

Chung-Yuan Mou

牟中原

Born March 15, 1950, married with two sons

Education:

BS. Taiwan University(1970),

Ph.D. Washington University, St Louis(1975),

Postdoctor, University of Oregon(1975-1977),

Professional Association:

Associate Prof. Department of Chemistry, National Taiwan University(1978-1982),

Professor, Department of Chemistry, National Taiwan University(1982-),

Research Fellow, Center of Condensed Matter Research, National Taiwan University (2001-)

Chairman, Department of Chemistry, National Taiwan University (2004-2007)

University Chair, National Taiwan University (2008-

Deputy Minister, National Science Council (May, 2012-March, 2014)

Guest Chair Professor, Taipei Medical University (2017-)

Editorial Board:

Nano Today

Materials Physics and Chemistry

APL Materials

ChemNanMat

Research Field:

My research activities are in the Chemistry of Materials with Catalytic and Biomedical applications.

Topics includes:

Mesoporous Silica--- Synthesis, applications include fuel cell and catalysis

Liquid Water----- Scattering study

Biomedical application of nanoparticles----drug and gene delivery, MRI imaging

Heterogeneous Catalysis --- CO oxidation and hydrocarbon cracking

Biomineralization---- Theoretical aspects and biomimic synthesis of CaCO_3

Selected Awards

1. National Chair Professor 2000-2003
2. Chemistry Medal, Chinese Chemical Society, Taipei(2002)
3. IUPAC Fellow, International (2001-)
4. Distinguished Researcher, National Science Council (3 times)
5. Fellow of Royal Society of Chemistry(FRSC, since 2005)
6. Cozzarelli Prize of the National Academy of Science of USA (2007 best paper in PNAS)
7. William Mong Lecture, Hong Kong UST (2011)
8. University Chair Professor(2008-2012), National Taiwan University
9. TWAS-Chemistry Award (2014)

Publications after 2011

1. Sunney I. Chan,* Steve S.-F. Yu, Chih-Cheng Liu, Chung-Yuan Mou* "Selective oxidation of light alkanes under mild conditions" *Current Opinion in Green and Sustainable Chemistry*, 22:39–46 (2020)
2. Salim Ok,, Bohyun Hwang, Tingting Liu, Susan Welch, Julia M. Sheets, David R. Colel, Kao-Hsiang Liu, Chung-Yuan Mou, "Fluid Behavior in Nanoporous Silica" *Frontier in Chemistry*, accepted (2020)
3. Rong-Lin Chang, Feby Wijaya Pratiwi, Bi-Chang Chen, Peilin Chen,* Si-Han Wu,* Chung-Yuan Mou*, "Simultaneous Single-Particle Tracking and Dynamic pH Sensing of Lysosome-Targetable Mesoporous Silica Nanoparticles" *ACS Nano* submitted (2020)
4. Jingling Yang, Geng-Sheng Lin, Chung-Yuan Mou,* and Kuo-Lun Tung*, "Mesoporous Silica Thin Membrane with Tunable Pore Size for Ultra-high Permeation and Precise Molecular Separation" *ACS Applied Materials & Interfaces*, accepted (2020)
5. Jingling Yang, Chun-Yao Wang, Chun-Chieh Wang, Kuei-Hsien Chen, Chung-Yuan Mou, and Heng-Liang Wu "Advanced Nanoporous Separators for Stable Lithium Metal Electrodeposition at Ultra-High Current Densities in Liquid Electrolyte" submitted *J Mater Chem A* (2020) accepted
6. Ding-Jier Yuan, Jingling Yang, Aoml M. Hengne, Yi-Tzu Lin, Chung-Yuan Mou,* and Kuo-Wei Huang* "Mesoporous silica-supported V-substituted heteropoly acid for efficient selective conversion of glycerol to formic acid" *Journal of Saudi Chemical Society* 24, 1-8, (2020)
7. Yi-Ping Chen, Chien-Tsu Chen, Tsang-Pai Liu, Fan-Ching Chien, Si-Han Wu, Peilin Chen, and Chung-Yuan Mou "Catcher in the Rel: Nanoparticles-Antibody Conjugate as NF- κ B Nuclear Translocation Blocker" *Biomaterials*, submitted (2020)
8. Chih-Cheng Liu, Hao-Ju Chou, Chan-Yi Lin, Po-Wen Chung, Chung-Yuan Mou, Steve S.-F. Yu, Sunney I. Chan, "The Over-Solubility of Methane Gas in Nano-confined Water in Mesoporous and Microporous Silica Materials" *Microporous and Mesoporous Materials*, 293, 109793 (2019)
9. Tsai, Ping-Hsing; Wang, Mong-Lien; Chang, Jen-Hsuan; Yarmishyn, Aliaksandr; Nhi Nguyen, Phan Nguyen; Chen, Wei; Chien, Yueh; Huo, Teh-Ia; Mou, Chung-Yuan; Chiou, Shih-Hwa "Dual delivery of HNF4 α and cisplatin by mesoporous silica nanoparticles inhibits cancer pluripotency and tumorigenicity in hepatoma-derived CD133-expressing stem cells" *ACS Applied Materials & Interfaces*, submitted (2019)
10. Cheng, Cheng-Shun ; Liu, Tsang-Pai; Chien, Fan-Ching; Mou, Chung-Yuan; Wu, Si-Han; Chen, Yi-Ping "Co-delivery of Plasmid and Curcumin with Mesoporous Silica Nanoparticles for Promoting Neurite Outgrowth" *ACS Applied Materials & Interfaces*, accepted (2019)
11. Ding-Jier Yuan, Jingling Yang, Aoml M. Hengne, Yi-Tzu Lin, Chung-Yuan Mou,* and Kuo-Wei Huang* "Mesoporous silica-supported V-substituted heteropoly acid for efficient selective conversion of glycerol to formic acid" *Green Chem.* Submitted (2019)
12. Jung-Kun Fang, Cheng-Feng Lee, Chih-Cheng Liu,* Wondemagegn Hailemichael Wanna, Steve S.-F. Yu, Chung-Yuan Mou "Benzene to Phenol by Highly Dispersed Iron- Based Mesoporous Silica Nanoparticle (or Highly Dispersed Iron Catalyst on Mesoporous Silica Nanoparticle"
13. Jingling Yang, Geng-Sheng Lin, Chung-Yuan Mou, Kuo-Lun Tung, "A Diatom-Mimicking Ultrahigh-flux Mesoporous Silica Thin Membrane with Straight-through Channels for Selective Protein and Nanoparticle Separations" *Chem Mater*, 31 (5), 1745–1751 (2019)
14. Yi-Qi Yeh, Ying-Chu Lai, Chih-Yuan Tang, Zhenyu Di, U-Ser Jeng, Chung-Yuan Mou "Biomimetic-Inspired Formation Mechanism of Silica Thin Sheets of Perpendicular Nanochannels" *J Amer. Chem. Soc.* (2019) to be submitted
15. Zih-An Chen, Si-Han Wu, Yi-Ping Chen, Pei-Lin Chen and Chung-Yuan Mou, "Critical Features for Mesoporous Silica Nanoparticles Encapsulated into Erythrocytes" *ACS applied Mater & Interface*, 11,

