

Curriculum Vitae

RISHENG WANG

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EDUCATION

New York University New York, NY Ph. D in Chemistry 2010/01
Dissertation: Self-Assembly of DNA Nanotubes and Analysis of 2'-Linked Nucleic Acids
Dissertation Advisor: Prof. Nadrian C. Seeman
Beijing University of Technology Beijing, China, M. S in Environmental Engineering 2003/07

PROFESSIONAL EXPERIENCE

Assistant Professor

Department of Chemistry, Missouri University of Science and Technology 2014/09 – Present

Associate Research Scientist

Department of Chemistry, Columbia University 2013/01-2014/08

Postdoctoral Research Scientist

Department of Chemistry, Columbia University 2010/01-2012/12

Research Assistant

Department of Chemistry, New York University 2006/09-2009/12

Teaching Assistant

Department of Chemistry, New York University 2003/09-2006/08

RESEARCH INTERESTS

- Engineer DNA-based nanostructures to control functional nanomaterials, characterize their optical and chemical properties for making novel devices and exploring their biomedical applications.
- Develop biocompatible drug delivery carriers, and biosensor.
- Studying of biomolecular interactions through self-assembled DNA templates at the single molecular level.
- Developing methodology for merging the lithography nanofabrication techniques with bottom-up self-assembly to fabricate nanomaterial-based devices and biosensors.

SERVICE AND COMMUNITY ACTIVITIES

Member: Missouri S & T pre-medicine advisory committee	2015-present
Interviewer: The Chancellor's Scholarship of High School Seniors, UM system	2014-present
Member: The ACS South Central Missouri Section	2014-present
Editorial Board: Austin Biochemistry	2016-present
Associate Editor: Petroleum & Petrochemical Engineering Journal	2017-present
Associate Editor: Cell & Cellular life sciences	2018-present
Congress Committee: American Advanced Materials Congress	2016-present

PROFESSIONAL AFFILIATIONS

Member of Material Research Society	2017--present
Member of American Chemical Society	2008—present
Member of The ACS South Central Missouri Section	2014—present
International Society for Nanoscale Science, Computation and Engineering	2009—present

FELLOWSHIP AND AWARDS

Tappmeyer Excellence in Teaching, Chemistry of Missouri S&T	2016-2017
University of Missouri Faculty Scholars	2015-2016
Tappmeyer Excellence in Teaching, Chemistry of Missouri S&T	2015-2016
Outstanding services to 7 th Asia-Pacific Biotech Congress	2015
MacCracken Fellowship, New York University	2003-2008

PUBLICATIONS (* corresponding author)

1. Yun Zeng, Wenyan Liu, Zheyu Wang, Srikanth Singamaneni, and **Risheng Wang***, “Multifunctional Surface Modification of Nanodiamond based on Dopamine Polymerization”, *Langmuir*, 2018, DOI: 10.1021/acs. Langmuir.8b00509.
2. Yun Zeng, Jiajun Liu, Shuo Yang, Wenyan Liu, Liang Xu, and **Risheng Wang***. “Time-Lapse Live Cell Imaging to monitor doxorubicin release from DNA origami nanostructures” *Journal of Materials Chemistry B*, 2018, 6, 1605-1621.
3. Shuo Yang, Wenyan Liu, Rachel Nixon, and **Risheng Wang***. “Metal-ion responsive reversible assembly of DNA origami dimers: G-quadruplex induced intermolecular interaction” *Nanoscale*, 2018, 10, 3626-3630.
4. Wenyan Liu, Ling Li, Shuo Yang, Jie Gao, and **Risheng Wang***. “Self-assembly of heterogeneously shaped nanoparticles into plasmonic metamolecules on DNA origami” *Chemistry-A European Journal.*, 2017, 23, 14177-14181.
5. **Risheng Wang***, Isabella Bowling and Wenyan Liu, “Cost effective surface functionalization of gold nanoparticles with a mixed DNA and PEG monolayer for nanotechnology applications”, *RSC Advances*, 2017, 7, 3676-3679.
6. **Risheng Wang***, Kent Gorday, Colin Nuckolls and Shalom Wind*, “Control of DNA origami inter-tile connection with vertical linkers” *Chemical communication*, 2016, 52,

1610.

