YUGANG SUN

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EDUCATION

Institution	Degree	Dates
University of Illinois at Urbana-Champaign (w/ John Rogers)	Postdoc	01/2004 ~ 07/2006
University of Washington at Seattle (w/ Younan Xia)	Postdoc	03/2001 ~ 12/2003
University of Science and Technology of China (USTC)	PhD	09/1996 ~ 02/2001
University of Science and Technology of China (USTC)	BS	09/1992 ~ 07/1996

EMPLOYMENT

Scientist, Argonne National Laboratory, 01/2010 ~ present
Assistant Scientist, Argonne National Laboratory, 08/2006 ~ 12/2009

RESEARCH INTERESTS

- Design and synthesis of hybrid nanostructures with increased complexity and functionalities
- Investigation of novel properties of synthesized nanostructures in the context of nanophotonics, photocatalysis, sensing, and energy storage/conversion
- Development of in-situ synchrotron x-ray techniques and in-situ electron microscopic techniques for real-time probing reaction kinetics and phase dynamics involved in the synthesis of colloidal nanoparticles and for in-operando characterizing the corresponding devices under real operating conditions

RESEARCH EXPERIENCE

Argonne National Laboratory (ANL)

Research efforts include development of cost-effective approaches for the synthesis of novel nanostructures, for example, metal/semiconductor composites, plasmonic photocatalysts, lithium ion-selective membranes, multifunctional particles, etc. “Bottom-up” chemical synthesis are integrated with “top-down” lithographic techniques to enable the realization of nanomaterials-based technologies in the emerging areas including solar energy conversion, catalysis, nanophotonics, sensors, and lithium-air batteries.

University of Illinois at Urbana-Champaign (UIUC)

Research activities included fabrication of free-standing nano/microstructures made of semiconductors (e.g., GaAs, InP, Si, carbon nanotubes, etc.) and development of “dry transfer printing” techniques that can print ordered arrays of these semiconducting structures on plastic substrates over large areas. A feasible process has been invented for building high-performance, low-cost, large-area thin film transistors (TFTs) using the semiconductor arrays on flexible plastics and stretchable rubbers. Soft lithographic techniques (e.g., phase-shift lithography, nanotransfer printing, and nanoimprinting) have also been incorporated into device

fabrication to reduce processing cost. The first Gaga-Hertz flexible TFTs and the first stretchable electronic devices with extreme strain range (>100%) were invented.

University of Washington (UW)
Research projects included synthesis, characterization, and utilization of nanoparticles with controlled shapes, dimensions, structures (solid *versus* hollow), and compositions. A number of solution-phase methods (such as polyol reactions) were invented for the large-scale synthesis of nanospheres, triangular nanoplates, circular nanodisks, nanocubes, nanorods, nanowires, and nanobelts made of silver. A nanoscale galvanic displacement reaction was invented for the synthesis of metal nanostructures with hollow interiors (for example, spherical nanoshells, cubic nanoboxes, porous nanocages, and nanotubes as well as multiple-walled structures) with the use of the as-synthesized silver nanoparticles as sacrificial templates. These novel nanostructures have also been investigated for their unique properties and applications related to plasmonics, electronics, gas storage, sensing, imaging, and catalysis.

University of Science and Technology of China (USTC)
Potential-resolved electrochemiluminescence (ECL) was developed for studying the complex mechanisms involved in electrochemical and luminescent processes. Based on the understandings, detection strategies with high selectivity and sensitivity were established to probe a wide range of important species in pharmaceuticals, drugs, pollutants, foods, drinks, and tobaccos. In addition, a new class of chemically modified electrodes was also fabricated to selectively detect some important neurotransmitters such as dopamine. *(Ph.D. thesis)*

High-performance liquid chromatography (HPLC) was employed for studying the chemical stability of a protein drug, anti-coagulation factor from the venom of *Agkistrodon*. *(B.S. thesis)*

TEACHING AND OUTREACH EXPERIENCE

2006-present: routinely recruited user proposals, taught users (students, postdoctors, scientists) to use the facilities at the Center for Nanoscale Materials (a national user facility), delivered classroom lectures for graduate students at Northwestern University, worked for open house, attended events to show nanosciences to local teachers and students (K-12), mentored postdoctors, etc.
2001-2006: assisted postdoctoral supervisors to supervise students in research
1996-2000: teaching assistant for Inorganic Chemistry and Analytical Chemistry at USTC
05/23/2014: Discussion at Materials Genome Initiative Midwest Regional Workshop, UIUC

PROFESSIONAL ACTIVITIES

Member of the Materials Research Society (MRS)
Member of the American Chemical Society (ACS)
Member of the American Association for the Advancement of Science (AAAS)
Member of the American Nano Society (ANS)
Member of Nanomaterials Safety Committee (ANL)
Member of the Advanced Photon Source (APS) User Organization Steering Committee
Panel Member for reviewing proposals for the Center for Functional Nanomaterials at Brookhaven National Laboratory
Panel Member for reviewing proposals for NSF (SSMC/DMR) 3/4-5/2013
Panel Member for reviewing proposals for NSF (SSMC/DMR) 1/23-24/2013
Panel Member for reviewing proposal for NSF/DOE Partnership 5/22/2014
Editorial board member of *Materials Today (6/2012-)*
Guest Editor of *American Journal of Analytical Chemistry*

Member of the Advisory Editorial Board of *Particle & Particle Systems Characterization (1/2013-)*, *Frontiers of Materials Science (9/2009-), Chinese Chemical Letters (1/2014-), Elsevier advisory editorial board invitation for Micro Nanoscale Science & Engineering program, Journal of Materials Science & Engineering (5/2012-), AIMS Materials Science (6/2013-) SRX (Scholar Research Exchange) Materials Science, Journal of Nanoscience Letters, American Journal of Analytical Chemistry (2/2010-).*

Symposium and workshop organizer: *2009 CNM User Meeting at Argonne National Laboratory – Workshop 6 (Nanoscale heterostructures); 2009 MRS Spring Meeting – Symposium Y (Nanocrystalline materials as precursors for complex multifunctional structures through chemical transformations and self assembly)*; *Member of the Technical Program Committee (TPC) for 2011 World Congress on Engineering and Technology (CET); IEEE NANO 2012-12th International Conference on Nanotechnology (Program committee member-Energy: Photovoltaics, Storage); 2012 APS/CNM/EMC User meeting – Cross-facility Thematic Workshop A (Operando characterization of energy systems); International Conference and Expo on Material Science & Engineering (Material Science-2012, Omics Group)-Organizing Committee Member.*

Symposium chair for a number of international meetings

Referee for a number of Scientific Journals: *Science*, *Nature*, *Nature Nanotechnology, Nature Communications, PNAS, ACS journals, RSC journals, Wiley Materials and Chemistry journals, Elsevier journals, etc.*

