ANNA CRISTINA S. SAMIA, Ph.D.

PROFESSIONAL PREPARATION

University of the Philippines-Diliman	Chemistry	B.S. in Chemistry, 1996
Georgia Institute of Technology	Analytical/Inorganic Chemistry	Ph.D. in Chemistry, 2002
Argonne National Laboratory	Nanomagnetism	Postdoc, 2003-2005
Case Western Reserve University	Nanomedicine	Postdoc, 2005-2010

APPOINTMENTS

2010-present	***Assistant Professor***, Department of Chemistry, Case Western Reserve University, Cleveland, OH
2005-2010	***Research Associate***, Department of Pediatric Pulmonology, School of Medicine, Case Western Reserve University, Cleveland, OH
2003-2005	***Postdoctoral Fellow***, Argonne National Laboratory, Argonne, IL
2002-2003	***Laboratory Manager***, Center for Chemical Dynamics and Nanomaterials Research, Department of Chemistry, Case Western Reserve University, Cleveland, OH
1998-2002	***Research Assistant***, School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA
1996-1998	***Laboratory Instructor***, Institute of Chemistry, University of the Philippines-Diliman, Quezon City, PHILIPPINES

PUBLICATIONS

29. Ji, Y.; Lin, K.-C.; Zheng, H.; Zhu, J.-J.; **Samia, A.C.S.*** "Fabrication of Double-walled TiO_2 Nanotubes with Bamboo Morphology via One-Step Alternating Voltage Anodization, " *Electrochem Commun* (**2011**), in press.

28. Yu, C.; **Samia, A.C.S.**; Li, J.; Kenney, M.E.; Resnick, A.; Burda, C. "Delivery and Efficiency of a Cancer Drug as a Function of the Bond to the Gold Nanoparticle Surface," *Langmuir* (**2010**)," *6(4)*, 2248–2255.

27. Yu, C.; **Samia, A.C.S.**; Meyers, J.D.; Panagopolus, I.; Fei, B.; Burda, C. "Highly Efficient Drug Delivery with Gold Nanoparticle Vectors for *in Vivo* Photodynamic Therapy of Cancer," *J. Am. Chem. Soc*. (**2008**), *130 (32)*, 10643-10647.

26. Clouser, S.; **Samia, A.C.S.;** Novak, E.; Aldred, J.; Burda, C. "Visible-Light Photodegradation of Higher Molecular Weight Organics on N-doped TiO_2 Nanostructured Thin Films," *Top. Cat.* (**2008**), *47(1-2)*, 42-48.

25. Dayal, S.; Li, J.; Li, Y-S.; Wu, H.; **Samia, A.C.S.**; Kenney, M.E.; Burda, C. "Effect of the Functionalization of the Axial Phthalocyanine Ligands on the Energy Transfer in QD-based Donor-Acceptor Pairs," *Photochem. Photobiol.*(**2008**), *84(1)*, 243-249.

24. Dayal, S.; Lou, Y.; **Samia, A.C.S.**; Berlin, J.C.; Kenney, M.E.; Burda, C. "Observation of Non-Förster Type Energy Transfer Behavior in Quantum Dot-Phthalocyanine Conjugate," *J. Am . Chem. Soc.* (**2006**), *128(43)*, 13974-13975.

23. Samia, A.C.S.; Schlueter, J.A.; Jiang, J.S.; Bader, S.D.; Qin, C.J.; Lin, X.M. "Effect of Ligand-Metal Interactions on the Growth of Transition Metal and Alloy Nanoparticles," *Chem. Mater*. (**2006**), *18*, 5203-5212.

22. **Samia, A.C.S.**; Dayal, S.; Burda, C. "Quantum Dot Based Energy Transfer: Perspectives and Potential Applications in Photodynamic Therapy," *Photochem. Photobiol*. (**2006**), *82(3)*, 617-625.

21. Lin, X.M.; **Samia, A.C.S.** "Synthesis, Assembly and Physical Properties of Magnetic Nanoparticles," *J. Magn. Magn. Mater.*(**2006**), *305(1)*, 100-109.

20. Qiu, X.; Lou, Y.; **Samia, A.C.S.**; Devadoss, A.; Burgess, J.D.; Dayal, S.; Burda, C. "PbTe Nanorods by Sonoelectrochemistry," *Angew. Chem. Int. Ed.* (**2005**), *44(36)*, 5855-5857.

19. Samia, A.C.S.; Hyzer, K.; Jin, Q.J.; Schlueter, J.A.; Jiang, S.; Bader, S.; Lin, X.M. "Ligand Effects on the Growth and Digestion of Co Nanocrystals," *J. Am. Chem. Soc*. (**2005**), *127(12)*, 4126-4127.

18. **Samia, A.C.S.**; Lin, X.M. "Self-assembled Structures," *Dekker Encyclopedia of Nanoscience and Nanotechnology* (**2005**), *July 18*, 1-14.

17. Chen, X.; **Samia, A.C.S.**; Lou, Y.; Burda, C. "Investigation of the Crystallization Process in 2 nm CdSe Quantum Dots," *J. Am. Chem. Soc*. (**2005**), *127(12)*, 4372-4375.

