第二届国际二维过渡金属碳化物学术研讨会

2nd International Conference on MXenes

Beijing, China

May 10-12, 2019

2nd International Conference on MXenes

Scientific Program

Host:

Beijing University of Chemical Technology

Organizers:

State Key Laboratory of Organic-Inorganic Composites

College of Materials Science and Engineering

Beijing Key Laboratory of Electrochemical Process and Technology for Materials

Sponsors:

K. C. Wong Education Foundation, Hong Kong

Drexel University

Jilin University

Supercapacitor Industry Alliance of China

Beijing, China

May 10-12, 2019

NOTICE

1. The Conference Guide is designed to provide participants with relevant information for reference only during meetings. Please keep an eye on the notifications released at the venue for any incomplete matters, schedule changes and temporary activities.

2. The opening ceremony and the plenary sessions will be held at Science Hall in the morning of May 11. The forum communications and the closing ceremony will be conducted at the Multi-Functional Hall (first floor) and the Lecture Hall (third floor) of the Conference Center starting from the afternoon of May 11 and all day of May 12. Poster presentations are arranged in the Center Conference Room on the first floor of the Conference Center.

3. Delegates who wish to present reports should copy their PPT's into the computer present in venue during the first half hour of the sessions organized in the morning and afternoon. The organizing committee will assure not to allow others to copy it without prior permission and would ensure to remove them at the end of session.

4. When the scholars reach in the last 3 minutes of their PPT's, the staff will raise their card and the speaker is obliged to finish the rest just within 1 minute so that the last 2 minutes could be used for questioning.

5. In the venue, please keep your mobile phone and other communication devices on silent mode. Noise and smoking is strictly prohibited to maintain the decorum of the event. Taking picture of the slides and data transfer is not allowed without prior permission of the speaker.

6. The conference will host dinner on May 10, lunch and dinner on May 11, and lunch on May 12. The participants can enjoy different meals accredited to the meal vouchers and registration cards issued by the conference secretariat. The meal vouchers would only work at the time and places designated by the conference. Please note: One cannot get another copy of meal voucher if it's lost and the unused meal vouchers will not be refunded.

7. Make sure to have registration cards on you, the participants without the cards would not be permitted to attend the conference.

8. Please make sure to maintain conference decorum, and take your valuables with you when exiting the room.

9. Please understand that the registration fee will not be refunded in any case of early departure due to special circumstances.

CONFERENCE GUIDE

1. Reception & Registration

(1) Reception Time: 8:30-21:00, May 10, 2019

(2) Reception Site: Beijing Guizhou Hotel

(3) Reception Procedure:

- For the participants who paid beforehand:
  Please receive the conference commodities at the Reception Site.
  The invoice for the registration fee will be provided at 8:30-16:00 on 12th May at the Conference Center, BUCT.
- For the unpaid participants:
  Please pay the registration fee (Student: $ 270 or ¥ 1800; Non student: $ 420 or ¥ 2800) and get the conference commodities at the Reception Site.
  The invoice for the registration fee will be provided at 8:30-16:00 12th at the Conference Center, BUCT.
- For the student participants, please show your student ID at the reception site.

2. Accommodation & Catering

(1) Accommodation: Please self-check in. If you are staying at Beijing Guizhou Hotel or Beijing University of Chemical Technology Hotel, you can get the premium rates by mentioning the conference name.

(2) Catering: Dinner on May 10, lunch and dinner on May 11, and lunch on May 12 will be hosted by the conference. The participants can enjoy meals with their meal vouchers and the registration cards. The meal vouchers and registration card will be provided at the reception site, together with other conference commodities. The meal vouchers shall only be used at the time and places designated by the conference. One cannot get another copy of the meal voucher if it is lost. The unused meal vouchers will not be refunded.

