

CURRICULUM VITAE

SUMAN KUMAR SEN

PERSONAL PROFILE:

Father's Name: Manik Sen
Date of Birth: 28th February, 1982
Passport No.: H 0174614
Nationality: Indian
Gender: Male
Marital Status: Unmarried
E-mail: sumankumar.sen@gmail.com
sumansen_org@yahoo.co.in
Mobile No.: +919933978771

Permanent Address: At + P.O. - Raghunathpur,
Dist - Purulia, State - West Bengal,
Pin - 723133, India
Tel.: +913251256134

Present Address: Materials Science Centre
Indian Institute of Technology
Kharagpur – 721302
West Bengal, India

CAREER OBJECTIVE: Keen to act as a leading team player to demonstrate the challenging project with the limited resources within tight time schedule and to maintain a hearty organizational citizenship.

Ph. D. THESIS TOPIC: New cardo group containing fluorinated poly(ether imide)s and gas transport properties.

HONOR & ACADEMIC ACHIEVEMENT:

- **Best presentation award** by Prof. Sukumar Maiti Polymer Award Foundation, Kolkata during “National Seminar on Emerging Trends in Polymer Science and Technology (POLY-2009)”, Saurashtra University, Rajkot, Gujrat, India.
- Awarded **National Eligibility Test - Council of Scientific and Industrial Research** (Junior Research Fellow).
- Awarded **Graduate Aptitude Test in Engineering** (GATE-2004) with 98.56 percentile (All India Rank - 43).
- **National Scholarship** in B. Sc. (Chemistry Honours) from Govt. of India, 2002.

QUALIFICATIONS:

Degree	Year of passing	University/Institution	Marks Obtained (%)	Division/Class
Ph. D. (Polymer Science and Technology)	Thesis Submitted (25.10.2010)	I.I.T, Kharagpur	-	-
M.Sc (Organic specialisation)	2004	Banaras Hindu University	76.2	Ist Class
B.Sc (Chemistry Honours)	2002	Burdwan University	64.1	Ist Class
Higher Secondary (12 th)	1999	W.B.C.H.S.E	67.6	Ist Division
Secondary (10 th)	1997	W.B.B.S.E	76.1	Ist Division

INSTRUMENT SKILLS:

A. Hand on Experience: Autoclave [Parr, Instrument Co. Illinois, USA], FT-IR (Thermo Nicolet-NEXUS 870), Column chromatography, High performance liquid chromatography (Perkin-Elmeyer), Gas chromatography (Agilent), Diffusion permeameter DP-100-A (PMI), GPC (Waters 2414), DSC (NETZSCH DSC 200PC), TGA (NETZSCH TG 209 F1), Universal tensile testing instrument (Hounsfield H10KS-0547), XRD (Ultima III), SEM (TESCAN VEGA LSV).

B. Data Interpretation: FT-IR, ¹H- and ¹³C-NMR spectroscopy, SEM and XRD.

MEMBERSHIP: Life member of Society of Polymer Science of India, Science Club (Chennai).

WORK EXPERIENCE:

Duration	Industry/ Organisation	Location
June'2004 - September'2004	Jubilant Organosys Ltd.	Noida, Uttarpradesh
October'2004 - May'2005	Jubilant Chemsys Ltd.	Noida, Uttarpradesh
July'2005 - April'2007	JRF/ IIT, Madras	Chennai, Tamilnadu
May'2007 - till date	SRF/ IIT, Kharagpur	Kharagpur, West Bengal

- During my employment as Trainee Research Associate in Jubilant Organosys Limited and Jubilant Chemsys Limited, Noida, India, I worked on making important bio-active organic molecules or drug molecules. During the probation period, I was the first probationary employee to get individual project. I successfully completed three projects on synthesising organic molecules of specified quantity within the stipulated time. During working in Jubilant I qualified for the NET-CSIR fellowship and then left for higher education.
- In IIT, Madras, I joined as Junior Research Fellow (JRF) where I worked on synthetic methodology and natural product synthesis (Crispine-A).
- In IIT, Kharagpur I joined as Senior Research Fellow (SRF) where I am involved with designing and synthesising new fluorinated poly(ether imide)s, and their application toward gas separation membrane. The details of the visible outcome from the project as peer reviewed international journal are listed below.