16. Chen, X.; Lou, Y.; **Samia, A.C.S.;** Burda, C.; Gole, J.L. "Formation of Oxynitride as the Photocatalytic Enhancing Site in Nitrogen-Doped Titania Nanocatalysts: Comparison to a Commercial Nanopowder," *Adv. Funct. Mat.* (**2005**)**,** *15(1)***,** 41-49.

15. Anderson, R.M.; Vestal, C.R.; **Samia, A.C.S.**; Zhang, Z.J. "Faraday Rotation in $Co_{0.85}Zn_{0.15}Fe_2O_4$ Spinel Ferrite Nanoparticulate Films under Low Applied Fields," *Appl. Phys. Lett.* (**2004**), *84(16)*, 3115-3117.

14. Samia, A.C.S.; Lou, Y.; Senter, R.; Coffer, J.L.; Burda, C. "Effect of Erbium-dopant Architecture on the Non-radiative Carrier Relaxations in Silicon Nanoparticles," *J. Chem. Phys.* (**2004**), *120(18)*, 8716-8723.

13. Samia, A.C.S.; Cody, J.; Fahrni, C.; Burda, C. "The Effect of Ligand Constraints on the Metal-to-Ligand Charge-Transfer Relaxation Dynamics of Copper (I)-Phenanthroline Complexes: A Comparative Study by Femtosecond Time-Resolved Spectroscopy," *J. Phys. Chem. B* (**2004**), *108(2)*, 563-569.

12. Samia, A.C.S.; Chen, X.; Burda, C. "Semiconductor Quantum Dots for Photodynamic Therapy," *J. Am. Chem. Soc.* (**2003**), *125(51)*, 15736-15737.

11. Morris, R.; Azizuddin, K.; Kenny, M.; **Samia, A.C.S.**; Burda, C.; Oleinick, N. "Fluorescence Resonance Energy Transfer Reveals the Binding Site of a Photosensitizer for Photodynamic Therapy," *Cancer Research* (**2003**), *63(17)*, 5194-5197.

10. Burda, C.; Lou, Y.; Chen, X.; **Samia, A.C.S.**; Stout, J.; Gole, J.L. "Enhanced Nitrogen Doping in TiO_2 Nanoparticles," *Nano Lett.* (**2003**), *3(8)*, 1049-1051.

9. Chen, X.; Lou, Y.; **Samia, A.C.S.**; Burda, C. "Coherency Strain Effects on the Optical Response of Core/Shell Heteronanostructures," *Nano Lett.* (**2003**), *3(6)*, 799-803.

8. Lou, Y.; **Samia, A.C.S.**; Cowen, J.; Banger, K.; Chen, X.; Lee, H.; and Burda, C.; "Evaluation of the Photoinduced Electron Relaxation Dynamics of $Cu_{1.8}S$ Quantum Dots," *Phys. Chem. Chem. Phys.* (**2003**), *5(6)*, 1091-1095.

7. Lou, Y.; Chen, X.; **Samia, A.C.S.**; Burda, C. "Femtosecond Spectroscopic Investigation of the Carrier Lifetimes in Digenite Quantum Dots and Discrimination of the Electron and Hole Dynamics via Ultrafast Interfacial Electron Transfer," *J. Phys. Chem. B* (**2003**), *107(45)*, 12431-12437.

6. Burda, C.; **Samia, A.C.S.**; Hathcock, D.; Huang, H.; Yang, S. "Experimental Evidence for the Photoisomerization of Higher Fullerenes," *J. Am. Chem. Soc.* (**2002),** *124(42)*, 12400-12401.

5. Samia, A.C.S. "Design and Control of the Superparamagnetic Properties of Cobalt-based Spinel Ferrite Nanoparticles," (**2002**), 161 pp.

4. Rondinone, A.J.; **Samia, A.C.S.**; Zhang, Z.J. "A Chemometric Approach for Predicting the Size of Magnetic Spinel Ferrite Nanoparticles from the Synthesis Conditions," *J. Phys.Chem. B* (**2000**), *104(33)*, 7919-7922.

3. Rondinone, A.J.; **Samia, A.C.S.**; Zhang, Z.J. "Characterizing the Magnetic Anisotropy Constant of Spinel Cobalt Ferrite Nanoparticles," *Appl. Phys. Lett.* (**2000**), *76(24)*, 3624-3626.

2. Rondinone, A.J.; **Samia, A.C.S.**; Zhang, Z.J. "Superparamagnetic Relaxation and Magnetic Anisotropy Energy Distribution in $CoFe_2O_4$ Spinel Ferrite Nanocrystallites," *J. Phys. Chem. B* (**1999**), *103(33)*, 6876-6880.

1. Cruz, S.; **Samia, A.C.S.**; Arco. S.; De Guzman, F.; Chua, C.; Cruz, N.; Ursos, L.M. (**1998**) *Organic Chemistry Laboratory Manual 2nd Edition*, Diliman, Quezon City: University of the Philippines Press.