28. Jen-Hsuan Chang, Ping-Hsing Tsai, Wei Chen, Shih-Hwa Chiou and Chung-Yuan "Dual Delivery of siRNA and Plasmid DNA using Mesoporous Silica Nanoparticles to Differentiate Induced Pluripotent Stem Cells into Dopaminergic Neurons" *J Mater Chem B*, 5, 3012 (2017)
29. Yaswanth Kuthati, Ranjith Kumar Kankala, Shi-Xiang Lin, Jin-Pei Deng, Chia-Hung Lee, Chung-Yuan Mou, Prabhakar Busa, "Phototherapeutic Spectrum Expansion through Synergistic Effect of Mesoporous Silica Trio-NanoHybrids against Antibiotic-Resistant Gram-Negative Bacterium" *Journal of Photochemistry & Photobiology, B: Biology*, 169, 124–133 (2017)
30. Je-Ruei Wen and Chung-Yuan Mou, "Morphology-controllable templated synthesis of three-dimensionally structured graphenic materials" *Carbon*, 111 (2017) 476–485
31. Yi-Wen Wang, Kun-Che Kao, Juen-Kai Wang, Chung-Yuan Mou, 2016 "Large-Scale Uniform Two-Dimensional Hexagonal Arrays of Gold Nanoparticles Templated from Mesoporous Silica Film for Surface-Enhanced Raman Spectroscopy" *J Phys Chem C* 120, 24382–24388 (2016)
32. Chih-Cheng Liu, Ravirala Ramu, Sunney I. Chan, Chung-Yuan Mou, Steve S.-F. Yu "Chemistry in confined space: a strategy for selective oxidation of hydrocarbons with high catalytic efficiencies and conversion yields under ambient conditions" *Catal. Sci. Technol.*, 6, 7623–7630 (2016)
33. Yu-Hsuan Lin, Yi-Ping Chen, Tsang-Pai Liu, Fan-Ching Chie, Chih-Ming Chou, Chien-Tsu Chen, and Chung-Yuan Mou, "An approach to deliver two antioxidant enzymes with Mesoporous Silica Nanoparticles into cells" *ACS Applied Materials & Interface*, 8, 17944–17954 (2016)
34. Heather F. Greer, Wuzong Zhou, Ming-Han Liu, and Chung-Yuan Mou, 2016 "Dipole Field Driven Morphology Evolution in Biomimetic Vaterite" *CrystengComm*, 2016, 18, 1585–1599
35. Yuanyuan Cao, Kunche Kao, Chung-yuan Mou and Shunai Che, 2016 "Mesostructured Chiral DNA-Silica Film Oriented by leading effect of Crystalline Mica Substrate" *Angewandte Chem, Intl*, (2016) 55:2037-41
36. Chih-Cheng Liu, Chung-Yuan Mou, Steve S.-F. Yu, and Sunney I. Chan, "Heterogeneous formulation of the tricopper complex for efficient catalytic conversion of methane into methanol at ambient temperature and pressure" *Energy & Environ Sci.*, 9, 1361--1374(2016).
37. Ming-Han Liu, Yun-Wen Chen, Xiaoyan Liu, Tien-Sung Lin, Jyh-Fu Lee, Jer-Lai Kuo, and Ming-Wen Chu, Chung-Yuan Mou, 2016 "Mobile Gold Atoms moving in and out of Zinc Oxide as a Nanocatalyst" *ACS Catalysis*, 6, 115–122 (2016)
38. Wang, Zhe ; Liu, Kao-Hsiang ; Le, Peisi ; Li, Mingda ; Chiang, Wei-Shan; Leao, Juscelino B. ; Copley, John R. D. ; Tyagi, Madhusudan ; Podlesnyak, Andrey ; Kolesnikov, Alexander; Mou, Chung-Yuan; Chen, Sow-Hsin, ""Comment on "Boson Peak in Deeply Cooled Confined Water: A Possible Way to Explore the Existence of the Liquid-to-Liquid Transition in Water: Reply" *Phys. Rev. Lett*, 115, 149802 (2015)
39. Cheng-Hsun Wu, Yi-Ping Chen, Shing-Lung Liu, Fan-Ching Chien, Chung-Yuan Mou and Richard P. Cheng "Attenuating HIV Tat/TAR-Mediated Protein Expression by Exploring the Side Chain Length of Positively Charged Residues" *Organic & Biomolecular Chemistry*, 13, 11096-11104 (2015)
40. Yu-Ru Huang, Kao-Hsiang Liu, Chung-Yuan Mou, and Chi-Kuang Su, "Relaxation Dynamics of Surface-Adsorbed Water Monolayer Revealed by Terahertz spectroscopy" *Applied Phys Lett*, 107, 081607 (2015)

- a Neutron Scattering Study” *Phys Rev Lett*, 112, 237802 (2014)
55. Feng-Peng Chang, Yi-Ping Chen, Chung-Yuan Mou, 2014 “Intracellular implant of enzyme encapsulated hollow silica nanosphere for protein therapy: Cascade system of superoxide dismutase and catalase” *Small*, 10, 4785-4795 (2014)
 56. Nai-Tzu Chen, Kuo-Chun Tang, Ming-Fang Chung, Shih-Hsun Cheng, Ching-Mao Huang, Chia-Hui Chu, Pi-Tai Chou, Jeffrey S. Souris, Chin-Tu Chen, Chung-Yuan Mou, and Leu-Wei Lo, 2014 “Plasmonic resonance energy transfer in mesoporous silica-encased gold nanorod for two-photon-activated photodynamic therapy” *Theranostics*, 4(8):798-807
 57. Feng-Peng Chang, Yann Hung, Jen-Hsuan Chang, Chen-Han Lin, and Chung-Yuan Mou, 2014 “Enzyme Encapsulated Hollow Silica Nanospheres for Intracellular Biocatalysis” *ACS Appl. Mater. Interfaces* 2014, 6, 6883–6890
 58. J. Y. Chen, C. Y. Ho, M. L. Lu, L. J. Chu, K. C. Chen, S. W. Chu, W. Chen, C. Y. Mou, Y. F. Chen, 2014 “Efficient spin light emitting diodes based on InGaN/GaN quantum disks at room temperature: A new self-polarized paradigm” *Nano Lett*, 14, 3130-3137
 59. Chia-Yi Fang, Cheng-Chun Chang, Chung-Yuan Mou, and Huan-Cheng Chang, 2014 "Preparation and Characterization of Ion-Irradiated Nanodiamonds as Photoacoustic Contrast Agents" *Journal of Nanoscience and Nanotechnology*, 15, : 1037-1044 (2014)
 60. Shih-Hwa Chiou, Shih-Fan Jang, Chung-Yuan Mou, 2014 “Mesoporous silica nanoparticles: a potential platform for generation of induced pluripotent stem cells?” *Nanomedicine*, 9, 377-380
 61. Qihong Chen, Zhe Wang, Yuan Zheng, Wu Shi, Dingdi Wang, Yi-Chia Luo, Bing Zhang, Jianming Lu, Haijing Zhang, Jie Pan, Chung-Yuan Mou, Zikang Tang, and Ping Sheng, 2014 “New Developments in the CVD Growth of 0.4 nm Carbon Nanotubes in Channels of AlPO₄-5 Zeolite Crystals” *Carbon*, 76 (2014) 401–409
 62. Chieh-Jui Tsou, Yann Hung, Chung-Yuan Mou, 2014 “Hollow Mesoporous Silica Nanoparticles with Tunable Shell Thickness and Pore Size Distribution for Application as Broad-Ranging pH Nanosensor” *Microporous and Mesoporous Materials*, 190:181–188.(2014)
 63. Kun-Che Kao, Tien-Sung Lin, and Chung-Yuan Mou, 2014 “Enhanced Activity and Stability of Lysozyme by Immobilization in the Matching Nanochannels of Mesoporous Silica Nanoparticles” *J. Phys. Chem C*, 118, 6734-6743.
 64. Leilei Zhang, Aiqin Wang, Jeffrey T. Miller, Xiaoyan Liu, Xiaofeng Yang, Wentao Wang, Lin Li, Yanqiang Huang, Chung-Yuan Mou, Tao Zhang, 2014 “An Efficient and Durable Au Alloyed Pd Single atom Catalyst for Ullmann Reaction of Aryl Chlorides in Water” *ACS Catalysis*, 2014, 4, 1546–1553
 65. Ying-Huang Lai, Shiaw-Woei Chen, Chiao-Cheng Huang, Wei-Tsung Chuang, Michitoshi Hayashi, Ying-Jen Shiu, Chun-Jen Su, Hau-Hsuan Chih, Yao-Chang Lee, An-Chung Su, Chung-Yuan Mou, U-Ser Jeng, 2014 “Mesostructured Arrays of Nanometer-spaced Gold Nanoparticles for Ultrahigh Number Density of SERS Hot Spots” *Adv Func Mater.*, 24, 2544–2552.
 66. Guang Xian Pei, Xiao Yan Liu, Aiqin Wang, Lin Li, Yanqiang Huang, Tao Zhang, Jonathan W Lee, Ben WL Jang, Chung-Yuan Mou, 2014 “Promotional effect of Pd single atoms on Au nanoparticles supported on silica for the selective hydrogenation of acetylene in excess ethylene” *New J Chem*, 38, 2043-2051

