

# SANCHALI BHATTACHARJEE

3611 NE 155ST, LAKE FOREST PARK, WA 98155, (206) 999 7986  
sanchali@u.washington.edu

## EDUCATION

---

**University of Washington**, Seattle, WA June 2005

Doctor of Philosophy in Chemistry

- **Thesis:** Design and Synthesis of Novel Electro-optic and Nonlinear Optical Materials.
- **Achievement:** My research involved making new materials and engineering materials with desired non linear optical properties. NSF funded STC projects were conducted during the research

**Indian Institute of Technology**, Bombay, India August 2000

Master of Science in Chemistry

- **Thesis:** Studies on Thiophene compounds
- **Achievement:** My research involved thiophene derivatives and dendrimers using Pd based coupling reaction towards applications in the fields of Organic Molecular electronics

**Gauhati University, Guwahati**, Assam, India August 1998

Bachelor of Science with honors in Chemistry

- University topper with record marks in over 30 years

## SKILLS

---

- Expertise in designing and executing multi-step schemes with a diverse range of chemistry towards the goal of improved materials.
- Adept using various instrumentation including FT-NMR, ESI-MS, UV-VIS, FT-IR, GC, HPLC, DSC, TGA as well as purification techniques (Column Chromatography, Preparative TLC, and Automated Flash Chromatography).
- Experience in Molecular Modeling using MOPAC semi-empirical calculations.
- Computer skills including MS office, Chem Draw and Chem 3D, programming with Fortran 77.

## RESEARCH EXPERIENCE

---

### **Research Assistant January 2002 –present**

Dalton Research Group, Department of Chemistry, University of Washington, WA.

- Designed and synthesized novel 2D chromophores with multiple donors and acceptors.
- Designed a new paradigm in NLO by synthesizing a supramolecule of antiparallel aligned neutral-ground state and zwitterionic chromophore.
- Polymer post derivatization – Reversible Diels-Alder type thermally cross-linkable electro-optic polymer.
- Manage day-to-day operations in a laboratory of 20 chemists.

## RESEARCH EXPERIENCE (CONTD)

---

- Experience in training and working with undergraduate students (last 2 years).
- Adept at working interactively with multi-functional inter-disciplinary teams with diverse backgrounds.

### **M.Sc student, May 1999-April 2000**

Kotha Research Lab, Department of Chemistry, Indian Institute of Technology, Bombay, India

- Divergent *dendrimer* synthesis using trimerization reactions and moisture sensitive *Suzuki* coupling reaction.

### **Summer Undergraduate student, May-August 1998**

S. K. Bhattacharjee. Department of Chemistry, Gauhati University, India

- Organo-sulfur compounds.

## WORK EXPERIENCE

---

- Jun, 2004-current: Research Assistant, Dalton Research Group, University of Washington, Seattle.
- Apr, 2004-Jun, 2004: Teaching Assistant, Department of Chemistry, University of Washington, Seattle.
- Apr, 2002-Apr, 2004: Research Assistant, Dalton Research Group, University of Washington, Seattle.
- Jan, 2002-Apr, 2002: Teaching Assistant, Department of Chemistry, University of Washington, Seattle.
- Jan, 2001-Dec, 2001: Teaching Assistant, Department of Chemistry, University of Wisconsin, Madison.

## BIBLIOGRAPHY OF PUBLICATIONS AND PREPRINTS

---

- **“Reversible Diels' Alder type cross-linkable electro-optic polymers with pendant TCF-based chromophore”**, S. Bhattacharjee, J. Luo, M. Haller, A. Akeliatis, A. K. Y. Jen and L. R. Dalton, *Polymer Preprints*, **2004**, 45, 643.
- **“Exploration of a series type multifunctionalized nonlinear optical chromophores concept”**, P. A. Sullivan, S. Bhattacharjee, B. E. Eichinger, K. Firestone, B. H. Robinson, L.R Dalton, , *Proc. SPIE. Int. Soc. Opt. Eng.*, **2004**, 5351, 253.
- **“Development of multi-chromophore bundles with high second order nonlinear properties”**, O. Clot, N. Buker, J. Schendel, S. Bhattacharjee, L.R. Dalton, , *Poly. Mater. Sci. Eng.*, **2003**, 89, 572.
- **“Reversible Diels' Alder type cross-linkable electro-optic polymers with pendant TCF-based chromophore”** , S. Bhattacharjee, J. Luo, M. Haller, A. Akeliatis, A. K. Y. Jen and L. R. Dalton, *manuscript submitted*.
- **”Supramolecule of antiparallel aligned neutral-ground-state chromophore and zwitterionic chromophore as novel nonlinear optical material”**, Y. Liao, S. Bhattacharjee, K. Firestone, B. H. Robinson and L. R. Dalton *manuscript in preparation*.
- **“Synthesis and optical properties of a macrocyclic trichromophore bundle with parallel-aligned dipole moments”** ,Y. Liao, K. A. Firestone, S. Bhattacharjee, B. H. Robinson, P. J. Reid and L. R.

Dalton, *manuscript in preparation*.

- **“Influence of Isomerization on Non-Linear Optical Properties of Molecules”**, T. Kinnibrugh, S. Bhattacharjee, P. Sullivan, B. H. Robinson, B. E. Eichinger, , *manuscript in preparation*.

## PRESENTATIONS

---

- **“Exploration of a series type multifunctionalized nonlinear optical chromophores concept”**, P. A. Sullivan, S. Bhattacharjee, B. E. Eichinger, K. Firestone, B. H. Robinson, L.R Dalton. SPIE Photonics West, January 2004, San Jose, CA.
- **“Reversible Diels' Alder type cross-linkable electro-optic polymers with pendant TCF-based chromophore”**. S. Bhattacharjee, J. Luo, M. Haller, A. Akeliatis, A. K. Y. Jen and L. R. Dalton, ACS National Meeting, August 2004, Philadelphia

## ACHIEVEMENTS AND AWARDS

---

- University Topper with record marks in Chemistry (Honors) in the last 30 years in the BS degree examination conducted by the Gauhati University, India.
- Enrolled in the Technical Entrepreneurship Certificate (TEC) program offered by the University of Washington Business School.
- Participated in the 2003, ACS-PRF workshop.

## AFFILIATIONS AND PROFESSIONAL MEMBERSHIPS

---

- American Chemical Society (ACS) – *1 year*
- International Society of Optical Engineers (SPIE) – *2 years*