Reviewer for proposals: *NSF (DMR, CHE, EPSCoR)*, *ACS Petroleum Research Fund*, *Netherlands Organisation for Scientific Research (NWO, the Dutch research council), Research Grants Council (RGC) of Hong Kong, Ministry of education and science of the Russian Federation, LDRD proposals of ANL, User proposals of the Center for Functional Nanomaterials at Brookhaven National Laboratory and Stanford Synchrotron Radiation Lightsource (SSRL).*

HONORS AND AWARDS

06/2014 Highly Citied Researchers 2014 in Chemistry (2002-2012), Thomson Reuters
06/2014 Highly Cited Researchers 2014 in Materials Science (2002-2012), Thomson Reuters
02/2011 Top 100 Materials Scientists with highest impact score (2000-2010), Rank #5, Thomson Reuters
02/2011 Top 100 Chemists with highest impact score (2000-2010), Rank #62, Thomson Reuters
2008 DOE's Office of Science Early Career Scientist and Engineer Award
2007 Presidential Early Career Awards for Scientists and Engineers (PECASE)
2000 "Lian-Xiang Sci. & Tech. Scholarship" for Excellent Students in Research, USTC.
1999 "Di-Ao Scholarship" for Graduate Students, USTC.
1997 "Guang-Hua Scholarship" for Graduate Students, USTC.
1996 "Bao-Gang Education Fund" Award for National Excellent Students in Research, USTC.
1995 "The 8th Zhang Zong-Zhi Science and Technology Scholarship", USTC.
1994 "The 7th Zhang Zong-Zhi Science and Technology Scholarship", USTC.
1993 The Excellent Undergraduate Scholarship, USTC.

AWARDED RESEARCH GRANTS

10/13-09/16 PI of "Integration of Scalable Microwave Reactor with High-Energy X-ray Beamline for High-Throughput Screening Energetic Nanomaterial Synthesis", $950K, LDRD, Argonne National Laboratory

06/09-05/14 PI of "PECASE Award: Design and Perfection of Nanomaterials for Energy", $250K, Office of Basic Energy Sciences, Office of Science, DOE

10/10-09/13 co-PI of "Nanophotonics: Imaging and Controlling Energy Flow at The Nanoscale", ~$7,500K, Office of Basic Energy Sciences, Office of Science, DOE

10/07-09/10 co-PI of "Nanophotonics: Hybrid Structures for Control of Optical Energy on The Nanometer Scale", $8,446K, Office of Basic Energy Sciences, Office of Science, DOE

10/09-09/12 co-PI of "Beyond Li-Ion Battery Technology for Energy Storage", $1M (first year) + $2.5 M (second year) + $2 M (third year), LDRD Grand Challenge Program of Argonne National Laboratory

09/07-08/10 co-PI of "EXP-LA: Development of a Nanostructure-Based Sensor System for Reliable Detection of Improvised Explosive Devices", $546,465, NSF

PEER-REVIEWED PUBLICATIONS (citation times > 22000, h-index = 45)

i) Novel Nanomaterials and Applications (at ANL)

128. "Lattice Deformation of a Silver Nanocube under High Pressure", Huang, X.; Yang, W.; Harder, R.; **Sun, Y.**; Lu, M.; Chu, Y. S.; Robinson, I. K.; Mao, H.-K., *Nano Lett.*, submitted.
127. "Concaving AgI Sub-Microparticles for Enhanced Photocatalysis", Liu, J.; An, C.*; Wang, S.; Zhang, J.; Wang, Z.; **Sun, Y.***, *Angew. Chem. Int. Ed. (in revision).*
126. "Silver Halide Nanocomposites for Efficient Photocatalysis", An, C.*; Wang, S.; **Sun, Y.***; Zhang, Q.; Zhang, J.*; Fang, J.*, *Nano Today (submitted).*
125. "Silver Chlorobromide Nanocubes with Significantly Improved Uniformity: Synthesis, Assembly, and Application for SERS", Li, Z.; Okasinski, J. S.; Gosztola, D. J.; Ren, Y.; **Sun, Y.***, *ACS Nano (in revision).*
124. "Birnessite-Type MnO_2 Nanosheets with Layered Structures Under High Pressure: Elimination of Crystalline Stacking Faults and Oriented Laminar Assembly", **Sun, Y.***; Wang, L.; Liu, Y.; Ren, Y., *Small (revision submitted).*
123. "Highly Asymmetric, Interfaced Dimers Made of Au Nanoparticles and Bimetallic Nanoshells: Synthesis and Photo-Enhanced Catalysis", Hu, Y.; Liu, Y.; Li, Z.; **Sun, Y.***, *Adv. Funct. Mater.* **2014**, *24(19)*, 2828-2836.
122. "Silver Nanowire/Thermoplastic Polyurethane Elastomer Nanocomposites: Thermal, Mechanical, and Dielectric Properties", Mi, H.-Y.; Li, Z.; Turng, L.-S.; **Sun, Y.**; Gong, S., *Materials & Design*, **2014**, *56*, 398-404. (CNM#33795)
121. "Promoting Photocatalytic Multiple-Electron Reduction in Aerobic Solutions by Au-tipped CdSe Nanorod Clusters", Li, Z.; Hu, Y.; **Sun, Y.***, *Chem. Commun.* **2014**, *50(12)*, 1411-1413 (highlighted as inside cover article).
120. "Insights on Failure Kinetics and Thermodynamics of Colloidal Silver Nanowires at Elevated Temperatures", Li, Z.; Okasinski, J. S.; Almer, J. D.; Ren, Y.; Zuo, X.; **Sun, Y.***, *Nanoscale* **2014**, *6(1)*, 365-370.
119. "Enhanced Photocatalysis by Hybrid Hierarchical Assembly of Plasmonic Nanocrystals with High Surface Areas", Hu, Y.*; Li, Z.; **Sun, Y.***, *Catalysis Today*, **2014**, *225*, 177-184.
118. "Interfaced Metal Heterodimers in the Quantum Size Regime", **Sun, Y.***; Foley, J. J.; Peng, S.; Li, Z.; Gray, S. K.* *Nano Lett.* **2013**, *13*, 3958-3964.
117. "Hollow AgI:Ag Nanoframes as Solar Photocatalysts for Hydrogen Generation from Water Reduction", An, C.*; Wang, J.; Liu, J.; Wang, S.; **Sun, Y.*** *ChemSusChem*, **2013**, *6*, 1931-1937.
116. "Lithium Ion Conducting Membranes for Lithium-Air Batteries", **Sun, Y.*** *Nano Energy* **2013**, *2*, 801-816. (invited review).
115. "In Situ Visualization of Self-Assembly of Charged Gold Nanoparticles", Liu, Y.*; Lin, X.-M.; **Sun, Y.**; Rajh, T. *J. Am. Chem. Soc.* **2013**, *135*, 3764-3767.