7. Erika Penzo, Matteo Palma, **Risheng Wang**, Haogang Cai, Ming Zheng and Shalom J. Wind*, “Directed Assembly of end-functionalized single wall carbon nanotube segments”, *Nano lett*, 2015, 15, 6547.
8. Shalom J. Wind, Erika Penzo, Matteo Palma, **Risheng Wang**, Teresa Fazio, Danny Porath, Dvir Rotem, Gideon Livshits, Avigail Stern*, “Integrating DNA with functional nanomaterials”, *Journal of Self-Assembly and Molecular Electronics*. 2013, 1: 177.
9. **Risheng Wang**, Matteo Palma, Erika Penzo and Shalom J. Wind*, “Lithographically directed assembly of one-dimensional DNA nanostructures via bivalent binding interactions”, *Nano Research*, 2013, 6, 409-417.
10. Miao Ye, Johan Guillaume, Yu Liu, Ruojie Sha, **Risheng Wang**, Nadrian C. Seeman* and James W. Canary*, “Site-specific inter-strand cross-links of DNA duplexes”, *Chemical Science*, 2013, 4, 1319-1329.
11. **Risheng Wang***, Colin Nuckolls and Shalom J. Wind*, “Assembly of heterogeneous functional nanomaterials on DNA origami scaffolds”, *Angewandte Chemie Int Ed*, 2012, 51, 11325-11327.
12. Yu Liu, **Risheng Wang**, Liang Ding, Ruojie Sha, Nadrian C. Seeman and James W. Canary*. “Templated Synthesis of Nylon Nucleic Acids and Characterization by Nuclease digestion”, *Chemical Science*, 2012, 3, 1930-1937.
13. Erika Penzo, **Risheng Wang**, Matteo Palma and Shalom J Wind*. “Selctive Placement of DNA Origami on Substrates Patterned by Nanoimprint Lithorgraphy”, *J. Vac. Sci. Technol.* 2011, B, 29(6), 06F205.
14. Wenyan Liu, Hong Zhong, **Risheng Wang**, and Nadrian C. Seeman*. “Crystalline Two-Dimensional DNA- Origami Arrays”, *Angew. Chem. Int. Ed*, 2011, 50, 264-267. Highlighted by Nature.
15. **Risheng Wang**, Akinori Kuzuya, Wenyan Liu and Nadrian C. Seeman*. “Blunt-Ended DNA Stacking Interactions in a 3-Helix Motif”, *ChemComm*, 2010, 46, 495-4907.
16. **Risheng Wang**, Wenyan Liu and Nadrian C. Seeman*, “Prototyping Nanorod Control: A DNA Helix Sheathed within a DNA Six-Helix Bundle”, *Chemistry and Biology*, 2009, 16, 862-867.
17. Yu Liu, **Risheng Wang**, Liang Ding, Ruojie Sha, Philip S. Lukeman, James W. Canary and Nadrian C. Seeman*. “Thermodynamic Analysis of Nylon Nucleic Acids” *ChemBioChem*, 2008, 9, 1641-1648.
18. Yu Liu, Ruojie Sha, **Risheng Wang**, Liang Ding, James W. Canary and Nadrian C. Seeman*. “ 2',2'-Ligation demonstrates the thermal dependence of DNA-directed positional control” *Tetrahedron*, 2008, 64, 8417-8422.
19. Yu Liu, Akinori Kuzuya, Ruojie Sha, Johan Guillaume, **Risheng Wang**, James W. Canary, and Nadrian C. Seeman*. “Coupling Across a DNA Helical Turn Yields a Hybrid DNA/Organic Catenane Doubly Tailed with Functional Termini” *J. Am. Chem. Soc.*, 2008, 130, 10882-10883.

20. Akinori Kuzuya#, **Risheng Wang**#, Ruojie Sha and Nadrian C. Seeman*. “Six-Helix and Eight-Helix DNA Nanotubes Assembled from Half-Tubes” *Nano Lett.* 2007, 7(6) 1757-1763.