



Qun Huo, Ph.D.

Associate Professor

NanoScience Technology Center and Department of Chemistry
University of Central Florida
12424 Research Parkway Suite 400, Orlando, FL 32826
Tel: 407-882-2845 Fax: 407-882-2819
Email: Qun.Huo@ucf.edu



EDUCATION

1999	Ph.D.	Chemistry	University of Miami, Coral Gables, Florida
1994	M.Sc.	Chemistry	Sun Yat-sen University, P.R. China
1991	B.Sc.	Polymer Science	University of Science and Technology of China, P.R. China

PROFESSIONAL EMPLOYMENT

2005-present	Associate Professor	University of Central Florida, Orlando, Florida
	<i>Joint appointments in:</i> NanoScience Technology Center, Department of Chemistry, Burnett School of Biomedical Sciences (School of Medicine), and Department of Mechanics, Materials and Aerospace Engineering (College of Engineering)	
2009-present	President	Nano Discovery Inc. Orlando, Florida
2001-2005	Assistant Professor	North Dakota State University, Fargo, North Dakota
1999-2001	Postdoctoral Associate	University of Miami, Coral Gables, Florida

HONORS AND AWARDS

2008-present	National Institute of Health (NIH) panel review member (IMAT program in NCI)
2010	Florida State University System, Scholar Boost Award
2010-present	Associate Editor, Reviews in Nanoscience and Nanotechnology (RNN)
2008	Natural Science Foundation of China Oversea Young Investigator award
2006-present	Associate Editor, <i>Colloids and Surfaces B: Biointerfaces</i> (Elsevier)
2006	US-Japan Young Researcher Exchange Program for Nanotechnology and Nanomanufacturing delegation team (NSF and Japanese Ministry of Education, Culture, Sports, Science, and Technology (<u>total 14 members from USA, selected by NSF program officers</u>))
2005	National Science Foundation NIRT award (PI)
2003	National Science Foundation CAREER award (PI)

RESEARCH FUNDING

University of Central Florida

(1) UCF College of Science Seed Grant (PI)
Clinical validation study of a new molecular test for aggressive prostate cancer screening
2014-2016 \$45,000

(2) State of Florida, New Florida 2010, Scholar Boost Award (PI)
Nanobiotechnology for biomolecular research and cancer detection
2011-2013 \$225,000

(3) Florida High Technology Corridor (FHTC) matching fund (PI)

Development of a New Bioanalytical Instrument for Biomolecular Research and Diagnosis
2010-2011 \$10,000

(4) Florida Department of Health, Technology Transfer/Commercialization Partnership grant 09BC-02
(co-PI, subcontract from Nano Discovery Inc.)

Development of a New Bioanalytical Instrument for Biomolecular Research and Diagnosis
2010-2011 \$100,000

(5) Florida Department of Health, Bankhead-Coley Foundation 09BB-09 (PI)
Development of a Homogeneous Immunoassay for Cancer Biomarker Detection
2009-2011 \$175,000

(6) National Science Foundation CAREER award (PI) DMR 0239424 and 0552295
CAREER: Gold nanoparticles with single surface functional groups: Synthesis and Study
2003-2008 \$499,908

(7) National Science Foundation NIRT award (PI) DMI 0506531
NIRT: Total chemical synthesis, property and modeling studies of nanoparticle/polymer hybrid materials
2005-2009 \$1,199,479

(8) National Science Foundation NER award (co-PI) BES 0608870
NER: Nanoscale optical and electronic process in active nanostructures and devices
2006-2007 \$129,977

(9) National Science Foundation CAREER award supplementary fund for REU student
2006-2006 \$7500

(10) National Science Foundation NIRT award supplementary fund for REU student
2006-2007 \$6000

(11) UCF Presidential Initiative Funding (co-PI) Matching Equipment Grant
Purchase of a gel permeation chromatography system
2005-2006 \$101,196

(12) UCF Presidential Matching Fund (co-PI)
Acquisition of transmission electron microscope for polymeric and biological studies
2007-2007 \$246,820

(13) UCF in-house grant (co-PI)
Nanoscale processes in energy conversion materials and devices
2006-2007 \$7500

Other Organization:

(14) State of Florida, New Florida 2010, SURCAG Program (awarded to Nano Discovery Inc.)
Bioanalytical platform for cancer diagnosis
2010-2011 \$75,000

(15) Natural Science Foundation of China, Oversea Young Investigator Award (PI)

The Applications of Nanoparticles and Assemblies in Bioanalytical Chemistry
2008-2010 RMB200,000 (awarded to Nanjing University, China)

(16) World Gold Council, grant awarded to Nano Discovery LLC (PI: Qun Huo, also the co-Founder and President of Nano Discovery Inc.)

