

IMMS10 Program
CNSI (UCLA Campus), 2018

Abstracts are indexed in the Abstract Book
according to their assigned number

**Monday,
September 10**

Location

Invited Speaker Session I: 8:00AM – 10:10AM (Chair: Sarah Tolbert)

Invited Speaker Session II: 10:45AM - 12:10PM (Chair: Sheng Dai)

8:00AM – 8:40AM	1. Dongyuan Zhao (Fudan University) Oriented Assembly of Functional Mesoporous Materials with Multi-Level Architectures	Auditorium
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8:45AM – 9:25AM	2. Anders Palmqvist (Chalmers University of Technology) Functionalized Mesoporous Carbons for Fuel Cells and Lithium-Sulfur Batteries	Auditorium
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9:30AM – 10:10AM	3. Eric Detsi (University of Pennsylvania) Sustainable hydrogen generation enabled through hydrolysis of hierarchical nanoporous aluminum in neutral water	Auditorium
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10:10AM – 10:45AM	Coffee Break	Lobby
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10:45AM – 11:25AM	4. Ulrich Wiesner (Cornell University) Mesoporous Materials from Self-Assembly Strategies	Auditorium
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11:30AM – 12:10PM	5. Yu Han (KAUST) Advancing atomic-resolution TEM of MOFs from “impossible” to “routine”	Auditorium
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12:15PM – 1:15PM	Lunch	Lobby
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Contributed Talk Session I: 1:15PM – 3:15PM

Auditorium - Catalysis I

Chair: Brad Chmelka

Presentation Space – Syntheses and Surfaces: Nanoparticles

Chair: Yusuke Yamauchi

1:15PM – 1:35PM	6. Isabel Diaz (Instituto de Catálisis y Petroleoquímica) SBA-15 and PMO with convenient particle morphology and tunable pore size for catalysis	Auditorium
	7. Takamichi Matsuno (Waseda University) Preparation of mesoporous quartz via crystallization of silica colloidal crystals	Presentation Space
1:40PM – 2:00PM	8. Ting Guo (UC Davis) Mesoporous Shell Nanoreactors for X-ray Nanochemistry	Auditorium
	9. Angang Dong (Fudan University) Designing New Functional Materials by Colloidal Nanocrystal Assembly	Presentation Space
2:05PM – 2:25PM	10. Laurent Bonnevoit (Ecole Normale Supérieure de Lyon) High Throughput Screening of Vanadium Anchored by Transition Metal ion in MCM-41 like Silica for Selective C-C bond Cleavage in Diols and α -Hydroxyethers	Auditorium
	11. Victor Malgras (ICYS and NIMS) Easy cast-(spin)-heat method yielding monodisperse lead halide perovskite nanocrystals in the strong quantum confinement regime	Presentation Space
2:30PM – 2:50PM	12. Hiromi Yamashita (Osaka University, ESICB) Encapsulation of Pd Nanoparticle Catalysts and Aminopolymers in Hollow Silica Spheres for Efficient Semihydrogenation of Alkynes	Auditorium
	13. Justin Ondry (UC Berkeley) Towards design rules for creating epitaxially connected assemblies of nanocrystals with defect free atomic precision and mesoscale order	Presentation Space
2:55PM – 3:15PM	14. Shinji Inagaki (Toyota Central R&D Labs., Inc.) Bipyridine-Periodic Mesoporous Organosilica for Heterogeneous Metal Complex Catalysis	Auditorium
	15. Michal Marszewski (UCLA) Synthesis and characterization of thick transparent mesoporous nanoparticle-based SiO ₂ thermal barriers	Presentation Space
3:20PM – 3:40PM	Coffee Break	Lobby
<i>Contributed Talk Session II: 3:45PM – 5:45PM</i>		
Auditorium - Electrochemical Energy Storage		Chair: Jinwoo Lee
Presentation Space - Synthesis and Surfaces: New Materials and Architectures		Chair: Uli B. Wiesner

3:45PM – 4:05PM	16. Seung Joon Yoo (UC Santa Barbara) Redox-Enhanced Electrochemical Capacitors: Electrolyte Design and Device Engineering	Auditorium
	17. Alfonso Garcia-Bennett (Macquarie University) Structural properties and potential applications of supramolecular templated chiral mesoporous materials	Presentation Space
4:10PM – 4:30PM	18. Sarah Tolbert (UCLA) Nanoporous Materials for High Rate Energy Storage Applications	Auditorium
	19. Michael Fröba (University of Hamburg) Properties of Water confined in Periodic Mesoporous Organosilicas: Nanoimprinting the local structure	Presentation Space
4:35PM – 4:55PM	20. Changyao Wang (Fudan University) Ordered Mesoporous Ti ₃₊ -Li ₄ Ti ₅ O ₁₂ Nanocrystal Frameworks Surrounded by 3D Conductive Carbon Networks for High-Performance Lithium Ion Battery Anodes	Auditorium
	21. Yi-Hsin Liu (National Taiwan Normal University) Large Area Perpendicular Nanochanneled Mesoporous Silica Thin Film	Presentation Space
5:00PM – 5:20PM	22. Terri Lin (UCLA) Nanoporous Sn and SbSn for Energy Storage Applications	Auditorium
	23. Sheng Dai (ORNL, University of Tennessee) Mesoporous Liquids: Challenges and Opportunities	Presentation Space
5:25PM – 5:45PM	24. Jesse Ko (NRC, U.S. Naval Research Laboratory) Enabling Pseudocapacitive and Battery-Like Charge Storage in Manganese Oxide-Coated Porous Carbon Nanofoam Paper	Auditorium
	25. Dahee Jung (UCLA) Boron-rich Clusters as Molecular Cross-linkers for Hierarchical Hybrid Materials	Presentation Space
6:00PM – 8:00PM	Reception and Poster Session I	Lobby