Time	Participant	Site
18:00-20:00 May 10 Dinner	All	Canteen 6
12:20-14:00 May 11 Lunch	All	Canteen 5 & 6
18:50-20:30 May 11 Banquet	Professionals	Xian-Heng Restaurant
	Students	Canteen 6
12:15-14:00 May 12 Lunch	All	Canteen 5 & 6

Conference Schedule

Date	Time	Events		Site
May 10 (Friday)	08:30-21:00	Arrivals and Registrations		Beijing Guizhou Hotel
	15:00-17:30	Editorial Session (*AEM, ACS Nano, JMCA, Nano-Micro Lett*)		Science Hall
	18:00-20:00	Dinner		Canteen 6
May 11 (Saturday)	08:30-09:00	Opening Ceremony		Science Hall
	09:00-10:00	Plenary Lectures		
	10:00-10:30	Group Photo & Tea Break		
	10:30-12:00	Plenary Lectures		
	12:00-12:20	One-Minute Presentations		
	12:20-14:00	Lunch		Canteen 5 & 6
	14:00-17:30	Forums	A: MXenes for Energy and Conversion	Lecture Hall
			B: Synthesis and Structure of MXenes	Multi-Function Hall
	17:30-18:30	Poster Presentations		Central Conference Room
	18:50-20:30	Banquet		Xian-Heng Restaurant & Canteen 6
May 12 (Sunday)	08:30-12:15	Forums	A: MXenes for Energy and Conversion	Lecture Hall
			C: MXenes for Catalysis and Biomedicine	Multi-Function Hall
	12:15-14:00	Lunch		Canteen 5 & 6
	14:00-17:30	Forums	A: MXenes for Energy and Conversion	Lecture Hall
			D: MXenes for Environment, Optics and Electronics	Multi-Function Hall
	17:30-17:50	Closing Ceremony (Grant of poster award)		Lecture Hall

Editorial Session

—— High-end Publications & Illustrations in Scientific World

15:00-17:30 May 10, 2019 **Site: Science Hall, BUCT**

Time	Topic	Speaker	Affiliation
15:00-15:25	How to get your work published	Yury Gogotsi	Professor in Drexel University Associate editor of ACS Nano
15:25-15:50	How to write a paper: from the view of author, reviewer, and editor	Zhen Zhou	Professor in Nankai University Associate editor of JMCA
15:50-16:10	Publishing in Wiley Materials Science Journals	Bo Weng	Editor in Wiley
16:10-16:30	Science communication in a second: the art of making effective illustrations	Babak Anasori	Research Assistant Professor in Drexel University
16:30-16:50	Nano-Micro Letters: Welcome to Join us	Liying Zhang	Editor of Nano-Micro Letters
16:50-17:30	Question & Answer Session	Yury Gogotsi, Zhen Zhou, Bo Weng, Babak Anasori, Liying Zhang	

Opening Ceremony & Plenary Sessions

08:30-12:20, May 11, 2019 **Site: Science Hall, BUCT**

Time	Title	Speaker	Affiliation
08:30-09:00	**Opening Ceremony**		
Chair: Bin Xu			
09:00-09:30	MXenes at the Frontier of the 2D Materials World	Yury Gogotsi	Drexel University
09:30-10:00	2D transition metal carbide (MXene) thin film for EMI shielding	Chong Min Koo	Korea Institute of Science and Technology
10:00-10:30	Group Photo & Tea Break		
Chair: Yury Gogotsi			
10:30-11:00	MXene as Charge Storage Host	Masashi Okubo	The University of Tokyo
11:00-11:30	Nanohybrids with MXenes as Building Units for Renewable Energy	Jieshan Qiu	Beijing University of Chemical Technology
11:30-12:00	Rational Design of MXenes for 2D Magnetic and Electrode Materials	Vivek B. Shenoy	University of Pennsylvania
12:00-12:20	1-Minute Presentations		

Forum A：MXenes for Energy and Conversion

14:00-17:30, May 11, 2019 **Site: Lecture Hall (Third Floor), BUCT Conference Center**