Application development of gold nanoparticles for cancer biomarker detection
2009-2010 \$98,000

North Dakota State University

(17) Air Force Office of Scientific Research (co-PI) F49620-04-01-0368 PI: Gordon Bierwagen
Corrosion Protection of Al Alloys for Aircraft by Coatings with Advanced Properties and Enhanced Performance

2002-2005 \$320,000

(18) USDA CSREES Special Research Grant (co-PI) PI: Lisa Nolan

Intelligent quality food sensor for food safety

2002-2004 \$336,730

(19) USDA CSREES Special Research Grant (co-PI) PI: Suranjan Panigrahi

Intelligent quality food sensor for food safety

2003-2005 \$334,339

(20) DARPA/DMEA Spintronics Program (co-investigator in subcontract from UCSB) DMEA-90-02-C-0224

Synthesis and characterization of ferromagnetic materials with spintronics applications

2002-2005 ~\$200,000

(21) North Dakota EPSCoR Doctoral Dissertation Assistantship (PI)

Doctoral Dissertation Assistantship for James G. Worden

2004-2005 \$33,513

(22) North Dakota EPSCoR Equipment Grant (PI)

Purchasing of a Langmuir trough and fluorescence spectrometer system

2002-2003 \$70,000

(23) North Dakota State University Research Foundation Grants-in-Aid (co-PI) PI: Wenfang Sun

Nonlinear optical studies of metallo-organic nanocomposite materials

2003-2004 \$5000

(24) North Dakota State University Research Foundation (PI)

Supramolecular self-assembly of nanoparticles through complementary hydrogen bonding approach

2002-2003 \$10,000

PATENT AND PATENT APPLICATIONS

(1) *US 7,951,850 B2* "Polymer composites having highly dispersed carbon nanotubes and methods for forming same", issued on May 31, 2011

- (2) *US 7,973,094 B2* “Laser irradiation of metal nanoparticle/polymer composite materials for chemical and physical transformations”, issued on July 5, 2011
- (3) *US 8,026,108 B1* “Detection of biotargets using bioreceptor functionalized nanoparticles”, issued on September 27, 2011
- (4) *US 8,211,969* “Dispersions of carbon nanotubes in copolymer solutions and functional composite materials and coatings therefrom”, issued on July 3, 2012
- (5) *US 8,266,878* “Laser processing of metal nanoparticle/polymer composites”, issued on July 24, 2012.
- (6) *US 8,709,292* “Polymer composites having highly dispersed carbon nanotubes”, issued on April 29, 2014.
- (7) *PCT/US09/030087* “Detection of analytes using metal nanoparticle probe and dynamic light scattering”, Permission granted in P.R. China on October 9th, 2013

INVITED REVIEWS AND BOOK CHAPTERS

- (1) Zou, J.; Zhai, L.; Huo, Q.; Liu, J.; Tran, B. Surface Modification of Nanotube Fillers. Chapter 4: Modification of nanotubes with conjugated block copolymers, Ed. Mittal, V.; Wiley VCH, 2011.
- (2) Qiu Dai, Jianhua Zou, Xiong Liu, Qun Huo. Controlled Chemical Functionalization of Gold Nanoparticles: Synthesis and Applications, in *Nanoscale Functional Materials: A Chemistry and Engineering Perspective*, University of Science and Technology of China (USTC) press and World Scientific Publishers (WSP), 2009.
- (3) Zou, J.; Dai, Q.; Guda, R.; Liu, X.; Worden, J.G.; Goodson, T. III, Huo Q. Controlled chemical functionalization of gold nanoparticles. Book Chapter in *ACS symposium series*. 2008.
- (4) Huo, Q. A perspective on bioconjugated nanoparticles and quantum dots. *Colloids Surf. B – Biointerfaces*, 2007, 59, 1-10.
- (5) Huo, Q., Worden, J.G. Monofunctional gold nanoparticles: synthesis and applications. *J. Nanoparticle Res.* 2007, 9, 1013-1025.
- (6) Leblanc, R.M.; Huo, Q. Book Review for “Charge Transfer Complexes in Biological Systems”. *J. Am. Chem. Soc.* 1998, 120, 4053.
- (7) Huo, Q.; Leblanc, R.M. Chapter entitled “Langmuir and Langmuir-Blodgett films of proteins and enzymes” for book “*Encyclopedia of Surface and Colloids Science*”, Marcel Dekker, 2002.
- (8) Huo, Q.; Leblanc, R.M. Chapter entitled “Combinatorial surface chemistry – a novel future of Langmuir and Langmuir-Blodgett Films” for book “*Proceedings of 13th International Symposium for Surfactants in Solution*”, Marcel Dekker, published in 2002.