Tuesday, September 11

Invited Speaker Session III: 8:00AM – 10:10AM (Chair: Sheng Dai)

Invited Speaker Session IV: 10:45AM - 12:10PM (Chair: Galen Stucky)

8:00AM – 8:40AM **26. Jeffrey I. Zink (UCLA)** Auditorium
Multifunctional Mesoporous Silica Nanoparticles Controlled by
Nanomachines for Biomedical Targeting, Imaging and Drug Delivery

8:45AM – 9:25AM **27. Morgan Stefik (University of South Carolina)** Auditorium
Precision Nanomaterials from Persistent Micelle Templates

9:30AM – 10:10AM **28. Susannah Scott (UC Santa Barbara)** Auditorium
Mesoporous organosilica catalysts for reactions in hot liquid water

10:10AM – 10:45AM **Coffee Break** Lobby

10:45AM – 11:25AM **29. John M. Gregoire (Caltech)** Auditorium
High throughput screening of complex metal oxides and identification of
mesostructure for improving oxygen evolution electrocatalysis

11:30AM – 12:10AM **30. Jinwoo Lee (KAIST)** Auditorium
Direct Access to Functional Porous Materials for Energy Conversion
and Storage: From Ordered to Hierarchical Structures

12:15PM – 1:15PM **Lunch** Lobby

Contributed Talk Session III: 1:15PM – 3:40PM

Auditorium - Synthesis and Surfaces: Non-Silica Materials Chair: Dina Fattakhova-Rohlfing

Presentation Space – Catalysis II Chair: An-Hui Lu

1:15PM – 1:35PM **31. Mietek Jaroniec (Kent State University)** Auditorium
Tailoring Porosity, Crystallinity and Surface Properties
of Alumina-Based Mixed Metal Oxides

32. Ying Wan (Shanghai Normal University) Presentation Space
Thermally Reduced Gold Nanoparticles Confined by Ordered
Mesoporous Carbon as an Efficient Catalyst for Selective Hydrogenation
of Nitroaromatics

1:40PM – 2:00PM **33. Kun Lan (Fudan University)** Auditorium
A confined monomicelle assembly method for controlled coating single-
layered mesoporous TiO₂ shells

	34. Izabela Nowak (Adam Mickiewicz University in Poznań) Transformation of biomass-derived feedstocks into liquid biofuels by using mesoporous catalysts	Presentation Space
2:05PM – 2:25PM	35. Torsten Brezesinski (Karlsruhe Institute of Technology) Block-Copolymer-Templated Mesostructured Mixed-Metal Oxides: From Thin-Film Ferroelectrics to Tunable Magnetic Materials	Auditorium
	36. Shona Becwar (UC Santa Barbara) Compositions, structures, and properties of mesoporous-Fe,N-doped carbon materials for oxygen reduction reaction electrocatalysts	Presentation Space
2:30PM – 2:50PM	37. Michael Tiemann (Paderborn University) Organic Hydrogels as Porogenic Matrices for Mesoporous Metal Oxide Films	Auditorium
	38. Andi Di (University of Bath) Functionalized mesoporous silica synthesized using amphiphilic polyoxometalates: extending the catalytic applications of polyoxometalates	Presentation Space
2:55PM – 3:15PM	39. Tatsuo Kimura (AIST-Chubu) Towards the Precise Design of Organic Functions in Non-silica-based Hybrid Mesoporous Materials	Auditorium
	40. Shih-Yuan Chen (AIST) Mesoporous Silica Supported-Pd Catalysts for the Production of H-FAME as a New Type of Biodiesel Fuel for High-Blend Fuels	Presentation Space
3:20PM – 3:40PM	41. Christian Weinberger (Paderborn University) Selective Manipulation in Bimodal Mesoporous CMK-5 Carbon	Auditorium
	42. TBA	Presentation Space
3:45PM – 4:05PM	Coffee Break	Lobby
<i>Invited Speaker Session V: 4:10PM – 5:35PM (Chair: Dongyuan Zhao)</i>		
4:10PM – 4:50PM	43. Ryong Ryoo (IBS, KAIST) Mesoporous materials built of MFI zeolite frameworks: surfactant-directed synthesis, pore characterization, and application as a catalyst support	Auditorium
4:55PM – 5:35PM	44. Michael Sailor (UC San Diego) Porous Silicon Nanoparticles for Medical Applications	Auditorium