82. Wei-Yi Wu, Tze-Chiao Lin, Tamotsu Takahashi, Fu-Yu Tsai, Chung-Yuan Mou, 2013 "A Palladium Bipyridyl Complex Grafted onto Nanosized MCM-41 as a Heterogeneous Catalyst for Negishi Coupling" *ChemCatChem*, 5, 1011 – 1019
83. Si-han Wu, Chung-Yuan Mou, Hong-pin Lin, 2013 "Synthesis of mesoporous silica nanoparticles" *Chem Soc. Rev.* 42, 3862-3875
84. Yaswanth Kuthati, Ping-Jyun Sung, Ching-Feng Weng, Chung-Yuan Mou, and Chia-Hung Lee, 2013 "Functionalization of Mesoporous Silica Nanoparticles for Targeting, Biocompatibility, Combined Cancer therapies and Theranosis" *J. Nanoscience and Nanotechnology*, 13, 2399-2430
85. Ying-Huang Lai, Siang-Wei Cheng, Shiaw-Woei Chen, Je-Wei Chang, Chun-Jen Su, Hwo-Shuenn Sheu, Chung-Yuan Mou, and U-Ser Jeng, 2013 "Interplay of formation kinetics for highly oriented and mesostructured silicate-surfactant films at air-water interface " *RSC Adv*, 2013, 3, 3270–3283
86. Yi-Ping Chen, Yann Hung, Chih Ming Chou, Tsang Pai Liu, Chien Tsu Chen, Chung Yuan Mou, 2013 "A New Strategy for Intracellular Delivery of Membrane-Impermeable Enzyme/Protein Using Mesoporous Silica Nanoparticles" *J Amer. Chem Soc*, 135, 1516–1523
87. Wan-Ing Lin, Chien-Yuan Lin, Yu-Shen Lin, Si-Han Wu, Yann Hung, Chen Chang, Chung-Yuan Mou, 2013 "Hollow Silica Nanospheres encapsulated Gd-containing Nanorattle for High Resolution Magnetic Resonance Angiography" *J. Mater. Chem. B*, 2013, 1, 639 – 645.
88. Ai-Jan Chen, Yu-Tse Su, Wei-Yi Wu, Chung-Yuan Mou, Fu-Yu Tsai, 2013 "A fluorescent organic nanotube assembled from a novel (p-phenylene ethynylene) based di-cationic amphiphiles " *Langmuir*, 29, 2580–2587
89. Si-Han Wu, Yann Hung, and Chung-Yuan Mou, 2013 "Multiple-Compartment Hollow Silica Nanospheres Templated from Nanoemulsions" *Chem. Mater.* 25, 352–364
90. Wei Chen, Fang Lu, Chiao-Chi V. Chen, Kuan-Chi Mo, Yann Hung, Chen Chang, and Chung-Yuan Mou, 2013 "Manganese-Enhanced MRI (MEMRI) of Rat Brain based on Slow Cerebral Delivery of Mn(II) with Silica-encapsulated $Mn_xFe_{1-x}O$ Nanoparticles" *NMR in Biomedicine*, 26, 1176-1185.
91. Cheng-Hsun Wu, Yi-Ping Chen, Chung-Yuan Mou, Richard P. Cheng, 2013 "Altering the Tat-Derived Peptide Bioactivity Landscape by Changing the Arginine Side Chain Length" *Amino Acids*. 44:473–480
92. Xiaoyan Liu, Aiqin Wang, Lin Li, Tao Zhang, Chung-Yuan Mou, Jyh-Fu Lee, 2013 "Synthesis of Au-Ag alloy nanoparticles supported on silica gel via galvanic replacement reaction" *Progress in Natural Science-Materials International*, 23(3):317–325
93. Nai-Tzu Chen, Chia-Yan Wu, Chao-Yu Chung, Yeukuang Hwu, Shih-Hsun Cheng, Chung-Yuan Mou, Leu-Wei Lo, 2012 "Probing the dynamics of doxorubicin-DNA intercalation during the initial activation of apoptosis by fluorescence lifetime imaging microscopy" *PLoS ONE*, 7(9): e44947
94. Nai-Tzu Chen, Shih-Hsun Cheng, Ching-Ping Liu, Jeffrey S. Souris, Chin-Tu Chen, Chung-Yuan Mou, Leu-Wei Lo, 2012 "Recent Advances in Nanoparticle-based Förster Resonance Energy Transfer for Biosensing, Molecular Imaging, and Drug Release Profiling" *Intl J Molecular Science*, 13, 16598-16623
95. Yueh Chien, Yi-Wen Liao, Dean-Mo Liu, Heng-Liang Lin, Shih-Jen Chen, Hen-Li Chen, Chi-Hsien Peng, Chang-Min Liang, Chung-Yuan Mou, Shih-Hwa Chiou, 2012 "Corneal repair by human corneal