THESIS UNDER MY SUPERVISION

2014-present Tianyu Zheng (Ph.D.)

Gold nanoparticle-enabled blood test for cancer detection and risk assessment

- 2011-present Nickisha Pierre-Pierre (M.Sc.)
Biomolecular detection and assays using gold nanoparticles and nanorods
- 2010 Hilde Jans (Visiting Student, Ph.D.), Catholic University Leuven, Belgium
Synthesis and characterization of hybrid nanoparticles for immuno-assays. Catholic University of Leuven, Belgium.
- 2009 Xiong Liu (Ph.D.)
Gold Nanoparticles: Synthesis, Property Study and Applications for Biomolecular Detection and Photothermal Therapy
- 2008 Qiu Dai (Ph.D.)
Surface Engineering of Gold Nanoparticles and Their Applications
- 2008 Hui Chen (Ph.D.)
Development and Application Study of Nanoscale Thin Films and Polymer Nanocomposite Materials
- 2007 Harish Muthuraman (M.S.)
Processing and study of polymer nanocomposite and solid state polymer electrolytes
- 2005 James G. Worden (Ph.D.)
Development of a solid-phase synthesis methodology for the preparation of monofunctionalized gold nanoparticles
- 2004 Andrew W. Shaffer (M.S.)
Controlled chemical functionalization of gold nanoparticle materials
- 2003 Rajesh Raja Puthenkivilakom (M.S.)
Supramolecular hydrogen bonding controlled synthesis of poly(methyl methacrylate) latexes and preparation of porphyrin thin films

Postdoctoral Associates

Dr. Xinzhong Yan (2002-2002)
Dr. Jianhua Zou (2005-2008)

Dr. Jinhai Wang (2005-2007)
Dr. Jelena Bogdanovic (2009-2010)

PUBLICATION LIST (TOTAL 77) H-INDEX ~30 TOTAL CITATION 3282

1. Zheng, T.; Pierre-Pierre, N.; Yan, X.; Huo, Q.; Almodovar, A.J.O.; Valerio, F.; Rivera-Ramirez, I.; Griffith, E.; Decker, D.A.; Chen, S.; Zhu, N. Gold nanoparticle-enabled blood test for early stage cancer detection and risk assessment. ACS Appl. Mater. Interfaces 2015, 7, online. Featured by Nanowerk: <http://www.nanowerk.com/spotlight/spotid=39527.php>
2. Zhang, S.; Moustafa, Y.; Huo, Q. Different interaction modes of biomolecules with citrate-capped gold nanoparticles. ACS Appl. Mater. Interfaces 2014, 6, 21184-21192. (featured on the cover)

