CURRICULUM VITAE

Chuanyi WANG, Ph.D., FEurASc, FRSC, FIAAM, Life FRSA
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https://scholar.google.com/citations?user=2gEYvm8AAAAJ&hl=en
https://en.wikipedia.org/wiki/Chuanyi_Wang

I. Education

- 1993.09-1998.07, Institute of Photographic Chemistry (now Technical Institute of Physics and Chemistry), Chinese Academy of Sciences (CAS), Physical Chemistry, Ph.D. (Awarded with honor on July 8, 1998).

II. Research Interests

Energy and Environmental Photocatalysis; Environmental Chemistry; Nanostructured Materials; Surface/Interface Chemistry, Pollution Controlling; Water Treatment, Air Cleaning; Waste Recycling

III. Professional Experience

- **2024.03 — Present** Guest researcher at Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Greece
- **2024.01 — Present** Visiting Scholar, Queen's University Belfast, UK
- **2017.06 — Present** Distinguished Professor and Academic Dean, Shaanxi University of Science & Technology

  Director of Shaanxi Province's Innovation and Talent Introduction Base and Director of Xi'an International Joint Research Centre
- **2015.04 — Present** Adjunct Professor, Wuhan University (**top 10 in China**)
- **2009.11 — Present** Visiting Scientist, Department of Chemistry, Tufts University, USA

  2010.07 — 2017.06 Distinguished Professor of Chinese Academy of Sciences (CAS), and Director of Lab of Environmental Sciences and Technology, Xinjiang Technical Institute of Physics and Chemistry (XJIPC), CAS

  Head of CAS International Creative Research Team as well as Head of CAS Innovation Cross-Team
- **2008.03 — 2010.06** Adjunct Ph.D. Faculty, University of Missouri-Kansas City, USA
- **2006.06 — 2008.08** Research Assistant Professor at University of Missouri-Kansas City, USA.
- **2000.11 — 2006.05** Postdoc and Research Associate, Department of Chemistry, Tufts University, USA.
- **1999.04 — 2000.09** *Alexander von Humboldt* (*AvH*) Research Fellow at Free University Berlin and Institute for Solar Energy Research in Hannover (with Profs. Bahnemann and Dohrmann), Germany.

IV. Awards and Honours

- Elected member of the European Academy of Sciences (EurASc), **2024**
- Advanced Materials Laureate (International Association of Advanced Materials), **2024**
- Life Fellow of RSA (The royal society for the encouragement of arts, manufactures and commerce), **2024**
- Highly Cited Researcher (Clarivate), **2023**
- Highly Valued Editor (*Environmental Chemistry Letters*), **2023**
- Distinguished Expert for HOME Program of China Association for Science and Technology, **2023**
- Fellow of International Association of Advanced Materials, **2022**
- Who's Who in the World (Marquis Who's Who), **2022**
- Entry into Wikipedia (https://en.wikipedia.org/wiki/Chuanyi_Wang), **2022**

- Named in "Ranking of the World Scientists: World's Top 2% Scientists" , both career and single year (ranked#87 in Physical Chemistry, 2021), **2021, 2022, 2023** Stanford University (California, USA).
- IAAM Scientist Award, International Association of Advanced Materials, Sweden, **2020**
- Fellow of Royal Society of Chemistry, **2018**
- Distinguished Professor of Shaanxi University of Science & Technology, **2017**
- China's Overseas Chinese Community Contribution Award (Innovative Talents), **2016**
- Distinguished Professor of Chinese Acdemy of Sciences (CAS), **2015**
- Rated as "Excellent" in the final review of the CAS *Hundred Talents Program*, **2015**
- China Tianshan Prize, **2014**
- Science and Technology Award of Chinese Materials Research Society, 2nd Prize, **2011**
- Selected for CAS *Hundred Talents Program*, **2010**
- *Alexander von Humboldt* Research Fellowship, **1998**

V. Professional Activities

- **Editorial Service**:

  Editor: (1) *Environmental Chemistry Letters* (Associate Editor, 2017/10—); (2) *Frontiers in Catalysis* (Associate Editor for *Photocatalysis* Section, 2023/6—); (3) *Frontiers in Chemistry* (Review Editor for Photocatalysis and Photochemistry section, 2021/6—);

  Board Member: (1) *Molecular Catalysis* (2022/6—); (2) *Scientific Reports* (2016/8—); (3) *Advances in Nano Research* (2013/11—); (4) *Photochem* (2021—); (5) *Processes* (2021/5—); (6) *Structural Chemistry* (2023/7—)

