Shengqian Ma (马胜前)

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Biographical Sketch

Shengqian Ma obtained his B.S. degree from Jilin University, China in 2003, and graduated from Miami University (Ohio) with a Ph.D. degree under the supervision of Hong-Cai Joe Zhou (currently at Texas A&M University) in 2008. After finishing two-year Director's Postdoctoral Fellowship at Argonne National Laboratory, he joined the Department of Chemistry at University of South Florida (USF) as an Assistant Professor in August 2010. He was promoted to an Associate Professor with early tenure in 2015 and to a Full Professor in 2018.

He received the 2015 USF ***Faculty Outstanding Research Achievement Award*** and 2018 **Outstanding Faculty Award**. He is the recipient of 2014 ***NSF CAREER Award*** and has been selected as the Thomson Reuters ***Highly Cited Researcher*** in 2014, 2015, 2016, and 2017; he was also awarded the ***IUPAC-2015 Young Chemist Travel Award*** and the ***2009 IUPAC Prize for Young Chemists*** from International Union of Pure & Applied Chemistry (IUPAC); he received the ***Young Investigator Award*** from American Chemical Society (ACS) Division of Inorganic Chemistry and the ***Director's Postdoctoral Fellowship*** from Argonne National Laboratory in 2008 as well.

His current research interest focuses on the development of functional porous materials including metal-organic frameworks (MOFs), porous organic polymers (POPs), and microporous carbon materials for energy, biological, environmental-related applications. He has published more than 150 papers (over 100 since independent career) with the total citations over 15000 and the H-index of 62.

Education

2003 Jilin University, Changchun, China, BS in Applied Chemistry

2008 Miami University, Oxford, OH, PhD in Chemistry (Advisor: Hong-Cai Joe Zhou)

Professional Experience

2001-2003 *Undergraduate Research Assistant*, State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, Jilin University, China (Supervisor: Feng-Shou Xiao)

2003-2008 *Graduate Research Assistant*, Department of Chemistry & Biochemistry, Miami University, Oxford, OH (Advisor: Hong-Cai Joe Zhou)

2008-2010 *Director's Postdoctoral Fellow*, Argonne National Laboratory, Argonne, IL (Supervisor: Dijia Liu)

2010-2015 *Assistant Professor*, Department of Chemistry, University of South Florida, Tampa, FL

2015-2018 *Associate Professor*, Department of Chemistry, University of South Florida, Tampa, FL

2018-Present *Full Professor*, Department of Chemistry, University of South Florida, Tampa, FL

Honors and Awards

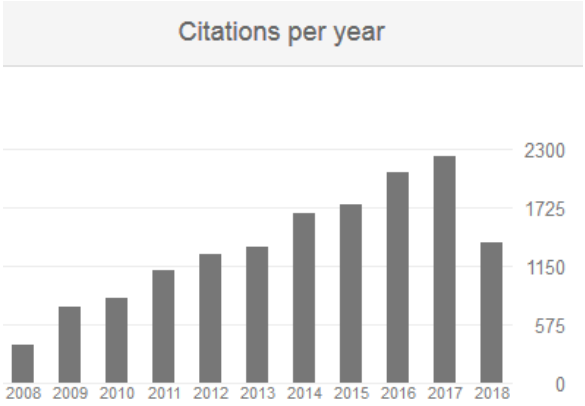
- **Outstanding Faculty Award**, University of South Florida (2018)
- **Web of Science Highly Cited Researcher (2017)**
- **Web of Science Highly Cited Researcher (2016)**
- ***Inorganic Chemistry Frontiers* 'Emerging Investigator' (2016)**
- **Thomson Reuters Highly Cited Researcher (2015)**
- **Faculty Outstanding Research Achievement Award**, University of South Florida (2015)
- **Young Chemist Travel Award** from IUPAC (2015)
- **Thomson Reuters Highly Cited Researcher and The World's Most Influential Scientific Minds** (2014)
- **NSF CAREER Award** (2014)
- **Visiting Scholar of National Research Council of Taiwan** (2014)
- **ChemComm 'Emerging Investigator'** (2014)
- **Faculty Research & Development Award**, University of South Florida (2011, 2013, 2014)
- **2009 IUPAC Prize for Young Chemists** from IUPAC (2009)
- **Young Investigator Award** from ACS Division of Inorganic Chemistry (2008)
- **Director's Postdoctoral Fellowship** of Argonne National Laboratory (2008-2010)
- **Chinese Government Award for Outstanding Self-financed Students Abroad of Year 2007** (2008)
- **Sigma Xi Grant-in-Aid of Research Award** from Sigma Xi, The Scientific Research Society (2007-2008)

- **Dissertation Scholarship**, Miami University (2007-2008)
- **Marjorie Post Farrington Scholarship**, Miami University (2007-2008)
- **Graduate Student Achievement Award**, Miami University (2006-2007)
- **Student Initiative Fund Award**, Miami University (2007**)**
- **Student Travel Award** from the ACS Division of Inorganic Chemistry (2007)
- **The Miami Co-Op Book Store Award**, Miami University (2004)
- **The William Hale Charch Scholarship**, Miami University (2003-2004)
- **Outstanding Undergraduate Scholarship**, Jilin University (2000-2003)

PUBLICATIONS

Peer Reviewed PAPERS (Total Citations: +15000; H-index: 62)

Highlights:
43 papers have been cited over 100 times.
20 papers have been cited over 200 times.
10 papers have been cited over 300 times.
8 papers have been cited over 400 times.
6 papers have been cited over 500 times.
4 papers have been cited over 700 times.
3 paper have been cited over 800 times.
2 papers have been cited over 900 times.
1 paper has been cited over 1000 times.



