
BIOGRAPHICAL SKETCH

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NAME Ming Su, Ph.D.	POSITION TITLE Assistant Professor		
eRA COMMONS USER NAME MINGSU			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Northwest University	B.S.	1993	Analytical Chemistry
Nankai University	M.S.	1996	Physical Chemistry
Chinese Academy of Sciences	Ph.D.	1999	Physical Chemistry
Northwestern University	Ph.D.	2004	Materials Sciences and Engineering

A. Positions and Honors

Positions and Employment

2004-2006 *Eugene P. Wigner* Fellow and Research Staff, Oak Ridge National Laboratory
2006-Present Assistant Professor, University of Central Florida, NanoScience Technology Center, and Department of Mechanical, Materials, and Aerospace Engineering

Other Experience and Professional Memberships

1998-Present American Chemical Society
2002-Present Materials Research Society

Honors

1991-1993 Outstanding Student Award, Northwest University (China)
1995 *Guanghua* Scholarship, Nankai University (China)
1999 *Liu Yong Ling* (Elite) Award, Chinese Academy of Sciences
2000 Natural Science Award (Third place), Tianjin, China
2003 Distinguished Scholar Award, Microbeam Analysis Society of American
2003-2004 AFOSR Graduate Scholarship, Northwestern University
2004 Graduate Fellowship for attending international conference, National Science Foundations
2004 Poster Award, International Workshop on Frontiers of Materials Research (Chile)
2004 Graduate Student Award, Materials Research Society
2004-2006 *Eugene P. Wigner* Fellowship, Oak Ridge National Laboratory
2005 Contribution Recognition Award, Nanoscale Science and Engineering, Northwestern University
2007 Nominee for *FLC* (Federal Laboratory Consortium) Award, Oak Ridge National Laboratory
2007-2009 New Doctoral Investigator Award, American Chemical Society
2007-2010 New Investigator Research Award, *James & Ester King* Biomedical Program
2010 Concept Award, Congressionally-directed Medical Research Program, Department of Defense

B. Selected peer-reviewed publications

1. M. Zhang, S. Ding, Y. Hong, **M. Su**, Controlling thermal runaway of heterogeneous chemical reactions using encapsulated nanoparticles of phase change materials, *Chem. Comm.* 2009, submitted.

2. C. Wang, L. Ma, **M. Su**, Visual detection of mercury using plasmonic nanoparticles, *Langmuir*, 2010, submitted.
3. L. Ma, C. Wang, Y. Hong, M. Zhang, **M. Su**, Thermally addressed immunosorbent assay (TAISA) using encapsulated phase change nanoparticles, *Anal. Chem.* 2010, in press.
4. C. Wang, L. Ma, L. Chen, K. X. Chai, **M. Su**, Scanning calorimetric detections of multiple DNA biomarkers contained in complex fluids using phase change nanoparticles, *Anal. Chem.* 2010, in press.
5. W. Wu, H. Bostanci, L. C. Chow, Y. Hong, **M. Su**, Nucleate boiling heat transfer enhancement for water and FC-72 on superhydrophilic titanium oxide nanoparticle modified surface, *J. Heat Transfer* 2010, in press.
6. Z. Ma, Y. Hong, M. Zhang, **M. Su**, Encoding and decoding nanoscale thermal barcodes for ultra-high capacity identification systems, *Appl. Phys. Lett.* 2009, 95, 233101.
7. C. Wang, M. Zhang, H. Wang, S. Zou, **M. Su**, Sub-nano-gram mass measurements on plasmonic nanoparticles for temperature-programmed thermal analysis, *J. Phys. Chem. Lett.* 2010, 1, 79.
8. L. Ma, Y. Hong, Z. Ma, C. Kaitanis, M. Perez, **M. Su**, Multiplexed highly sensitive detection of cancer biomarkers in thermal space using encapsulated phase change nanoparticles, *Appl. Phys. Lett.* 2009, 95, 043701.
9. Y. Hong, Z. Ma, C. Wang, L. Ma, **M. Su**, Three-dimensional assemblies of semiconductive nanowires using microscale fibrous building blocks, *Appl. Mater. Interface* 2009, 1, 251.
10. R. Tian, L. Ma, **M. Su**, Electrically induced deflective amplification for adaptive sensing of chemicals, *Appl. Phys. Lett.* 2009, 94, 013505.
11. Z. Ma, Y. Hong, L. Ma, **M. Su**, Superhydrophobic membranes with ordered arrays of nanopiked microchannels for water desalination, *Langmuir* 2009, 25, 5446.
12. Z. Ma, Y. Hong, L. Ma, Y. Ni, S. Zou, **M. Su**, Curved microwell array created by diffusion-limited chemical etching of artificially engineered solids, *Langmuir* 2009, 25, 643.
13. Z. Ma, L. Ma, **M. Su**, Engineering three-dimensional micromirror array by fiber-drawing nanomanufacturing, *Adv. Mater.* 2008, 20, 3734.
14. Y. Han, H. Wang, M. Zhang, **M. Su**, W. Li, K. Tao, Low-temperature approach to synthesize iron nitride from amorphous iron, *Inorganic Chem.* 2008, 47, 1261.
15. R. Tian, N. Bhatambekar, Y. Liao, **M. Su**, Photoresponsive polyacrylamide based on grafted azodianiline, *J. Appl. Polymer* 2008, 109, 3244.
16. X. Zhang, Z. Ma, Z. Yuan, **M. Su**, Mass-production of vertically aligned extremely long conductive micro/nanowires using fiber drawing nanomanufacturing, *Adv. Mater.* 2008, 20, 1310 (cover).
17. **M. Su**, Liquid mixing driven motions of floating macroscopic objects, *Appl. Phys. Lett.* 2007, 90, 144102.