  Guest Editor: (1) "*Eco- and Energy-Driven Inorganic Functional Materials*", Special Issue of *Current Inorganic Chemistry*, Bentham Science Publishers, 2011; (2) "*Functional Green Nano-materials*" Special Issue of *Nanoscience & Nanotechnology-Asia*, Bentham Science Publishers, 2012; (3) "*Photoenergy Conversion by Nanostructured TiO_2*", Special Issue of *International Journal of Photoenergy*, 2013-2014; (4) "*Advance in Photocatalysis in Asia*", Special Issue of *Photochem*, 2022; (5) *Special Issue on EEPM4 Photocatalysis*, *Journal of Materials Science and Technology*, 2022; (6) "*Photocatalytic Applications of Nanomaterials*", Special Issue of *Nanomaterials*, 2022-; (7) Special Issue on *Heterojunction Photocatalytic Materials*, *Acta Physico-Chimica Sinica*, 2022; (8) 2023 roadmap on photocatalytic water splitting, *Journal of Physics: Energy*.

  Book Editor: (1) *Recent Research Developments in Physical Chemistry: Surfaces and Interfaces of Nanostructured Systems*, Transworld Research Network, ISBN-10: 817895284X/ISBN-13: 978-8178952840, India, 2007; (2) *Organic Radicals*, Elsevier, ISBN: 9780443133466, 2024

- **Professional Society Service:**

  Deputy Director General of China Energy Society, **2024- ;** Executive Council Member, China Energy Society, **2021- ;** Deputy Director, New Energy Expert Group, China Energy Society, **2021- ;** Committee Member of Photocatalysis, Chinese Photographic Society, **2015- ;** Council Member, Chinese Society of Environmental Science & Technology, **2015;** Committee Member of Photochemistry, Chinese Renewable Energy Society, **2013-**

- **Proposal Reviewer and Final Review Panelist**: for many funding agencies including NSFC, CAS, MOST (China), National Science and Technology Award final review, Israel Science Foundation, National Science Centre Poland, National Research and Development Agency (ANID) of the Ministry of Science, Technology, Knowledge and Innovation of Chile, and the **Royal Irish Academy (Invited Distinguished Referee)** etc.

- **Conference Organization since 2018:**

  ✓ The 2nd IWA Conference on Sustainable Natural and Engineered Water Systems Management (2nd IWA SWSM-2024), 2024, Xi'an, **Chiarman** (https://www.iwa-swsm2024.cn/)

  ✓ The 4th International Workshop on Graphene and Carbon Nitride-based Photocatalytic Materials and Others, October 13-16, 2023, Xi'an, **Chiarman**

  ✓ The 4th International Symposium on Energy and Environmental Photocatalytic Materials, July 25-29, 2021, Xi'an/Yan'an, **Chiarman**

- ✓ The 7th International Symposium on Environmental Science & Technology, Hangzhou, Septemper 25-28, 2019 (**Committee Member and Section "Nano for Environment" Organization Chair**);
- ✓ 2019 International Symposium on Nanoscience and Nanotechnology in Environment (ISNNE 2019), Xi'an, China, April 26-29, 2019 (**Chairman**);
- ✓ "Nano and Environment" High-end Academic Forum, Xi'an, China, Oct. 29-31, 2018 (**Chairman**);
- ✓ National Series Conference on Energy and Environmental Catalysis, 2018- (**Committee Member**);
- ✓ National Series Conference on Solar Photochemistry and Photocatalysis, 2013- (**Committee Member**);
- ✓ 3rd International Symposium on Energy and Environmental Photocatalytic Materials (EEPM3), Kraków (Poland), May 15th-19th, 2018, (**Committee Member**)

VI. Selected Conferences and/or Conventions (overall, presented over 260 invited lectures at national/international conferences or research institutions.)