As an Independent Investigator:

1. "Creating Solvation Environments in Heterogeneous Catalysts for Efficient Biomass Conversion" Sun, Q.; Wang, S.; Aguila, B.; Meng, X.; **Ma, S.**; Xiao, F.-S.* *Nature Commun.* **2018**, *9*, in press.
2. "Fabrication of Light-Triggered Soft Artificial Muscles via a Mixed Matrix Membrane Strategy" Yu, Q.; Yang, X.; Chen, Y.; Yu, K.; Gao, J.; Liu, Z.; Cheng, P.*; Zhang, Z.*; Aguila, B.; **Ma, S.*** *Angew Chem. Int. Ed*., **2018**, *57*, DOI: 10.1002/anie.201805543. (***VIP paper***)
3. "Imparting Superwettability within Covalent Organic Frameworks for Functional Coating" Sun, Q.; Aguila, B.; Perman, J.; Butts, T.; Xiao, F.-S.; **Ma, S.*** *Chem*, **2018**, *3*, DOI: 10.1016/j.chempr.2018.05.020.
4. "Lower Activation Energy for Catalytic Reactions through Host-Guest Cooperation within Metal-Organic Frameworks" Aguila, B.; Sun, Q.*; Wang, X.; O'Rourke, E.; Al-Enizi, A. M.; Nafady, A.; **Ma, S.*** *Angew Chem. Int. Ed*., **2018**, *57*, DOI: 10.1002/anie.201803081. (***VIP paper***)

5. "Reversible switching between highly porous and non-porous phases of an interpenetrated diamondoid coordination network that exhibits gate-opening at methane storage pressures" Yang, Q.; Lama, P.; Sen, S.; Lusi, M.; Chen, K.-J.; Gao, W.; S, M.; Pham, T.; Kusaka, S.; Hosono, N.; Perry J.; **Ma, S.**; Space, B.; Barbour, L.; Kitagawa, S.; Zaworotko, M.* *Angew Chem. Int. Ed*., **2018**, *57*, 5684-5689.

6. "A General Synthetic Strategy to Libraries of Supported Multicomponent Metal Nanoparticles" Yang, H.; Bradley, S.; Wu, X.; Chan, A.; Waterhouse, G.; Nann, T.; Zhang, J.*; Kruger, P.; **Ma, S.***; Telfer, S* *ACS Nano*, **2018**, *12*, 4594-4604.

7. "Bio-Inspired Nano-Traps for Uranium Extraction from Seawater and Recovery from Nuclear Waste" Sun, Q.; Aguila, B.; Perman, J.; Ivanov, A. S.; Bryantsev, V. S.; Earl, L.; Abney, C.; Wojtas, L.; **Ma, S.*** *Nature Commun.* **2018**, *9*, 1644.

8. "Hydrogen-Bonding-Driven 3D Supramolecular Assembly of Peptidomimetic Zipper" Teng, P.; Niu, Z.; She, F.; Zhou, M.; Sang, P.; Gray, G.; Verma, G.; Wojtas, L.; van der Vaart, A.; **Ma, S.***; Cai, J.* *J. Am. Chem. Soc.*, **2018**, *140*, 5661-5665.

9. "A Stable Metal-Organic Framework Featuring Local Buffer Environment for Carbon Dioxide Fixation" He, H.; Sun, Q.; Gao, W.; Perman, J. A.; Sun, F.; Zhu, G.*; Aguila, B.; Forrest, K.; Space B.; **Ma, S.*** *Angew Chem. Int. Ed*., **2018**, *57*, 4657-4662.

10. "Covalent Organic Frameworks as a Decorating Platform for Utilization and Affinity Enhancement of Chelating Sites for Radionuclide Sequestration" Sun, Q.; Aguila, B.; Earl, L. D.; Abney, C. W.; Wojtas, L.; Thallapally, P. K.; **Ma, S.*** *Adv. Mater.* **2018**, 1705479.

11. "Azamacrocyclic-based Metal Organic Frameworks: Design Strategies and Applications" Stackhouse, C.; **Ma, S.*** *Polyhedron*, 2018, *145*, 154-165. (invited contribution)

12. "Pore Environment Control and Enhanced Performance of Enzymes Infiltrated in Covalent Organic Frameworks" Sun, Q.; Fu, C.-W.; Aguila, B.; Perman, J.; Wang, S.; Huang, H.-Y.*; Xiao, F.-S.; **Ma, S.*** *J. Am. Chem. Soc.*, **2018**, *140*, 984-992.

13. "A Metal-Metalloporphyrin Framework based on an Octatopic Porphyrin Ligand for Chemical Fixation of CO2 with Aziridines" Wang, X.; Gao, W.-Y.; Niu, Z.; Wojtas, L.; Perman, J. A.; Chen, Y.-S.; Li, Z.*; Aguila, B.; **Ma, S.*** *Chem. Commun*. **2018**, *54*, 1170-1173.

14. "Boosting catalytic performance of metal-organic framework by increasing the defects via a facile and green approach" Ye, G.; Zhang, D.; Li, X.; Leng, K.; Zhang, W.; Ma, J.; Sun, Y.*; Xu, W.; **Ma, S.*** *ACS Appl. Mater. Interfaces*, **2017**, *9*, 34937-34943.