114. "Silver Chlorobromide Nanoparticles with Highly Pure Phases: Synthesis and Characterization", Li, Z.; **Sun, Y.*** *J. Mater. Chem. A* **2013**, *1*, 6786-6793.
113. "A Generic Approach for the Synthesis of Dimer Nanoclusters and Asymmetric Nanoassemblies", Hu, Y.; **Sun, Y.*** *J. Am. Chem. Soc.* **2013**, *135*, 2213-2221.
112. "In-Situ Synchrotron X-Ray Techniques for Real-Time Probing of Colloidal Nanoparticle Synthesis", **Sun, Y.***; Ren, Y. *Part. Part. Syst. Charact.* **2013**, *30*, 399-419. (VIP article, invited review, highlighted as the inside cover)
111. "Controlled Synthesis of Colloidal Silver Nanoparticles in Organic Solutions: Empirical Rules for Nucleation Engineering", **Sun, Y.*** *Chem. Soc. Rev.* **2013**, *42*, 2497-2511. (invited review article).
110. "Thermal Transformation of δ-MnO_2 Nanoflowers Studied by In-Situ TEM", **Sun, Y.***; Liu, Y.; Truong, T. T.; Ren, Y. *Sci. China Chem.* **2012**, *55*, 2346-2352 (highlighted as cover article).
109. "Morphological and Crystalline Evolution of Nanostructured MnO_2 and Their Application in Lithium-Air Batteries", Truong, T. T.; Liu, Y.; Ren, Y.; Trahey, L.; **Sun, Y.*** *ACS Nano* **2012**, *6*, 8067-8077.
108. "Stable Magnetic Hot Spots for Simultaneous Concentration and Ultrasensitive SERS Detection of Solution Analytes", Hu, Y.; **Sun, Y.*** *J. Phys. Chem. C* **2012**, *116*, 13329-13335.
107. "Real-Time Probing of the Synthesis of Colloidal Silver Nanocubes with Time-Resolved High-Energy Synchrotron X-Ray Diffraction", Peng, S.; Okasinski, J. S.; Almer, J. D.; Ren, Y.; Wang, L; Yang, W.; **Sun, Y.*** *J. Phys. Chem. C* **2012**, *116*, 11842-11847.
106. "Watching Nanoparticle Kinetics in Liquid", **Sun, Y.*** *Materials Today* **2012**, *15*, 140-147.
105. "Ambient-Stable Tetragonal Phase in Silver Nanostructures", **Sun, Y.***; Ren, Y.; Liu, Y.; Wen, J.; Okasinski, J. S.; Miller, D. J. *Nat. Commun.* **2012**, *3*, 971 (DOI: 10.1038/ncomms1963).
104. "Plasmon Propagation in Chemically Synthesized Gold and Silver Nanowires", Wild, B.; Cao, L.; **Sun, Y.**; Khanal, B. P.; Zubarev, E.; Gray, S. K.; Scherer, N. F.; Pelton, M.* *ACS Nano* **2012**, *6*, 472-482.
103. "Graphene Formed on SiC under Various Environments: Comparison of Si-Face and C-Face", Srivastava, N.; He, G.; Luxmi; Mende, P. C.; Feenstra, R. M.*; **Sun, Y.** *J. Phys. D: Appl. Phys.* **2012**, *45*, 154001.
102. "Monitoring of Galvanic Replacement Reaction between Silver Nanowires and $HAuCl_4$ by In-Situ Transmission X-Ray Microscopy", **Sun, Y.***; Wang, Y. *Nano Lett.* **2011**, *11*, 4386-4392.
101. "Single-Crystal Silicon Membranes with High Lithium Conductivity and Application in Lithium-Air Batteries", Truong, T. T.; Qin, Y.; Ren, Y.; Chen, Z.; Chan, M. K.; Greeley, J. P.; Amine, K.; **Sun, Y.*** *Adv. Mater.* **2011**, *23*, 4947-4952.
100. "Surface Chemistry: A Non-negligible Parameter in Determining Optical Properties of Small Colloidal Metal Nanoparticles", **Sun, Y.***; Gray, S. K.; Peng, S. *Phys. Chem. Chem. Phys.* **2011**, *13*, 11814-11826. (invited perspective review)
99. "Ripening of Bimodally Distributed AgCl Nanoparticles", Peng, S.; **Sun, Y.*** *J. Mater. Chem.* **2011**, *21*, 11644-11650.
98. "Growth of Silver Nanowires on GaAs Wafers", **Sun, Y.*** *Nanoscale*, **2011**, *3*, 2247-2255.
97. "Plasmonic-Magnetic Bifunctional Nanoparticles", Peng, S.; Lei, C.; Ren, Y.; Cook, R. E.; **Sun, Y.*** *Angew. Chem. Int. Ed.* **2011**, *50*, 3158-3163. (Highlighted as frontispiece)
96. "Multiple-Step Phase Transformation in Silver Nanoplates under High Pressure", **Sun, Y.***; Yang, W.; Ren, Y.; Wang, L.; Lie, C. *Small* **2011**, *7*, 606-611.
95. "Shaped Gold and Silver Nanoparticles", **Sun, Y.***; An, C. *Front. Mater. Sci.*, **2011**, *5*, 1-24. (invited review, highlighted with cover)