- *Defect Engineering-Promoted Photcatalytic Conversion of Nitrogen-Containing Small Molecules*, 58th Assembly of Advanced Materials Congress, MSC Cruise Conference Center, Miami, USA, February 26 to March 01, 2024, **Advanced Materials Laureate Lecture and Section Chair**
- Defect-engineering towards improved performance in Environmental Photocatalysis, ACS Fall Meeting 2023, San Francisco, Aug. 13-17, 2023
- Defect-Engineering towards Improved Performance in Photocatalysis, 8th IWNA 2023 International Workshop on Nanotechnology and Application, Phan Thiet, Vietnam, Nov. 8-11, 2023
- Defect-engineering towards Improved Photocatalysis for Environmental Sustainability, IWA Sustainable natural and engineered water systems management SWSM2023, Bangkok, Thailand, Dec. 13-15, 2023
- Enhancement effect of "defect" microstructure regulation in photocatalysis, 2023 International 100 Photocatalytic Scholars (China) Forum, Beijing, April 7-10, 2023
- Enhancement effect of defect microstructure manipulation on photocatalytic reactions, Dalian Catalysis+ International Summit 2023, Dalian, April 14-16, 2023
- "*Defect Engineering" Effect in Photocatalysis*, The 5th Chinese Symposium on Photocatalytic Materials, Wuhan, Feb. 17-20, 2023, **Committee Member and Keynote Lecture**
- *Defect Engineering towards Improved Performance in Photocatalysis*, Advanced Materials Lecture, under the assembly of European Advanced Materials Congress (EAMC)**, Italy** from 25 June to 02 July 2022, **IAAM Fellow Lecture**
- *Defect-Engineering-Promoted Photocatalysis for NO Removal,* 12th International Conference on Environmental Catalysis (ICEC2022), July 30-August 2, 2022, Osaka, Japan, **Specially Invited Lecture and Section Chair**.
- *Photocatalytic Conversion of N1 Molecules: Defect Engineering and Surface Chemistry,* 2022 The 4th National Conference on Energy and Environmental Catalysis, Changsha, 2022/8/15-2022/8/17, **Keynote Lecture**
- *Photocatalysis for N1 Conversion in the Context of Carbon Neutrality,* The International Workshop on Solar Fuel, December 10-13, 2021, Wuhan, China, **Keynote Lecture**
- Photocatalytic Conversion of NOx *in the Context of Carbon Neutrality*：*Defect Engineering and Surface Chemistry,* The 4th Chinese Symposium on Photocatalytic Materials, November 19-21, 2021, Shanghai, **Committee Member and Keynote Lecture**
- The 4th International Symposium on Energy and Environmental Photocatalytic Materials, July 25-29, Xi'an/Yan'an, **Chiarman and Keynote Lecture**
- 2021 Mid-Young Scholar Forum on Photocatalysis, April 6-8, 2021, Wuxi, **Committee Member and Keynote Lecture**
- 12th National Symposium on Environmental Catalysis and Ecomaterials, June 18-20, 2021, Shanghia, **Keynote Lecture**

- *Defect engineering and modulation of reaction activity in photocatalysis*, The 3rd Chinese Symposium on Photocatalytic Materials, Wuhan, Dec. 11-15, 2020. **Committee Member and Keynote Lecture**
- Molecular level study on defect engineering of environmental photocatalytic materials and surface/interface processes, 2020 3rd Energy and Environmental Catalysis Conference, Fuzhou, Nov. 12-15, 2020. **Keynote Lecture**
- *Defects Engineering of Ti-Based Nanostructured Photocatalysts towards Improved Visible Light Induced Photoactivity*, Advanced Materials Lecture Series 2020, International Associaty of Advanced Materials, Ulrika, Sweden, October 15, 2020, **IAAM Scientist Award Conferred Talk**
- *Clay mineral derived nanomaterials for environmental treatment: fundamentals and application*, 7th International Symposium on Environmental Science & Technology, Hangzhou, Septemper 25-28, 2019, **Committee Member and Invited Talk**
- *Environmental photocatalytic materials: Microstructure control and In-situ analysis of surface/interface processes*, The 10th Chinese National Conference on Environmental Chemistry, Tianjing, China, August 15-19, 2019, **Keynote Lecture**
- *Photoactive materials: Microstructural modulation and in-situ analysis of surface events*, The 2nd National Conference on Energy and Environmental Catalysis, Harbin, China, July 18-21, 2019, **Keynote Lecture**
- *Surface defect chemistry modulation in photocatalytic NO conversion: Reactivity and mechanism*, the ACS Fall 2019 National Meeting & Exposition in San Diego, CA, August 25 - 29, 2019, **Keynote Lecture**
- *Visible light-driven photocatalytic activity of defective Ti-based perovskites for antibiotic decomposition*, the ACS Spring 2019 National Meeting in Orlando, FL, March 31 – April 4, 2019, **Invited Talk**
- *Nanoscale Photoactive Materials: Structural Modulation and Surface Chemistry*, 3rd International Workshop on Graphene and C_3N_4-based Photocatalysts", Wuhan, China, March 23-26, 2019. **Section Chair and Keynote Lecture**
- *Surface Microstructure Effect on Selectively Transformation of Warm Gas by Photocatalysis*, The 1st National Conference on Energy and Environmental Catalysis, Beijing, China, May 25-28, 2018, **Invited Talk**
- *Structural Modulation and Surface Chemistry in Photocatalysis*, 3rd International Symposium on Energy and Environmental Photocatalytic Materials (EEPM3), Kraków (Poland), May 15th-19th, 2018, **Section Chair and Keynote Lecture**
- *Clay mineral-based polymeric nanocomposites for heavy metal removal*, 255th American Chemical Society National Meeting & Exposition, New Orleans, LA, USA, March 18-22, 2018, **Invited Talk**.
- *Clay minerals-based nanostructured eco-materials for organic contaminants transformation and heavy metal removal*, The 33rd International conference of the Society for Environmental Geochemistry and Health (SEGH 2017), Guangzhou, China, June 30th - July 4th, 2017, **Organization Committee Member and Invited Lecture**.
- *Nanostructured clay minerals-based materials for organic contaminants transformation and heavy metal removal, 2017* International Symposium on Environmental Science and Technology(ISEST), Beijing, China, Sept. 19–22, 2017, **Section Chair and Invited Talk**.
- *Nanostructured eco-materials based on clay minerals: Synthesis and applications in organic contaminants transformation and heavy metal removal*, 253rd ACS National Meeting in San Francisco, California, April 2-6, 2017, **Invited Talk**.
- *Nanoscale photoactive materials: structural modulation and surface chemistry*, The 7th International Conference on Nanoscience & Technology (ChinaNANO2017), Beijing, China, August 29-31, 2017, **Section Chair and Invited Lecture**.
- *Clay Minerals-Based Environmental Nanomaterials for Organic Contaminants Transformation and Heavy Metal Removal*, The 9th National Conference on Environmental Chemistry, Hangzhou, China, October 19-22, 2017, **Invited Talk**.
- *The Impact of Surface Defects on the Photoactivity of Photocatalysts,* the 252nd ACS National Meeting in Philadelphia, PA, USA, Aug. 21 to 25, 2016, **Invited Talk**.

