

## CURRICULUM VITAE

(Updated Jan. 2012)

### 1. **Amit Basu**

Associate Professor  
Department of Chemistry  
Brown University

### 2. **Address**

Box H  
Brown University  
Providence, RI 02912

### 3. **Education**

B.A., Reed College, 1992 (Advisor: Patrick McDougal)  
Ph.D., University of Illinois at Urbana-Champaign, 1996 (Advisor: Peter Beak)  
Post-doctoral Research, Princeton University 1996-1999 (Advisor: Daniel Kahne)

Dissertation Topic: Enantioselective Lateral Lithiation-Substitution of *O*-Ethyl and *O*-Benzyl *N*-Pivaloyl Anilines: Studies of a Pathway of Stereoinformation Transfer.

### 4. **Professional Appointments**

Associate Professor of Chemistry, Brown University, 2006-present  
Assistant Professor of Chemistry, Brown University, 1999-2006  
Postdoctoral Research Associate, Princeton University, 1996-1999  
Graduate Research Assistant, University of Illinois, 1994-1996  
Graduate Teaching Assistant, University of Illinois, 1992-1994

### 5. **Completed Research:**

#### ***Independent Publications as a Faculty Member at Brown***

- \*21. "Synthesis, characterization, and lectin-binding studies of carbohydrate-functionalized silica nanoparticles" J. Zhao and A. Basu. Submitted for publication.
- 20. Photo- and Biophysical Studies of Lectin-Conjugated Fluorescent Nanoparticles: Reduced Sensitivity in High Density Assays Y. Wang, J. C. Gildersleeve, A. Basu, M. B. Zimmt, *J. Phys. Chem. B*, **2010**, *114*, 14487-14494
- 19. Participation of Myelin Glycosphingolipids, Galactosylceramide and Sulfatide, in Glycosynapses between Oligodendrocyte or Myelin Membranes J. M. Boggs, W. Gao, J. Zhao, H. Park, Y. Liu, and A. Basu. *FEBS Letters* **2010**, *584*, 1771-1778.
- 18. "Core Functionalization of Hollow Polymer Nanocapsules." X. Liu and A. Basu. *J. Am. Chem. Soc.* **2009**, *131*, 5718-5719.
- 17. "Probing the lactose•GM3 carbohydrate-carbohydrate interaction with glycodendrimers" N. Seah, P.V. Santacrose and A. Basu. *Org. Lett.* **2009**, *11*, 559-562.
- 16. "Cross-linked polynorborene-coated gold nanoparticles – Dependence of particle stability on cross-linking position and cross-linker structure." X. Liu and A. Basu. *Langmuir*, **2008**, *24*, 11169-11174.

15. "Colorimetric Sensing and Biosensing using Functionalized Conjugated Polymers" A. Basu. *Molecular Recognition Using Polymers*. John Wiley & Sons. **2008** Ed. V. Rotello & S. Thayumanavan.
14. "Carbohydrate-carbohydrate interactions." N. Seah and A. Basu. *Encyclopedia of Chemical Biology*, John Wiley & Sons. **2008** Ed. T. Begley.
13. "Reagentless functionalization of gold nanoparticles via a 3 + 2 Huisgen cycloaddition" *J. Coll. Interfac. Sci.* **2008**, 318, 140-144. W. Limapichat and A. Basu
12. "Model Systems." Basu, A. and Schneider, J. *Curr. Opin. Chem. Biol.* **2006**, 10, 527–528.
11. "Olefin Metathesis on Nanostructures." Liu, X. and Basu, A. *J. Organomet. Chem.* **2006**, 691, 5148-5154. (Invited Submission, Special Issue on Alkene Metathesis)
10. "Two Polymerizable Derivatives of 2,2'-Azino-bis(3-ethylbenzthiazoline-6-sulfonic acid)" J. Fei, A. Basu, F. Xue, G. T. R. Palmore *Org. Lett.* **2006**; 8, 3-6.
9. "Glycosidase Inhibition by 1-Glycosyl-4-Phenyl Triazoles" L. L. Rossi and A. Basu. *Bioorg. Med. Chem. Lett.* **2005**, 15, 3596-3599.
8. "Synthesis of the glycosphingolipid  $\beta$ -galactosyl ceramide and analogs via olefin cross metathesis." A. N. Rai and A. Basu. *J. Org. Chem.* **2005**, 70, 8228-8230.
7. "Studies of the Carbohydrate-Carbohydrate Interaction Between Lactose and GM<sub>3</sub> using Langmuir Monolayers and Glycolipid Micelles" P. V. Santacrose and A. Basu. *Glycoconjugate J.* **2004**, 21, 89-95. (Invited Submission, Special Issue on Carbohydrate-Carbohydrate Interactions)
6. "Sphingolipid synthesis via olefin cross metathesis: Preparation of a differentially protected building block and application to the synthesis of D-erythro-ceramide." A. N. Rai and A. Basu *Org Lett.* **2004**, 6, 2861-2863.
5. "Lipopolysaccharide identification with functionalized polydiacetylene liposome sensors." M. Rangin and A. Basu. *J. Am. Chem. Soc.* **2004**, 126, 5038-5039.
4. "3-Methoxycarbonyl-5-nitrophenyl boronic acid: High affinity diol recognition at neutral pH." H. R. Mulla, N. J. Agard and A. Basu *Bioorg. Med. Chem. Lett.* **2004**, 14, 25-27.
3. "A Rapid and Efficient Method for *para*-Methoxybenzyl Ether Formation with Lanthanum Triflate." A. N. Rai and A. Basu. *Tetrahedron. Lett.* **2003**, 44, 2267-2269.
2. "Probing Specificity in Carbohydrate-Carbohydrate Interactions with Micelles and Langmuir Monolayers." P. V. Santacrose and A. Basu. *Angew. Chem. Int. Ed. Engl.* **2003**, 42, 95-98.
1. "Configurational Stability and Stereoinformation Transfer in the Reactions of Enantioenriched Organolithium Reagents." A. Basu and S. Thayumanavan *Angew. Chem. Int. Ed. Engl.* **2002**, 41, 716-738.

## Honors

### Awards

RC Fuson Research Award, 1995

Department of Education/Chevron Graduate Fellowship, 1994-1995

Research Innovation Award, 2001-2006

NSF Faculty Early CAREER Award, 2002-2006  
Mizutani Award in Glycoscience 2005

***Activities***

Invited Participant

NSF Workshop in Physical Organic Chemistry, LaSalle, IL, June 2-5, 2001.

Invited ad hoc Study Section Member

NIH Bioorganic and Natural Products Study Section, Feb. 20-21, 2003

Invited Participant

DARPA/NIH/Juvenile Diabetes Research Foundation Workshop on Diabetic Wound Healing, Sep. 22-23, 2003.

Invited Participant

NSF Workshop in Materials Science, St. Louis, MO, Oct. 12-15, 2006

Invited ad hoc Study Section Member

NIH SBIR/STTR Special Emphasis Panel, Mar 2008

NSF CHE Panel Reviewer, Fall 2008

Invited ad hoc Study Section Member

NIH SBIR/STTR Special Emphasis Panel, July 2009

Invited ad hoc Study Section Member

NIH SBCA Study Section, Oct 2009

Permanent member, NIH SBCA Study Section