Mengqiao Li Updated: August 2021

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EDUCATION

THE GEORGE WASHINGTON UNIVERSITY

01/2019 – present

Department of Civil and Environmental Engineering

Ph.D. in Environmental Engineering Supervisor: Professor Danmeng Shuai

University of Science and Technology of China

09/2015 - 11/2018

Hefei National Laboratory for Physical Sciences at the Microscale

M.Sc. in Chemistry

Supervisor: Professor Yujie Xiong

Thesis Title: Designing TiO₂-supported PdPt alloys for photocatalytic water-donating selective

alkyne semihydrogenation

University of Science and Technology of China

09/2011 - 06/2015

School of the Gifted Young B.Sc. in Material Physics Supervisor: Professor Yi Xie

Thesis Title: Photocatalytic properties of ultrathin two-dimensional nanosheets of $GaSe_1 - xS_x$

PUBLICATIONS

- M. Li, D. Liu, X. Chen, Z. Yin, H. Shen, A. Aiello, K. R. McKenzie Jr, N. Jiang, X. Li, M. J. Wagner, D. P. Durkin*, H. Chen*, D. Shuai*, Radical-driven decomposition of graphitic carbon nitride nanosheets: light expposure matters. *Environ. Sci. Technol.*, 2021
- C. Zhang, Y. Li*, M. Li, D. Shuai, X. Zhou, X. Xiong, C. Wang*, Q. Hu, Continuous photocatalysis *via* photo-charging and dark-discharging for sustainable environmental remediation: Performance, mechanism, and influencing factors. *J. Hazard. Mater.*, **2021**, 420: 126607
- Z. Zhou, M. Li, C. Kuai, Y. Zhang, V. F. Smith, F. Lin, A. Aiello, D. P. Durkin*, H. Chen*, D. Shuai*, Single-Atom catalysis for oxidizing contaminants of emerging concern via high-valent Fe species. *J. Hazard. Mater.*, **2021**, 418: 126294
- Y. Feng, L. Tao, Y. He, Q. Jin, C. Kuai, Y. Zheng, M. Li,Q. Hou, Z. Zheng, F. Lin*, and H. Huang*, Chemical-enzymatic fractionation to unlock the potential of biomass-derived carbon materials for sodium ion batteries. *J. Mater. Chem. A*, 2019, 7: 26954-26965.
- M. Li, H. Huang, J. Low, C. Gao, R. Long*, Y. Xiong*, Recent progress on electrocatalyst and photocatalyst design for nitrogen reduction. *Small Methods*, **2019**, 3: 1800388.
- M. Li, N. Zhang, R. Long*, W. Ye, C. Wang, and Y. Xiong*, PdPt alloy nanocatalysts supported on TiO₂: maneuvering metal-Hydrogen interactions for light-driven and water-donating selective alkyne semihydrogenation. *Small*, **2017**, 13: 1604173.
- N. Zhang, X. Li, Y. Liu, R. Long, M. Li,S. Chen, Z. Qi, C. Wang, L. Song, J. Jiang, and Y. Xiong*, Defective tungsten oxide hydrate nanosheets for boosting aerobic coupling of amines: synergistic catalysis by oxygen vacancies and Brønsted acid sites. Small, 2017, 13: 1701354.

PATENT

• Y. Xiong M. Li, N. Zhang, R. Long, Methods of light-driven and water-donating selective alkyne semihydrogenation. CN 106905113 B Small, 2017, 13: 1604173.

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Honors and Awards

• C. Ellen Gonter Environmental Chemistry Award	2021
• CSW Student Travel Award	2021
• Graduate Research Assistantship	2019 - 2021
• Stipend Fellowship	2019 - 2021
\bullet National Scholarship for Graduate Students (top 5%)	2017
• First-class Academic Scholarship	2015 - 2017
• HFNL Fellowship	2015 - 2017
• 2011 Excellent New Student Award	2011

Conference Presentations

- 2021 ACS Fall C. Ellen Gonter Graduate Student Award Symposium (Invited), M. Li, D. Liu, X. Chen, Z. Yin, H. Shen, A. Aiello, K. R. McKenzie Jr, N. Jiang, X. Li, M. J. Wagner, D. P. Durkin, H. Chen, D. Shuai, Radical-driven decomposition of graphitic carbon nitride: light exposure matters Oral
- 95th ACS Colloid and Surface Science Symposium, M. Li, D. Shuai, Dilemma of activity and stability: Intrinsic photoreactivity promotes 2D nanomaterial decomposition under radical attack Oral
- 2021 ACS Spring, M. Li, D. Liu, X. Chen, Z. Yin, H. Shen, A. Aiello, K. R. McKenzie Jr, N. Jiang, X. Li, M. J. Wagner, D. P. Durkin, H. Chen, D. Shuai, Radical-driven decomposition of graphitic carbon nitride: light exposure matters Oral
- 2021 ACS Spring, Z. Zhou, M. Li, C. Kuai, Y. Zhang, V. F. Smith, F. Lin, A. Aiello, D. P. Durkin, H. Chen, D. Shuai, Single-Atom Catalysis for Oxidizing Contaminants of Emerging Concern via High-Valent Fe Species Poster
- 2018 CCS in Hangzhou, M. Li, Y. Xiong, PdPt alloy nanocatalysts supported on TiO₂: maneuvering metal-hydrogen interactions for light-driven and water-donating selective alkyne semihydrogenation Poster

RESEARCH EXPERIENCE

GRADUATE RESEARCH ASSISTANT, THE GEORGE WASHINGTON UNIVERSITY Supervisor: Professor Danmeng Shuai 01/2019 – present

- Fate and transformation of graphitic carbon nitride nanosheets in aquatic environments
- Toxicity study of fresh and aged graphitic carbon nitride nanosheets
- Applications of single-atom catalysts in environmental remediation

GRADUATE RESEARCH ASSISTANT, UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA Supervisor: Professor Yujie Xiong 09/2015-11/2018

- Photocatalytic CO₂ conversion by controlled hierarchical nanostructures
- Photocatalytic hydrogen transfer from water for selective alkyne semihydrogenation with the TiO_2 - $Pd_xPt_1 x$ hybrid structures
- Catalytic properties of defective WO₃·H₂O nanosheets for aerobic couplings reactions

UNDERGRADUATE RESEARCH, UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA Supervisor: Professor Yi Xie & Professor Xiaodong Zhang 09/2013 - 06/2015

- Photocatalytic water splitting through ultrathin two-dimensional nanosheets of $GaSe_1 xS_x$
- National training program of innovation and entrepreneurship for undergraduates: photothermal properties of ultrathin two-dimensional nanosheets of transition metal chalcogenides

TEACHING EXPERIENCE	 Guest Lecturer: Introduction to photocatalysts and associated applications Assisting in Environmental Engineering I: Water Resources and Water Quality 2020 Spring 	2021 y (CE 3520)
	• In-home and online tutoring for high school students	2015 - 2018
Professional Experience & Activities	Reviewer • Journal of Hazardous Materials	
Characterization Skills	 Transmission Electron Microscopy Scanning Electron Microscopy 	