94. "Synthesis of Silver Nanocubes in a Hydrophobic Binary Organic Solvent", Peng, S.; **Sun, Y.*** *Chem. Mater*. **2010**, *22*, 6272-6279.
93. "Nanophase Evolution at Semiconductor/Electrolyte Interface *in situ* Probed by Time-Resolved High-Energy Synchrotron X-Ray Diffraction", **Sun, Y.***; Ren, Y.; Haeffner, D. R.; Almer, J. D.; Wang, L.; Yang, W.; Truong, T. T. *Nano Lett.* **2010**, *10*, 3747-3753.
92. "Reversing the Size-Dependence of Surface Plasmon Resonances", Peng, S.; McMahon, J. M.; Schatz, G. C.*; Gray, S. K.*; **Sun, Y.*** *Proc. Natl. Acad. Sci. USA*, **2010**, *107*, 14530-14534.
91. "Silver Nanowires – Unique Templates for Functional Nanostructures", **Sun, Y.*** *Nanoscale*, **2010**, *2*, 1626-1642.
90. "Conversion of Ag Nanowires to AgCl Nanowires Decorated with Au Nanoparticles and Their Photocatalytic Activity", **Sun, Y.*** *J. Phys. Chem. C* **2010**, *114*, 2127-2133.
89. "Facile Synthesis of Sunlight-Driven Plasmonic AgCl:Ag Nanophotocatalysts", An, C.; Peng, S.; **Sun, Y.*** *Adv. Mater.* **2010**, *22*, 2570-2574.
88. "Imaging of Complex Density in Silver Nanocubes by Coherent X-ray Diffraction", Harder, R.*; Liang, M.; **Sun, Y.**; Xia, Y.; Robinson, I. K. *New J. Phys.* **2010**, *12*, 035019.
87. "Nanoscale, Electrified Liquid Jets for High Resolution Printing of Charge", Park, J.-U.; Lee, S.; Unarunotai, S.; **Sun, Y.**; Dunham, S.; Song, T.; Ferreira, P. M.; Alleyene, A. G.; Paik, U.; Rogers, J. A.* *Nano Lett.*, **2010**, *10*, 584-591.
86. "Synthesis of Ag Nanoplates on GaAs Wafers: Evidence for Growth Mechanism", **Sun, Y.*** *J. Phys. Chem. C* **2010**, *114*, 857-863.
85. "Tailored Synthesis of Superparamagnetic Gold Nanoshells with Tunable Optical Properties", Zhang, Q.; Ge, J.; Goebl, J.; Hu, Y.; **Sun, Y.**; Yin, Y.* *Adv. Mater.* **2010**, *22*, 1905-1909.
84. "Metal Nanoplates on Semiconductor Substrates", **Sun, Y.*** *Adv. Funct. Mater.*, **2010**, *20*, 3646-3657. (invited feature article)
83. "Morphology of Graphene on SiC(000$\bar{1}$) Surfaces", Luxmi, Fisher, P. J.; Srivastavam N.; Feenstra, R. M.*; **Sun, Y.**; Kedzierski, J.; Gu, G. *Appl. Phys. Lett.* **2009**, *95*, 073101.
82. "Synthesis of Out-of-Substrate Au-Ag Nanoplates with Enhanced Stability for Catalysis", **Sun, Y.***; Lei, C. *Angew. Chem. Int. Ed.* **2009**, *48*, 6824-6827.
81. "Recombination Rates for Single Colloidal Quantum Dots Near a Smooth Metal Film", Wu, X.; **Sun**, **Y.**; Pelton, M.* *Phys. Chem. Chem. Phys.* **2009**, *11*, 5867-5870. (highlighted as cover illustration)
80. "Laser-Driven Growth of Silver Nanoplates on p-Type GaAs Substrates and Their Surface-Enhanced Raman Scattering Activity", **Sun, Y.***; Pelton, M. *J. Phys. Chem. C* **2009**, *113*, 6061-6067.
79. "Fluorescence Studies of Electronspun MEH-PPV/PEO Nanofibers", Zhu, Z.*; Zhang, L.; Smith, S.; Fong, H.; **Sun, Y.**; Gosztola, D. *Synthetic Met.* **2009**, *159*, 1454-1459.
78. "Temperature-dependence of epitaxial graphene formation on SiC(0001)", Luxmi, Nie, S.; Fisher, P. J.; Feenstra, R. M.*; Gu, G.; **Sun, Y.** *J. Electronic Mater.* **2009**, *38(6)*, 718-724.
77. "Facile Tuning of Superhydrophobic States with Ag Nanoplates", **Sun, Y.***; Qiao, R. *Nano Research* **2008**, *1(4)*, 292-302. (highlighted as back cover illustration)
76. "Formation of Oxides and Their Role in the Growth of Ag Nanoplates on GaAs Substrates", **Sun, Y.***; Lei, C.; Gosztola, D.; Haasch, R. *Langmuir* **2008**, *24*, 11928-11934.
75. "Effects of Visible and Synchrotron X-Ray Radiation on the Growth of Silver Nanoplates on n-GaAs Wafers: A Comparative Study", **Sun, Y.***; Yan, H.; Wu, X. *Appl. Phys. Lett.* **2008**, *92*, 183109.
74. "Comparative Study on the Growth of Silver Nanoplates on GaAs Substrates by Electron Microscopy, Synchrotron X-Ray Diffraction, and Optical Spectroscopy", **Sun, Y.***; Yan, H.; Wiederrecht, G. P. *J. Phys. Chem. C* **2008**, *112*, 8928-8938.

73. "Carbon Nanotube-Based Flexible Electronics and Sensors", Sun, X.; **Sun, Y.*** *J. Mater. Sci. Technol.* **2008**, *24*, 569-577. (invited review article)
72. "Single-Walled Carbon Nanotubes Modified with Pd Nanoparticles: Unique Building Blocks for High-Performance, Bendable Hydrogen Sensors", **Sun, Y.***; Wang, H. H.; Xia, M. *J. Phys. Chem. C* **2008**, *112*, 1250-1259.
71. "Post-buckling Analysis for the Precisely Controlled Buckling of Thin Film Encapsulated by Elastomeric Substrates", Jiang, H.*; **Sun, Y.**; Rogers, J. A.; Huang, Y. *International Journal of Solids and Structures* **2008**, *45*, 2014-2023.
70. "Semiconductor Wires and Ribbons for High Performance Flexible Electronics", Baca, A. J.; Ahn, J.-H.; **Sun, Y.**; Meitl, M. A.; Menard, E.; Kim, H.-S.; Choi, W. M.; Huang, Y.; Rogers, J. A.* *Angew. Chem. Int. Ed.* **2008**, 47, 5524-5542. (invited review article)
69. "Direct Growth of Dense, Pristine Metal Nanoplates on Semiconductor Substrates", **Sun, Y.*** *Chem. Mater.* **2007**, *19*, 5845-5847.
68. "Surfactantless Synthesis of Silver Nanoplates with Rough Surfaces and Their Application in SERS", **Sun, Y.***, Wiederrecht, G. P. *Small* **2007**, *3*, 1964-1975. (highlighted with cover illustration)
67. "A Self-Templated Approach to TiO_2 Microcapsules", Hu, Y.; Ge, J.; **Sun, Y.**; Zhang, T.; Yin, Y.* *Nano Lett.* **2007**, *7*, 1832-1836.
66. "Finite Deformation Physics in Buckled Thin Films on Compliant Supports", Jiang, H.; Khang, D.-Y.; Song, J.; **Sun, Y.**; Huang, Y.; Rogers, J. A.* *Proc. Natl. Acd. Sci. USA* **2007**, *104*, 15607-15612.
65. "Electrodeposition of Pd Nanoparticles on Single-Walled Carbon Nanotubes for Flexible Hydrogen Sensors", **Sun, Y.***; Wang, H. H. *Appl. Phys. Lett.* **2007**, *90*, 213107. (selected by *Virtual Journal of Nanoscale Science &Technology*, *Volume 15, Issue 22, June 4, 2007*)
64. "High-Performance, Flexible Hydrogen Sensors That Use Carbon Nanotubes Decorated with Palladium Nanoparticles", **Sun, Y.***; Wang, H. H. *Adv. Mater.* **2007**, *19*, 2818-2823.
63. "Mechanics of Precisely Controlled Thin Film Buckling on Elastomeric Substrate", Jiang, H.*; **Sun, Y.**; Rogers, J. A.; Huang, Y. *Appl. Phys. Lett.* **2007**, *90*, 133119.
62. "Structural Forms of Single Crystal Semiconductor Nanoribbons for High-Performance Stretchable Electronics", **Sun, Y.***; Rogers, J. A.* *J. Mater. Chem.* **2007**, *17*, 832-840. (invited feature article and highlighted with cover illustration)
61. "Inorganic Semiconductors for Flexible Electronics", **Sun, Y.***; Rogers, J. A.* *Adv. Mater.* **2007**, *19*, 1897-1916. (invited review article)
60. "Micro- and Nanopatterning Techniques for Organic Electronic and Optoelectronic Systems", Menard, E.; Meitl, M. A.; **Sun, Y.**; Park, J.-U.; Shir, D. J.-L.; Nam, Y.-S.; Jeon, S.; Rogers, J. A.* *Chem. Rev.* **2007**, *107*, 1117-1160. (invited review article and highlighted with cover illustration)
59. "Controlled Buckling of Semiconductor Nanoribbons for Stretchable Electronics", **Sun, Y.***; Choi, W. M.; Jiang, H.; Huang, Y. Y.; Rogers, J. A.* *Nature Nanotechnology* **2006**, *1*, 201-207.