3. Davila, M.; Robles-Carrilo, L.; Unruh, D.; Huo, Q.; Gardiner, C.; Sargent, I.L.; Adam, M.; Woodhams, B.J.; Francis, J.L.; Bogdanov, V.Y.; Amirkhosravi, A. Microparticle association and heterogeneity of tumor-derived tissue factor in plasma: is it important for coagulation activation? *J. Thrombosis Haemostasis* 2014, 12, 186-196.
4. Zhang, S.; Garcia-D'Angeli, A.; Brennan, J.P.; Huo, Q. Determining detection limits of enzyme-linked immunosorbent assay (ELISA) and bioanalytical techniques in general. *Analyst* 2014, 139, 439-445.
5. Xu, J.; Wang, C.; Wang, J.; Huo, Q.; Crawford, N.F.; Veliz, E.A.; Leblanc, R.M. Smooth surface roughness of silanized CdSe(ZnS) quantum dots. *J. Colloid Interface Sci.* 2013, 393, 21-28.
6. Liu, H.; Pierre-Pierre, N.; Huo, Q. Dynamic light scattering for gold nanorod size characterization and nanorod-protein interaction study. 2012, *Gold Bulletin* 2012, 45, 187-195.
7. Huo, Q.; Litherland, S.A.; Sullivan, S.; Hallquist, H.; Decker, D.A.; Rivera-Ramirez, I. Developing a nanoparticle test for prostate cancer scoring. *J. Translational Medicine*, 2012, 10:44 (open access). (*reported by: Assay Could Identify Indolent Prostate Cancers Cancer Discovery June 2012 2:OF2; Published Online First May 10, 2012*)
8. Jans, H.; Huo, Q. Gold nanoparticle-enabled biological and chemical detection and analysis. *Chem. Soc. Rev.* 2012, 41, 2849-2866.
9. Huo, Q.; Cordero, A.; Bogdanovic, J.; Colon, J.; Baker, C.H.; Goodison, S.; Pensky, M. A facile nanoparticle immunoassay for cancer biomarker discovery. *J. Nanobiotechnology*, 2011, 9:20 (Open Access).
10. Jaganathan, S.; Yue, P.; Paladino, D.C.; Bogdanovic, J.; Huo, Q.; Turkson, J. A functional nuclear epidermal growth factor receptor, Src and Stat3 heteromeric complex in pancreatic cancer cells. *PLoS One*, 2011, 6(5):e19605 (Open Access).
11. Chen, H.; Chunder, A.; Liu, X.; Haque, F.; Zou, J.; Austin, L.; Knowles, G.; Zhai, L.; Huo, Q. A multifunctional gold nanoparticle/polyelectrolyte fibrous nanocomposite prepared from electrospinning process. *Materials Express* 2011, 1, 154-159.
12. Li, S.; Li, J.; Wang, K.; Wang, C.; Xu, J.; Chen, H.; Xia, X.; Huo, Q. A nanochannel array-based electrochemical device for quantitative label-free DNA analysis. *ACS Nano* 2010, 4, 6417-6424.
13. Jans, H.; Jans, K.; Lagae, L.; Borghs, G.; Maes, G.; Huo, Q. Poly(acrylic acid)-stabilized colloidal gold nanoparticles: synthesis and properties. *Nanotechnology* 2010, 21, 455702-455708.
14. Bogdanovic, J.; Colon, J.; Baker, C.; Huo, Q. A label-free nanoparticle aggregation assay for protein complex/aggregate detection and analysis. *Anal. Biochem.* 2010, 405, 96-102.
15. Huo, Q. Protein complexes/aggregates as potential cancer biomarker revealed by a nanoparticle aggregation immunoassay. *Colloids Surf. B.* 2010, 78, 259-265.

16. Bogdanovic, J.; Huo, Q. NanoDLSay: a new platform technology for biomolecular detection and analysis using gold nanoparticle probes coupled with dynamic light scattering. *SPIE Proceedings*, (2010), 7674 (Smart Biomedical and Physiological Sensor Technology), 767408/1-767408/9.
17. Austin, L.; Liu, X.; Huo, Q. An immunoassay for monoclonal antibody isotyping and quality analysis using gold nanoparticles and dynamic light scattering. 2010, *American Biotechnology Laboratory*, 2010, 22, No. 3, 8-12.
18. Jans, H.; Liu, X.; Austin, L.; Maes, G.; Huo, Q. Dynamic light scattering as a powerful tool for gold nanoparticle bioconjugation and biomolecular binding study. *Anal. Chem.* 2009, 81, 9425-9432.
19. Liu, X.; Huo, Q. A washing-free and amplification-free one-step homogeneous assay for protein detection using gold nanoparticle probes and dynamic light scattering. *J. Immunol. Method* 2009, 349, 38-44
20. Brennan, J.P.; Li, A.; Huo, Q. Advancing lattice path models for nanoparticle percolation of conductivity in a non-conductive matrix. *J. Comput. Theor. Nanosci.* 2009, 6, 519-524.
21. Stokes, P.; Liu, L.; Zou, J.; Zhai, L.; Huo, Q.; Khondaker, S. Photoresponse in large area multiwalled carbon nanotube/polymer composite films. *Appl. Phys. Lett.* 2009, 94, 042110/1-042110/3.
22. Zou, J.; Khondaker, S.; Huo, Q.; Zhai, L. A General Strategy to Disperse and Functionalize Carbon Nanotubes Using Conjugated Block Copolymers. *Adv. Func. Mater.* 2009, 19, 479-483.
23. Zou, J.; Tran, B.; Huo, Q.; Zhai, L. Transparent carbon nanotube/poly(3,4-ethylenedioxythiophene) composite electrical conductors. *Soft Materials* 2009, 7, 355-365.
24. Ding, Y.; Gu, G.; Xia, X.; Huo, Q. Cysteine-grafted chitosan mediated gold nanoparticle assembly: from nanochains to microcubes. *J. Mater. Chem.* 2009, 19, 795-799.
25. Liu, X.; Lloyd, M.; Fedorenko, I.V.; Bapat, P.; Zhukov, T.; Huo, Q. Accelerated photothermal lysis of A549 human lung cancer cells by gold nanospheres under laser irradiation. *Nanomedicine*, 2008, 3, 617-626.
26. Dai, Q.; Coutts, J.; Zou, J.; Huo, Q. Surface modification of gold nanorods through a place exchange reaction inside an anionic exchange resin. *Chem. Comm.* 2008, 2858-2860.
27. Liu, X.; Dai, Q.; Austin, L.; Coutts, J.; Knowles, G.; Zou, J.; Chen, H.; Huo, Q. A One-step homogeneous immunoassay for cancer biomarker detection using gold nanoparticle probes coupled with dynamic light scattering. *J. Am. Chem. Soc.* 2008, 130, 2780-2782. (Also featured in the *JACS Beta-Select #5*, 2009).
28. Dai, Q.; Liu, X.; Coutts, J.; Austin, L.; Huo, Q. A one-step highly sensitive method for DNA detection using dynamic light scattering. *J. Am. Chem. Soc.* 2008, 130, 8138-8139.