Chairs: Bo Weng, Xitian Zhang				
Time	**Title**	**Speaker**	**Affiliation**	**Category**
14:00-14:25	Two-dimensional MXenes for Efficient Energy Storage and Conversion	Guoxiu Wang	University of Technology Sydney	Keynote Lecture
14:25-14:45	Optimization of $Ti_3C_2T_x$ MXene and Its Application in Li-S battery	Xitian Zhang	Harbin Normal University	Invited Lecture
14:45-15:05	Synthesis and Surface Modification of High Pressure MAX Phase	Qiuming Peng	Yanshan University	Invited Lecture
15:05-15:20	MXene/carbon nanotube composites for high-performance lithium-ion capacitors	Xiong Zhang	Institute of Electrical Engineering, CAS	Oral Talk
15:20-15:35	Energy Storage Devices in Textiles by Knitting MXene Yarns	Ariana Levitt	Drexel University	Oral Talk
15:35-15:55	Tea Break			
Chairs: Guoxiu Wang, Zifeng Lin				
Time	**Title**	**Speaker**	**Affiliation**	**Category**
15:55-16:20	MXenes for Energy Storage: from Active Materials to Electrodes	Bin Xu	Beijing University of Chemical Technology	Keynote Lecture
16:20-16:40	MXene based materials for high-performance micro-supercapacitors and batteries	Zhong-Shuai Wu	Dalian Institute of Chemical Physics, CAS	Invited Lecture
16:40-17:00	Two-Dimensional MXene and Their Composites: Synthesis and Applications	Jianfeng Zhu	Shaanxi University of Science and Technology	Invited Lecture
17:00-17:15	3D porous MXene Film Synthesized by Few Layered MXene and Bacterial Cellulose for Supercapacitor Anode	Yuanming Wang	Harbin Institute of Technology	Oral Talk
17:15-17:30	Controlled Crumpling of $Ti_3C_2T_x$ MXene for Stretchable Energy Storage	Ting-Hsiang Chang	National University of Singapore	Oral Talk
17:30-18:30	Poster Presentations			
18:50-20:30	Banquet			

Forum A：MXenes for Energy and Conversion

8:30-12:15, May 12, 2019 **Site: Lecture Hall (Third Floor), BUCT Conference Center**

Chairs: Zhimei Sun, Yohan Dall'Agnese				
Time	**Topic**	**Speaker**	**Affiliation**	**Category**
08:30-08:55	$Ti_3C_2T_x$ MXene for Energy Storage Applications	Patrice Simon	Université Paul Sabatier	Keynote Lecture
08:55-09:15	Smaller is better: MXene particulates for energy storage	Xiaohui Wang	Institute of Metal Research, CAS	Invited Lecture
09:15-09:35	Nanocomposites Based on MXenes for Energy Storage	Zhengming Sun	Southeast University	Invited Lecture
09:35-09:50	Electrochemical study of pseudocapacitive behavior of $Ti_3C_2T_x$ MXene material in aqueous electrolytes	Hui Shao	Université de Toulouse	Oral Talk
09:50-10:05	A General Atomic Surface Modification Strategy for Improving Anchoring and Electrocatalysis Behavior of MXenes in Lithium-Sulfur Batteries	Dashuai Wang	Jilin University	Oral Talk
10:05-10:25	Tea Break			
Chairs: Patrice Simon, Yunhua Yu				
Time	**Title**	**Speaker**	**Affiliation**	**Category**
10:25-10:50	*Ab initio* study of Transition Metal Carbides	Zhimei Sun	Beihang University	Keynote Lecture
10:50-11:10	Operando spectroscopic study of MXene-based energy materials	Li Song	University of Science and Technology of China	Invited Lecture
11:10-11:30	Printable MXene-based Nanocomposites for Wearable Electronics	Jiajie Liang	Nankai University	Invited Lecture
11:30-11:45	Rational Design of Free-Standing 3D Porous MXene/RGO Hybrid Aerogels as Polysulfides Reservoir for High-Energy Lithium-Sulfur Batteries	Jianjun Song	Qingdao University	Oral Talk
11:45-12:00	High Performance Biscrolled MXene/Carbon Nanotube Yarn Supercapacitors	Zhiyu Wang	Deakin University	Oral Talk
12:00-12:15	Design and Fabrication of high-performance binder-free flexible supercapacitor electrodes from MXene and Cellulose Nanofibers with outstanding foldable and mechanical properties	Zehang Zhou	Sichuan University	Oral Talk
12:15-14:00	Lunch			

Forum A：MXenes for Energy and Conversion

14:00-17:50, May 12, 2019 **Site: Lecture Hall (Third Floor), BUCT Conference Center**