ii) <u>Flexible Electronic Devices and Soft Lithography (at UIUC)</u>

58. "Heterogeneous Three-Dimensional Electronics by Use of Printed Semiconductor Nanomaterials", Ahn, J.-H.; Kim, H.-S.; Lee, K. J.; Jeon, S.; Kang, S. J.; **Sun, Y.**; Nuzzo, R. G.; Rogers, J. A. *Science* **2006**, *314*, 1754-1757.
57. "Buckled and Wavy Ribbons of GaAs for High-Performance Electronics on Elastomeric Substrates", **Sun, Y.**; Kumar, V.; Adesida, I.; Rogers, J. A. *Adv. Mater.* **2006**, *18*, 2857-2862. (highlighted with inside cover illustration)

56. "Printed Arrays of Aligned GaAs Wires for Flexible Transistors, Diodes, and Circuits on Plastic Substrates", **Sun, Y.**; Kim, H.-S.; Menard, E.; Kim, S.; Adesida, I.; Rogers, J. A. *Small* **2006**, *2*, 1330-1334.
55. "Gigahertz Operation in Flexible Transistors on Plastic Substrates", **Sun, Y.**; Menard, E.; Rogers, J. A.; Kim, H.-S.; Kim, S.; Chen, G.; Adesida, I.; Dettmer, R.; Cortez, R.; Tewksbury, A. *Appl. Phys. Lett.* **2006**, *88*, 183509.
54. "Highly Bendable, Transparent Thin Film Transistors That Use Carbon Nanotube Based Conductors and Semiconductors with Elastomeric Dielectrics", Cao, Q.; Hur, S.-H.; Zhu, Z.; **Sun, Y.**; Wang, C.; Meitl, M.; Shim, M.; Rogers, J. A., *Adv. Mater.* **2006**, *18*, 304-309.
53. "Processing Dependent Behavior of Soft Imprint Lithography on the 1-10 nm Scale", Hua, H.; Gaur, A.; **Sun, Y.**; Word, M.; Jin, N.; Adesida, I.; Shim, M.; Shim, A.; Rogers, J. A. *IEEE Trans. Nanotechnology* **2006**, *5*, 301-308.
52. "Bendable GaAs Metal-Semiconductor Field Effect Transistors Formed with Printed GaAs Wire Arrays on Plastic Substrates", **Sun, Y.**; Kim, S.; Adesida, I.; Rogers, J. A. *Appl. Phys. Lett.* **2005**, *87*, 083501. (highlighted with cover illustration)
51. "Top Down Fabrication of Semiconductor Nanowires with Alternating Structures along Their Longitudinal and Transverse Axes", **Sun, Y.**; Graff, R. A.; Strano, M. S.; Rogers, J. A. *Small* **2005**, *1*, 1052-1057.
50. "Photolithographic Route to the Fabrication of Micro/Nanowires of III-V Semiconductors", **Sun, Y.**; Khang, D.-Y.; Hua, F.; Hurley, K.; Nuzzo, R. G.; Rogers, J. A. *Adv. Funct. Mater.* **2005**, *15*, 30-40. (highlighted with cover illustration)
49. "Polymer Imprint Lithography with Molecular Resolution", Hua, F.; **Sun, Y.**; Gaur, A.; Meitl, M. A.; Bilhaut, L.; Rotkina, L.; Wang, J.; Geil, P.; Shim, M.; Rogers, J. A.; Shim, A. *Nano Lett.* **2004**, *4*, 2467-2471.
48. "Fabricating Semiconductor Nano/Microwires and Transfer Printing Ordered Arrays of Them onto Plastic Substrates", **Sun, Y.**; Rogers, J. A. *Nano Lett.* **2004**, *4*, 1953-1959.

iii) <u>Shaped-Controlled Synthesis of Metal Nanoparticles (at UW)</u>

47. "Gold Nanocages: Synthesis, Properties, and Applications", Skrabalak, S. E.; Chen, J.; **Sun, Y.**; Lu, X.; Au, L.; Cobley, C. M.; Xia, Y. *Acc. Chem. Res.* **2008**, *41*, 1587-1595.
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45. "Polyol Synthesis of Silver Nanostructures: Control of Product Morphology with Fe(II) or Fe(III) Species", Wiley, B.; **Sun, Y.**; Xia, Y. *Langmuir* **2005**, *21*, 8077-8080.
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43. "Shape-Controlled Synthesis of Metal Nanostructures: The Case of Silver", **Sun, Y.**; Wiley, B.; Mayers, B.; Xia, Y. *Chem. Eur. J.* **2005**, *11*, 454-463. (invited concept article and highlighted with cover illustration)
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31. "Transformation of Silver Nanospheres into Nanobelts and Triangular Nanoplates through a Thermal Process", **Sun, Y.**; Mayers, B.; Xia, Y. *Nano Lett.* **2003**, *3*, 675-679.
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iv) <u>Biological and Pharmaceutical Analysis Based on Luminescent and Electrochemical Methods (at USTC)</u>

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17. "Separation of Anodic Peaks of Ascorbic Acid and Dopamine at an α-Alanine Covalently Modified Glassy Carbon Electrode", Zhang, L.; **Sun, Y.**; Lin, X. *Analyst* **2001**, *126*, 1760-1763.
16. "Determination of Chlorogenic Acid in Cigarettes by Inhibited Electrochemiluminescent Analysis", **Sun, Y.**; Li, Y.; Cui, H.; Lin, X. *Chin. J. Anal. Chem.* **2001**, *29*, 495-495.
15. "Flow Injection Analysis of Tannic Acid with Enhanced Chemiluminescent Detection", Li, S.; Cui, H.; **Sun, Y.**; Lin, X. *Chin. J. Anal. Chem.* **2001**, *29*, 333-335.
14. "Determination of Tannin in Beers by Flow-Injection Chemiluminescent Analysis", Li, S.; Cui, H., **Sun, Y.**; Lin, X. *Chin. J. Spectro. Lab.* **2000**, *17*, 680-683.
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11. "Determination of Some Catechol Derivatives by a Flow Injection Electrochemiluminescent Inhibition Method", **Sun, Y.**; Cui, H.; Li, Y.; Lin, X. *Talanta*, **2000**, *53*, 661-666.
10. "Flow Injection Analysis of Pyrogallol with Enhanced Electrochemiluminescent Detection", **Sun, Y.**; Cui, H.; Lin, X.; Li, Y.; Zhao, H. *Anal. Chim. Acta* **2000**, *423*, 247-253.
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v) <u>Mechanistic Study on Luminescence and Electrochemistry (at USTC)</u>