29. Zou, J.; Chen, H.; Chunder, A.; Yu, Y.; Huo, Q.; Zhai, L. A simple preparation of superhydrophobic and conductive nanocomposite coating from a carbon nanotube-conjugated block copolymer dispersion. *Adv. Mater.* 2008, 3337-3341.
30. Sui, G.; Jana, S.; Salehi-khokin, A.; Neema, S.; Zhong, W.H.; Chen, H.; Huo, Q. Thermal and mechanical properties of epoxy composites reinforced by a natural hydrophobic sand. *J. Appl. Poly. Sci.* 2008, 109, 247-255.
31. Triulzi, R.C.; Obulescu, J.; Leblanc, R.M.; Dai, Q.; Zou, J.; Huo, Q.; Gu, A. Gold nanoparticles for photothermal ablation of amyloid aggregates. *Colloid Surfaces B*, 2008, 63, 200-208.
32. Zou, J.; Liu, L.; Chen, H.; Khondaker, S.; McCullough, R.D.; Huo, Q.; Zhai, L. Dispersion of pristine carbon nanotubes using conjugated block copolymers. *Adv. Mater.* 2008, 20, 2055-2060.
33. Chen, H.; Muthuraman, H.; Stokes, P.; Zou, J.; Liu, X.; Wang, J.; Khondaker, S.; Huo, Q., Zhai, L. Dispersion of carbon nanotubes and polymer nanocomposite fabrication using trifluoroacetic acid as a co-solvent. *Nanotechnology*, 2007, 18, 415606/1-415606/9.
34. Jana, S.; Salehi-Khojin, A.; Zhong, W.H.; Chen, H.; Liu, X.; Huo, Q. Effect of gold nanoparticles and lithium hexafluorophosphate on the electrical conductivity of PMMA. *Solid State Ionics*, 2007, 178, 1180-1186.
35. Liu, X.; Wang, J.; Atwater, M.; Wang, J.; Dai, Q.; Zou, J.; Brennan, J.P.; Huo, Q. A Study on gold nanoparticle synthesis using oleylamine as both reducing agent and protecting ligand. *J. Nanosci. Nanotech.* 2007, 7, 3126-3133.
36. Chen, H.; Wang, J.; Rahman, Z.; Worden, J. G.; Liu, X.; Dai, Q.; Huo, Q. Beach sand from Cancun Mexico: a natural micro and mesoporous material. *J. Mater. Sci.* 2007, 42, 6018-6026.
37. Huo, Q., Worden, J.G. Monofunctional gold nanoparticles: synthesis and applications. *J. Nanoparticle Res.* 2007, 9, 1013-1025.
38. Zou, J.; Dai, Q.; Wang, J.; Liu, X.; Huo, Q. Solid phase modification towards monofunctional gold nanoparticles using ionic exchange resin as polymer support. *J. Nanosci. Nanotech.* 2007, 7, 2382-2388.
39. Sui, G.; Jana, S.; Salehi-khojin, A.; Neema S.; Zhong, W.H.; Chen, H.; Huo, Q. Preparation and properties of natural sand particles reinforced epoxy composites. *Macromol. Mater. Eng.* 2007, 292, 467-473.
40. Chen, H.; Wang, J.; Huo, Q. Self-assembled monolayer of 3-aminopropylsilane for adhesion improvement between Al 2024-T3 substrate and polyurethane coating. *Thin Solid Films*, 2007, 515, 7181-7189.
41. Liu, X.; Atwater, M.; Wang, J.; Huo, Q. Extinction coefficient of gold nanoparticles with different sizes and capping ligands. *Colloids Surf. B – Biointerface Sci.* 2007, 58, 3-7 (listed as number 52 among the Top 100 Nanomedicine Publications in year 2006 by Ion Channel Media Group: <http://www.nano-biology.net/showabstract.php?pmid=16997536&source=newsletter>).