15. "Thermal Conductivity of Perovskite-type Metal-Organic Framework Crystal" Gunatilleke, W. D. C. B.; Wei, K.; Niu, Z.; Wojtas, L.; Nolas, G.*; **Ma, S.*** *Dalton Trans.*, **2017**, *46*, 13342-13344.

16. "Molecular-level superhydrophobic external-surface to improve the stability of metal-organic frameworks" Sun, Y.; Sun, Q.; Huang, H.; Aguila, B.; Niu, Z.; Perman, J. A.*; **Ma, S.*** *J. Mater. Chem. A*, **2017**, *5*, 18770-18776.

17. "Post-Synthetic Transformation of a Zn(II) Polyhedral Coordination Network into a New Supramolecular Isomer of HKUST-1" Chen, Y.; Wojtas, L.; **Ma, S.**; Zaworotko, M. J.; Zhang, Z. *Chem. Commun*. **2017**, *53*, 8866-8869.

18. "Acid-base directed supramolecular isomers of isophthalate based MOFs for CO2 adsorption and transformation" Perman, J. A.; Chen, M.; Antony, M.; Niu, Z.; **Ma, S.*** *CrystEngComm*, **2017**, *19*, 4171 - 4174.

19. "Efficient Mercury Capture Using Functionalized Porous Organic Polymer" Aguila, B.; Sun, Q.; Perman, J. A.; Earl, L. D.; Abney, C. W.; Elzein, R.; Schlaf, R.; **Ma, S.*** *Adv. Mater.* **2017**, 1700665.

20. "Partially Interpenetrated NbO Topology MOF Exhibiting Selective Gas Adsorption" Verma, G.; Kumar, S.*; Pham, T.; Niu, Z.; Wojtas, L.; Perman, J. A.*; Chen, Y.-S.; **Ma, S.*** *Cryst. Growth Des.* **2017**, *17*, 2711–2717. (invited contribution to *Crystal Growth & Design* Virtual Special Issue on "Crystal Engineering of Nanoporous Materials for Gas Storage and Separation")

21. "Metal-organic framework and conducting polymer based electrochemical sensor for high performance cadmium ions detection" Wang, Y.*; Wang, L.; Huang, W.; Zhang, T.; Hu, X.; Perman, J. A.; **Ma, S.*** *J. Mater. Chem. A*, **2017**, *5*, 8385 - 8393.

22. "Functionalized Porous Aromatic Framework for Efficient Uranium Adsorption from Aqueous Solutions" Li, B.; Sun, Q.; Zhang, Y.; Abney, C.; Aguila, B.; Lin, W.; **Ma, S.*** *ACS Appl. Mater. Interfaces*, **2017**, *9*, 12511-12517.

23. "Investigation of Mesoporous Metal-Organic Framework as a New Platform to Study the Transport Phenomena of Biomolecules" Chen, Y.; Hong, S.; Fu, C.-W.; Hoang, T.; Li, X.; Valencia, V.; Zhang, Z.; Perman, J. A.; **Ma, S.*** *ACS Appl. Mater. Interfaces*, **2017**, *9*, 10874-10881.

24. "Post-synthetically Modified Covalent Organic Frameworks for Efficient and Effective Mercury Removal" Sun, Q.; Aguila, B.; Perman, J.; Earl, L.; Abney, C.; Cheng, Y.; Wei, H.; Nguyen, N.; Wojtas, L.; **Ma, S.*** *J. Am. Chem. Soc.*, **2017**, *139*, 2786-2793.

25. "Enhancing the Biofuel Upgrade Performance for Pd Nanoparticles via Increasing the Support Hydrophilicity of Metal-Organic Frameworks" Sun, Q.; Chen, M.; Aguila, B.; Nguyen, N.; **Ma, S.*** *Faraday Discuss.*, **2017**, *201*, 317-326. (invited contribution to the themed issue of "New directions in porous crystalline materials" in *Faraday Discussions*)

26. "Bifunctional Covalent Organic Framework as an Efficient Platform for Cascade Catalysis" Sun, Q.; Aguila, B.; **Ma, S.*** *Mater. Chem. Front.*, **2017**, *1*, 1310-1316. (invited contribution to the themed collection of "Functional Open Framework Materials" from *Materials Chemistry Frontiers*)

27. "Anchoring Triazole-Gold(I) Complex into Porous Organic Polymer to Boost the Stability and Reactivity of Gold(I) Catalyst" Cai, R.; Ye, X.; Sun, Q.; He, Q.; He, Y.; **Ma, S.***; Shi, X.* *ACS Catal.*, **2017**, *7*, 1087-1092.

28. "Porous Ionic Polymers as a Robust and Efficient Platform for Capture and Chemical Fixation of Atmospheric CO2" Sun, Q.; Jin, Y.; Aguila, B.; Meng, X.*; **Ma, S.***; Xiao, F.-S. *ChemSusChem*, **2017**, *10*, 1160-1165.

29. "Flexibility Matters: Cooperative Active Sites in Covalent Organic Framework and Threaded Ionic Polymer" Sun, Q.; Aguila, B.; Perman, J. A.; Nguyen, N. T.-K.; **Ma, S.*** *J. Am. Chem. Soc.,* **2016**, *138*, 15790-15796.