- *Photoactive Nanomaterials: Controllable Synthesis, Structural Modulation, and surface Chemistry*, XXVIth IUPAC Symposium on Photochemistry (2016 IUPAC Photochem) at Osaka City Central Public Hall, Osaka, Japan, April 3 -8, 2016, **Section Chair and Invited Talk**.
- *Nanophotonics and Optoelectronics,* the 6th International Conference on Nanoscience & Technology (ChinaNANO 2015), Beijing, China, September 3–5, 2015, **Section Chair and Invited Talk.**
- *TiO_2-Based Photoactive Nanomaterials: Controllable Synthesis, Structural Modification and Surface Chemistry*, the 8th National Conference on Environmental Chemistry, Guangzhou, China, November 5 - 8, 2015, **Invited Lecture**.
- *Photodegradation of Phenanthrene on Cations-Modified Clays under Visible Light,* 31st International Conference of the Society for Environmental Geochemistry and Health, Bratislava Slovak Republic, June 22nd – 26th, 2015, **Invited Talk**.
- *Visible-light-driven Photocatalytic H_2 Evolution from Water over g-C3N4 Based Composites,* International Workshop on Graphene and C_3N_4-based Photocatalysts, Wuhan, China, June 05-08, 2015, **Keynote Lecture**.
- *Visible-light-driven Photocatalytic Hydrogen Evolution from Water over Heterogeneous Composites Employing Self-assembled Perylene Diimides,* The 11th International Conference on Ceramic Materials and Components for Energy and Environmental Applications, Vancouver, Canada, June 14-19, 2015, **Organization Committee Member, Section Chair and Invited Talk**.
- *Nanostructured Materials for Dechlorination and Mercury (Hg(II)) Removal in Aqueous System,* IWA Nano and Water Regional Conference 2015, Dalian, China, May 20th – 23rd, 2015, **Section Chair and Keynote Presentation**.
- *Eco-materials based on clay minerals: Synthesis and applications in organic contaminants transformationand heavy metal removal*, 2015 International Symposium on Environmental Science and Technology (ISEST), Chongqing, China, November 1–3, 2015, **Invited Talk**.
- *Mesoporous graphitic carbon nitride and carbon-TiO_2 hybrid composite photocatalysts with enhanced photocatalytic activity under visible light irradiation,* the 20th International Conference on Photochemical Conversion and Storage of Energy (IPS-20), Berlin, Germany, July 27 – August 1, 2014, **Invited Talk**.