42. Ramakrishna, G.; Dai, Q.; Zou, J.; Huo, Q.; Goodson, T. Interparticle electromagnetic coupling in assembled gold nanonecklace nanoparticles. *J. Am. Chem. Soc.* 2007, 129, 1848-1849.
43. Brennan, J.P.; Liu, X.; Huo, Q. Stochastic differential equation models of nanoparticle growth in Brust-Schiffrin reaction. *J. Comput. Theor. Nanosci.* 2007, 4, 127-132.
44. Chen, H.; Liu, X.; Muthuraman, H.; Zou, J.; Dai, Q.; Wang, J.; Huo, Q. Direct laser writing of microtunnels and reservoirs on nanocomposite films. *Adv. Mater.* 2006, 18, 2876-2879 (featured in "Advances in Advance", also featured news in www.nanoparticles.org).
45. Liu, X.; Worden, J.G.; Dai, Q.; Zou, J.; Wang, J.; Huo, Q. Monofunctional gold nanoparticles prepared via a noncovalent-interaction-based solid-phase modification approach. *Small* 2006, 2, 1126-1129.
46. Worden, J.G.; Dai, Q.; Huo, Q. Nanoparticles-dendrimer conjugate prepared from a one-step chemical coupling of monofunctional nanoparticles with a dendrimer. *Chem. Comm.* 2006, 1536-1538.
47. Brennan, J.P.; Liu, X.; Dai, Q.; Worden, J.G.; Huo, Q. Stochastic model analysis of nanoparticle size polydispersity. *J. Comput. Theor. Nanosci.* 2006, 3, 417-422.
48. Liu, X.; Worden, J.G.; Huo, Q.; Brennan, J.P. Kinetic study of gold nanoparticle growth in solution by Brust-Schiffrin reaction. *J. Nanosci. Nanotech.* 2006, 6, 1054-1059.
49. Xu, J.; Li, C.; Wang, C.; Wang, J.; Huo, Q.; Leblanc, R.M. Polymerization of a cysteinyl peptidolipid Langmuir film. *Langmuir* 2006, 22, 181-186.
50. Sun, W.; Dai, Q.; Worden, J.G.; Huo, Q. Optical limiting of a covalently bonded nanoparticle/polymer hybrid material. *J. Phys. Chem. B.* 2005, 109, 20854-20857.
51. Dai, Q.; Worden, J.; Trullinger, J.; Huo, Q. A nanonecklace synthesized from monofunctionalized gold nanoparticles. *J. Am. Chem. Soc.* 2005, 127, 8008-8009.
52. Ni, Y.; Huo, Q. Langmuir and Langmuir-Blodgett film preparation and study of a metalloporphyrin dimer molecule. *J. Porphyrin. Phthalocyanine* 2005, 9, 275-284
53. Wang, D.; Ni, Y.; Huo, Q.; Tallman, D.E. Self-assembled monolayer and multilayer thin films on aluminum 2024-T3 substrates and their corrosion resistance study. *Thin Solid Films* 2005, 471, 177-185.
54. Huo, Q. Preface: Biointerfaces and Nanotechnology. A Special Issue of *Colloids and Surfaces B: Biointerfaces.* 2004, 39, 103-104.
55. Worden, J.G.; Dai, Q.; Shaffer, A.; Huo, Q. Monofunctional group-modified gold nanoparticles from solid phase synthesis approach: solid support and experimental condition effect. *Chem. Mater.* 2004, 16, 3746-3755. (21)