- Juscelino B. Leão, Sung Chang, Sow-Hsin Chen, 2011 "Density hysteresis of heavy water confined in a nanoporous silica matrix " *Proc. Natl Acad Sci.* 30, 12206-12211
110. Chen-Han Lin, Xiaoyan Liu, Kao-Hsiang Liu and Chung-Yuan Mou, 2011 "Corking and Uncorking a Catalytic Yolk-Shell Nanoreactor: Stable Gold Catalyst in Hollow Silica Nanosphere" *J. Phys. Chem Lett.* :2, 2984-2988
 111. Hsia Yu Lin, Chung Liang Cheng, Yu Shen Lin, Yann Hung, Chung Yuan Mou and Yang Fang Chen 2011, "Integrated nano-phonic hubs based on ZnO-Tb(OH)₃/SiO₂ nanocomposites" *Nanoscale Research Letters*, 6, 503.
 112. Cheng, Shih-Hsun; Hsieh, Cheng-Chih; Chen, Nai-Tzu; Chu, Chia-Hui; Huang, Ching-Mao; Chou, Pi-Tai; Tseng, Fan-Gang; Yang, Chung-Shi; Mou, Chung-Yuan; Lo, Leu-Wei, 2011 "Well-Defined Mesoporous Nanostructure Modulates Three-Dimensional Interface Energy Transfer for Two-Photon Activated Photodynamic Therapy" *Nano Today* (2011) 6, 552—563
 113. Si-Han Wu, Yann Hung, and Chung-Yuan Mou, 2011 „Mesoporous Silica Nanoparticles as Nanocarriers" *Chem Comm (Feature article)*, 2011, 47, 9972–9985
 114. Yi-Qi Yeh, Hong-Ping Lin, Chih-Yuan Tang, Chung-Yuan Mou, 2011 "Mesoporous Silica SBA-15 sheet with Perpendicular Nanochannels" *J. Colloid. Interf. Sci.*, 362, 354–366
 115. Shih-Hsun Cheng, Kun-Che Kao, Wei-Neng Liao, Li-Ming Chen, Chung-Yuan Mou, and Chia-Hung Lee, 2011 "Site-Specific Immobilization of Cytochrome c on Mesoporous Silica Through Metal Affinity Adsorption to Enhance Activity and Stability" *New J Chem.* 2011, 35, 1809–1816
 116. Xiaoyan Liu, Aiqin Wang, Lin Li, Tao Zhang, Chung-Yuan Mou, Jyh-Fu Lee, 2011 "Structural changes of Au-Cu bimetallic catalysts in CO oxidation: in situ XRD, EPR, XANES, and FT-IR characterizations" *J. Catal.* 278, 288–296
 117. Si-Han Wu, Chien-Yuan Lin, Yann Hung, Wei Chen, Chen Chang, Chung-Yuan Mou, 2011 "PEGylated Silica Nanoparticles Encapsulating Multiple Magnetite Nanocrystals for High-Performance 3DAR2 Microscopy Magnetic Resonance Angiography", *J Bio Mater Res* 99B:81–88.
 118. Ai-Jan Chen, She-Tin Wong, Chi-Chau Hwang, Chung-Yuan Mou, 2011, "Highly Efficient and Regioselective Oxyhalogenation Over Well Dispersed Rhenium promoted Mesoporous Zirconia" *ACS Catal*, 1, 786–793
 119. Shih-Hsun Cheng, Nai-Tzu Chen, Chia-Yan Wu, Chao-Yu Chung, Yeukuang Hwu, Chung-Yuan Mou, Chung-Shi Yang and Leu-Wei Lo, 2011 "Recent Advances in Dynamic Monitoring of Drug Release of Nanoparticle Using Förster Resonance Energy Transfer and Fluorescence Lifetime Imaging" *J. Chin. Chem. Soc.*, 58, 1
 120. Ya-Cheng Fang, Han-Chou Lin, Tien-Sung Lin, Chung-Yuan Mou, 2011 "Bio-inspired Design of a Cu-Zn-Imidazole Mesoporous Silica Catalyst System for Superoxide Dismutation" *J. Phys. Chem. C* 115, 20639–20652
 121. Xiaoyan Liu, Aiqin Wang, Tao Zhang, Dang-Sheng Su, Chung-Yuan Mou, 2011, "Au-Cu alloy nanoparticles supported on silica gel as catalyst for CO oxidation: Effects of Au/Cu ratios" *Catal Today*, 160, 103-108.
 122. Meng-Liang Lin, Man-Yin Lo, Chung-Yuan Mou, 2011, " PtRuP nanoparticles supported on mesoporous carbon thin film as highly active anode materials for direct methanol fuel cell" *Catal Today*,

25. Visiting professor Lecture at Fukuoka University "Delivery of catalytic action to biological cells" 2014
26. Invited Talk at Japan-Taiwan Joint Workshop on Nanospace Materials "Hollow porous silica nanoparticle encapsulating enzyme, nanoparticle, and pH sensor" Fukuoka, 2014
27. Award Lecture at TWAS 25th Meeting, "Mesoporous Silica Materials" Sultanate of Oman October, 2014
28. Keynote at Taiwan-Japan bilateral meeting on Nanomedicine, "Nonviral Cell Labeling and Differentiation Agent for Induced Pluripotent Stem Cells Based on Mesoporous Silica Nanoparticles" 2014
29. Plenary at ISOMRM, 2014 "Interaction of Nanoparticles with Stem Cells for cell labeling and Differentiation" Taipei, Taiwan 2014
30. Keynote at Nanobubble2014 "Hydration of Xe and Enzyme in Confined Water", Shanghai, 2014
31. Keynote at TOCAT7, "Strong Metal-Support Interaction (SMSI) Effect over ZnO Supported Gold Nanocatalyst" Kyoto 2014
32. Plenary at CSCS-10 第十届海峡两岸催化交流会" Synthesis and Catalysis of Silica-Supported Gold Nanoparticles" Taipei, Taiwan, 2013
33. Keynote at MRS Spring meeting Session U, Catalytic Materials "Strong Metal-support Interaction between Gold Nanoparticles and ZnO Nanorods" 2012
34. University Chair Inauguration Lecture, "Biomimic Nanomaterials" National Taiwan University, April 27, 2012
35. Academia Sinica Interdisciplinary Lecture, "On Biomimic Nanomaterials" January, 2012
36. Invited Talk "Constructing biomimic structure" Center of Applied Science, Academia Sinica, Hualian, October 2, 2011
37. Invited talk "Bio-mineralization of porous single crystal" Kavali conference on "Growth of Hierarchical Functional Materials in Complex Fluids", Institute of Theoretical Physics, Beijing, July, 5, 2011,
38. Samuel I Weissman Lecture, Washington University, St. Louis, September, 2014
39. Invited talk, "Mesoporous silica nanoparticles: A platform for multifunctional biomedical carrier" IEEE NMDC 2013, Tainan, Taiwan
40. Plenary Lecture "Catalysis of Gold-based Nanocatalytic System" CSCS-10 (第十届海峡两岸催化學術會議) (2013)
41. Chairman of APCAT 6(6th Asia-Pacific Catalysis Congress) at Taipei (2013)
42. TWAS Award lecture "Mesoporous Silica Materials" Kingdom of Anman (October, 2014)
43. Keynote, "Enhanced Activity and Stability of Lysozyme confined in Mesoporous Silica Nanoparticles" International Conference on water sciences, Beijing, April 14 – 17, 2014.
44. Keynote "Hollow porous silica nanoparticle encapsulating enzyme, nanoparticle, and pH sensor" Japan-Taiwan Joint Workshop on Nanospace Materials, Fukuoka (2014)
45. Keynote lecture, "Strong Metal-Support Interaction (SMSI) Effect over ZnO Supported Gold Nanocatalyst" Kyoto, TOCAT7 (June, 2014)

