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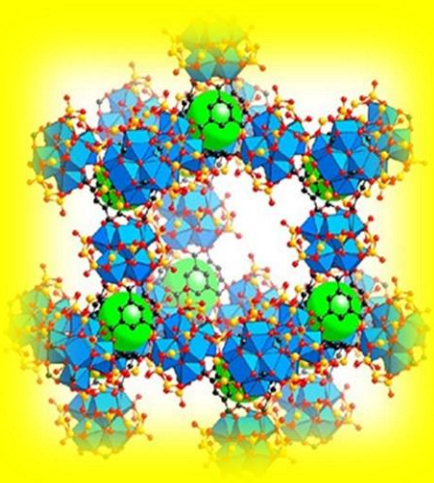

THE MAKING OF METAL-ORGANIC FRAMEWORKS (TMO-MOF) 2017

The 1st Malaysian Workshop

Time: 8:00 am – 5:00 pm
Date: 31st October – 3rd November 2017
Venue: Faculty of Science, Universiti Putra Malaysia, Serdang.

Participant Details:

Name: _____

Institute: _____

Organiser
Faculty of Science

Co-organiser
FORMS
Institute of Advanced Technology

Strategic partner

TMO-MOF 2017 Programme

TIME	Day 1: Tuesday 31st October 2017 Reticular Chemistry	Location
0900 - 1030	KEC: Introduction to Reticular Chemistry (History, Practical Theory, Topology)	BSG FS
1030 – 1045	*Break*	*BSG FS*
1045 – 1215	KEC: Synthesis and Characterisation of Reticular Materials (Synthetic Techniques, Strategies, and Basic Characterisation)	BSG FS
1215 – 1315	*Lunch*	*BSG FS*
1315 – 1445	KEC: Post-Synthetic Modification (Functionalisation of Reticular Materials)	BSG FS
1445 – 1500	*Break*	*BSG FS*
1500 - 1700	Experiments: Synthesis of ZIF-8 and MOF-74	LAB MP 7
1700	*Day 1 Adjourned*	

TIME	Day 2: Wednesday 1st November 2017 Structural Characterisation of Reticular Materials	Location
0900 - 1030	KEC: MOF Characterisation (Characterisation Techniques and Porosity)	BSG FS
1030 – 1045	*Break*	*BSG FS*
1045 – 1215	LHN: Computational Modelling and Structural Solution from X-ray Diffraction (Part I)	COMPUTER LAB
1215 – 1315	*Lunch*	*BSG FS*
1315 – 1445	LHN: Computational Modelling and Structural Solution from X-ray Diffraction (Part II)	COMPUTER LAB
1445 – 1500	*Break*	*FS*
1500 - 1700	Experiments: Solvent Exchange and As-Synthesised Sample Characterisation (PXRD, TGA, FT-IR)	LAB MP7, INSTRUMENT LABS
1700	*Day 2 Adjourned*	

Secretariat

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Pn Nurhidayu Jamaludin

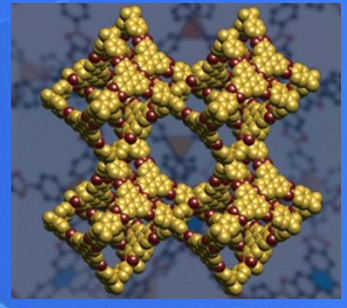
FORMS

Foundry of Reticular Materials for Sustainability (FORMS) was created to spearhead translational research of MOFs in Malaysia by research networking between Universiti Putra Malaysia (UPM) and University of California, Berkeley (UCB).

FORMS is based at the Institute of Advanced Technology (ITMA) and the Faculty of Science, UPM, and collaborates with other faculties and research institutes in the country. The core research activities focus on synthetic chemistry, materials science and agri-bio nanotechnology. These MOFs will find their use in various strategic areas such as catalysis, drugs nanodelivery, veterinary sciences, agriculture-targeted applications, gas storage and wastewater treatment.

What are MOFs?

Metal–organic frameworks (MOFs) are compounds consisting of metal ions or clusters coordinated to organic ligands to form one-, two-, or three-dimensional structures. They are a subclass of coordination polymers, with the special feature that they are often porous.