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5. "Mechanistic Study of the Anodic Electrochemiluminescence of Luminol at Platinum Electrode", **Sun, Y.**; Cui, H.; Lin, X. *Acta Chim. Sinica* **2000**, *58*, 567-571.
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2. "Potential-Resolved Electrochemiluminescence of Luminol in Alkaline Solutions at Glassy Carbon and Platinum Electrodes", Lin, X.; **Sun, Y.**; Cui, H. *Chin. J. Anal. Chem.* **1999**, *27*, 497-503.
1. "Inhibition of Luminol and Lucigenin Chemiluminescence by Reducing Organic Compounds", Cui, H.; Meng, R.; Jiang, H.; **Sun, Y.**; Lin, X. *Luminescence* **1999**, *14*, 175-182.

vi) Books and Book Chapters

12. *Comprehensive Nano Science and Technology, Volume 5*, Ed. by Wiederrecht, G. P.; (Associated Editors: Rogers, J. A.; **Sun, Y.**; Someyo, T.), Elsevier.
11. *Semiconductor Nanomaterials for Flexible Technologies: From Photovoltaics and Electronics to Sensors and Energy Storage*, Ed. *By* **Sun, Y.**; Rogers, J. A., Elsevier (2010).
10. *Nanocrystalline Materials as Precursors for Complex Multifunctional Structures through Chemical Transformations and Self Assembly* (MRS Proceedings, Vol. 1176E), Ed. *By* Yin, Y.; **Sun, Y.**; Talapin, D.; Yang, H., MRS (2009).
9. "Flexible Solar Cells Made of Nano/Microwires", by Yoon, J.; **Sun, Y.**; Rogers, J. A. in *Semiconductor Nanomaterials for Flexible Technologies: From Photovoltaics and Electronics to Sensors and Energy Storage* (Ed. Sun, Y. and Rogers, J. A.), Elsevier, chapter 6, pp 159-196, (2010).
8. "Nanoscale Testing of One-Dimensional Nanostructure", by Peng, B.; **Sun, Y.**; Zhu, Y.; Wang, H.-H.; Espinosa, H. D. in *Micro and Nano Mechanical Testing of Materials and Devices*, (Ed: F. Yang and James C. M. Li), Springer Science+Business Media, LLC, Ch. 11, pp. 287-311 (2008).
7. "One-Dimensional Semiconductor Nanostructures for High-Performance, Flexible Electronics and Sensors", by **Sun, Y.** in *Functional Nanomaterials: A Chemistry and Engineering Perspective*, (Ed: Chen, S. and Lin W.), The Press of the University of Science and Technology of China, Hefei, China (2008).
6. "Printable Single-Crystalline Semiconductor Materials for Flexible Electronics", by **Sun, Y.**; Ahn, J.-H.; Rogers, J. A. in *2007 McGraw-Hill Yearbook of Science and Technology*, McGraw, pp. 192-197 (2007).
5. "Nano and Mircostructured Semiconductor Materials for Macroelectronics", by **Sun, Y.**; Hur, S.-H.; Rogers, J. A. in *Springer Handbook of Nanotechnology, 2nd Edition* (Ed: Bhushan, B.), Springer, Chapter A13, pp. 375-398 (2006).
4. "Semiconductor Nanowires for Applications in Macroelectronics", by **Sun, Y.**; Rogers, J. A. in *Dekker Encyclopedia of Nanoscience and Nanotechnology* (Ed: Schwarz, J. A.; Contescu, C. I.; Putyera, K.), Marcel Dekker, published online, DOI: 10.1081/E-ENN-120041179 (2005).
3. "Metal Nanostructures Synthesized by Soft Chemical Methods and Shape Control", by **Sun, Y.**; Xia, Y. in *Dekker Encyclopedia of Nanoscience and Nanotechnology* (Ed: Schwarz, J. A.; Contescu, C. I.; Putyera, K.), Marcel Dekker, published online, DOI: 10.1081/E-ENN-120037339 (2004).
2. "Metal Nanowires Synthesized by Solution-Phase Methods", by **Sun, Y.**; Xia, Y. in *Nanowires and Nanobelts: Materials, Properties and Devices* (Ed: Wang, Z. L.), Kluwer Academic Publishers, pp. 211-234 (2003).
1. "Self-Assembly of Monodispersed Spherical Colloids into Complex Structures", by Xia, Y.; Gates, B.; Yin, Y.; **Sun, Y.,** in *Handbook of Surface and Colloid Chemistry, 2nd Ed.* (Ed: Birdi, K. S.), CRC Press, 555-579 (2003).

vii) <u>Proceedings</u>

8. "Tubes, Ribbons and Wires for Flexible Electronics", **Sun, Y.**; Rogers, J. A. *Proceedings of VLSI-TSA*, **2006**, 72-73.
7. "Materials and Patterning Techniques for Macroelectronics", **Sun, Y.**; Mack, S.; Meitl, M.; Rogers, J. A. *Electron Devices Meeting, 2005. IEDM Technical Digest. IEEE International* **2005**, 454-457.
6. "Polymer-Mediated Synthesis of Metal Nanostructures", **Sun, Y.**; Xia, Y. *Proceedings of SPIE* **2003**, *5224*, 43-52.
5. "Synthesis and Characterization of Metal Nanostructures with Hollow Interiors", **Sun, Y.**; Xia, Y. *Proceedings of SPIE* **2003**, *5221*, 164-173.
4. "Synthesis of Gold Nanoshells and Their Use in Sensing Applications", **Sun, Y.**; Xia, Y. *Materials Research Society Symposium Proceedings* **2003**, *776*, 31-36.
3. "Synthesis and Optical Properties of Silver Bicrystalline Nanowires", **Sun, Y.**; Xia, Y. *Proceedings of SPIE* **2002**, *4807*, 140-149.
2. "Nanowires by Solution-Phase Synthesis", Mayers, B. T.; Gates, B. D.; **Sun, Y.**; Yin, Y.; Lu, Y.; Xia, Y. *Proceedings of SPIE* **2002**, *4807*, 123-130.
1. "Potential-Resolved Electro Chemiluminescence of Luminol", Lin, X.; Cui, H.; **Sun, Y.** *Chem. J. Chin. Univ.* **1999**, *20(Suppl.)*, 316-316.