30. "From equilibrium based MOF adsorbent to kinetic selective carbon molecular sieve for paraffins/iso-paraffins separation" Li, B.; Belmabkhout, Y.; Zhang, Y.; Bhatt, P.; He, H.; Zhang, D.; Han, Y.; Eddaoudi, M.*; Perman, J. A.; **Ma, S.*** *Chem. Commun*. **2016**, *52*, 13897-13900.

31. "Advanced Photoemission Spectroscopy investigations correlated with DFT calculations on the self-assembly of 2D Metal Organic Frameworks nano thin films" Elzein, R.; Chang, C.-M.; Ponomareva, I.; Gao, W.Y.; **Ma, S.**; Schlaf, R. *ACS Appl. Mater. Interfaces*, **2016**, *8*, 31403-31412.

32. "Removal of Pertechnetate-Related Oxyanion from Solution Using Functionalized Hierarchical Porous Frameworks" Banerjee, D.; Elsaidi, S. K.; Aguila, B.; Li, B.; Kim, D.; Schweiger, M. J.; Kruger, A. A.; Doonan, C. J.; **Ma, S.***; Thallapally, P.* *Chem. Eur. J.,* **2016**, *22*, 17581-17584.

33. "Metal-Organic Frameworks for CO2 Chemical Transformations" He, H.; Perman, J. A.; Zhu, G.*; **Ma, S.*** *Small.* **2016**, *12*, 6309-6324 (Invited Contribution).

34. "Imparting Amphiphobicity on Single-Crystalline Porous Materials" Sun, Q.; He, H.; Gao, W.-Y.; Aguila, B.; Wojtas, L.; Dai, Z.; Li, J.; Chen, Y.-S.; Xiao, F.-S.*; **Ma, S.*** *Nat. Commun.* **2016**, *7*, 13300.

35. "Superhydrophobicity Matters: Protecting Homogeneous Catalysts from Hydrolytic Degradation by Constructing them into Superhydrophobic Porous Frameworks" Sun, Q.; Aguila, B.; Verma, G.; Liu, X.; Dai, Z.; Deng, F.; Meng, X.; Xiao, F.-S.*; **Ma, S.*** *Chem*, **2016**, *1*, 628-639.

36. "Investigation of a Microporous Iron (III) Porphyrin Framework Derived Cathode Catalyst in PEM Fuel Cells" Cantillo, N. M.; Goenaga, G. A.; Neal, C. A.; Gao, W.-Y.; Williams, K.; **Ma, S.**; More, K. L.; Zawodzinski, K. *J. Mater. Chem. A*, **2016**, *4*, 15621-15630.

37. "A bifunctional metal-organic framework featuring the combination of open metal sites and Lewis basic sites for selective gas adsorption and heterogeneous cascade catalysis" He, H.; Sun, F.; Aguila, B.; Perman, J. A.; **Ma, S.***; Zhu, G.* *J. Mater. Chem. A*, **2016**, *4*, 15240-15246.

38. "Reticular Synthesis of a Series of HKUST-like MOFs with Carbon Dioxide Capture and Separation" He, H.; Sun, F.; **Ma, S.***; Zhu, G.* *Inorg. Chem.,* **2016**, *55*, 9071-9076.

39. "Giant Electrorheological Fluids with Ultrahigh Electrorheological Efficiency based on Micro/Nano Hybrid Calcium Titanyl Oxalate Composite" Wu, J.; Song, Z.; Liu, F.; Guo, J.; Cheng, Y.*; **Ma, S.***; Xu, G. *NPG Asia Materials*, **2016**, *8*, e322.

40. "Fabrication of Highly Sensitive and Stable Hydroxylamine Electrochemical Sensor Based on Gold Nanoparticles and MetalMetalloporphyrin Framework Modified Electrode" Wang, Y.*; Wang, L.; Chen, H.; Hu, X.; **Ma, S.*** *ACS Appl. Mater. Interfaces*, **2016**, *8*, 18173-18181.

41. "An Interpenetrating Metal-Metalloporphyrin Framework for Selective CO2 Uptake and Chemical Transformation of CO2" Gao, W.-Y.; Tsai, C.-Y.; Wojtas, L.; Thiounn, T.; Lin, C.-C.; **Ma, S.*** *Inorg. Chem.,* **2016**, *55*, 7291-7294. (invited contribution to the *Inorganic Chemistry Forum* on "Metal-Organic Frameworks for Energy Applications")

42. "Dual Functionalized Cages in Metal-Organic Frameworks via Stepwise Post-Synthetic Modification" Li, B.; Ma, D.; Li, Y.; Zhang, Y.; Li, G.; Shi, Z.*; Feng, S.; Zaworotko, M.*; **Ma, S.*** *Chem. Mater.* **2016**, *28*, 4781-4786.

43. "A Lanthanide Metal-Organic Framework based on a Custom-Designed Macrocyclic Ligand" Stackhouse, C.; Gao, W.-Y.; Wojtas, L.; **Ma, S.*** *J. Coord. Chem.*, **2016**, *69*, 1844-1851. (invited contribution to the Emerging Leaders Issue)

44. "Investigation of Oxygen Reduction Activity of Catalysts Derived from Co and Co/Zn Methyl-Imidazolate Frameworks in Proton Exchange Membrane Fuel Cells" Chong, L.; Goenaga, G. A.; Williams, K.; Barkholtz, H. M.; Grabstanowicz, L. R.; Papandrew, A. B.; Elzein, R.; Schlaf, R.; Zawodzinski, T. A.; Zou, J.; Ma, S.; Liu, D.-J. *ChemElectroChem*, **2016**, *3*, 1541-1545.

