

Zhongjing (Alex) Li

PhD

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EDUCATIONS

- North Dakota State University**, Fargo, ND (01/2009-12/2013)
Ph.D. in Materials Chemistry
- Wuhan University**, Wuhan, China (09/2003-12/2008)
Ph.D. candidate, transferred to North Dakota State University in 2009
B.S. in Applied Chemistry (2007)

RESEARCH EXPERIENCES

- The Pennsylvania State University**, University Park, PA (01/2014-now)
Postdoc Scholar
Advisor: Prof. Harry Allcock
- Research area: Synthesis and applications of polyphosphazenes
- North Dakota State University**, Fargo, ND (01/2009-12/2013)
PhD in Chemistry
Advisor: Prof. Wenfang Sun
- Thesis: Synthesis, photophysics, and nonlinear absorption of platinum(II) and iridium(III) complexes
- Wuhan University**, Wuhan, China (09/2007-12/2008)
Graduate research assistant
Advisor: Prof. Zhenghe Peng
- Research area: Synthesis, morphology, and electrochemical properties of $\text{Li}[\text{Ni}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}]\text{O}_2$ as cathode materials for lithium ion batteries
- Wuhan University**, Wuhan, China (09/2003-06/2007)
B.S. in Applied Chemistry
- Thesis: Synthesis and characterization of tetrathiafulvalene tetrathiolate bridged metal 1,10-phenanthroline complexes with special optical and electrical properties

PUBLICATIONS

- Li, Zhongjing**; Allcock, Harry; "Polyphosphazenes with Immobilized Dyes as Potential Color Filter Materials", *ACS Appl. Mater. Interfaces* **2015**, 24, 13518.
- Li, Zhongjing**; Cui, Peng; Wang, Chengzhe; Kilina, Svetlana; Sun, Wenfang*; "Nonlinear Absorbing Cationic Bipyridyl Iridium(III) Complexes Bearing Cyclometalating Ligands with Different Degrees of π -Conjugation: Synthesis, Photophysics, and Reverse Saturable Absorption", *J. Phys. Chem. C* **2014**, 118, 28764.