LANGUAGES KNOWN:

Language	Speak	Read	Write
Bengali (Mother Tongue)	Proficient	Proficient	Proficient
Hindi	Proficient	Proficient	Good
English	Proficient	Proficient	Proficient
German	Fair	Good	Fair

LIST OF PUBLICATIONS:

1. "Effect of introduction of heterocyclic moieties into polymer backbone on gas transport properties of fluorinated poly(ether imide) membranes", **Suman Kumar Sen**, Barnali Dasgupta and Susanta Banerjee, *Journal of Membrane Science*, 2009, 343, 97–103.
2. "Organosoluble poly(ether imide)s from phthalimidine based and trifluoromethyl substituted bis(ether amine)", **Suman Kumar Sen**, Samarendra Maji, Barnali Dasgupta, Shyambo Chatterjee and Susanta Banerjee, *Journal of Applied Polymer Science*, 2009, 113, 1550–1559.
3. "Gas transport properties of fluorinated poly(ether imide) films containing phthalimidine moiety in the main chain", **Suman Kumar Sen** and Susanta Banerjee, *Journal of Membrane Science*, 2010, 350, 53-61.
4. "*Spiro*-biindane containing fluorinated poly(ether imide)s: synthesis, characterization and gas separation properties", **Suman Kumar Sen** and Susanta Banerjee, *Journal of Membrane Science*, 2010, 365, 329-340.
5. "Gas transport properties of fluorinated poly(ether imide) membranes containing indan moiety in the main chain", Barnali Dasgupta, **Suman Kumar Sen** and Susanta Banerjee, *Journal of Membrane Science*, 2009, 345, 249-256.
6. "Synthesis and characterization of highly soluble poly(ether imide)s containing indane moieties in the main chain", Barnali Dasgupta, **Suman Kumar Sen**, Samarendra Maji, Shyambo Chatterjee, Susanta Banerjee, *Journal of Applied Polymer Science*, 2009, 112, 3640–3651.
7. "Aminoethylaminopropylisobutyl POSS-polyimide nanocomposite membranes and their gas transport properties", Barnali Dasgupta, **Suman Kumar Sen** and Susanta Banerjee, *Materials Science and Engineering B*, 2010, 168, 30-35.
8. "New poly(arylene ether)s containing phthalimidine group in the main chain", Mohit Aggarwal, Samarendra Maji, **Suman Kumar Sen**, Barnali Dasgupta, Shyambo Chatterjee, Anindita Ghosh, Susanta Banerjee, *Journal of Applied Polymer Science*, 2009, 112, 1226–1233.