VII. Major Research Projects Involved as PI

1) Selectivity controlling of photocatalytic NOx reactions through engineering efficient active sites over 2D perovskites, National Natural Science Foundation of China (52161145409), 2022-2024, 1990,000.00 RMB.
2) Microscopic process in polar-induced photocatalytic NO conversion by “sandwich” type layered perovskite-system, National Natural Science Foundation of China (21976116). 2020-2023, 660,000.00 RMB.
3) Microstructure modulation and photogenerated charge transfer of Ti-based perovskite photocatalysts, National Natural Science Foundation of China (21473248). 2015-2018, 900,000.00 RMB.
4) Development of Xinjiang low-grade bentonite-based composite materials for heavy metal removal by adsorption and their properties, National Natural Science Foundation of China (U1403295). 2015-2018, 2,150,000.00 RMB. (Rated as “A”)
5) Molecular level study on microscopic processes at the surface/interface of metal-semiconductor photocatalysts, National Natural Science Foundation of China (21173261). 2012-2015, 620,000.00 RMB.
6) Key technology and application demonstration of wood functional adsorbent materials, Sci-Tech Support Program of MOST of China (2015BAD14B06), 2015-2018, 820,000.00 RMB.
7) Monitoring and controlling technology of water pollution in arid area, the CAS/SAFEA International Partnership Program for Creative Research Teams, 2015-2017, 3,000,000.00 RMB.
8) Structure design, surface/ interface behavior and applications of micro-nano environmental materials, Interdisciplinary Innovation Team of the Chinese Academy of Sciences, 2012-2015, 1 million RMB, Role: PI
9) Photoelectrocatalysis based materials and surface/interface process, *Major Program* of Chinese Academy of Sciences, 2010-2015, 3,200,000.00 RMB. (Rated as “Excellent” in the final review)
10) Development of photoelectrocatalytic in situ spectral imaging analysis system, Instrumentation Program of Chinese Academy of Sciences (YZ201262), 2012-2014, 4,190,000.00 RMB.

VIII. General Indicators for the Quality of Scientific Research Production

(1) Web of Science (WOS): Total >**390** articles with >**18,500** ciatations and h-index of **77** (ID: AAO-6346-2020); Highly Cited Researcher; Ranked 99th percentile in WOS peer review metrcs

(2) Scopus: Total **449** peer-reviewed articles with >**20,100** ciatations and h-index of **80** (ID: 55796485900);

(3) Google Scholar: Total **410** articles with >**22,200** ciatations and h-index of **85** (https://scholar.google.com/citations?user=2gEYvm8AAAAJ&hl=en)

Published **3** books, contributed **11** book chapters; authorized **65** patents; Presented over **260** invited keynote or plenary lectures at national/internationl conferences or research institutions.

As a principle investigator, accomplished more than 30 national/international competative projects, including 7 NSFC founded projects and 2 are on-going, among which **1 key NSFC project was rated as "A"** in final; Acomplished 6 major CAS projects, 1 of them **rated as "excellent"** in final.