45. "Metal--Metalloporphyrin Framework Modified with Flexible tert-Butyl Groups for Selective Gas Adsorption" Zhang, W.; Wojtas, Y.; Jiang, P.*; **Ma, S.*** *ChemPlusChem*, **2016**, *81*, 714-717. (invited contribution to the Special Issue "Coordination Polymers/MOFs: Structures, Properties and Applications")

46. "Two Highly Porous Single-Crystalline Zirconium-Based Metal-Organic Frameworks" Gao, W.-Y.; Thiounn, T.; Wojtas, Y.; Chen, Y.-S.; **Ma, S.*** *Science China Chemistry*, **2016**, *59*, 980-983. (invited contribution to the *themed issue of "MOFs"*)

47. "Anionic metal-organic framework for selective dye removal and CO2 fixation" Kumar, S.; Verma, G.; Gao, W.-Y.; Niu, Z.; Wojtas, L.; **Ma, S.*** *Eur. J. Inorg. Chem.* **2016**, 4373-4377. (invited contribution to the *thematic issue on "Metal-Organic Frameworks – Heading Towards Application"*)

48. "Selective Removal of Cesium and Strontium using Porous Frameworks from high level Nuclear Waste" Aguila, B.; Banerjee, D.; Nie, Z.; Shin, Y.; **Ma, S.**; Thallapally, P. *Chem. Commun*. **2016**, *52*, 5940-5942.

49. "Inserting CO2 into Aryl C-H Bond of Metal-Organic Framework: CO2 Utilization for Direct Heterogeneous C-H Activation" Gao, W.-Y.; Wu, H.; Leng, K.; Sun, Y.; **Ma, S.*** *Angew Chem. Int. Ed*., **2016**, *55*, 5472-5476.

50. "Biomimetic Catalysis of Metal-Organic Frameworks" Chen, Y.; **Ma, S.*** *Dalton Trans.,* **2016**, *45*, 9744-9753. (invited contribution to the *themed issue on* ***New Talent: Americas***)

51. "Nanoporous Carbons Derived from Metal-Organic Frameworks as Novel Matrices for Surface-Assisted Laser Desorption/Ionization Mass Spectrometry" Shih, Y.-H; Fu, C.-P.; Liu, W.-L.; Lin, C.-H.*; Huang, H.-Y.*; **Ma, S.*** *Small.* **2016**, *12*, 2057-2066 (VIP and Front Piece).

52. "A robust metal-metalloporphyrin framework based upon a secondary building unit of infinite nickel oxide chain" Zhang, W.; Gao, W.-Y.; Pham, T.; Jiang, P.*; **Ma, S.*** *Cryst. Growth Des.* **2016**, *15*, 1005-1009.

53. "Imparting Brønsted Acidity into a Zeolitic Imidazole Framework" Willaims, K.; Meng, L.; Lee, S.; Lux, L.; Gao, W.-Y.; **Ma, S.*** *Inorg. Chem. Front.* **2016**, *3*, 393-396. (invited contribution to the ***"Emerging Investigator"*** themed collection)

54. "Creation of a New Type of Ion Exchange Materials for Rapid, High-Capacity, Reversible and Selective Ion Exchange without Swelling and Entrainment" Li, B.; Zhang, Y.; Ma, D.; Xing, Z.; Ma, T.; Shi, Z.*; Ji, X.; **Ma, S.*** *Chem. Sci*., **2016**, *7*, 2138-2144.

55. "An Effective Strategy to Boost the Robustness of Metal-Organic Frameworks via Introducing Size-Matching Ligand Braces" Wang, X.*; Gao, W.-Y.; Luan, J.; Wojtas, L.; **Ma, S.*** *Chem. Commun*. **2016**, *52*, 1971-1974.

56. "Applications of Metal-Organic Frameworks Featuring multi-Functional Sites" Li, B.; Chrzanowski, M.; Zhang, Y.; **Ma, S.*** *Coord. Chem. Rev.* **2016**, *307*, 106-129.

57. "Coordination-driven Polymerization of Supramolecular Nanocages" Niu, Z.; Fang, S.; Liu, X.; Ma, J.-G.*; **Ma, S.***; Cheng, P. *J. Am. Chem. Soc.*, **2015**, *137*, 14873-14876.

58. "Hierarchical Porous Ionic Organic Polymer as a New Platform for Heterogeneous Phase Transfer Catalysis" Sun, Q.; **Ma, S.***; Dai, Z.; Meng, X.; Xiao, F.-S.* *J. Mater. Chem. A*, **2015**, *3*, 23871-23875.

59. "Theoretical Insights into the Tuning of Metal Binding Sites of Paddlewheels in *rht*-Metal-Organic Frameworks" Pham, T.; Forrest, K.; Gao, W.-Y.; **Ma, S.**; Space, B.* *ChemPhysChem*, **2015**, *16*, 3170-3179.

60. "Functionalized Metal-Organic Framework as a New Platform for Efficient and Selective Removal of Cadmium (II) from Aqueous Solution" Wang, Y.*; Ye, G.; Chen, H.; Hu, X.; Niu, Z.; **Ma, S.*** *J. Mater. Chem. A*, **2015**, *3*, 15292-15298.