Chairs: Majid Beidaghi, Zhiyu Wang				
Time	**Title**	**Speaker**	**Affiliation**	**Category**
14:00-14:25	Capture and Catalytic Conversion of Polysulfides by in-situ Built TiO_2-MXene Heterostructures for Lithium-sulfur Batteries	Quan-Hong Yang	Tianjin University	Keynote Lecture
14:25-14:45	Salt-Assisted Synthesis of Two-Dimensional Metal Oixdes and Nitrides	Jun Zhou	Huazhong University of Science and Technology	Invited Lecture
14:45-15:05	Fabrication and Properties of Actuators based on MXenes	Yu Gao	Jilin University	Invited Lecture
15:05-15:20	Preparation and Properties of MXene/Chitin composite paper	Jianguang Xu	Yancheng Institute of Technology	Oral Talk
15:20-15:35	MXene based composite materials as the electrolytes for fuel cell	Chenxi Xu	Hefei University of Technology	Oral Talk
15:35-15:55	Tea Break			
Chairs: Quan-Hong Yang, Guang Feng				
Time	**Title**	**Speaker**	**Affiliation**	**Category**
15:55-16:20	Assembling 2D MXenes into supercapacitor electrodes with high energy and power densities	Majid Beidaghi	Auburn University	Keynote Lecture
16:20-16:40	Pillared Structure Design of MXene with Controlled Interlayer Spacing for Electrochemical Energy Storage	Xinyong Tao	Zhejiang University of Technology	Invited Lecture
16:40-17:00	Advanced micro-supercapacitors based on MXenes	Weiqing Yang	Southwest Jiaotong University	Invited Lecture
17:00-17:15	MXene-based flexible Li^+-capacitors and micro-supercapacitors	Jianmin Li	Donghua University	Oral Talk
17:15-17:30	Novel two-dimensional Molybdenum Carbides as high capacity anodes for Lithium/Sodium-ion batteries	Yadong Yu	Beihang University	Oral Talk
17:30-17:50	**Closing Ceremony and Grant of Poster Award**			

Forum B：Synthesis and Structure of MXenes

14:00-17:30, May 11, 2019 **Site: Multi-Functional Hall, BUCT Conference Center**

Chairs: Ho Seok Park, Zhenying Huang				
Time	**Title**	**Speaker**	**Affiliation**	**Category**
14:00-14:25	Tailoring of MXene composition, structure and surface chemistry	Per O.Å. Persson	Linköping University	Keynote Lecture
14:25-14:45	New MAX phases and MXenes through A Replacement Approach	Qing Huang	Ningbo Institute of Industrial Technology, CAS	Invited Lecture
14:45-15:05	Multifunctional MXene/Polyimide Aerogels	Hao-Bin Zhang	Beijing University of Chemical Technology	Invited Lecture
15:05-15:20	Probing the Domain Architecture in 2D α-Mo_2C via Polarized Raman Spectroscopy	Xi Ling	Boston University	Oral Talk
15:20-15:35	Two-Dimensional Transition Metal Nitrides	Xu Xiao	Drexel University	Oral Talk
15:35-15:55	Tea Break			
Chairs: Per O.Å. Persson, Qing Huang				
Time	**Title**	**Speaker**	**Affiliation**	**Category**
15:55-16:20	MXene/Polymer Hybrid Materials for Flexible AC-Filtering Electrochemical Capacitors	Ho Seok Park	Sungkyunkwan University	Keynote Lecture
16:20-16:40	Atomic Defects in MXene Using Scanning Transmission Electron Microscopy	Xiahan Sang	Wuhan University of Technology	Invited Lecture
16:40-17:00	Computational Synthesis of MXenes	Yu Xie	Jilin University	Invited Lecture
17:00-17:15	The electrical properties and performance of a few MXenes that promise their application for electronic nanodevices	Shiyu Du	Ningbo Institute of Materials Technology and Engineering, CAS	Oral Talk
17:15-17:30	Evidence for Presence of Multiferroic Order in Pure and Doped MXene	Syed Rizwan	National University of Sciences and Technology	Oral Talk
17:30-18:30	Poster Presentations			
18:50-20:30	Banquet			