Book Chapters:

1. MRS Symposium Proceedings Vol. 1217, Edited by Chung-Yuan Mou et al, Materials Research Society (2009)
2. Chang-Lin Chen, and Chung-Yuan Mou, 2003 "Mesoporous materials as catalyst supports" in a book "Nanotechnology in Catalysis " Edited by Bing Zhou, Sophie Hermans, and Gabor A. Somorjai, Kluwer/Plenum
3. Mou, Chung-Yuan; Mazo, R. M., "Introduction to the Statistical Mechanics of Solutions", CRC Press, 01, 1991

10. Sam I Weissman Lecture, Washington University, St. Louis (2014)
11. Academician, Academia Sinica (2016-)

National and International Service (selected)

National Education Reform Council (1993-1995)
Organization Committee, 3rd Conference of the Indo-Pacific Catalysis Association (IPCAT) (2003)
Organization Committee, 5th Cross-Strait Catalysis Conference, Kaoshiung (2005)
Member, Committee on Chemical Education, IUPAC, 1997-2002
Chairman, Middle School Science Textbook project, Ministry of Education (2002- present)
Member, Academic committee, State Key Laboratory of Catalysis, Dalian Institute of Chemical Physics (2006-present)
Member, Advisory Board, Institute of Chemistry, Academia Sinica (2007-2013)
Member, Advisory Board, Research Center of Applied Science, Academia Sinica (2005- 2010)
Editorial Board, Nano Today, Elsevier
Editorial Board, Materials Chemistry & Physics, Elsevier
Editorial Board, Applied Catalysis A (2004-2007)
Member, Panel of Physical Science, Research Grant Council, Hong Kong (2007-2012)
Chairman, Symposium Y, (Catalytic Materials for Energy, Green Processes and Nanotechnology), MRS meeting 2009 (Boston)
Council Member, International Micro and Mesoporous Society (IMMS), 2008-2015
Council Member, Asia-Pacific Catalysis Society (2008-2013)
Trustee, Yuan-Tze Science Education Foundation(1994-2012)
Trustee, National Applied Research Laboratories (2012-2014)
Trustee, National Synchrotron Radiation Research Center(2012-)
Editorial Board, APL Materials(2014-2016)
Editorial Board, ChemNanoMat(2015-)
President, Catalysis Society of Taiwan (2016-)
President, Asia-Pacific Catalysis Society (2017-)

4790–4798 (2019)

16. Chih-Cheng Liu, Cheng-Hao Yeh, Yi-Fang Tsai, Jyh-Chiang Jiang, Chung-Yuan Mou, Steve S.-F. Yu, and Sunney I. Chan “CuI Complexes as Copper Monooxygenase Models: A Mechanistic and Density Functional Theory Study on Harnessing the Second “O” Atom for Catalytic Turnover” *Chem. Eur. J.* submitted(2019)
17. Jen-Hsuan Chang, Sabiha Runa, Yun Mou* and Chung-Yuan Mou* “Sleeping Beauty Transposon-Mediated Asparaginase Gene Delivery by a Nanoparticle Platform” *Scientific Reports*,(2019) accepted
18. Hsueh-Jen Chang, Tzu-Ying Chen, Zi-Ping Zhao, Zih-Jyun Dai, Chung-Yuan Mou, and Yi-Hsin Liu “Ordered Mesoporous Zeolite Thin Films with Perpendicular Reticular Nanochannels of Wafer Size Area” *Chem Mater*, 30, 8303-8313 (2018)
19. Ming-Han Liu, Yun-Wen Chen, Tien-Sung Lin and Chung-Yuan Mou, “Defective Mesocrystal ZnO-Supported Gold Catalysts: Facilitating CO Oxidation via Vacancy Defects in ZnO” *ACS Catal.* 8, 6862–6869 (2018)
20. Chih-Cheng Liu, Damodar Janmanchi, Da-Ren Wen, Jung-Nan Oung, Chung-Yuan Mou, Steve S.-F. Yu, and Sunney I. Chan, “Catalytic Oxidation of Light Alkanes Mediated at Room Temperature by a Tricopper Cluster Complex Immobilized in Mesoporous Silica Nanoparticles” *ACS Sustainable Chem. Eng.* 6 (4), 5431–5440 (2018)
21. Jinglin Yang, Chung-Yuan Mou “Ordered Mesoporous Au/TiO₂ Nanospheres for Solvent-Free Visible-Light-Driven Plasmonic Oxidative Coupling Reactions of Amines” *Appl. Catal B* (2018) 231, 283-291
22. Jen-Hsuan Chang, Ping-Hsing Tsai, Kai-Yi Wang, Yu-Ting Wei, Shih-Hwa Chiou and Chung-Yuan Mou “Generation of Functional Dopaminergic Neurons from Reprogramming Fibroblasts by Nonviral-based Mesoporous Silica Nanoparticles” *Sci. Reports*, 8:11 | DOI:10.1038/s41598-017-18324-8 (2018)
23. Hsin-Yi Chen; Chien-Tsu Chen; Yi-Ping Chen; Feng-Peng Chang; Fan-Ching Chien; Chung-Yuan Mou, “Enzymatic Nanoreactors of HRP@Hollow Silica for Intracellular Sensing of Reactive Oxygen Species” *Nanoscale Research Letters* 13:123 (2018)
24. Chou, Cheng-Chung; Chen, Wei; Hung, Yann; Mou, Chung-Yuan "Molecular Elucidation of Biological Response to Mesoporous Silica Nanoparticles in vitro and in vivo" *ACS Applied Materials & Interfaces*. 9, 22235-22251. (2017)
25. Ravirala Ramu, Wondemagegn Hailemichael Wanna, Damodar Janmanchi, Yi-Fang Tsai, Chih-Cheng Liu, Chung-Yuan Mou, Steve S.-F. Yu, “Mechanistic study for the selective oxidation of benzene and toluene catalyzed by Fe(CIO₄)₂ in an H₂O₂-H₂O-CH₃CN system” *Molecular Catalysis*, 441, 114-121 (2017)
26. Nai-Tzu Chen, Jeffrey S. Souris, Shih-Hsun Cheng, Chia-Hui Chu, Yu-Chao Wang, Vani Konda, Urszula Dougherty, Marc Bissonnette, Chung-Yuan Mou, Chin-Tu Chen, Leu-Wei Lo, “Lectin-Functionalized Mesoporous Silica Nanoparticles for Endoscopic Detection of Premalignant Colonic Lesions” *Nanomedicine*, 13, 1941-1952. (2017)
27. Yi-Hsiu Chen, Chung-Yuan Mou, Ben-Zu Wan “Ultrasml Gold Nanoparticles Confined in Zeolite Y: Preparation and Activity in CO Oxidation” *Appl. Catal. B* 218, 506-514 (2017)