61. "Local Electric Field Favours More than Exposed Nitrogen Atoms on CO2 Capture: a Case Study on the rht-type MOF Platform" Gao, W.-Y.; Pham, T.; Forrest, K.; Wojtas, L.; Space, B.; Chen, Y.-S.; **Ma, S.*** *Chem. Commun.* **2015**, *51*, 9636-9639.

62. "Creating Extra Pores in Microporous Carbon via a Template Strategy for Remarkable Enhancement of Ambient-Pressure CO2 Uptake" Gao, W.-Y.; Leng, K.; Cash, L.; Chrzanowski, M.; Stackhouse, C. A.; Sun, Y.; **Ma, S.*** *Chem. Commun.* **2015**, *51*, 8683-8686.

63. "Metal-Organic Framework based upon the Synergy of Brønsted Acid Framework and Lewis Acid Center as Highly Efficient Heterogeneous Catalyst for Fixed Bed Reactions" Li, B.; Leng, K.; Zhang, Y.; Dynes, J.; Wang, J.; Hu, Y.; Ma, D.; Shi, Z.; Zhu, L.; Zhang, D.; Sun, Y.*; Chrzanowski, M.; **Ma, S.*** *J. Am. Chem. Soc.*, **2015**, *137*, 4243-4248.

64. “Remote Stabilization of Copper Paddlewheel based Molecular Building Blocks in Metal-Organic Frameworks” Gao, W.; Cai, R.; Pham, T.; Forrest, K.; Hogan, A.; Nugent, P.; Williams, K.; Wojtas, L.; Luebke, R.; Weselinski, L.; Zaworotko, M.; Space, B.; Chen, Y.-S.; Eddaoudi, M.; Shi, X.; **Ma, S.*** *Chem. Mater.* **2015**, *27*, 2144-2151.

65. "Investigation of Prototypal MOFs Consisting of Polyhedral Cages with Accessible Lewis-Acid Sites for Quinoline Synthesis" Gao, W.-Y.; Leng, K.; Cash, L.; Chrzanowski, M.; Stackhouse, C. A.; Sun, Y.; **Ma, S.*** *Chem. Commun.* **2015**, *51*, 4827-4829.

66. "Open Metal Sites Dangled on Cobalt Trigonal Prismatic Clusters within Porous MOF for CO2 Adsorption" Gao, W.-Y.; Palakurty, *S.;* Wojtas, L.; Chen, Y.-S.; **Ma, S.*** *Inorg. Chem. Front.* **2015**, *2*, 369-372.

67. "Highly Selective Adsorption of Ethylene over Ethane in a MOF Featuring the Combination of Open Metal Site and π-Complexation" Zhang, Y.; Li, B.; Krishna, R.; Wu, Z.; Ma, D.; Shi, Z.; Pham, T.; Forrest, K.; Space, B.; **Ma, S.*** *Chem. Commun.* **2015**, *51*, 2714-2717.

68. "A new photoactive Ru(II)tris(2,2'-bipyridine) templated Zn(II) benzene-1,4-dicarboxylate metal organic framework: structure and photophysical properties" Whittington, C. L.; Wojtas, L.; Gao, W.; **Ma, S.;** Larsen, R. W.* *Dalton Trans.*, **2015**, *44*, 5331-5337.

69. "Sulfono-γ-AApeptides as a New Class of Nonnatural Helical Foldamer" Wu, H.; Qiao, Q.; Hu, Y.; Teng, P.; Gao, W.; Zuo, X.; Wojtas, L.; Larsen, R. W.; **Ma, S.**; Cai, J. *Chem. Eur. J.* **2015**, *21*, 2501-2507.

70. Lux, L.; Williams, K.; **Ma, S.*** “Heat-Treatment of Metal-Organic Frameworks for Green Energy Applications” *CrystEngComm*, **2015**, *17*, 10-22.

71. Wu, H.; She, F.; Gao, W.-Y.; Prince, A.; Li, Y.; Wei, L.; Mercer, A.; Wojtas, L.; **Ma, S.**; Cai, J. “The Synthesis of Head-to-Tail Cyclic Sulfono-Î³-AApeptides” *Org. Biomol. Chem.* **2015**, *13*, 672-676.

72. Yaghoubi, H.; Li , Z.; Chen, Y.; Ngo, H. T.; Bhethanabotla, V.; Joseph, B.; **Ma, S.**; Schlaf, R.; Takshi, A. “Toward a Visible Light-Driven Photocatalyst: The Effect of Midgap States-Induced Energy Gap of Undoped TiO2 Nanoparticles” *ACS Catal.* **2015**, *5*, 327-335.