Forum C：MXenes for Catalysis and Biomedicine

8:30-12:15, May 12, 2019 **Site: Multi-Functional Hall, BUCT Conference Center**

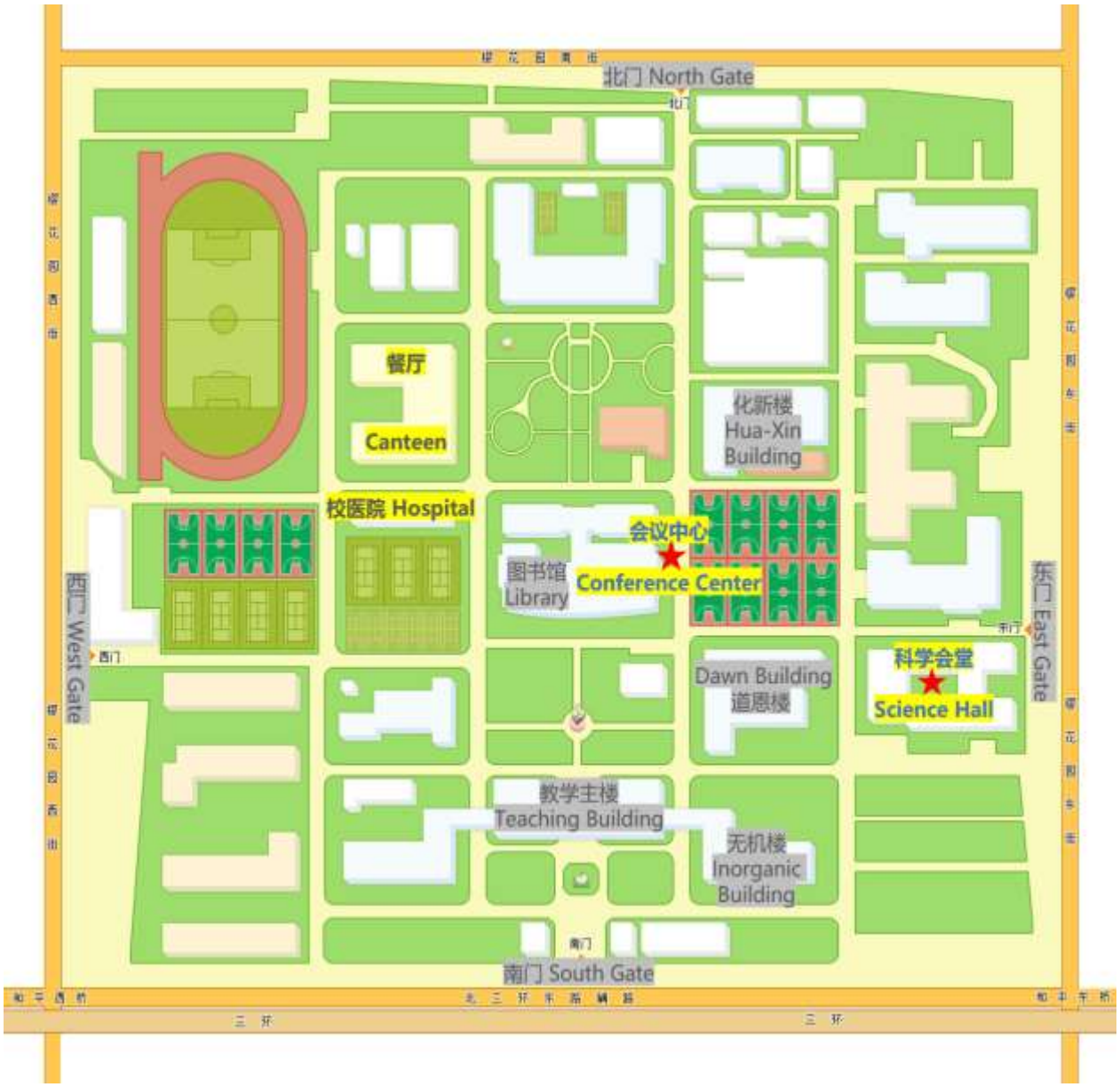
Chairs: Babak Anasori, Zongxian Yang				
Time	**Title**	**Speaker**	**Affiliation**	**Category**
08:30-08:55	Two-Dimensional Nanomaterials for Electrocatalysis	Shi-Zhang Qiao	The University of Adelaide	Keynote Lecture
08:55-09:15	Transition metal decorated Mo_2C MXene for enhancing fuel cell's performance	Zongxian Yang	Henan Normal University	Invited Lecture
09:15-09:35	High-performance Electrocatalytic Conversion of N_2 to NH_3 Using Oxygen-vacancy-rich TiO_2 In-situ Grown on $Ti_3C_2T_x$ MXene	Yuanhong Xu	Qingdao University	Invited Lecture
09:35-09:50	Fabrication of hierarchical MXene-based nanocomposites by various self-assembled strategies with catalytic and environmental performances	Tifeng Jiao	Yanshan University	Oral Talk
09:50-10:05	MXene (Ti_3C_2) Vacancy Confined Single-Atom Catalyst for Efficient Functionalization of CO_2	Di Zhao	Tsinghua University	Oral Talk
10:05-10:25	Tea Break			
Chairs: Shi-Zhang Qiao, Hui Pan				
Time	**Title**	**Speaker**	**Affiliation**	**Category**
10:25-10:50	Property-driven Biomedical Applications of MXenes	Babak Anasori	Drexel University	Keynote Lecture
10:50-11:10	Design of Pentagonal Monolayers for diverse applications	Hui Pan	University of Macau	Invited Lecture
11:10-11:30	Two-dimensional MXenes for Biomedical Applications	Yu Chen	Shanghai Institute of Ceramics, CAS	Invited Lecture
11:30-11:45	$Ti_3C_2T_x$ MXene film as a conductive and biocompatible material for neural stem cells	Rongrong Guo	Southeast University	Oral Talk
11:45-12:00	Highly Flexible and Sensitive Temperature Sensor based on $Ti_3C_2T_x$ (MXene) for Electronic Skin	Ranran Wang	Shanghai Institute of Ceramics, CAS	Oral Talk
12:00-12:15	Electrochemical performance of $Ti_3C_2T_x$ (MXene) and its nanocomposite in aqueous media: Towards enhanced sensing applications	P Abdul Rasheed	Hamad Bin Khalifa University	Oral Talk
12:15-14:00	Lunch			