3. **Li, Zhongjing**; Sun, Wenfang*; "Synthesis, Photophysics, and Reverse Saturable Absorption of Platinum Complexes Bearing Extended π -Conjugated C^NN Ligands", *J. Chem. Soc., Dalton Trans.* **2013**, 42, 14021.
4. **Li, Zhongjing**; Badaeva, Ekaterina; Ugrinov, Angel; Killina, Svetlana; Sun, Wenfang*; "Platinum Chloride Complexes Containing 6-[7-R-9,9-di(2-ethylhexyl)-9H-fluoren-2-yl]-2,2'-Bipyridinyl Ligand (R = NO₂, CHO, Benzothiazol-2-yl, n-Bu, Carbazol-9-yl, NPh₂): Tunable Photophysics and Reverse Saturable Absorption", *Inorg. Chem.* **2013**, 52, 7578.
5. **Li, Zhongjing**; Badaeva, Ekaterina; Zhou, Dapeng; Bjorgaard, Josiah; Glusac, Ksenija D.; Killina, Svetlana; Sun, Wenfang*; "Tuning Photophysics and Nonlinear Absorption of Bipyridyl Platinum(II) Bisstilbenylacetylide Complexes by Auxiliary Substituents", *J. Phys. Chem. A* **2012**, 116, 4878.
6. **Li, Zhongjing**; Sun, Wenfang*; "7-(benzothiazol-2-yl)-9,9-di(2-ethylhexyl)-9H-fluoren-2-yl] Tethered [Ir(bpy)(ppy)₂]PF₆ and Ir(ppy)₃: Structure Modification, Photophysics, and Nonlinear Absorption ", **2015**, submitted to *Organometallics*.
7. **Li, Zhongjing**; Sun, Wenfang*; "Substituted Bipyridines as Zn(II) Sensors", to be submitted.
8. Pritchett, Timothy M.*; Ferry, Michael J.; Shensky III, William M.; Mott, Andrew G.; Stewart, David J.; Long, Stephanie L.; Haley, Joy E.; **Li, Zhongjing**; Sun, Wenfang; "Strong Triplet Excited-state Absorption in a Phenanthralinyl Iridium(III) Complex with Benzothiazolylfluorenyl-substituted Ligands", *Optics Letters* **2015**, 40, 186.
9. Liu, Rui; Dandu, Naveen; Chen, Jinquan; Li, Yuhao; **Li, Zhongjing**; Liu, Shan; Wang, Chengzhe; Kilina, Svetlana; Kohler, Bern; Sun, Wenfang*; "Influence of Different Diimine (N^N) Ligands on the Photophysics and Reverse Saturable Absorption of Heteroleptic Cationic Iridium(III) Complexes Bearing Cyclometalating 2-{3-[7-(Benzothiazol-2-yl)fluoren-2-yl]phenyl}pyridine (C^N) Ligands", *J. Phys. Chem. C* **2014**, 118, 23233.
10. Li, Yuhao; Dandu, Naveen; Liu, Rui; **Li, Zhongjing**; Kilina, Svetlana; Sun, Wenfang*; "Effects of Extended π -Conjugation in Phenanthroline (N^N) and Phenylpyridine (C^N) Ligands on the Photophysics and Reverse Saturable Absorption of Cationic Heteroleptic Iridium(III) Complexes", *J. Phys. Chem. C* **2014**, 118, 6372.
11. Hu, Lei; Pei, Chengkui; **Li, Zhongjing**; Wang, Chengzhe; Yang, Guichun; Sun, Wenfang*; "Synthesis and Photophysics of a Broadband Absorbing Taxaphyrin Derivative Bearing a Rhodamine 6G Motif", *Org. Chem. Front.* **2014**, 1, 506.
12. Liu, Rui; **Li, Zhongjing**; Zhu, Hongjun; Sun, Wenfang*; "Synthesis and Photophysical Studies of Back-to-back Dinuclear Platinum Terpyridine Complexes with Different Substituents on the Bridging Ligand", *Inorg. Chim. Acta.* **2012**, 387, 383.
13. Zhang, Bingguang; Li, Yunjing; Liu, Rui; Pritchett, Timothy M.; Azenkeng, Alexander; Ugrinov, Angel; Haley, Joy E.; **Li, Zhongjing**; Hoffmann, Mark R.; Sun, Wenfang*; "Synthesis, Structural Characterization, Photophysics, and Broadband Nonlinear Absorption of a Platinum(II) Complex with the 6-(7-Benzothiazol-2'-yl-9,9-diethyl-9H-fluoren-2-yl)-2,2'-bipyridinyl Ligand", *Chem. Eur. J.* **2012**, 18, 4593.
14. Liu, Rui; Zhou, Dapeng; Azenkeng, Alexander; **Li, Zhongjing**; Li, Yuhao; Glusac, Ksenija D.; Sun, Wenfang*; "Nonlinear Absorbing Platinum(II) Diimine Complexes: Synthesis, Photophysics, and Reverse Saturable Absorption", *Chem. Eur. J.* **2012**, 18, 11440.
15. William, Shensky III; Pritchett, Timothy M.; Ferry, Michael J.; Liu, Rui; **Li, Zhongjing**; Sun, Wefang*; "Multi-wavelength Top-Hat Nanosecond Z-Scans to Determine the Excited-State Absorption Cross Sections of a Bipyridyl Platinum Complex in the Visible", *Proc. SPIE* **2011**, 8113, 81130X-1.

16. Ji, Zhiqiang; Li, Yunjing; Pritchett, Timothy M.; Makarov, Nikolay S.; Haley, Joy E.; **Li, Zhongjing**; Drobizhev, Mikhail; Rebane, Aleksander; Sun, Wenfang*; "One-Photon Photophysics and Two-Photon Absorption of 4-[9,9-Di(2-ethylhexyl)-7-diphenylaminofluoren-2-yl]-2,2':6',2''-terpyridine and Their Platinum Chloride Complexes", *Chem. Eur. J.* **2011**, *17*, 2479.
17. Mathew, Iswarya; Li, Yunjing; **Li, Zhongjing**; Sun, Wenfang*; "Dinuclear Platinum(ii) 4,6-Diphenyl-2,2'-bipyridine Complexes Tethered by a Rigid Bridging Ligand: Synthesis and Photophysics in Solution and in LB Film", *J. Chem. Soc., Dalton Trans.* **2010**, *39*, 11201.
18. Sun, Wenfang*; Zhang, Bingguang; Li, Yunjing; Pritchett, Timothy M.; **Li, Zhongjing**; Haley, Joy E.; "Broadband Nonlinear Absorbing Platinum 2,2'-Bipyridine Complex Bearing 2-(Benzothiazol-2'-yl)-9,9-diethyl-7-ethynylfluorene Ligands", *Chem. Mater.* **2010**, *22*, 6384.
19. Ren, Haibo; Mu, Xiaoming; Huang, Yanghui; **Li, Zhongjing**; Wang, Yunhong; Cai, Ping; Peng, Zhenghe*; Zhou, Yunhong; "Effects of Sn Doping on Electrochemical Characterizations of $\text{Li}[\text{Ni}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}]\text{O}_2$ Cathode Material", *Ionics* **2010**, *16*, 497.
20. Wang, Yunhong; Ren, Lihua; Shen, Yufang; **Li, Zhongjing**; Peng, Zhenghe*; Yuan, Bin; "Synthesis and Properties of Metal 1,10-Phenanthroline Complexes Bridged by Tetrathiafulvalene Tetrathiolate", *Acta Chimi. Sinica* **2009**, *67*, 1469.
21. Ren, Haibo; Huang, Yanghui; Wang, Yunhong; **Li, Zhongjing**; Cai, Ping; Peng, Zhenghe*; Zhou, Yunhong; "Effects of Different Carbonate Precipitators on $\text{Li}[\text{Ni}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}]\text{O}_2$ Morphology and Electrochemical Performance", *Mater. Chem. Phys.* **2009**, *117*, 41.