VIII. Selected 20 Most Important Publications in Peer-Reviewed Journals

1) **Wang, Chuan-yi**; Groenzin, Henning and Shultz, Mary Jane: Comparative Study of Acetic Acid, Methanol, and Water Adsorbed on TiO_2 Probed by Sum-Frequency Generation Spectroscopy, *J. Am. Chem. Soc.*, **2005**, *127*, 9736-9744.
2) Chen, Shuai; Slattum, Paul; **Wang, Chuanyi**; Zang, Ling: Self–assembly of Perylene Imide Molecules into 1D Nanostructures *Chem. Rev.* **2015**, 115 (21), 11967–11998. (ESI Highly Cited Paper)
3) Dong, Guohui ; Ho, Wingkei ; **Wang, Chuanyi**: Selective photocatalytic N_2 fixation dependent on gC_3N_4 induced by nitrogen vacancies, *Journal of Materials Chemistry A*, **2015**, 3 (46), 23435-23441 (ESI Highly Cited Paper)
4) Li, Shuna; Dong, Guohui; Hailili, Reshalaiti; Yang, Liping; Li, Yingxuan; Wang, Fu; Zeng, Yubin; **Wang, Chuanyi**: Effective photocatalytic H_2O_2 productionunder visible light irradiation at g-C_3N_4 modulated by carbon vacancies, *Appl. Catal. B: Environ.*, **2016**, *190*, 26-35. (ESI Highly Cited Paper)
5) Gu, Shiqing; Kang, Xiaonan; Wang, Lan; Lichtfouse, Eric; **Wang, Chuanyi**: Clay mineral adsorbents for heavy metal removal from wastewater: a review, *Environ. Chem. Lett.* **2019**, 17(2), 629-654. (ESI Highly Cited Paper)
6) Zeng, Hehua; Wang, Lan; Zhang, Dan; Yan, Peng; Nie, Jing; Sharma, Virender K.; **Wang, Chuanyi**, Highly efficient and selective removal of mercury ions using hyperbranched polyethylenimine functionalized carboxymethyl chitosan composite adsorbent. *Chem. Eng. J.*, **2019**, *358*, 253-263 (ESI Highly Cited Paper)
7) Zhang, Dan; Wang, Lan; Zeng, Hehua; Yan, Peng; Nie, Jing; Sharma, Virender K.; **Wang, Chuanyi**, A three-dimensional macroporous network structured chitosan/cellulose biocomposite sponge for rapid and selective removal of mercury(II) ions from aqueous solution. *Chem. Eng. J.*, **2019**, 363, 192-202. (ESI Highly Cited Paper)
8) Wang, Lan; Bahnemann, Detlef W.; Bian, Liang; Dong, Guohui; Zhao, Jie; and **Wang, Chuanyi**: Novel 2D Layered Zinc Silicate Nanosheets with Excellent Photocatalytic Performance for Organic Pollutant Degradation and CO_2 Conversion. *Angew. Chem. Int. Ed.*, **2019**, 58(24), 8103-8108.
9) Padervand, Mohsen; Lichtfouse, Eric; Robert, Didier; **Wang, Chuanyi**: Removal of microplastics from the environment. A review, *Environ. Chem. Lett.*, **2020**, *18*, 807-828 (ESI Highly Cited Paper)
10) Liu, Guimei; Huang, Ying; Lv, Haiqin; Wang, Hui; Zeng, Yubin; Yuan, Mingzhe; Meng, Qingbo; **Wang, Chuanyi**: Confining Single-atom Pd on g-C_3N_4 with Carbon Vacancies towards Enhanced Photocatalytic NO Conversion, *Appl. Catal. B: Environ.*, **2021**, 284: 119683. (ESI Highly Cited Paper)
11) Li, Yingxuan; Wen, Miaomiao; Wang, Ying; Tian, Guang; **Wang, Chuanyi**; Zhao, Jincai: Plasmonic Hot Electrons from Oxygen Vacancies for Infrared Light-Driven Catalytic CO_2 Reduction on Bi_2O_{3-x}, *Angew. Chem. Int. Ed*, **2021**, 133, 923-929 (ESI Highly Cited Paper)
12) Li, Wei; Chu, Xiao-shan; Wang, Fei; Dang, Yan-yan; Liu, Xiao-yun; Wang, Xue-chuan; **Wang, Chuan-yi**: Enhanced cocatalyst-support interaction and promoted electron transfer of 3D porous g-C_3N_4/GO-M (Au, Pd,

Pt) composite catalysts for hydrogen evolution, *Appl. Catal. B: Environ.*, **2021**, 288: 120034. (ESI Highly Cited Paper)

13) Pan, Bao; Wu, Yu; Rhimi, Baker*; Qin, Jiani; Huang, Ying; Yuan, Mingzhe; **Wang, Chuanyi**: Oxygen-doping of ZnIn2S4 nanosheets towards boosted photocatalytic CO_2 reduction, *Journal of Energy Chemistry* **2021**, *57*, 1-9. (ESI Highly Cited Paper)

14) Li, Wei; Wang, Fei; Liu, Xiao-yun; Dang, Yan-yan; Li, Jia-yuan; Ma, Teng-hao; **Wang, Chuan-yi**, Promoting body carriers migration of CdS nanocatalyst by N-doping for improved hydrogen production under simulated sunlight irradiation. *Applied Catalysis B: Environmental*, **2022**, *313*, 121470. (ESI Highly Cited Paper)

15) Shangguan, Wenchao; Liu, Qing; Wang, Ying; Sun, Ning; Liu, Yu; Zhao, Rui; Li, Yingxuan; **Wang, Chuanyi;** Zhao, Jincai, Molecular-level insight into photocatalytic CO_2 reduction with H_2O over Au nanoparticles by interband transitions, *Nature Communications*, **2022**, *13(1)*, 3894 (ESI Highly Cited Paper)

16) Zhu, Qiuhui; Hailili, Reshalaiti; Xin, Yue; Zhou, Yingtang; Huang, Yu; Pang, Xinzhu; Zhang, Ke; Robertson, Peter k.; Bahnemann, Detlef W. and **Wang, Chuanyi**: Efficient full spectrum responsive photocatalytic NO conversion at $Bi_2Ti_2O_7$: Co-effect of plasmonic Bi and oxygen vacancies, *Appl. Catal. B*, **2022**, 319, 121888 (ESI Highly Cited Paper)