Experts

Dr. Ha Lac Nguyen

Center for Innovative Materials and Architectures,
Vietnam National University,
Ho Chi Minh, Vietnam.

ĐHQGHN VNU ĐẠI HỌC QUỐC GIA HÀ NỘI Vietnam National University, Hanoi

Dr. Ha Nguyen received his B. Eng from Can Tho University, Viet Nam, in 2011. He then worked with Prof. Nam Phan on Porous Materials for new catalytic applications at the University of Technology, Vietnam.

Dr. Ha Nguyen joined the Molecular and NanoArchitectures (MANAR) Doctoral Program established by Vietnam National University-HCM (VNU-HCM) and Prof. Omar M. Yaghi, University of California-Berkeley in 2011. He worked with Dr. Hiroyasu Furukawa from 2012 to 2016 and with Prof. Yaghi in 2014. Dr. Ha Nguyen received his Ph. D. in 2017 and awards from VNU-HCM, People Committee of HCM, and Ho Chi Minh Communist Youth Union for his contribution on research.

He was the leader of the "Architectural Materials for Gas storage" research group at the Center for Innovative Materials and Architectures (INOMAR). He is also interested in the engineering and fabrication of the new MOFs for separation, gas storage, and catalysis. Dr. Ha Nguyen joined the Center Of Research Excellence In Nanotechnology (CENT), King Fahd University of Petroleum and Minerals (KFUPM) in 2017 as a Research Consultant with Prof. Omar M. Yaghi, Co-chair of the Yaghi Aramco Chair Program, and Prof. Zain Yamani, Director of CENT.

Special talk

Prof. Dr. Omar M. Yaghi
Co-Executive Director
Berkeley Global Science Institute,
College of Chemistry
University of California, Berkeley, California

Professor Dr. Omar M. Yaghi received his B.S. from State University of New York at Albany (1985) and Ph.D. in Inorganic Chemistry from University of Illinois at Urbana-Champaign (1990). He was an NSF Postdoctoral Fellow at Harvard University (1990-92). He started his independent career as an assistant professor in 1992 at Arizona State University, moved to University of Michigan at Ann Arbor as Robert W. Parry Professor of Chemistry in 1999, and then UCLA in 2006 as Christopher S. Foote Professor of Chemistry and Irving and Jean Stone Chair Professor in Physical Sciences. Since 2012 he has been the James and Neeltje Tretter Chair Professor of Chemistry at University of California, Berkeley, and a Senior Faculty Scientist at Lawrence Berkeley National Laboratory.

He is the Founding Director of the Berkeley Global Science Institute (BGSI) through which research networking with countries including Saudi Arabia, Jordan, Spain, Vietnam, Argentina, South Korea and Japan have been established, to produce high-quality research. He is also the Co-Director of the Kavli Energy NanoSciences Institute, and the California Research Alliance by BASF.

His research work encompasses the synthesis, structure and properties of inorganic and organic compounds and the design and construction of new crystalline materials. He is widely known for the discovery and for pioneering the development of several extensive classes of new functional materials: Metal-Organic Frameworks (MOFs), Covalent Organic Frameworks (COFs), and Zeolitic Imidazolate Frameworks (ZIFs). He has published over 250 articles, which have received an average of over 300 citations per paper. He is listed among the top five most highly cited chemists worldwide. He has also received numerous international awards and awards, including the Spiers Memorial Award and the Albert Einstein World Award of Science in 2017.

At Universiti Putra Malaysia, a memorandum of understanding (MOU) has been established with University of California, Berkeley, in October 2017. Professor Dr Yaghi and Professor Dr Mohd Basyaruddin have also founded a new research center, the Foundry of Reticular Materials for Sustainability (FORMS) at the Faculty of Science. FORMS will collaborate within and outside UPM and will focus on the exploration of new reticular materials for applications both at the national and global levels.

Experts

Mr. Kyle E. Cordova
Associate Director,
Berkeley Global Science Institute,
College of Chemistry,
University of California, Berkeley, California.