PATENTS

1. Wenfang Sun*, Bingguang Zhang, Rui Liu, Pin Shao, Zhiqiang Ji, **Zhongjing Li**; "Emissive and Broadband Nonlinear Absorbing Metal Complexes and Ligands as OLED, Optical Switching or Optical Sensing Materials", US Utility Patent filed on 10/21/2011, patent application number: 13/278,780.
2. Harry Allcock*, **Zhongjing Li**; "Polymer-dyes for Liquid Crystalline Display and Related Applications", provisional, **2014**.

CONFERENCES AND SYMPOSIUM PRESENTATIONS

1. **Li, Zhongjing**; Badaeva, Ekaterina; Killina, Svetlana; Sun, Wenfang*; "Platinum(II) Complexes Based on 6-Fluorenyl-2,2'-bipyridyl Ligands: Synthesis, Photophysics, and Nonlinear Transmission", poster, 22nd Winter Inter-American Photochemical Society Meeting, Sarasota, Florida, January 2-5, **2013**.
2. **Li, Zhongjing**; Zhou, Dapeng; Glusac, Ksenija; Sun, Wenfang*; "Platinum (II) Bipyridyl Complexes with Substituted Stilbenyl Acetylde Ligands", poster, Symposium on Sustainable Materials and Light Driven Processes, North Dakota State University, Fargo, ND, September 28 - 29, **2012**.
3. **Li, Zhongjing**; Zhou, Dapeng; Glusac, Ksenija; Sun, Wenfang*; "Platinum (II) Bipyridyl Complexes with Substituted Stilbenyl Acetylde Ligands", poster, ND EPSCoR 2012 State Conference, Grand Forks, ND, September 18, **2012**.
4. **Li, Zhongjing**; Sun, Wenfang*; Badaeva, Ekaterina; Killina, Svetlana; "Synthesis, Photophysics, and Nonlinear Transmission of Platinum Complexes Containing 6-[7-R-9,9-di(2-ethylhexyl)-9H-fluoren-2-yl]-2,2'-Bipyridinyl Ligands", oral presentation, 244th ACS

national meeting, Philadelphia, PA, August 19, **2012**.

PROFESSIONAL SERVICE

1. Reviewer: *Dalton Transactions; Sensors and Actuators B: Chemical; Inorganic Chemistry Frontier; Inorganics*

AWARD AND HONORS

1. ND EPSCoR Doctoral Dissertation Assistantship (North Dakota State University, 08/16/2012 – 07/31/2013, \$19,595.00)
2. First Class Scholarship for graduate student (Wuhan University, 2007 & 2008)
3. “Excellence in Work-Study Program” award (Wuhan University, 2006)
4. “Excellence in Summer Social Practice Program” award (Wuhan University, 2006, 2004)
5. Renmin Scholarship and outstanding undergraduate student (Wuhan University, 2005)

SKILLS

1. Organic and inorganic synthesis
2. UV-Vis; Luminescence Spectroscopy; NMR; ESI-HRMS; FTIR; GPC; TGA; DSC; XRD; Transient Absorption Spectroscopy
3. Assembly of lithium-ion batteries; Fabrication of Langmuir–Blodgett films

LEADERSHIP EXPERIENCES

1. Class President: “Educational Reforming Class of 2003 in Applied Chemistry (42 members)” (Wuhan University, 04/2004-06/2005)
2. Team leader: “Summer Social Practice Team of College of Chemistry and Molecular Sciences (9 members)”, and the team was awarded as “Outstanding Social Practice Team” (Wuhan University, 07/2006)