41. Zih-An Chen, Yaswanth Kuthati, Ranjith Kumar Kankala, Chen-Lun Liu, Ching-Feng Weng, Chung-Yuan Mou, Chia-Hung Lee, *Sci. & Technol. of Adv. Mater.*, 16 (2015) 054205
42. Hsin-Wei Chen, Chen-Yu Hong, Chung-Wei Kung, Chung-Yuan Mou, Kevin C.-W. Wu, Kuo-Chuan Ho, "A gold surface plasmon enhanced mesoporous titanium dioxide photoelectrode for the plastic-based flexible dye-sensitized solar cells" *J. Power Sources*, 288, 221-228 (2015)
43. Ranjith Kumar Kankala, Yaswanth Kuthati, Chen-Lun Liu, Chung-Yuan Mou and Chia-Hung Lee, 2015 "Killing Cancer Cells by Delivering Nanoreactor for Inhibition of Catalase and Catalytically Enhancing Intracellular Levels of ROS" *RSC Advances*, 5, 86072–86081 (2015)
44. Kun-Che Kao, Chen-Han Lin, Tzu-Ying Chen, Yi-Hsin Liu, and Chung-Yuan Mou, 2015 "A General Method of Growing Large Area Mesoporous Silica Thin Film on Flat Substrates with Perpendicular Nanochannels" *J. Amer. Chem. Soc.* 137, 3779-3782 (2015)
45. Kao-Hsiang Liu, Yang Zhang, U-Ser Jeng, Chung-Yuan Mou, 2015 "Density of Hydrophobic Confined Deeply-Cooled Water Investigated by Small Angle X-ray Scattering" *J Chem Phys.* 143, 094704 (2015)
46. Yue-Ming Kuo, Y. Kuthatia, R. K. Kankala, Pei-Ru Wei, Ching-Feng Weng, Chen-Lun Liu, Ping-Jyun Sung, Chung-Yuan Mou and Chia-Hung Lee, 2015 "Layered Double Hydroxide Nanoparticles to Enhance Organ-Specific Targeting and Anti-Proliferative Effect of Cisplatin" *J Mater Chem B*, 3, 3447-3458 (2015)
47. Fang, Chia-Yi, Chang, Cheng-Chun, Mou, Chung-Yuan, Chang, Huan-Cheng, "Preparation and Characterization of Ion-Irradiated Nanodiamonds as Photoacoustic Contrast Agents" *J. Nanosci Nanotech* 15, 1037-1044 (2015)
48. Sun, Chi-Kuang; You, Borwen; Huang, Yu-Ru; Liu, Kao-Hsiang; Sato, Shusaku; Irisawa, Akiyoshi; Imamura, Motoki; Mou, Chung-Yuan "Pore size dependent THz absorption spectra of water confined in MCM41" *Optics Lett*, 40, 2731-2734 (2015)
49. Je-Ruei Wen, Ming-Han Liu and Chung-Yuan Mou, 2015 "Synthesis of curtain like crumpled boehmite nanosheets" *CrystEngComm.*, 17, 1959 - 1967 (2015)
50. Chieh-Jui Tsou, Chih-Hao Hsia, Jia-Yin Chu, Yann Hung, Yi-Ping Chen, Fan-Ching Chien, Keng C. Chou, Peilin Chen, and Chung-Yuan Mou, 2015 "Local pH Tracking in Living Cells" *Nanoscale.* 7, 4217–4225 (2015)
51. C.-C. Liu, Tom T.-S. Lin, Sunney I. Chan, and C.-Y. Mou, 2015 "A room temperature catalyst for toluene aliphatic C–H bond oxidation: Tripodal tridentate copper complex immobilized in functionalized mesoporous silica nanoparticles"(Featured Article) *J Catal*, 322, 139–151 (2015)
52. Liu, Chih-Cheng; Lin, Tien-Sung; Mou, Chung-Yuan, "Room temperature catalyst for toluene aliphatic C-H bond oxidation: Tripodal tridentate copper complex immobilized in functionalized mesoporous silica nanoparticles" *J. Biol. Inorg. Chem.* 19, S856-S856, (2014)
53. Yi-Qi Yeh, Chih-Yuan Tang, and Chung-Yuan Mou, 2014 "2D-crystals of mesoporous silica SBA-15 nanosheets with perpendicular and open channels" *APL Mat.*, 2, 113303 (2014)
54. Zhe Wang, Kao-Hsiang Liu, Peisi Le, Mingda Li, Wei-Shan Chiang, Juscelino Leao, Madhusudan Tyagi, John R.D. Copley, Andrey Podlesnyak, Alexander I. Kolesnikov, Chung-Yuan Mou, and Sow-Hsin Chen, 2014 "The Boson Peak in Supercooled Water Confined in Nanoporous Silica Matrix:

67. Lei He, Yanqiang Huang, Xiao Yan Liu, Lin Li, Aiqin Wang, Xiaodong Wang, Chung-Yuan Mou, Tao Zhang, 2014 "Structural and catalytic properties of supported Ni-Ir alloy catalysts for H₂ generation via hydrous hydrazine decomposition" *Applied Catalysis B*: 147 (2014) 779– 788.
68. J. Y. Chen, C. Y. Ho, M. L. Lu, L. J. Chu, K. C. Chen, S. W. Chu, W. Chen, C. Y. Mou, "Efficient Spin-Light Emitting Diodes Based on InGaN/GaN Quantum Disks at Room Temperature: A New Self-Polarized Paradigm" *Nano Lett.* (2014) 14, 3130–3137
69. Kao-Hsiang Liu, Yang Zhang, Jey-Jau Lee, Chia-Cheng Chen, Yi-Qi Yeh, Sow-Hsin Chen, Chung-Yuan Mou, 2013, "Density and Anomalous Thermal Expansion of Deeply-Cooled Water Confined in Mesoporous Silica Investigated by Synchrotron X-ray Diffraction" *J. Chem. Phys.* 139, 064502 (2013)
70. Chieh-Jui Tsou, Chia-yin Chu and Chung-Yuan Mou, 2013 "A Broad-range fluorescent pH Sensor Based on Hollow Mesoporous Silica Nanoparticles with Surface Curvature Effect" *J Mater Chem B*, 1, 5557–5563
71. Nai-Tzu Chen, Shih-Hsun Cheng, Jeffrey S. Souris, Chin-Tu Chen, Chung-Yuan Mou, and Leu-Wei Lo, 2013 "Theranostic Applications of Mesoporous Silica Nanoparticles and Their Organic/Inorganic Hybrids" *J Mater Chem B*, 1, 3128-3135
72. Jonathan William Lee, Xiaoyan Liu, Chung-Yuan Mou, 2013 "Selective hydrogenation of acetylene over SBA-15 supported Au-Cu bimetallic catalysts" *J Chin Chem Soc.* 60, 907-914
73. Ya-Cheng Fang, Yi-Ping Chen, Tien-Sung Lin, and Chung-Yuan Mou, 2013 "Protection of HeLa Cells against ROS Stress by CuZnSOD Mimic System" *J Mater Chem B*, 1 (44), 6042 - 6052
74. Aiqin Wang, Xiaoyan Liu, Chung-Yuan Mou, Tao Zhang, 2013 "Understanding the synergistic effect of gold bimetallic catalysts" *J Catal.* 308, 258–271.
75. Xiao Yan Liu, Ai Qin Wang, Tao Zhang, Chung-Yuan Mou, 2013 "Catalysis by gold catalysts: New insight into the support effect" *Nano Today.* 8, 403–416.
76. Cheng-Hsun Wu, Yi-Ping Chen, Si-Han Wu, Yann Hung, Richard P. Cheng, and Chung-Yuan Mou, 2013 "Enhanced Non-Endocytotic Uptake of Mesoporous Silica Nanoparticles by Shortening the Peptide Transporter Arginine Side Chain" *ACS Applied Materials & Interface*, 5 (23), 12244–12248.
77. Wei Chen, Ping-Hsing Tsai, Yann Hung, Shih-Hwa Chiou, and Chung-Yuan Mou, 2013 "A Non-viral Cell Tracking and Differentiation Agent for Induced Pluripotent Stem Cells Based on Mesoporous Silica Nanoparticles" *ACS Nano*, 7 , 8423–8440
78. Ching-Cheng Cheng, Ming-Han Liu, Chung-Yuan Mou, Yang-Fang Chen, 2013 "Controllable Orientation of Assembled Gold Nanorods on Unstructured Substrates" *RSC Adv*, 3, 17696
79. Feng-Peng Chang, Lin-Yun Kuang, Chia-An Huang, Wann-Neng Jane, Yann Hung, Yue-ie C. Hsing, Chung-Yuan Mou 2013 "A simple plant gene delivery system using mesoporous silica nanoparticles as carriers ", *J Mater Chem B*, 1, 5279-5287
80. Kun-Che Kao, Chung-Yuan Mou, 2013 "Pore-expanded mesoporous silica nanoparticles with alkanes/ethanol as pore expanding agent" *Micro & Mesoporous Materials*, 169, 7-15.
81. Yi-Chia Luo, Yi-Hsin Liu, Yann Hung, Xiao-Yan Liu and Chung-Yuan Mou, 2013 "Mesoporous Silica Supported Cobalt Catalysts for Hydrogen Generation in Hydrolysis of Ammonia Borane" *International Journal of Hydrogen Energy*, 38, 7280-7290.