17) Ren, Haitao; Qi, Fan; Labidi, Abdelkader; Zhao, Junjun; Wang, Hui; Xin, Yue; Luo, Jianmin; **Wang, Chuanyi**: Chemically bonded carbon quantum dots/Bi_2WO_6 S-scheme heterojunction for boosted photocatalytic antibiotic degradation: Interfacial engineering and mechanism insight, *Applied Catalysis B: Environmental*, **2023**, *330*, 122587 (ESI Highly Cited Paper and Hot Paper)

18) Ren, Haitao; Yuan, Yue; abidi, Abdelkader; Dong, Qibing; Zhang, Ke; Lichtfouse, Eric; Allam, Ahmed A; Ajarem, Jamaan S; **Wang, Chuanyi**: Green process of biomass waste derived fluorescent carbon quantum dots for biological imaging in vitro and in vivo, *Chinese Chemical Letters*, **2023**, *34(6)*: 107998 (ESI Highly Cited Paper)

19) Liang, Xinxin; Gao, Ting; Cui, Yongqian; Dong, Qibing; Li, Ximing; Labidi, Abdelkader;.Lichtfouse, Eric; Yu, Feng; **Wang, Chuanyi**: Photoreforming of poly(ethylene-terephthalate) plastic into valuable chemicals and hydrogen over BiVO4/MoOx: Synergistic promotion of oxidation and reduction processes, *Applied Catalysis B: Environmental*, **2024**, 357, 124326

20) Li, Wei; Duan, Wen; Liao, Guocheng; Gao, Fanfan; Wang, Yusen; Cui, Rongxia; Zhao, Jincai; **Wang, Chuanyi**: 0.68% of solar-to-hydrogen efficiency and high photostability of organic-inorganic membrane catalyst. *Nature Communications*, **2024**, 15, 6763.

IX. Selected Patents (in total, 65 authorized)

1) **Wang**, **Chuanyi;** Zhu, Qiuhui; Gao, Ting Preparation Method and Application of Metal Bismuth deposited Bismuth-Based Photocatalyst, 2023-6-13, US 11673119B2
2) **Wang, Chuanyi**; Zhou, Shaochen; Wang, Fu: Preparation method and application of gold nanocluster with adjustable fluorescence and size, Chinese Invention Patent, ZL201610249181.0
3) **Wang, Chuanyi**; Xin, Xiaoye; Wang, Lan: Preparation method of titanous auto-doping anatase titanium dioxide monocrystalline, Chinese Invention Patent, ZL201510137372.3
4) **Wang, Chuanyi**; Liu, Huayun; Chen, Ling; Yang, Sudong: Preparation method for photoluminescence core-shell nano-copper cluster, Chinese Invention Patent, ZL201410098421.2
5) **Wang, Chuanyi**; Wang, Zhen; Fan, Xiaoyun: Synthetic method of copper nano-particles of different shapes, Chinese Invention Patent, ZL 201410096582.8
6) **Wang**, **Chuanyi;** Xin, Xiaoye; Wang, Lan: A preparing method of black single brookite phase titanium dioxide, Chinese Invention Patent, ZL201510137373.8
7) **Wang**, **Chuanyi;** Li, Yingxuan; He, Hongquan: Preparation method of copper calcium titanate ($CaCu_3Ti_4O_{12}$) with super-long nanowire structure and nanoribbon structure, Chinese Invention Patent, ZL201410147181.0.
8) **Wang**, **Chuanyi;** Li, Yingxuan; He, Hongquan: Preparation method of $CaCu_3Ti_4O_{12}$ in icoshexahedron structure,

Chinese Invention Patent, ZL201410144730.9.

9) **Wang**, **Chuanyi;** Zhang, Ying; Li, Yingxuan: Preparation method for controllable micropore or mesoporous anatase titanium dioxide, Chinese Invention Patent, ZL20141027497.3

10) **Wang**, **Chuanyi;** Chen, Shuai; Li, Yingxuan: Nanometer photo-catalyst used in producing hydrogen by decomposing water under visible light response and application of nanometer photo-catalyst, Chinese Invention Patent, ZL 201710280394.0

X. Book/Chapters

1) **Wang, Chuanyi**; Duan, Yanyan; Wang, Lan; Zhu, Qiuhui: Full-Spectrum Responsive Photocatalytic Materials - From Fundamentals to Applications, Elservier Woodhead Publishing, ISBN: 9780443136313, **2024**.

2) **Wang, Chuanyi**; Labidi, Abdellkader; Lichtfouse, Eric Editors: Organic Radicals, Elservier, ISBN: 9780443133466, **2024**.

3) **Wang, Chuanyi** Ed., *Recent Research Developments in Physical Chemistry: Surfaces and Interfaces of Nanostructured Systems*, Transworld Research Network, India, **2007**.