56. Shaffer, A.; Worden, J.G.; Huo, Q. Comparison Study of Solution Phase *versus* Solid Phase Phase Exchange Reaction in Controlled Functionalization of Gold Nanoparticles. *Langmuir* 2004, 20, 8343-8351. (21)
57. Worden, J.G.; Shaffer, A.W.; Huo, Q. Controlled Functionalization of Gold Nanoparticles through a Solid Phase Synthesis Approach. *Chem. Comm.* 2004, 518-519. (Listed as top ten most accessed article)
58. Ni, Y.; Puthenkovilakom, R.R.; Huo, Q. Synthesis and supramolecular self-assembly study of a novel porphyrin compound in Langmuir and Langmuir-Blodgett film. *Langmuir* 2004, 20, 2765-2771. (19)
59. Cao, X; Sui, G.; Huo, Q.; Leblanc, RM. Langmuir and Langmuir-Blodgett film of a novel tryptophan peptide lipid. *Chem. Comm.* 2002, 806-807. (2)
60. Hasegawa, T.; Nishijo, J.; Watanabe, M.; Umemura, J.; Ma, Y.; Sui, G.; Huo, Q.; Leblanc, RM. Characteristics of long-chain fatty acids monolayers studied by infrared spectroscopy. *Langmuir* 2002, 18, 4758-4764.
61. Sui, G.; Kele, P.; Obulescu, J.; Huo, Q.; Leblanc, RM. Synthesis of a coumarin-based novel fluorescent amino acid. *Lett. Peptide. Sci.* 2002, 8, 47-51.
62. Zheng, Y.; Huo, Q.; Kele, P.; Andreopoulos FM.; Pham, SM; Leblanc, RM. A new fluorescent chemosensor for copper ions based on tripeptide glycyl-histidyl-lysine (GHK). *Org. Lett.* 2001, 3, 3277-3280.
63. Huo, Q.; Sui, G.; Zheng, Y.; Hasegawa, T.; Nishijo, J.; Umemura, J.; Leblanc, RM. Metal complexation with Langmuir monolayers of histidyl peptide lipids. *Chem. Eu. J.* 2001, 7, 4796-4804.
64. Hasegawa, T.; Nishijo, J.; Imae, T.; Huo, Q.; Leblanc, R.M. Selective observation of boundary water near a solid/water interface by variable-angle polarization specific attenuated total reflection infrared spectroscopy and principal-component analysis. *J. Phys. Chem. B.* 2001, 105, 12056-12060.
65. Orbulescu, J.; Mello, S.V.; Huo, Q.; Sui, G.; Kele, P.; Leblanc, R.M. Reexamination of the monolayer properties of a fluorescein amphiphile in Langmuir and Langmuir-Schaefer films. *Langmuir* 2001, 17, 1525-1528.
66. Kele, P.; Sui, G.; Huo, Q.; Leblanc, R.M. Highly enantioselective synthesis of a fluorescent amino acid. *Tetrahedron: Asymmetry* 2001, 11, 4959-4963.
67. Zheng, Y.; Andreopolous, F.; Micic, M.; Pham, S.M.; Huo, Q.; Leblanc, R.M. A novel photoscissable PEG-based hydrogel. *Adv. Func. Mater.* 2001, 11, 37-40.
68. Huo, Q.; Stoyan, R.; Hasegawa, T.; Nishijo, J.; Umemura, J.; Puccetti, G.; Russell, K.C.; Leblanc, R.M. A Langmuir Monolayer with a Nontraditional Molecular Architecture. *J. Am. Chem. Soc.* 2000, 122, 7890-7897.

69. Huo, Q.; Sui, G.D.; Kele, P.; Leblanc, R.M. Combinatorial surface chemistry-is it possible? *Angew. Chem. Int. Ed.* 2000, 39, 1854-1857.
70. Sui, G.D.; Micic, M.; Huo, Q.; Leblanc, R.M. Synthesis and surface chemistry study of a new amphiphilic PAMAM dendrimer. *Langmuir* 2000, 16, 7847.
71. Sui, G.; Micic, M.; Huo, Q.; Leblanc, R.M. Studies of a Novel Polymerizable Amphiphilic Dendrimer. *Colloids and Surfaces A* 2000, 171, 185-197.
72. Huo, Q.; Wang, S.; Pisseloup, A.; Verma, D.; Leblanc, R.M. Unusual Chromatic Properties Observed from Polymerized Dipeptide Diacetylenes. *Chem. Comm.* 1999, 1601-1602.
73. Huo, Q.; Dziri L.; Desbat, B.; Russell, K.C.; Leblanc, R.M. Polarization-modulated infrared reflection absorption spectroscopic studies of a hydrogen bonding network at the air-water interface. *J. Phys. Chem. B.* 1999, 103, 2929-2934.
74. Huo, Q.; Russell, K.C.; Leblanc, R.M. Chromatic studies of a polymerizable diacetylene hydrogen bonding self-assembly: a 'self-folding' process to explain the chromatic changes of polydiacetylenes. *Langmuir* 1999, 15, 3972-3980.
75. Hasegawa, T.; Hatada, Y.; Nishijo, J.; Umemura, J.; Huo, Q.; Leblanc, R.M. Hydrogen Bonding Network Formed Between accumulated Langmuir-Blodgett Films of Barbituric Acid and Triaminotriazine Derivatives. *J. Phys. Chem. B.* 1999, 103, 7505-7513.
76. Huo, Q.; Russell, K.C.; Leblanc, R.M. The effect of complementary hydrogen bonding on the 2-amino-4,6-dioctadecylamino-1,3,5-triazine amphiphile at the air-water interface: studies by Ultraviolet-Visible absorption spectroscopy and Brewster angle microscopy. *Langmuir* 1998, 14, 2174-2186.
77. Zhang, M.Q.; Xu, J.R.; Zeng, H.M.; Huo, Q.; Zhang, Z.Y.; Yun, F.C.; Friedrich, K. Fractal approach to the critical filler volume of an electrically conductive polymer composite. *J. Mater. Sci.* 1995, 30, 4226-4232.