Kyle E. Cordova received his M.Sc. degree in Inorganic chemistry from the University of California, Los Angeles (UCLA) under the guidance of Professor Omar M. Yaghi.

In 2012, he moved to San Francisco State University where he taught in the Department of Chemistry as a Lecturer. In 2014, he moved to the University of California, Berkeley to join Professor Yaghi's research group as a Research Associate as well as the Berkeley Global Science Institute (BGSI). From 2014 to 2016, he directed the research and mentored the Ph.D. students at the Center for Molecular and NanoArchitectures – a global science node in Ho Chi Minh City, Vietnam.

Since 2016, Kyle has served as the Associate Director of BGSI, in which he is responsible for designing, implementing, and managing all Global Science nodes and programs in the United States and abroad. His research has focused on further developing and promoting the principles of reticular chemistry. He has co-authored 25 publications, including three in Science or Nature family journals, with >4000 citations.

FORMS members

Professors and Research Associates

Prof. Dr. Mohd Basyaruddin Abdul Rahman
Prof. Dr. Abu Bakar Salleh
Prof. Dr. Zainal Abidin Talib
Dr. Emilia Abd Malek
Dr. Adila Jaafar
Dr. Haslina Ahmad
Dr. Mohamed Ibrahim Mohamed Tahir
Dr. Muhammad Alif Mohammad Latif
Dr. Normi Mohd Yahaya
Dr. Thahira Begum
Dr. Shahrul Ainliah Alang Ahmad

Associate Members

Prof. Dr. Abdul Rahman Omar
Prof. Dr. Ahmad Zaharin Aris
Prof. Dr. Aini Ideris
Prof. Dr. Dzolkhifli Omar

Graduate Researchers

Aymen Abu Hatab
Nazhirah Muhammad Nasri
Fazrieyana Hamidon
Nurul Akmarina Mohd Kamal
Nurul Nabihah Mohamad Ishak

Find us

https://globalscience.berkeley.edu/centers/FORMS-members

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TIME	Thursday 2nd November 2017 Strengthening the UCB – UPM Relationship	Location
0800 - 0900	*Breakfast (for workshop participants)*	*BSG FS*
0830 - 0930	Registration	RMC UPM
0930 - 1030	Public Talk 1 (Prof. Dr. Omar M. Yaghi)	RMC UPM
1045 – 1100	MOU Signing Ceremony	RMC UPM
1100 - 1130	Press Conference	RMC UPM
1130 – 1345	*Brunch*	*RMC UPM*
	Lunch (for workshop participants)	*BSG FS*
1345 - 1515	LHN: Topological Analysis (RCSR Database, TOPOS)	COMPUTER LAB
1515 - 1530	*Break*	*BSG FS*
1530 - 1700	LHN: Applications in Gas Capture and Storage for Reticular Materials (CO_2 capture, H_2 storage, CH_4 storage)	BSG FS
1700	Day 3 Adjourned	

TIME	Friday 3rd November 2017 Applications of Reticular Materials	Location
0800 - 0845	*Breakfast (for workshop participants)*	*BSG FS*
0830 - 0900	Registration	RMC UPM
0900 - 1000	Public Talk 2 (Prof. Dr. Omar M. Yaghi)	RMC UPM
1000 - 1045	Public Talk 3 (Mr. Kyle E. Cordova) Global Science: Providing Research Opportunities for Emerging Scholars	RMC UPM
1045 - 1130	Public Talk 4 (Dr. Ha Lac Nguyen) A Ph.D. Student's Perspective on Global Science	RMC UPM
1130 - 1430	*Brunch / Friday Prayers*	*RMC UPM*
	Lunch (for workshop participants) / Friday Prayers	*BSG FS*
1430 - 1700	Experiments: Solvent Exchange, Activation, Characterisation (N_2 isotherms at 77 K)	LAB MP7, Instrument Labs
1530 -1545	*Break*	*BSG FS*
1430 - 1700	Experiments: Solvent Exchange, Activation, Characterisation (N_2 isotherms at 77 K) (cont.)	LAB MP7, Instrument Labs
1700	*Closing Ceremony*	*BSG FS*