- keratocyte-reprogrammed iPSCs and amphiphatic carboxymethyl-hexanoyl chitosan hydrogel” *Biomaterials* 33, 8003-8016
96. Ming-Han Liu, Yao-Hung Tseng, Heather F. Greer, Wuzong Zhou, and Chung-Yuan Mou, 2012 “Dipole Field Guided Orientated Attachment of Nanocrystals to Twin-Brush ZnO Mesocrystals” *Chem: An Euro J.* 2012, 18, 16104 – 16113.
 97. Xiaoyan Liu, Chung-Yuan Mou, Yanan Li, Jeremiah Secrest, Ben W.-L. Jang, 2012 “Selective Hydrogenation of Acetylene with plasma treated Au-Ag/ SiO₂ nanocatalyst” *Appl Catal A*, (2012) 8– 14
 98. Xiaoyan Liu, Ming-Han Liu, Yi-Chia Luo, Chung-Yuan Mou, Shawn D. Lin, Hongkui Cheng, Jin-Ming Chen, Jyh-Fu Lee and Tien-Sung Lin, 2012 “Strong metal-support interactions between gold nanoparticles and ZnO nanorods in CO Oxidation” *J Amer. Chem Soc*, 134 (24), 10251–10258
 99. Xing Wei, Xiao-Feng Yang, Ai-Qin Wang, Lin Li, Tao Zhang, Xiao-Yan Liu, Chung-Yuan Mou, Jun Li, 2012 “Bimetallic Au-Pd Alloy Catalysts for N₂O Decomposition: Effects of Surface Structures on Catalytic Activity” *J. Phys. Chem. C*, 116, 6222-6232
 100. Kun-Che Kao, Jerry Tsou and Chung-Yuan Mou, 2012 “Collapsed (Kippah) Hollow Silica Nanoparticles” *Chem Comm*, 48, 3454–3456
 101. Zhaogang Teng, Gengfeng Zheng, Yuqian Dou, Wei Li, Chung-Yuan Mou, and Dongyuan Zhao 2012, “Self-oriented Synthesis of Ordered Mesoporous Silica Films with Perpendicular Mesochannels by A Simple Stöber-Solution Growth Approach” *Angew. Chem. Int. Edit.* 51, 2173 –2177
 102. Yi-Ping Chen, Hsueh-An Chen, Yann Hung, Chung-Yuan Mou, 2012 “Charge Effect in Cell uptake of Mesoporous Silica Nanoparticles as Probed by Intracellular Fluorescent Ratiometric pH Imaging” *RSC Advance*, 2, 968 – 973.
 103. Heather F. Greer, Wuzong Zhou, Ming-Han Liu, Yao-Hung Tseng and Chung-Yuan Mou, 2012 “The Origin of ZnO Twin Crystals in Biomimic Synthesis’ *CrystEngComm*, 4 (4), 1247 - 1255
 104. Xiaoyan Liu, Chung-Yuan Mou, Yanan Li, Jeremiah Secrest, Ben W.-L. Jang, 2012 “Room temperature O₂ plasma treatment of SiO₂ supported Au catalysts for selective hydrogenation of acetylene in the presence of large excess of ethylene” *J Catal.* 285 (2012) 152–159
 105. William A. Kamitakahara, Antonio Faraone, Kao-Hsiang Liu, and Chung-Yuan Mou, 2012, “Temperature dependence of structure and density for D₂O confined in MCM-41-S” *J. Phys.: Condens. Matter* 24 (2012) 06410
 106. Yao-Hung Tseng, Ming-Han Liu, Yu-Wei Kuo, Peilin Chen, Chiang-Ting Chen, Yang-Fang Chen, and Chung-Yuan Mou, 2012 “Biomimetic ZnO plate twin-crystals periodical arrays” *Chem Comm* 48, 3215-3217
 107. Yang Zhang, Antonio Faraone, William A. Kamitakahara, Kao-Hsiang Liu, Chung-Yuan Mou, Juscelino B. Leão, Sung Chang, Sow-Hsin Chen, 2011 “Reply to Soper: Density Measurement of Confined Water with Neutron Scattering” *Proc. Natl Acad Sci*, 108, E1193
 108. Yang Kuang-Yao; Shih Hsin-Chin; How Chorng-Kuang; et al. 2011 “IV Delivery of Induced Pluripotent Stem Cells Attenuates Endotoxin-Induced Acute Lung Injury in Mice *Chest* 140, 1243-1253
 109. Yang Zhang, Antonio Faraone, William A. Kamitakahara, Kao-Hsiang Liu, Chung-Yuan Mou,

Presentations in International Conferences (after 2014)