4) **Wang, Chuan-yi** and Liu, Chun-yan: Spported Metal Clusters in *Encyclopedia of Surface and Colloid Science*, Hubbard, Arthur and Barbara, Santa Eds, Marcel Dekker, NY, pp4581-4601, April, **2002**.

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7) Zhang, Dan；**Wang，Chuanyi**. "Development of nanostructured adsorption materials for removing heavy-metal ions from aqueous systems"in *The World Scientific Reference of Water Science (*in 3 Volumes)-Vol. 2, Nanotechnology for Water Treatment and Water Interfaces, Chen, Junhong & Tirrell, Matthew Eds. Chapter 5, World Scientific, pp115-140, **2023**

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XIV. Supervised PhD Candidates

1) Lan Wang, Study on the Loading and Controllable Synthesis of TiO_2 Photocatalyst Based on Acidification Exfoliated Vermiculite, Defensed on May 26, 2012.

2) Mindeng Liu, Amino Modified Orange Peel for Adsorption of Hg(II), Defensed on May 28, 2013.

3) Huayun Liu, Study on the Preparation and Performance of Luminescent Copper Nanocluster Materials, Defensed on May 28, 2014.

4) Shuai Chen, Visible Light Catalytic Performance of Peryleneimide-based Organic Semiconductors and Their Composites for Hydrogen Production from Water Splitting, Defensed on May 26, 2015.

5) Muhammad Wajid Shah, Design and Performance Study of Defective Titanium Dioxide and Its Composite Photocatalytic Materials, Defensed on May 30, 2016.

6) Summreen Asim, Design and Electrocatalytic Performance of Sb-SnO_2 Heterojunction Electrode System, Defensed on December 28, 2016.

7) Jianmin Luo, Design of p-type Semiconductors and Construction of Heterostructures towards Enhanced Visible Light Oxidation Performance, Defensed on May 28, 2017.
8) Reshalaiti Hailili, Study on the Design, Synthesis, Structure Modulation and Photocatalytic Performance of Titanium-based Perovskite Photocatalytic Materials, Defensed on May 30, 2018.
9) Hehua Zeng, Development of Polymer/Bentonite Composite Materials and Their Performance for the Removal of Mercury Ions in Water, Defensed on May 26, 2019.
10) Liping Yang, Study on the construction of graphite carbon nitride (g-C_3N_4) based composite photocatalytic system modified by Perylene Diimide (PI) and their photocatalytic properties, Defensed on May 26, 2019.
11) Dan Zhang, Adsorption and Removal of Heavy Metal Ions by Chitosan-Cellulose Based Three-Dimensional Network Composite Sponges, Defensed on May 26, 2022.
12) Qiuhui Zhu, Preparation of bismuth-based composite oxides with wide spectral response and their photocatalytic conversion of NO, Defensed on May 25, 2023.
13) Haitao Ren, Construction of biomass-derived carbon quantum dots and bismuth tungstate integrated composite system and its photocatalytic removal of antibiotics
14) Hui Wang, Construction of metal-modified carbon-nitride-based materials with LSPR characteristics and their photocatalytic selective conversion of NO
15) Xiaoqian Xu, Preparation of porphyrin-based two-dimensional MOF nanocomposites and their photocatalytic synthesis of small molecules
16) Sial Atif, Multifield coupling of Bismuth-based composite oxide with polarization and LSPR effect for piezo-enhanced photocatalytic degradation of antibiotics
17) Qingyun Tian, Regulation of microstructure of porous electrode materials and their electrochemical sensing detection of perfluorinated compounds
18) Ximing Li, Design of Mo/Fe porphyrin-based biomimetic organic framework molecular catalyst and its photocatalytic synthesis of ammonia
19) Qibin Dong, Synthesis of gold-loaded porphyrin-based metal organic framework materials and their photocatalytic nitrogen fixation
20) Ting Gao, Structural design of bismuth matrix composites and their photocatalytic conversion of microplastics
21) Xinxin Liang, Construction of $BiVO_4$ matrix composites and their photocatalytic upgrading of waste plastics
22) Yongqian Cui, Design of hydrogel-based photothermal seawater interface evaporator and its seawater desalination performance
23) Jiangyushan Liang, Construction of Bi_2MoO_6 composites and photocatalytic upgrading of waste biomass
24) Shuwei Wei, Design of $Bi_2O_2CO_3$-based materials and their performance in photothermal catalytic removal of nitrogen oxides
25) Ke Zhao, Micro-nano-bubbling technology integrated with AOP process for water treatment
26) Yu Zhao, Developing new heterogeneous catalysts for industries waste treatment