(Before joining University of Central Florida)

18. **M. Su**, T. Thundat, Remote chemical sensing and recognition using acoustic mapping of photothermal fields, *Appl. Phys. Lett.* 2006, 88, 194103.
 19. **M. Su**, V. P. Dravid, Surface combustion microengines based on photocatalytic oxidations of hydrocarbon at room temperature, *Nano Lett.* 2005, 5, 2023.
 20. **M. Su**, Z. Pan, V. P. Dravid, T. Thundat, Locally-enhanced relative humidity for scanning probe nanolithography, *Langmuir* 2005, 21, 10902.
 21. M. Aslam, L. Fu, **M. Su**, K. Vijayamohan, V. P. Dravid, Novel one-step synthesis of amine-stabilized aqueous colloidal gold nanoparticles, *J. Mater. Chem.* 2004, 14, 1785.
 22. N. Wu, L. Fu, **M. Su**, M. Aslam, K. C. Wong, V. P. Dravid, Interaction of fatty acid monolayers with cobalt nanoparticle, *Nano Lett.* 2004, 4, 383.
 23. **M. Su**, Z. Pan, V. P. Dravid, A convenient and rapid sample repositioning system for atomic force microscope, *J. Microscopy* 2004, 216, 194.
 24. **M. Su**, M. Aslam, L. Fu, V. P. Dravid Dip-pen nanopatterning of conducting polymers and their light sensing behaviors, *Appl. Phys. Lett.* 2004, 84, 4200.
 25. **M. Su**, L. Fu, N. Wu, M. Aslam, V. P. Dravid, Individually-addressed large scale patterning of conducting polymer by localized electric fields, *Appl. Phys. Lett.* 2004, 84, 828.
 26. **M. Su**, S. Li, V. P. Dravid, Miniaturized chemical multiplexed sensor array, *J. Am. Chem. Soc.* 2003, 125, 9930.
 27. **M. Su**, S. Li, V. P. Dravid, Microcantilever resonance based DNA detection with nanoparticle probes, *Appl. Phys. Lett.* 2003, 82, 3562.
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28. **M. Su**, X. Liu, S. Li, V. P. Dravid, C. A. Mirkin, Moving beyond molecules: patterning solid state materials by dip-pen nanolithography using sol based inks, *J. Am. Chem. Soc.* 2002, 124, 1560.
29. **M. Su**, V. P. Dravid, Colored ink dip pen nanolithography, *Appl. Phys. Lett.* 2002, 80, 4434.
30. **M. Su**, Y. Li, B. Maynor, A. Buldum, J. P. Lu, J. Liu, Lattice-oriented growth of single walled carbon nanotubes, *J. Phys. Chem. B* 2000, 104, 6305.
31. **M. Su**, B. Zheng, J. Liu, A scalable CVD method for the synthesis of single walled carbon nanotubes with high catalyst productivity, *Chem. Phys. Lett.* 2000, 322, 321.
32. **M. Su**, C. Bai, C. Wang, Core-shell structure of PVP-protected Pt colloid studied by scanning tunneling microscope, *Solid State Comm.* 1998, 106, 643.
33. **M. Su**, C. Bai, F. Tian, J. Ma, M. Liu, C. Wang, A novel method of real time size control of nanoaggregate by atomic force microscope, *Chem. Lett.* 1997, 1200.
34. **M. Su**, C. Bai, C. Wang, J. Guan, Substrate-dependent dispersion behavior of PVP-protected Pt colloid studied by SPM, *Appl. Surf. Sci.* 1998, 133, 23.
35. Z. Lin, C. Wang, **M. Su**, F. Tian, J. Ma, C. L. Bai, Atomic force microscopy observation of the condensates of the spermidine-DNA complexes, *Science China*, 1998, 41, 418.
36. L. J. Yang, I. S. Lee, C. Wang, M. Z. Liu, **M. Su**, C. L. Bai, Influence of loop sequence on relative stability of biomolecular triplex DNA, *Science China*, 1998, 41, 381.
37. M. Z. Liu, L. J. Yang, W. L. Deng, **M. Su**, C. Wang, S. B. Lin, L. S. Kan, C. L. Bai, Effect of selective substitution of 5-bromocytosine on conformation of DNA triple helices, *J. Biomolecular Struct. Dynamics* 1998, 15, 895.

C. Ongoing Research Support

1. Nanocolumn-supported nanoparticle array for early detection of lung cancer biomarkers (PI)
Florida Department of Health 07KN-11 07/01/07 – 06/31/10 Amount: \$375,000.00
2. Encapsulated phase change nanoparticles for heat transfer (PI)
National Science Foundations 0828466 09/01/08 – 08/30/11 Amount: \$300,000.00
3. Encapsulated solid-liquid phase change nanoparticles as thermal barcodes for highly sensitive detections of multiple lung cancer biomarkers (PI)
Department of Defense-CDMRP 03/01/10 – 02/28/11 Amount: \$100,641.00

D. Completed Research Support

1. Synthesis and characterization of encapsulated phase change nanoparticles (PI)
Air Force Research Laboratory 05/01/08 – 06/30/09 Amount: \$100,000.00
 2. Structure and performance correlation of dye sensitized solar cells on nanospire array (PI)
American Chemical Society 09/01/07-08/30/09 Amount: \$45,000.00
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