PRESENTATIONS

23. "Chemical Design of Magnetic Nanomaterials," Invited Talk, CWRU – Department of Physics, Cleveland, OH, November **2010**.

22. "Chemical Design of Nanoprobes for In Vivo Imaging of Gene Delivery," Invited Talk, CWRU- Department of Biomedical Engineering, Cleveland, OH, September **2010**.

21. "Fluorescent Nanocrystals for Gene Delivery Monitoring," Invited Talk, American Photobiology Society Meeting, Burlingame, CA, June **2008**.

20. "Monitoring of Gene Therapeutic Agents Using Tunable Fluorescent Quantum Dots," Poster, ShowCASE, Case Western Reserve University, Cleveland, OH, April **2007**.

19. "Quantum Dots as Photosensitizer for PDT Reagents," Poster, International Symposium on Bio- inspired Synthesis and Materials - From Organic Templates to Functional Nanoscale Structures, Ringberg Conference, Germany, October 11-14, **2006**.

18. National Meeting of the American Chemical Society, Participant, Atlanta, GA, March 26-30, **2006**.

17. American Physical Society Meeting, Participant, Baltimore, MD, March 13-17, **2006**.

16. "Surfactant Effects on the Growth of Magnetic Nanocrystals," Talk, American Physical Society (APS) Meeting, Los Angeles, CA, March 21-25, **2005**.

15. "Core-Shell Exchange Spring Nanomagnets," Poster, Argonne National Laboratory, Argonne, IL, January 27-28, **2005**.

14. "Surfactant Effects on the Growth of Magnetic Nanoparticles: Towards Core-Shell Nanomagnets," Poster, AVS Magnetic Interface and Nanostructure Division, Anaheim, CA, November 14-19, **2004**.
13. "Nanomagnetism at the Center for Nanoscale Materials (CNM) at Argonne," Poster, Department of Energy NanoSummit, Washington, DC, June 23-24, **2004**.
12. "Nanocrystal-Antibody Conjugates for Breast Cancer Imaging," Poster, Physical Chemistry at the Nanoscale Summer School, Washington State University, Pullman, WA, July 27-August 3, **2003**.
11. "Nanocrystal-Antibody Conjugates for Near-IR Imaging of Breast Cancer," Poster, ShowCASE, Case Western Reserve University, Cleveland, OH, April **2003**.
10. "New Methods for the Early Detection and Diagnosis of Breast Cancer," Invited Talk, American Cancer Society-Bingo for a Cure, Boardman, OH, October, 17, **2002**.
9. Applied Spectroscopy Meeting, Participant, John Carroll University, Cleveland, OH, May **2002**.
8. "Design and Control of the Superparamagnetic Properties of Cobalt Spinel Ferrite Nanoparticles for Biomedical Application," Poster, PITTCON **2002**, New Orleans, Louisiana.
7. "Synthesis and Superparamagnetic Properties of Core-Shell Co Ferrite Nanoparticles," Talk, SE Regional Meeting, September 23-26, **2001**, Savannah, GA.
6. "Effect of Zn Addition on the Superparamagnetic Properties of Co Ferrite Nanoparticles," Poster, 52nd SE/56th SW Combined Regional Meeting of the American Chemical Society, December 6-8, **2000**, New Orleans, Louisiana.
5. "Effect of Cation Distribution on the Superparamagnetic Properties of Co Spinel Ferrite Nanoparticles," Poster, National Symposium on Nanostructures, November 19, **1999**, Atlanta, GA.
4. "Design and Control of the Superparamagnetic Properties of Spinel Ferrite Nanoparticles," Invited Talk, November **1999**, University of Hamburg, Germany.
3. "Effect of Cation Distribution on the Superparamagnetic Properties of Co Ferrite Nanoparticles," Poster, **1999**, Molecular Design Institute Poster Session, Atlanta, GA.
2. BRAINS ALL-UP Faculty Chemistry Boards Review, Invited Talk, July 17, **1997**, Manila, Philippines.
1. Philippine Environmental and Mutagenic Society Annual Convention, Participant, November 23, **1996**, Manila, Philippines.

PROFESSIONAL AFFILIATIONS

- Member of the American Chemical Society
- Member of the American Society for Photobiology
- Member of the Philippine Environmental Mutagen Society
- Member of the Phi Kappa Phi Honor Society
- Member of the Alpha Chi Sigma Chemistry Fraternity (Gamma Chapter)
- Certified User in Brookhaven National Laboratory (NSLS) and Argonne National Laboratory (APS, EM, IPNS)

HONORS AND ACHIEVEMENTS

- Recipient of the 2008 Frederick Urbach Memorial Travel Award
- Authored the Number 1 of the TOP 25 Hottest Articles downloaded during July, August and September, 2006 of the Journal of Magnetism and Magnetic Materials
- Molecular Design Institute Graduate Fellowship (1999)
- University of the Philippines (1996) – *Magna Cum Laude*
- Philippines Department of Science and Technology Scholar (1992-1996)
- Quezon City Government Scholar (1992-1996)