

## Huaibin Zhang

### Address

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University of Illinois at Urbana-Champaign  
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### Education

- Aug. 2004 – Present      Ph.D. candidate, Chemistry  
University of Illinois at Urbana-Champaign, Illinois, USA  
Supervisor: Dr. Ralph G. Nuzzo
- May. 2002 – Jun. 2004    M. Sc., Chemistry  
University of Waterloo, Ontario, Canada  
Supervisor: Dr. Monica Barra
- Sep. 1997 – July 2001    B. Sc., Chemistry  
Nankai University, Tianjin, P. R. China

### Honors and Awards

- 2002 - 2004      International Student Scholarship (University of Waterloo)
- 2002 - 2004      Graduate Student Scholarship (University of Waterloo)
- 2000              Third-class Scholarship (Nankai University)
- 1997 - 1999      National Fundamental Scholarship in Natural Sciences (Nankai University)
- 1997              Second-class Honor in China National Chemistry Contest

### Teaching experience

- Teaching assistant of the fourth year physical chemistry lab I and II, University of Illinois at Urbana-Champaign, Aug. 2004-Dec. 2004
- Teaching assistant of the second year organic chemistry lab (15 persons/group, 4 groups/week), University of Waterloo, Jan. 2003 – Apr. 2003
- Teaching assistant of the second year organic chemistry course (150 persons), University of Waterloo, Sep. 2003 – Dec. 2003, Sep. 2002 – Dec. 2002

### Research experience

- Chemistry Department, University of Illinois at Urbana-Champaign, Illinois, USA  
Research Assistant (June 2005 – Present)  
Project: Microfluidic System for Biological applications
  - Schiff base reaction is used to immobilize single-stranded DNA to magnetic agarose beads
  - Magnetic beads coated with ss-DNA are able to capture complementary ss-DNA on a chip
  - Alkali-dehybridization of ds-DNA could be produced by a on-chip electrode through oxygen reduction reaction
- Guelph-Waterloo Centre for Graduate Work in Chemistry, University of Waterloo, Ontario, Canada

*Research Assistant* (May. 2002 – Jun. 2004)

Project: the Mechanism of the Thermal Cis-to-trans Isomerization of Unsymmetrical 1,3-diaryltriazenes ( $\text{Ar-N=N-NHAr}' \rightleftharpoons \text{ArHN-N=N-Ar}'$ )

- Synthesize 1,3-diaryltriazenes
- Investigate the acid stability
- Examine the substituents effects on the rate of the thermal cis-to-trans isomerization
- Study the structure/reactivity correlation

➤ Chemisoft Society, Nankai University, Tianjin, P. R. China

*Programmer* (Nov.1997 - June 2001)

- Programmed *General Chemistry* multimedia network educational courseware (Chapter 4 : “Theories of the covalence bonding”, Chapter 20: “Nitrogen and Phosphor”, Part 2 of Chapter 21: “Silicon and its derivatives”), published by *Higher Education Press* (China), 2002
- Programmed parts of *Periodic system of the Chemical Elements* multimedia textbook, published by *Higher Education Press* (China), 1999

### **Publications**

- Zhang, H.; Mitrovski, S.; Nuzzo, R. “Electrochemically Actuated On-chip DNA Dehybridization”, in preparation.
- Zhang, H.; Barra, M. “Multiple-substituent effects on the isomerization of unsymmetrical cis-1,3-diphenyltriazenes” *Journal of Physical Organic Chemistry*, **18**, 498-503.

### **Conference Presentations**

- Poster “Thermal Cis-to-Trans Isomerization Mechanism of Unsymmetrical 1,3-Diaryltriazenes in Aqueous Solution” to be presented at the 39th IUPAC Congress and 86th Conference of the Canadian Society for Chemistry, Ottawa, Aug.10 - 15, 2003

### **Affiliations**

- 2003-2004 Canadian Society for Chemistry
- 2006 American Association for the Advancement of Science