PRESENTATIONS AND LECTURES

79. "Interfacial Influence on Surface Plasmon Resonances in Quantum-Sized Nanoparticles", Invited Plenary Presentation, 5th International Symposium on Structure-Property Relationships in Solid State Materials, Qingdao, China, June 22-27, 2014
78. "In-Situ Study on the Growth and Transformation of Colloidal Noble Metal Nanocrystals", Poster Presentation, 2014 Gordon Research Conference on Noble Metal Nanoparticles, Mount Holyoke College, South Hadley, MA, June 15-20, 2014
77. "Real-Time Probing Growth and Transformation of Colloidal Nanocrystals by In-Situ High-Energy Synchrotron X-ray Scattering", Invited Oral Presentation, 2014 MRS Spring Meeting, San Francisco, CA, April 22, 2014
76. "Interfaced Heterodimers", Invited Oral Presentation, 2014 MRS Spring Meeting, San Francisco, CA, April 24, 2014
75. "Surface Plasmon Enhanced Photocatalysis", Invited Oral Presentation, 246th ACS National Meeting and Exposition, Indianapolis, IN, September 8-12, 2013
74. "Tetragonal Lattice Distortion in FCC Metal Nanoparticles with Fivefold Twinning", Oral Presentation, ICMAT 2013 – 7th International Conference on Materials for Advanced Technologies, Singapore, June 30-July 5, 2013
73. "Interfacial Effect on Plasmonic Quantum Nanoparticles", Invited Oral Presentation, ICMAT 2013 – 7th International Conference on Materials for Advanced Technologies, Singapore, June 30-July 5, 2013
72. "Asymmetric Nanoassemblies: From Dumbbells, Dimers, to Clusters", Invited Oral Presentation, 2013 MRS Spring Meeting, San Francisco, CA, April 1-5, 2013
71. "Tetragonal Lattice Distortion in FCC Metal Nanoparticles with Fivefold Twinning", Oral Presentation, 2013 MRS Spring Meeting, San Francisco, CA, April 1-5, 2013
70. "Li^+ Ion Conductive Single-Crystal Silicon Membranes for Potential Applications in Lithium-Air Batteries", Oral Presentation, 2013 MRS Spring Meeting, San Francisco, CA, April 1-5, 2013
69. "Morphological and Crystalline Evolution of Nanostructured MnO_2 and Their Potential Application in Lithium-Oxygen Batteries", Poster Presentation, 2013 MRS Spring Meeting, San Francisco, CA, April 1-5, 2013

68. Career Development Presentation, Video conference for the Light-Material Interactions in Energy Conversion (LMI) – EFRC (Caltech, UIUC, Berkeley), February 13, 2013.
67. "Controlled Synthesis of Colloidal Nanoparticles: High Quality Can Benefit New Discovery!", Invited Seminar Presentation, Materials Today Virtual Conference – Nanotechnology, December 11-13, 2012
66. "Tetragonal Crystalline Symmetry in Colloidal Nanoparticles with Fivefold Twinning", Invited Oral Presentation, Joint NSRC Workshop on Nanoparticle Science, Argonne National Laboratory, November 5-6, 2012
65. "Tetragonal Distortion in Silver Nanoparticles: External Pressures *versus* Internal Strains", Invited Seminar Presentation, HPSync, Geophysical Laboratory at Carnegie Institute of Washington/APS at Argonne National Laboratory, October 31, 2012
64. "Real-Time Probing of Nanophase Evolution in Solutions", Invited Plenary Presentation, International Conference and Expo on Materials Science & Engineering (Materials Science-2012, OMICS Group), October 22-24, 2012 Double Tree by Hilton Chicago-North Shore
63. "Controlled Synthesis of Colloidal Nanoparticles: High Quality Benefits Discovery?" Invited Seminar Presentation, Boston College, October 4, 2012
62. "Structure of Colloidal Metal Nanoparticles with Fivefold Twinning", Invited Presentation, Electron Microscopy Center (ANL) Triennial Review, July 18, 2012
61. "Reversing the Size-Dependence of Surface Plasmon Resonances: Surface Chemistry Matters", Oral Presentation, 2012 MRS Spring Meeting, San Francisco, CA, April, 2012
60. "Real-Time Probing of Nanophase Evolution in Solutions", Oral Presentation, 2012 MRS Spring Meeting, San Francisco, CA, April, 2012
59. "Controlled Synthesis of Colloidal Nanoparticles by Nucleation Engineering", Invited Seminar Presentation, University of Arkansas, March 12, 2012
58. "Nucleation Engineering: A Powerful Strategy for Controlled Nanoparticle Synthesis", Invited Seminar Presentation, Nanyang Technological University, Singapore, January 12, 2012
57. "Real-Time Probing of Nanophase Evolution in Solution Phase", Invited Presentation, The 2nd Molecular Materials Meeting (M3) @ Singapore – An International Conference on "Frontiers in Materials Science, Chemistry & Physics", Singapore, January 9-11, 2012
56. "Nucleation Engineering: A Powerful Strategy for Controlled Nanoparticle Synthesis", Invited Seminar Presentation, University of California-Riverside, November 7, 2011.
55. "Nucleation Engineering: A Powerful Strategy for Controlled Nanoparticle Synthesis", Invited Seminar Presentation, University of Wisconsin-Madison, October 27, 2011.
54. "Nucleation Engineering for Controlled Nanoparticle Synthesis", Invited Seminar Presentation, The Molecular Foundry, LBNL, August 9, 2011.
53. "In-Situ Monitoring of Nanophase Evolution at Liquid/Solid Interface and in Solution", Invited Presentation, APS User Science Seminars, Argonne, IL, July 22, 2011.
52. "Nucleation Engineering: A Critical Step for Controlled Synthesis of Nanoparticles", Invited Presentation, 7th Archer8 Seminar, Argonne, IL, May 20, 2011.
51. "Controlled Synthesis of Metal Nanoparticles and Their Properties", Invited Presentation, 2011 APS/CNM/EMC User Meeting, Argonne, IL, May 2-4, 2011.
50. "Controlled Synthesis of Plasmonic Nanoparticles in Hydrophobic Organic Solvents and Their Optical Properties", Invited Presentation, International Conference on Materials for Advanced Technologies (ICMAT 2011), Suntec, Singapore, June 29-July 1, 2011.

