

GONGYU LI

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Highlights:

- **In-cell Mass Spectrometry:** In Situ Identification and Structural Elucidation of Native Proteins
- Skilled in Ambient MS and Ion Mobility-MS
- 21 Scientific Papers, 17 of Which as (Co-)First Author
- Well-received Oral Presentation at ASMS 2018

Professional Preparation**University of Wisconsin-Madison (UW-Madison)**

Aug 2017-Present Postdoctoral Research Associate, School of Pharmacy

**University of Science and Technology of China (USTC)**

Sep 2012-Jun 2017 Ph.D. in Analytical Chemistry, Department of Chemistry

**University of Michigan, Ann Arbor (UM)**

Apr 2016-Aug 2016 Visiting Graduate Student, Department of Chemistry

**Jiangxi Normal University (JXNU)**

Sep 2008-Jun 2012 B.S. in Chemistry, College of Chemistry and Chemical Engineering

Research Experiences**Aug 2017 ~ Present: Postdoctoral Research (UW-Madison)**

Advisor: [Prof. Lingjun Li](#)

Project: *Development of Novel Ion Mobility-Mass Spectrometry (IM-MS) Strategies for Chiral A β Analysis.*

**Sep 2012 ~ Jun 2017: Ph.D. Research (USTC)**

Advisor: [Prof. Guangming Huang](#)

Projects: *Development and Application of Ultrafast Electrophoresis-based In-cell Mass Spectrometry.*

**Apr 2016 ~ Aug 2016: Visiting Graduate Research (UM)**

Advisor: [Prof. Brandon T. Ruotolo](#)

Project: *New Disassembly Pathway of a Multiprotein Complex in the Gas Phase Monitored by IM-MS.*

**Dec 2011 ~ Jun 2012: Undergraduate Research (JXNU)**

Advisor: [Prof. Li Wang](#)

Project: *Fabrication, Characterization and Application of a Versatile Electrochemical H₂O₂ Biosensor.*

Presentations

1. The 66th **ASMS** Conference on Mass Spectrometry and Allied Topics, San Diego Convention Center, San Diego, CA, June 3-7, 2018. (**Oral:** *Integrative Chiral Anatomy Platform (iCAP) for A β Oligomerization and Recognition.*)
2. 2018 Gordon Research Conference-Molecular Structure Elucidation, Jordan Hotel at Sunday River, Newry, ME, August 12-17th, 2018. (**Poster:** *An IM-MS Platform for Chiral Effects in Alzheimer's disease*)
3. 2018 Wisconsin Human Proteomics Symposium, Promega Corporation Campus in Madison, Wisconsin, August 10th, 2018. (**Poster:** *An IM-MS Platform for Chiral Effects in Alzheimer's disease*).

4. The 2nd Graduate Student Symposium (2016) on Chemistry and Materials Science at USTC, Nov 26-27, 2016. (**Oral:** *Binding States of Protein-Metal Complexes in Cells.*)
5. The 2nd National Mass Spectrometry Analytical Symposium of Chinese Chemical Society at Zhejiang University, October 16-19, 2015. (**Poster:** *Direct MS Identification of Spiked Proteins from Complex Biological Mixtures.*)
6. 2017 International Congress on Analytical Sciences, Hainan International Convention & Exhibition Center, Hainan, May 5-8th, 2017. (**Poster:** *In-cell MS: Towards Intracellular Protein Interactions via In-situ Mass Spectrometric Analysis from Living Cells.*)
7. The 29th Chinese Chemical Society (CCS) Congress in Peking University, "Beautiful Chemistry", Beijing, China, August 4-7th, 2014.
8. The 64th ASMS conference on Mass Spectrometry and Allied Topics in Henry B. Gonzalez Convention Center, San Antonio, Texas, June 5-9, 2016.