9. "Synthesis and characterization of new poly(ether amide)s based on a new cardo monomer", Samarendra Maji, **Suman Kumar Sen**, Barnali Dasgupta, Shyambo Chatterjee and Susanta Banerjee, *Polymer for Advanced Technologies*, 2009, 20, 384-392.
10. "Synthesis and characterization of semifluorinated aromatic copoly(ether amide)s", Samarendra Maji, **Suman Kumar Sen** and Susanta Banerjee, *Journal of Macromolecular Science, Part A: Pure and Applied Chemistry*, 2009, 46, 484-492.
11. "Synthesis, characterization, and comparison of properties of new fluorinated poly(arylene ether)s containing phthalimidine moiety in the main chain", Aruna Kumar Mohanty, **Suman Kumar Sen**, Anindita Ghosh, Samarendra Maji and Susanta Banerjee, *Polymers for Advanced Technologies*, 2010, 21, 767-773.
12. "Synthesis of new poly(biphenylene oxide) with pendent trifluoromethyl group", Samarendra Maji, **Suman Kumar Sen** and Susanta Banerjee, *Journal of Macromolecular Science, Part A: Pure and Applied Chemistry*, 2010, 47, 154-159.
13. "Benzotrifluoromethyl group substituted poly(para-phenylenevinylene): effect on solubility, optical and electronic properties", Shyambo Chatterjee, **Suman Kumar Sen**, Samarendra Maji, Barnali Dasgupta, Pallab Banerji and Susanta Banerjee, *Journal of Applied Polymer Science*, 2010, 116, 1603-1610.
14. "Synthesis, characterization and properties of new fluorinated poly(imide siloxane) co-polymers from 4,4'-(hexafluoro-isopropylidene)diphthalic anhydride", Kapil Pareek, Anindita Ghosh, **Suman Kumar Sen** and Susanta Banerjee, *Designed Monomers and Polymers*, 2010, 13, 221-236.
15. "Synthesis, characterization and gas transport properties of new poly(imide siloxane) copolymers from 4,4'-(4,4'-isopropylidenediphenoxy)bis(phthalic-anhydride)", Anindita Ghosh, **Suman Kumar Sen**, Barnali Dasgupta, Susanta Banerjee and Briggeti Voit, *Journal of Membrane Science*, 2010, 364, 211-218.
16. "Synthesis, characterization and gas transport properties of 3,8-bis-(4-hydroxyphenyl)-1,2-naphthalic anilide containing fluorinated poly(ether imide) membranes", **Suman Kumar Sen** and Susanta Banerjee, (to be communicated).
17. "Processable high Tg high strength fluorinated new poly(arylene ether)s containing imido aryl group", Aruna Kumar Mohanty, **Suman Kumar Sen** and Susanta Banerjee, *Journal of Applied Polymer Science*, 2010 (Accepted).

CONFERENCE PAPERS:

- I. "Novel semi-fluorinated poly(ether imide)s with cardo unit in the main chain", Susanta Banerjee, **Suman Kumar Sen**, Barnali Dasgupta and Samarendra Maji, Current Frontiers and Future Trends (Fluoropolymers-2008), Charleston, South Carolina.
- II. "Structure/property co-relationship of poly(ether imide) membranes towards gas separation application", **Suman Kumar Sen**, Barnali Dasgupta and Susanta Banerjee, 2nd International Symposium on Advanced Materials and Polymers for Aerospace and Defense Applications (SAMPADA-2008), University of Pune, India.
- III. "On the relationship between gas transport and chemical structure of different novel poly(ether imide) membranes", **Suman Kumar Sen** and Susanta Banerjee, International Conference in High Tech Materials (ICHTM-2009), Indian Institute of Technology, Kharagpur, India.
- IV. "Gas transport properties of novel fluorinated poly(ether imide) membranes", **Suman Kumar Sen** and Susanta Banerjee, National Seminar on Emerging Trends in Polymer Science and Technology (POLY-2009), Saurashtra University, Rajkot, Gujrat, India.
- V. "Gas transport properties of novel organosoluble poly(ether imide) membranes bearing pendant trifluoromethyl groups in the main chain", **Suman Kumar Sen**, Barnali Dasgupta and Susanta Banerjee, Second International Conference on Polymer Processing and Characterization (ICPPC- 2010), Kottayam, Kerala, India.
- VI. "Synthesis and gas transport properties of novel fluorinated poly(ether imide)s", **Suman Kumar Sen** and Susanta Banerjee, Frontiers of Polymers & Advanced Materials (Macro 2010), Indian Institute of Technology, Delhi, India.

BOOK CHAPTER:

Recent Advances in Fluorinated Polyimides: Synthesis and Properties (2011), Nova Science Publishers, Inc.: Hauppauge, NY (Accepted).

I hereby affirm that the information furnished in this form is true and correct.

Date: 10.02. 2011

Suman Kumar Sen