49. "Nanomaterials Engineering for Energy Applications: A Case of Flexible Hydrogen Sensors", Invited Presentation, China International Nanotech Industry Development Forum (CHINANO Forum 2010), Suzhou, China, November 13-15, 2010.
48. "Shaped Nanostructures: A Case of Silver" Invited presentation, The First Fast Reactor Science and Technology Workshop, Argonne, IL, September 23-24, 2010.
47. "Metal Nanoplates on Semiconductor Substrates", Poster presentation at the Center for Nanoscale Materials User Meeting, Argonne National Laboratory, October 5-7, 2009.
46. "Metal Nanoplates on Semiconductor Substrates", Invited seminar presentation, Suzhou Institute of Nano-tech and Nano-bionics, Suzhou, China, November 5, 2009.
45. "Metal Nanoplates on Semiconductor Substrates", Invited presentation, US-China Workshop for Early Career Chemical Scientists - New Materials, Peking University, Beijing, China, October 27-30, 2009.
44. "Anisotropic Metal Nanostructures on Semiconductor Wafers", Invited seminar presentation, College of Chemistry, Nankai University, Tianjin, China, October 26, 2009.
43. ""Flexible Electronics and Sensors Made of Nanowires and Nanotubes", Invited seminar presentation, School of Materials Science and Engineering, Shandong University, Jinan, China, July 9, 2009.
42. "Anisotropic Metal Nanostructures Grown on Semiconductor Substrates", Invited presentation at the 4th Sino-US Nano Meeting, Hefei, China, July 2, 2009.
41. "Nanowires and Nanotubes for High-Performance, Flexible Electronics and Sensors", Invited seminar presentation, Suzhu Institute of Nano-tech and Nano-bionics, Suzhu, China, June 30, 2009.
40. "Ag Nanoplates on GaAs Substrates: A Unique Class of Composite Surfaces for Understanding the Correlation between Surface Roughness and Hydrophobicity", 2009 MRS Spring Meeting, San Francisco, CA, April, 2009.
39. "Direct Deposition of Anisotropic Metal Nanostructures on Semiconductor Substrates", 237th ACS National Meeting, Salt Lake City, UT, March, 2009.
38. "'Green' Deposition of Anisotropic Metal Nanostructures on Semiconductor Substrates", invited seminar presentation, School of Chemistry and Chemical Engineering, Shandong University, Jinan, China, October 28, 2008.
37. "'Green' Deposition of Anisotropic Metal Nanostructures on Semiconductor Substrates", invited seminar presentation, National Center for Nanoscience and Technology, Beijing, China, October 17, 2008.
36. "'Green' Deposition of Anisotropic Metal Nanostructures on Semiconductor Substrates", invited seminar presentation, Department of Chemistry, Tsinghua University, Beijing, China, October 16, 2008.
35. "Metal Nanostructures with Controlled Shapes, Properties and Applications", invited Nano seminar presentation, South Dakota School of Mine and Technology, Rapid City, SD, April 24, 2008.
34. "Direct Growth of Metal Nanoplates on Semiconductor Substrates", oral presentation at the 2008 MRS Spring Meeting, San Francisco, CA, March 25, 2008.
33. "High-Performance, Flexible Hydrogen Sensors Made from Single-Walled Carbon Nanotubes", invited oral presentation at the 2008 MRS Spring Meeting, San Francisco, CA, March 27, 2008.
32. "High-Performance, Flexible Hydrogen Sensors Made of Carbon Nanotubes", invited oral presentation at InterTech Pira conference "Capitalizing on Nanoplastics", San Antonio, TX, February 2008.

31. “Single-Walled Carbon Nanotubes Decorated with Pd Nanoparticles for High-Performance, Flexible Hydrogen Sensors”, invited oral presentation at the 34th FACSS meeting, Memphis, TN, October, 2007.
30. “Palladium Nanoclusters on Carbon Nanotubes for Flexible Hydrogen Sensors”, poster presentation at the American Chemical Society National Meeting, Chicago, IL, March, 2007.
29. “Nanostructures with Controlled Shapes, Properties and Applications”, Invited seminar presentation, 3M Corporation, May 22, 2006.
28. “Nanostructures with Controlled Shapes, Properties and Applications”, Invited seminar presentation, Department of Materials Science and Engineering, New Mexico Institute of Mining and Technology, May 4, 2006.
27. “Tubes, Ribbons and Wires for Flexible Electronics”, invited oral presentation at the 2006 International Symposium of VLSI-TSA, Hsinchu, Taiwan, April, 2006.
26. “Nanostructures with Controlled Shapes, Properties and Applications”, Invited seminar presentation, School of Materials Science and Engineering, Georgia Institute of Technology, April 4, 2006.
25. “Nanostructures with Controlled Shapes, Properties and Applications”, Invited seminar presentation, Department of Chemical Engineering, University of Wisconsin at Madison, March 22, 2006.
24. “Nanostructures with Controlled Shapes, Properties and Applications”, Invited seminar presentation, Center for Nanoscale Materials, Argonne National Laboratory, February 20, 2006.
23. “Nanostructures with Controlled Shapes, Properties and Applications”, Invited seminar presentation, Department of Materials Science and Engineering, University of Delaware, February 9, 2006.
22. “High-Speed GaAs Transistors and Circuits on Plastics”, poster presentation at the 2005 Materials Research Society (MRS) Fall Meeting, Boston, MA, 2005.
21. “Nanostructures with Controlled Shapes and Properties”, Invited seminar presentation, Department of Materials Science and Engineering, Rutgers University, March 14, 2005.
20. “Nanostructures with Controlled Shapes and Properties”, Invited seminar presentation, Department of Chemistry and Nano Center, University of Central Florida, February 22, 2005.
19. “Nanostructures with Controlled Shapes and Properties”, Invited seminar presentation, Department of Chemistry, Louisiana State University, February 16, 2005.
18. “Nanostructures with Controlled Shapes and Properties”, Invited seminar presentation, Department of Chemistry, Bowling Green State University, February 3, 2005.
17. “Nanostructures with Controlled Shapes and Properties”, Invited seminar presentation, Department of Chemistry, University of Nebraska at Lincoln, January 27, 2005.
16. “Nanostructures with Controlled Shapes and Properties”, Invited seminar presentation, Department of Chemistry, University of Tennessee at Knoxville, January 24, 2005.
15. “Nanostructures with Controlled Shapes and Properties”, Invited seminar presentation, Department of Chemistry, Florida State University, January 18, 2005.
14. “Nanostructures with Controlled Shapes and Properties”, Invited seminar presentation, Department of Chemistry, University of Rochester, January 10, 2005.
13. “Nanostructures with Controlled Shapes and Properties”, Invited seminar presentation, Department of Chemistry and Biochemistry, University of California-Los Angeles, December 17, 2004.
12. “Nanostructures with Controlled Shapes and Properties”, Invited seminar presentation, Department of Chemistry, Kansas State University, December 9, 2004.

11. "Nanostructures with Controlled Shapes and Properties", Invited seminar presentation, Department of Chemistry, Ohio State University, December 1, 2004.
10. "Shape-Controlled Fabrication of Nanostructures", Invited seminar presentation, Department of Chemistry, Lehigh University, November 18, 2004.
9. "Fabricating and Transfer Printing Ordered Arrays of Semiconductor Nano/Microstructures", invited oral presentation at the NSF-ASME Workshop on "Product-Realization Based on Nanoscale Particles, Tubes, Fibers, Rods & Ribbons (PTFRR)", University of Maryland, College Park, MD, 2004.
8. "Synthesis and Characterization of Gold Hollow Nanostructures", invited oral presentation at the 48th SPIE annul meeting, San Diego, CA, 2003.
7. "Polymer-Mediated Synthesis of Metal Nanostructures", oral presentation at the 48th SPIE annul meeting, San Diego, CA, 2003.
6. "Synthesis of Gold Nanoshells and Their Use in Sensing Application", oral presentation at the 2003 Materials Research Society (MRS) Spring Meeting, San Francisco, CA, 2003.
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