Publications

1. **Gongyu Li**, Fengfei Ma, Qijingwen Cao, Kellen DeLaney, Rui Lui and Lingjun Li*. Photochemically promoted click chemistry for high-throughput protein labeling and on-demand matrices removal. (*To be submitted*)
2. **Gongyu Li**, Kellen DeLaney, and Lingjun Li*. Molecular Basis for Chirality-regulated A β Self-Assembly and Receptor Recognition. (*To be submitted*)
3. **Gongyu Li**, Qijingwen Cao, Lingjun Li*, Guangming Huang* and Brandon Ruotolo*. Green Chemistry with Ammonium Bicarbonate: Chemically Crosslinking Subunits Confers Interface-Reflective Disassembly Pathway of Multiprotein Complexes. (*To be submitted*)
4. **Gongyu Li**[†], Kellen DeLaney,[†] and Lingjun Li*. Improvements in the Separation and Detection of Neuropeptides with Liquid Chromatography, Capillary Electrophoresis, and Ion Mobility-Mass Spectrometry. *J. Am. Soc. Mass Spectrom.* 2019, **Invited Review**. (*To be submitted*)
5. **Gongyu Li** and Lingjun Li*. Improved Structural Elucidation of Peptide Isomers and Their Receptors Using Advanced Ion Mobility-Mass Spectrometry. *Trends Anal. Chem.* 2018, **Invited Review**. (*Submitted*)
6. Tiantian Fang, Wanbiao Chen, Yaping Sheng, Siming Yuan, Qiaowei Tang, **Gongyu Li**, Guangming Huang, Jihu Su, Xuan Zhang,* Jianye Zang,* and Yangzhong Liu*. Tetrathiomolybdate Induces Dimerization of the Metal-binding Domain of ATPase and Inhibits Platination of the Protein. *Nat. Commun.* 2018. (*In press*)
7. **Gongyu Li**, Qijingwen Cao, Yang Liu, Kellen DeLaney, Zichuan Tian, Eugene Moskovets and Lingjun Li*. Characterizing and Alleviating Ion Suppression Effects in Atmospheric Pressure Matrix-Assisted Laser Desorption/Ionization (AP-MALDI). *Rapid Commun. Mass Spectrom.* 2018, doi: 10.1002/rcm.8358. [[Link](#)]
8. **Gongyu Li**[‡], Shihui Zheng,[‡] Yuting Chen, Zhuanghao Hou and Guangming Huang*. Reliable Tracking In-solution Protein Unfolding via Ultrafast Thermal Unfolding/Ion Mobility-Mass Spectrometry. *Anal. Chem.* 2018, *90*, 7997-8001. [[Link](#)]
9. **Gongyu Li**[‡], Siming Yuan,[‡] Shihui Zheng, Yangzhong Liu* and Guangming Huang*. In Situ Living Cell Protein Analysis by Single-Step Mass Spectrometry. *Anal. Chem.* 2018, *90*, 3409-3415. [[Link](#)]
10. **Gongyu Li**, Siming Yuan, Yang Pan, Yangzhong Liu and Guangming Huang*. Binding states of protein-metal complexes in cells. *Anal. Chem.* 2016, *88*, 10860-10866. [[Link](#)]
11. **Gongyu Li**[‡], Siming Yuan,[‡] Shihui Zheng, Yuting Chen, Zhen Zheng, Yangzhong Liu* and Guangming Huang*. The effect of salts in promoting specific and competitive interactions between zinc finger proteins and metals. *J. Am. Soc. Mass Spectrom.* 2017, *28*, 2658-2664. ([‡], co-first author) [[Link](#)]
12. **Gongyu Li**, Jiying Pei, Yue Yin and Guangming Huang*. Direct sequencing of a disulfide-linked peptide with electrospray ionization tandem mass spectrometry. *Analyst* 2015, *140*, 2623-2627. [[Link](#)]