1. Keynote lecture, The 12th International Symposium for Chinese Inorganic Chemists, Taipei, Taiwan (2018)
2. Plenary Lecture, 中孔洞碳材料的合成及應用 第二屆臺灣碳材料學術研討會, Taipei, Taiwan (2018)
3. Keynote Lecture, Taiwan-Japan Nanomedicine Conference, Kobe, Japan (2018)
4. Plenary Lecture, Taiwan-Japan Catalysis Conference, Kyoto, Japan (2018)
5. Plenary Lecture, Chinese Chemical Society Annual meeting, Chia-yi (2017)
6. Keynote at Nanospace Conference, Shanghai (2017)
7. The annual 朱家驊紀念講座(2017)
8. The 6th AS Academician Visiting Lectureship, Chinese University of Hong Kong, April (2017)
9. Keynote presentation at 7th Asia-Pacific Congress on Catalysis, "Bio-mimic direct oxidation of alkane to alkanol at ambient condition" January (2017)
10. Keynote at MRS 2016 Fall meeting "Hollow Silica Nanospheres as Artificial intracellular Organelles" Boston (2016)
11. Lecture at Department of Chemistry, Tufts University December, 2016
12. Lecture at Department of Chemistry, University of California, Los Angeles, "Bio-mimic supported copper catalyst for direct oxygen insertion to C-H bond under mild condition" December 5, 2016
13. The 7th Japan-Taiwan Symposium on Nanomedicine, Kyoto University "Local pH tracking in living cells" (2016)
14. Keynote lecture at International Catalysis Congress, Beijing (2016) Chung-Yuan Mou, "Bio-mimic supported copper catalyst for direct oxygen insertion to C-H bond in Methane to form Methanol"
15. 7th Japan-Taiwan Joint Meeting on Neutron and X-ray Scattering, Yi-Qi Yeh, U-Ser Jeng and Chung-Yuan Mou, "Formation Mechanism of the Mesoporous Silica SBA-15 Thin Sheet with Perpendicular Nanochannels"
16. Keynote at IWOX-X(International Workshop on Oxide Surfaces) "Defect-Mediated Gold Substitution-Doping in ZnO Mesocrystals and its Catalysis in CO Oxidation" Ming-Han Liu, Yun-Wen Chen, Xiaoyan Liu, Jer-Lai Kuo, Ming-Wen Chu, and Chung-Yuan Mou†, Dalian, China 2016.
17. Keynote at IMMS-9 (9th International Meso and Microporous Society meeting)"Water Confined in Mesoporous silica" Brisbane, Australia 2015
18. Keynote at Taiwan-Japan on Nanomedicine "Delivery of catalytic action to biological cells" Nankang 2015
19. Keynote at 15th Taiwan-Japan symposium on Catalysis "Direct oxygen insertion to C-H bond by mimicking copper enzymes" Kaoshiung, 2015
20. Invited Talk at Workshop on STRUCTURE AND DYNAMICS OF SUPERCOOLED WATER AND OTHER GLASSY MATERIALS "Hydrophobic Solvation in Confined Water" Palermo, Italy 2015
21. Keynote lecture at 2014 MCASTA "The beauty and practical applications of bio-inspired materials design" St. Louis 2014
22. Sam Weissman Lecture Series "Nanoscale Therapeutics and Diagnostics" and "Mimicking Copper Enzymes" Washington University, St. Louis, 2014
23. Plenary Talk at 37th Symposium of Solution Chemistry of Japan "Hydrophobic Solvation in Confined Water", Saga, Japan 2014
24. Visiting Scientist Lecture at NIMS(National Institute of Materials Science) "Mesoporous Silica as Nanocarrier and Diagnostics" Tsukuba, 2014

Patents:

藥物傳輸系統 (Drug delivery system)	台灣	I394583	Chia-Hung Lee, Leu-Wei Lo, Chung-Yuan Mou, Chung-Shi Yang	National Health Research Institutes (財團法人國家衛生研究院)	05-01-2013	10-23-2008
Charged mesoporous silica nanoparticle-based drug delivery system for controlled release and enhanced bioavailability	US	8252337	Chia-Hung Lee, Leu-Wei Lo, Chung-Yuan Mou, Chung-Shi Yang	National Health Research Institutes (財團法人國家衛生研究院)	08-28-2012	10-20-2009
用於製備烯烴聚合物之觸媒組合物和方法	台灣	201436	詹淑華, 丁晴, 牟中原, 林弘萍	INDUSTRIAL TECHNOLOGY RESEARCH INSTITUTE (財團法人工業技術研究院)	04-11-2004	07-10-2002
球形中孔洞分子篩與其製備方法	台灣	157469	牟中原, 林弘萍	CHINESE PETROLEUM CORP. (中國石油股份有限公司)	06-01-2002	10-06-1999
Control of morphology of mesoporous aluminosilicate or pure-silica molecular sieves by effect of alcohol	US	6319486	Chung-Yuan Mou, Hong-Ping Lin	CHINESE PETROLEUM CORP. (中國石油股份有限公司)	11-20-2001	09-22-1999
階級式“管中管”中孔矽鋁沸石及其合成方法	台灣	105615	牟中原, 林弘萍	行政院國家科學委員會	07-21-1999	02-04-1997
Mesoporous aluminosilicate molecular sieves having "tubules-within-a-tubule" hierarchical order morphology and the preparation thereof	US	5,876,690	Chung-Yuan Mou, Hong-Ping Lin	National Science Council (行政院國家科學委員會)	03-02-1999	02-11-1997
Echo contrast agent for left heart opacification and method of using the same	US	5385725	Shoa-Lin Lin, Chung-Yuan Mou	National Science Council (行政院國家科學委員會)	01-31-1995	04-11-1994
可增強超音波心臟之左心室影像的造影劑	台灣	066573	牟中原, 林少琳	National Science Council (行政院國家科學委員會)	06-21-1994	04-13-1992
An improved method to opacify left ventricle in echocardiography	US	5302372	Shoa-Lin Lin, Chung-Yuan Mou	National Science Council (行政院國家科學委員會)	04-12-1994	07-27-1992

Pending

Silica-based mesoporous carrier and delivery method of using the same	US	14/819,438	Chung-Yuan Mou, Si-Han Wu, Yi-Ping Chen	National Taiwan University		08-06-2015
Molecular catalysts capable of catalyzing oxidation of hydrocarbons and method for oxidizing hydrocarbons	PCT/US	PCT/US2014/058745 US 14/504,681	Sunney Ignatius, Chan, Sheng-Fa Yu, Penumaka Nagababu, Suman Maji, Ping-Yu Chen, Ravirala Ramu, Chung-Yuan Mou, Chih-Cheng Liu	Academia Sinica, National Taiwan University		10-02-2014
可催化碳氫化合物氧化之分子催化劑與氧化碳氫化合物的方法 (Molecular catalysts capable of catalyzing oxidation of hydrocarbons and method for oxidizing hydrocarbons)	台灣	103134471	Sunney Ignatius, Chan, Sheng-Fa Yu, Penumaka Nagababu, Suman Maji, Ping-Yu Chen, Ravirala Ramu, Chung-Yuan Mou, Chih-Cheng Liu	Academia Sinica, National Taiwan University		10-02-2014
Mesoporous silica nanoparticle-mediated delivery of dna into arabidopsis root	US	13/742,112	Lin-Yun Kuang, Chia-An Huang, Yue-Le C. Hsing, Feng-Peng Chang, Yann Hung, Chung-Yuan Mou	Academia Sinica, National Taiwan University		01-15-2013