technology transfer of liquid and lyophilized protein conjugated bacterial and viral subunit vaccines, peptides; Led several projects across multifunctional teams; Lyophilization cycle development and improvement of biologics. Additionally, the job functions included supervise, plan, support, lead, coordinate and execute day to day laboratory activities, scientific research and report writing to support regulatory filing.

Aronex Pharmaceuticals: September 1999 to October 2000

Worked in Aronex Pharmaceuticals that is focussed on the development of anticancer and antifungal (Terpenes, Platinum analogues, Anthracyclenes, small molecules) lyophilized drug products for human clinical trials. Joined as a team member and later headed formulation development group. Primary responsibilities included the development and characterization of anticancer and antifungal products under clinical trials, plan, support, supervise, coordinate and execute day to day laboratory activities, scientific research, write reports for NDA filing. Carried out key experiment to respond to FDA questions on Drug filed application to FDA.

Formatech, Inc.: July, 1998 to September, 1999

Worked in Formatech, Inc. – a drug development company specialist in the formulation and process development of small molecules, proteins and peptides. Primary responsibilities were initiating, directing and executing all areas of scientific research and development strategies, supervise and train laboratory staff. Formulated and developed lyophilized dosage forms of peptide and proteins. Designed controlled release systems for subcutaneous injection route of a peptide. Developed novel liposomal drug delivery systems for efficient loading and release of drug. Advised project supervisors on many scientific issues.

Access Pharmaceuticals and Duke University Collaboration: July, 1996 to July, 1998

Worked in collaboration with Duke University and Access Pharmaceuticals – a drug delivery system design specialist in Dallas, TX. This collaboration involved several months of industrial training, visits to industrial site, project updates, technology development and transfer, patent licensing rights to Access Pharmaceuticals. Developed a lipid based unique drug delivery system in which micelles are efficiently entrapped inside the liposomes. This nanocarrier proved suitable for efficient loading and stability of an anticancer drug Taxol. This novel drug carrier system now under testing for several other anticancer and drugs.

PATENT & FIVE KEY PUBLICATIONS

Patent: David Needham and Ranjit Sarpal “Liposomes containing active agents”. Number: 6,143,321 and US 6,296,870 B1

1. D. Needham and R.S. Sarpal (1998). Binding of paclitaxel to lipid interfaces: Correlations with interfacial compliance. *J. Liposome Research*. 8, 147.
2. S. Nigam, R.S. Sarpal, M. Belletete and G. Durocher (1996). 3H-Indoles in CTAB micelles and water: Spectroscopy and Photophysics at various temperatures. *J. Colloid Int. Sci.* 177, 143.
3. R.S. Sarpal and S.K. Dogra (1995). The association parameters of bromide and iodide ions with cationic micelles using steady state fluorescence quenching measurements. *J. Photochem. Photobiol. A*: 88, 147.
4. R.S. Sarpal, M. Belletete and G. Durocher (1994). Effect of small chemical variation and functionality on the solubilization behavior and recognition capability of 3H-indoles in SDS and CTAB. *Chem. Phy. Let.* 221, 1.
5. R.S. Sarpal and G. Durocher (1994). Temperature induced structural and permeability changes in DODAB vesicles: A fluorescence investigation using 2-[(p-

methylamino)phenyl]-3,3-dimethyl-5-carboethoxy-3H-indole as a probe. J. Photochem. Photobiol. A: 80, 307.

RESEARCH & PROFESSIONAL EXPERIENCE

Mar 2003 Onwards	Sr. Process Engineer/Manager, Merck Manufacturing Division (Technology Transfer Group), West Point, PA
Oct., 2000-Mar 2003	Senior Scientist, Wyeth-Vaccines, R & D (Formulation and Process Development), Pearl River, NY
Sept., 1999 – Oct., 2000	Research Scientist (Product Development), Aronex Pharmaceuticals, The Woodlands, TX
July, 1998 – Sept., 1999	Staff Scientist (Product Development), Formatech, Inc. Lowell, MA.
July, 1996 – July, 1998	Research Associate, Department of Mechanical Engineering and Materials Science, Duke University, Durham, NC with Prof. David Needham (In collaboration with Access Pharmaceuticals, Dallas, TX).
May, 1994 – July, 1996	Staff Scientist, Department of Chemistry, Washington State University, Pullman, WA, with Prof. Kenneth Mopper.
Feb. 1992 – May, 1994	Postdoctoral Fellow, Department of Chemistry, University of Montreal, Montreal, Quebec, Canada, with Prof. Gilles Durocher.
Jan., 1986 – Jan., 1992	Graduate Student and Project Scientist, Department of Chemistry, Indian Institute of Technology, Kanpur, with Prof. Sneha K. Dogra.

EDUCATION

Ph.D., Indian Institute of Technology, Kanpur, India 1991 (Biophysical Chemistry).
M.Sc. (Hons.), Guru Nanak Dev University, Amritsar, India 1985 (Chemistry).

Ph.D. THESIS

An electronic spectral study of some substituted aromatic molecules in aqueous and micellar media. Department of Chemistry, Indian Institute of Technology, Kanpur, India (1991).

RELATED ACCOMPLISHMENTS & SKILLS

Completed project management training at North Eastern University; underwent extensive management training program, 6 σ and lean manufacturing training program at Merck & CO., Established microcarrier engineering research laboratory in Duke comprehensive cancer center and at Formatech. Established state of the art photochemistry laboratory in Indian Institute of Technology, India. Drafted several scientific proposals, managed research funds, and prepared scientific reports. Supervised and trained graduate/undergraduate students and company scientific staff. Participated in a scientific expedition to Antarctica to study the effect of ozone depletion on marine biota.