13. **Gongyu Li** and Guangming Huang*. Alleviation of ion suppression effect in sonic spray ionization with induced alternating current voltage. *J. Mass Spectrom.* 2014, 49, 639-645. [\[Link\]](#)
14. **Gongyu Li**, Yue Yin, Guangming Huang*. Increased disulfide peptide sequence coverage via "cleavage ON/OFF" switch during nanoelectrospray. *RSC Adv.* 2014, 4, 59650-59654. [\[Link\]](#)
15. Zhen Zheng,[‡] Peiyao Chen,[‡] **Gongyu Li**,[‡] Yunxia Zhu,[‡] Zhonghua Shi, Yufeng Luo, Chun Zhao, Ziyi Fu, Xianwei Cui, Chenbo Ji, Fuqiang Wang,* Guangming Huang* and Gaolin Liang*. Mechanistic study of CBT-Cys click reaction and its application for identifying bioactive N-terminal cysteine peptides in amniotic fluid. *Chem. Sci.* 2017, 8, 214-222. ([‡], co-first author) [\[Link\]](#)
16. Zhen Zheng, **Gongyu Li**, Chengfan Wu, Miaomiao Zhang, Yue Zhao, and Gaolin Liang*. Intracellular synthesis of D-aminoluciferin for bioluminescence generation. *Chem. Commun.* 2017, 53, 3567-3570. [\[Link\]](#)
17. Hongying Zhu, **Gongyu Li**, Guangming Huang*. Screening of complicated matrixes with paper assisted ultrasonic spray ionization mass spectrometry. *J. Am. Soc. Mass Spectrom.* 2014, 25, 935-942. [\[Link\]](#)
18. Yue Yin, **Gongyu Li**, Yafeng Guan and Guangming Huang*. Sheathless interface to match flow rate of capillary electrophoresis with electrospray mass spectrometry using regular-sized capillary. *Rapid Commun. Mass Spectrom.* 2016, 30 Suppl 1, 68-72. [\[Link\]](#)
19. Zhen Zheng, Hongbin Sun, Chen Hu, **Gongyu Li**, Xiaomei Liu, Peiyao Chen, Yusi Cui, Jing Liu, Junfeng Wang, and Gaolin Liang*. Using "On/Off" FNMR/MRI signals to sense tyrosine kinase/phosphatase activity *in vitro* and in cell lysates. *Anal. Chem.* 2016, 88, 3363-3368. [\[Link\]](#)
20. Zhen Zheng, Lin Wang, Wei Tang, Peiyao Chen, Hui Zhu, Yue Yuan, **Gongyu Li**, Huafeng Zhang, Gaolin Liang*. Hydrazide D-luciferin for *in vitro* selective detection and intratumoral imaging of Cu²⁺. *Biosens. Bioelectron.* 2016, 83, 200-204. [\[Link\]](#)
21. Fugang Xu*, Miao Deng, **Gongyu Li**, Shouhui Chen, Li Wang*. Electrochemical behavior of cuprous oxide-reduced graphene oxide nanocomposites and their application in nonenzymatic hydrogen peroxide sensing. *Electrochim. Acta* 2013, 88, 59-65. [\[Link\]](#)

Highlighted Awards & Funding

- 2017 Best Poster Award at *IUPAC International Congress on Analytical Sciences 2017*
- 2016 **Fundamental Research Funds for the Central Universities** of USTC (¥ 100k, ~\$16k)
- 2016 Fellowship of International Exchange from USTC (¥ 45k, ~\$7.3k)
- 2015 Guanghua Scholarship from USTC
- 2013 Excellent **Teaching Assistant Award** of USTC
- 2012 Outstanding Undergraduate Award of JXNU (**Highest Honor** of JXNU Undergraduate Students)
- 2011 The Second Prize Scholarship of JXNU
- 2010 **National Endeavor Fellowship of China**
- 2010 The First Prize Scholarship of JXNU
- 2009 The Third Prize Scholarship of JXNU