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BOOK & BOOK CHAPTERS

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2. Verma, G.; Perman, J. A.; **Ma, S.*** "Hydrogen Storage in Metal-Organic Frameworks" *Elaboration and Applications of Metal-Organic Frameworks*, Series on Chemistry, Energy and the Environment: Volume 2, World Scientific, Edited by: Shengqian Ma and Jason A Perman, **2018**, 183-201.
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Invited Seminars and Presentations

1. Division of Chemical Science & Engineering, Argonne National Laboratory (05/2018)
2. Department of Chemistry, Clemson University (05/2018)
3. Symposium "Advanced Materials for Carbon Capture and Other Important Gas Separations" MRS Spring 2018, Phoenix, AZ (04/2018)
4. Symposium "Metal-Organic Frameworks: What Are Next?", 255th ACS National Meeting, New Orleans, LA (03/2018)
5. ACS Award in Pure Chemistry: Symposium in honor of Mircea Dinca, 255th ACS National Meeting, New Orleans, LA (03/2018)
6. College of Chemical and Biological Engineering, Zhejiang University, Hangzhou, China (12/2017)
7. School of Chemistry & Chemical Engineering, Shanghai Jiao Tong University, Shanghai, China (12/2017)
8. Department of Chemistry, Tamkang University, Taiwan (12/2017)
9. Department of Chemistry, University of North Texas (10/2017)
10. Texas A&M Energy Institute Research Workshop, Texas A&M University (09/2017) (Keynote)

11. 603th Xiangshan Science Conference on the Uranium Extraction from Seawater, Beijing, China (09/2017)
12. Center of Nuclear Environmental Chemistry, Soochow University, China (09/2017)
13. Symposium "Fundamental Aspects of Metal Organic Framework Catalysis", 254th ACS National Meeting, Washington DC (08/2017)
14. Symposium "Structural & Supramolecular Aspects of Metal Ion Separations", 254th ACS National Meeting, Washington DC (08/2017)
15. College of Chemistry, Tianjin Normal University, Tianjin, China (07/2017)
16. State Key Laboratory of Medicinal Chemical Biology, Nankai University, Tianjin, China (07/2017)
17. State Key Laboratory of Coordination Chemistry, Nanjing University, Nanjing, China (07/2017)
18. College of Chemical Engineering, Nanjing Tech University, Nanjing, China (07/2017)
19. College of Chemistry, Chemical Engineering and Material Science, Soochow University, China (07/2017)
20. School of Materials Science and Engineering, Zhejiang University, Hangzhou, China (07/2017)
21. College of Chemistry, Chongqing Normal University, Chongqing, China (07/2017)
22. State Key Laboratory of Applied Organic Chemistry, Lanzhou University, Lanzhou, China (07/2017)
23. "New Directions in Crystalline Porous Materials: Faraday Discussion", Edinburgh, United Kingdom (06/2017)
24. College of Chemistry, Northeast Normal University, Changchun, China (07/2017)
25. State Key Laboratory of Inorganic Synthesis & Preparative Chemistry, Jilin University, Changchun, China (05/2017)
26. Key laboratory for the Chemistry and Molecular Engineering of Medicinal Resources, Guangxi Normal University, Guilin, China (05/2017)
27. State Key Laboratory of Inorganic Synthesis & Preparative Chemistry, Jilin University-Zhuhai Campus, Zhuhai, China (05/2017)
28. Materials Symposium, Florida ACS Meeting and Exposition (FAME) (05/2017)
29. Symposium "Functional porous materials for Sustainable Energy", 253rd ACS National Meeting, San Francisco (04/2017)
30. "F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in honor of Pingyun Feng", 253rd ACS National Meeting, San Francisco (04/2017)

31. 2017 FLAVS/FSM joint symposium/Renewable Energy, University of Central Florida, Orlando (03/2017)
32. Symposium of Functional Molecular Crystals, 6th Chinese Crystallographic Society National Meeting, Guangzhou, China (12/2016)
33. Lehn Institute of Functional Materials, Sun Yat-Sen University, Guangzhou, China (12/2016)
34. State Key Laboratory of Physical Chemistry of Solid Surfaces, Xiamen University, Xiamen, China (12/2016)
35. Department of Chemistry & Biochemistry, The Florida State University (12/2016)
36. Symposium "Supramolecular Assemblies and Metal-Organic Frameworks", SERMACS 2016 (10/2016)
37. College of Chemistry and Molecular Engineering, Peking University, Beijing, China (08/2016)
38. Technical Institute of Physics and Chemistry, Chinese Academy of Science, Beijing, China (08/2016)
39. Department of Chemistry, Tsinghua University, Beijing, China (08/2016)
40. Department of Chemistry, Fudan University, Shanghai, China (08/2016)
41. School of Chemistry & Chemical Engineering, Shanghai Jiao Tong University, Shanghai, China (08/2016)
42. School of Physical Science and Technology, ShanghaiTech University, Shanghai, China (08/2016)
43. Changchun Institute of Applied Chemistry, Chinese Academy Science, Changchun, China (08/2016)
44. College of Chemistry, Northeast Normal University, Changchun, China (08/2016)
45. International Conference on Seawater Uranium Recovery, University of Maryland, College Park (07/2016)
46. Ninth International Conference on Porphyrins and Phthalocyanines (ICPP-9), Nanjing, China (07/2016).
47. College of Environmental and Energy Engineering, Beijing University of Technology, Beijing, China (07/2016)
48. Technical Institute of Physics and Chemistry, Chinese Academy of Science, Beijing, China (07/2016)
49. School of Chemistry and Materials Science, Nanjing Normal University, Nanjing, China (07/2016)
50. State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan, China (06/2016)