**Wednesday,
September 12**

Invited Speaker Session VI: 8:00AM – 10:10AM (Chair: Brad Chmelka)

Invited Speaker Session VII: 10:45AM - 12:10PM (Chair: Sarah Tolbert)

8:00AM – 8:40AM	45. Yusuke Yamauchi (The University of Queensland) Polymeric Micelle Assembly for Synthesis of Mesoporous Metallic Materials	Auditorium
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8:45AM – 9:25AM	46. Ullrich Steiner (Freiburg Institute for Advanced Studies) Metamaterials Made by Polymer Self-Assembly	Auditorium
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9:30AM – 10:10AM	47. An-Hui Lu (Dalian University of Technology) Designed Porous Carbons for Selective Gas Separations	Auditorium
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10:10AM – 10:45AM	Coffee Break	Lobby
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10:45AM – 11:25AM	48. Michael Yu (The University of Queensland) Mesoporous Organosilica Nanoparticles for Cancer Immunotherapy	Auditorium
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11:30AM – 12:10AM	49. Debra R. Rolison (U.S. Naval Research Laboratory) Using Ultraporous, Mesoscale Electrocatalytic Platforms to Deconvolve the Effects of Stoichiometry, Order/Disorder, and Architectural Expression on Oxygen Reduction and Evolution Activity	Auditorium
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12:15PM – 2:00PM	Lunch and Poster Session II	Lobby
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Contributed Talk Session IV: 2:05PM – 3:40PM

Auditorium - Synthesis and Surfaces: Self-Assembly	Chair: Michael Yu
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Presentation Space – Biotechnology	Chair: Ullrich Steiner
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2:05PM – 2:25PM	50. Karen Edler (University of Bath) Formation of Mesoporous Silica: Interactions between Silica Oligomers & Cationic Micelles	Auditorium
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51. Peter Behrens (Leibniz University Hannover) Nanoporous silica nanoparticles embedded in nanoporous platinum: A novel drug delivery material for neuronal electrodes	Presentation Space
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2:30PM – 2:50PM	52. Danielle Butts (UCLA) Transparent, monolithic, silica ambigels for low thermal conductivity coatings on single pane windows	Auditorium
	53. Peter Hesemann (Institut Charles Gerhardt de Montpellier) – Double Talk Biocompatible Periodic Mesoporous Ionosilica Nanoparticles: Application to Drug Delivery	Presentation Space
2:55PM – 3:15PM	54. Michal Kruk (College of Staten Island) Single-micelle-templated Nanoparticles	Auditorium
	53. Peter Hesemann (Institut Charles Gerhardt de Montpellier) – Double Talk Biocompatible Periodic Mesoporous Ionosilica Nanoparticles: Application to Drug Delivery	Presentation Space
3:20PM – 3:40PM	55. Tiehong Chen (Nankai University) Polyelectrolyte-Surfactant Complex Templating: A General Approach for Hierarchically Mesoporous Materials	Auditorium
	56. Brad Chmelka (UC Santa Barbara) Functionally active membrane protein molecules incorporated in mesostructured silica films	Presentation Space
3:45PM – 4:05PM	Coffee Break	Lobby
<i>Contributed Talk Session V: 4:10PM – 4:55PM</i>		
	Auditorium – Photocatalysis	Chair: Yu Han
	Presentation Space – Poster Award Presentations	Chair: Debra R. Rolison
4:10PM – 4:30PM	57. Haibo Yin (Osaka University) Plasmonic Metal/MoxW1-xO3-y for visible-light-enhanced H2 production from ammonia borane	Auditorium
	Poster Award Presentations	Presentation Space
4:35PM – 4:55PM	58. Sukriti Gakhar (UC Davis) Amorphous Photocatalytic Titanium Dioxide Porous Matrix for Purple Membrane Encapsulation and Hydrogen Production.	Auditorium
	Poster Award Presentations	Presentation Space
5:00PM – 6:00PM	IMMA Business Meeting	Auditorium
6:30PM	Banquet	Grand Horizon Ballroom

**Thursday,
September 13**

Invited Speaker Session VIII: 8:00AM – 10:10AM (Chair: Galen Stucky)

Invited Speaker Session IX: 10:45AM - 12:10PM (Chair: Sheng Dai)

8:00AM – 8:40AM	59. David Ji (Oregon State University) Insights on Carbon Activation Toward Advanced Nanoporous Carbon	Auditorium
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8:45AM – 9:25AM	60. Dina Fattakhova-Rohlfng (University of Duisburg-Essen) Nanostructured materials for electrochemical energy conversion: porosity vs. functionality	Auditorium
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9:30AM – 10:10AM	61. Gleb Yushin (Georgia Institute of Technology) Conversion-Type Electrodes and Ceramic Separators for Next Generation Li-Ion Batteries	Auditorium
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10:10AM – 10:45AM	Coffee Break	Lobby
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10:45AM – 11:25AM	62. Richard Kaner (UCLA) Conjugated Polymer Nanofibers and Their Applications	Auditorium
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11:30AM – 12:10PM	63. Zhen-An Qiao (Jilin University) Nanoscaled Mesoporous Materials: Designed Synthesis and Applications	Auditorium
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