INVITED TALKS

1. Gordon Research Conference on Noble Metal Particles 2012, Mount Holyoke College.
2. Fudan University, Department of Chemistry, December 2011
3. Sun Yatsen University, School of Chemistry and Chemical Engineering, December 2011
4. South China University of Technology, School of Environmental Engineering, December 2011
5. Catholic University of Leuven and IMEC, Belgium, December 2010
6. Tsinghua University, Department of Chemistry, Beijing, P.R. China, June 2010
7. Nanjing University, School of Chemistry and Chemical Engineering, Nanjing, P.R. China, July 2010
8. Georgia State University, Department of Chemistry, Atlanta, Georgia, May 2010
9. University of Miami, School of Medicine, Department of Pathology, Miami, Florida, May 2010
10. Particle 2010, Orlando, Florida, May 2010.
11. American Chemical Society Spring National Meeting, San Francisco, California, March 2010,
12. SPIE Defense, Security, and Sensing: Smart Biomedical and Physiological Sensor Technologies VII. Orlando, Florida, April 2010.
13. MD Anderson Cancer Center Orlando Research Symposium (October 2009)

14. World Gold Council, Gold 2009, Heidelberg, Germany, July 2009
15. FACSS 2009 (Federation of Analytical Chemistry and Spectroscopy Societies) (October, Louisville, Kentucky)
16. Particle 2008, Orlando, Florida, May 2008.
17. International Polymer Chemistry Symposium, Hefei, Anhui, P.R. China, 6/15/2008-6/19/2008
18. National Institute of Health, Department of Transfusion Medicine, Bethesda, NIH, April 2008
19. Chinese Academy of Science, Suzhou Institute of Nano-Tech and Nano-Bionics, June 2008, Suzhou, P.R. China
20. Nanjing University, Department of Chemistry, Nanjing, P.R. China, June 2008
21. Hunan University, College of Chemistry and Chemical Engineering, and State Key Laboratory for Chemo, Biosensing and Chemometrics, Changsha, P.R. China, June 2008
22. University of Massachusetts-Lowell, Center for Nanomanufacturing, October 2007.
23. University of California-Santa Cruz, Department of Chemistry, September 2006.
24. American Chemical Society Meeting, Symposium "Nanoparticles and microparticles: synthesis and applications", September 2006, San Francisco.
25. University of Massachusetts-Lowell, Department of Chemistry, March 2006.
26. University of Miami, Department of Chemistry, February 2006
27. West Regional American Chemical Society Meeting, Anaheim CA, January 2006
28. University of North Dakota, Department of Physics, May 2005
29. University of Science and Technology of China, Department of Polymer Science and Engineering, P.R. China, March 2005
30. Lehigh University, Department of Chemistry, February 2005
31. Florida Atlantic University, Department of Chemistry, February 2005
32. University of Central Florida, Nanoscience Technology Center, December 2004
33. Iowa State University, Department of Materials Science and Engineering, November 2004
34. Northeastern Regional American Chemical Society meeting in Rochester, NY, November 2004
35. University of Science and Technology of China, Department of Polymer Science and Engineering, P.R. China, July 2004
36. University of Wisconsin-Milwaukee, Department of Chemistry, December 2003
37. University of Science and Technology of China, Department of Polymer Science and Engineering, P.R. China, January 2003
38. Tsinghua University, Department of Chemical Engineering, December 2001
39. Sun Yatsen University, Institute of Polymer Science, December 2001

Professional Membership

American Chemical Society

American Association for Cancer Research