51. School of Chemistry and Molecular Sciences, Wuhan University, Wuhan, China (06/2016)
52. Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences, Ningbo, China (06/2016)
53. School of Chemical & Materials Engineering, Jiangnan University, Wuxi, China (06/2016)
54. Symposium "Designer Molecule-derived Materials" 99th Canadian Chemistry Conference and Exhibition, Halifax, Canada (06/2016)
55. Department of Chemistry, University of California-Riverside (05/2016)
56. Symposium "Frontiers of Organic Porous Materials: Structures, Properties and Applications" Pacifichem 2015 (12/2015)
57. Symposium "Metal-Organic Frameworks: Synthesis, Properties and Applications" Pacifichem 2015 (12/2015)
58. Symposium "Metal Organic Frameworks for Catalysis Applications" 250th ACS National Meeting (Boston, August, 2015)
59. Department of Chemistry, Ulsan National Institute of Science and Technology, Ulsan, Korea
60. Symposium "Functional Coordination Polymers", IUPAC 2015 (08/2015)
61. Young Chemists Lecture, IUPAC 2015 (08/2015)
62. Telluride Science Research Center (TSRC) workshop on "Metal-organic frameworks: Experiments and Simulations" Telluride, Colorado (06/2015)
63. 6th North America-Greece-Cyprus Workshop on Paramagnetic Materials (NAGC 2015), Athens, Greece (06/2015)
64. School of Chemistry & Chemical Engineering, Shanghai Jiao Tong University, Shanghai, China (06/2015)
65. 1st International Conference on Microstructure and Property of Materials Zhejiang University, China (05/2015)
66. Department of Chemistry, University of Science and Technology of China (USTC), Hefei, China (05/2015)
67. The 2nd SYSU International Symposium on MOF and Related Open Framework Materials, Sun Yat-Sen University, Guangzhou, China (05/2015)
68. Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, Fuzhou, China (05/2015)
69. Fujian Normal University, Fuzhou, China (05/2015)
70. Fuzhou University, Fuzhou, China (05/2015)
71. Department of Chemistry, University of South Dakoda (03/2015)
72. Department of Physics, University of South Florida (02/2015)

73. Advanced Membranes and Porous Materials (AMPM) research center, KAUST, Saudi Arabia (12/2015)
74. Department of Chemistry, University of Texas-Austin (11/2014)
75. Department of Chemistry, Texas A&M University (11/2014)
76. Department of Chemistry, University of Texas-San Antonio (11/2014)
77. Department of Chemistry & Biochemistry, Ohio State University (10/2014)
78. Department of Chemistry, West Virginia University (10/2014)
79. Pre-Conference of MOF2014, Osaka, Japan (09/2014)
80. Pre-MOF 14 "Young Investigators" Symposium, Kyoto, Japan (09/2014)
81. Institute for Molecular Science, Okazaki, Japan (09/2014)
82. School of Chemistry and Chemical Engineering, Sun Yat-Sen University, Guangzhou, China (07/2014)
83. International Conference on Coordination Chemistry (ICCC-41) – Singapore (07/2014)
84. Telluride Science Research Center (TSRC) workshop on "Metal-organic frameworks: Experiments and Simulations" Telluride, Colorado (07/2014)
85. College of Chemistry, Nankai University, Tianjin, China (06/2014)
86. College of Chemical and Environmental Engineering, Beijing University of Technology, Beijing, China (06/2014)
87. Department of Chemistry, Zhejiang University, Hangzhou, China (06/2014)
88. College of Chemistry, Bohai University (06/2014)
89. State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, Jilin University, Changchun, China (06/2014)
90. Department of Chemical Engineering, Harbin Institute of Technology, Harbin, China (06/2014)
91. Institute of Chemistry, Academia Sinica, Taipei, Taiwan (06/2014)
92. Department of Chemistry, Chung Yuan Christian University, Chung Li, Taiwan (06/2014)
93. Department of Chemistry, National Chung Hsing University, Taichung, Taiwan (06/2014)
94. Department of Chemical Engineering, National Taiwan University, Taiwan (06/2014)
95. MRS Spring 2014, San Francisco, CA (04/2014)
96. Symposium of Nanotechnology Application in Energy, 246th *ACS National Meeting*, Indianapolis, IN (09/2013)
97. Division of Chemical Sciences, Oak Ridge National Laboratory (08/2013)
98. MOF Symposium, 245th *ACS National Meeting*, New Orleans, LA (04/2013)

99. Symposium of Hydrogen Production, Storage, and Utilization, 245th *ACS National Meeting*, New Orleans, LA (04/2013)

100. Symposium of Metal-Organic Frameworks (MOFs) for Energy and Fuels, 245th *ACS National Meeting*, New Orleans, LA (04/2013)

101. Department of Chemical & Biochemical Engineering, University of South Florida (10/2012)

102. Department of Chemistry, University of North Florida (09/2012)

103. Gordon Research Conference-Crystal Engineering (June, 2012)

104. *243rd ACS National Meeting*, San Diego, CA (03/2012)

105. *New Horizons in Molecular Science 2011: Design and Application of Porous Frameworks*, University of South Florida (06/2011)

106. State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, Jilin University, Changchun, China (06/2010)

107. Department of Mechanic Engineering, Purdue School of Engineering and Technology, IUPUI (05/13/2010)

108. *2009 APS Users Week Workshop*, Argonne National Laboratory, Argonne, IL (05/06/2009)

109. Young Investigator Symposium of DIC, *236th ACS National Meeting*, Philadelphia, PA (08/2008)

110. State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, Jilin University, China (06/2008)

Memberships in Professional Organizations

- **2016 - present** Roy Society of Chemistry
- **2015 - present** Society of Porphyrins and Phthalocyanines
- **2014 - present** Materials Research Society
- **2007 - present** Sigma Xi
- **2005 - present** American Chemical Society