Forum D：MXenes for Environment, Optics and Electronics

14:00-17:30, May 12, 2019 **Site: Multi-Functional Hall, BUCT Conference Center**

Chairs: Xiaowei Yin, Razium Ali Soomro				
Time	**Title**	**Speaker**	**Affiliation**	**Category**
14:00-14:25	MXene Membranes for Separation	Haihui Wang	South China University of Technology	Keynote Lecture
14:25-14:45	Ti_3C_2 MXene Sensor with High Selectivity for NH_3 Detection at Room-temperature	Aiguo Zhou	Henan Polytechnic University	Invited Lecture
14:45-15:05	A Wearable Transient Pressure Sensor Made with MXene Nanosheets for Sensitive Broad-Range Human−Machine Interfacing	Pengbo Wan	Beijing University of Chemical Technology	Invited Lecture
15:05-15:20	Dual functional $CoFe_2O_4$ nanoparticles decoration on Ti_3C_2 MXene nanosheets with enhanced microwave absorption	Heng Luo	Central South University	Oral Talk
15:20-15:35	Tunable Magnetic Response in 2D Materials via Reversible Intercalation of Paramagnetic Ions	Haitao Yang	National University of Singapore	Oral Talk
15:35-15:55	Tea Break			
Chairs: Haihui Wang, Hao-Bin Zhang				
Time	**Title**	**Speaker**	**Affiliation**	**Category**
15:55-16:20	Electromagnetic absorption properties of MXene-based materials	Xiaowei Yin	Northwestern Polytechnical University	Keynote Lecture
16:20-16:40	A preliminary study on MXene optoelectronics	Han Zhang	Shenzhen University	Invited Lecture
16:40-17:00	Atomistic Insight into of Photoelectrochemical Reaction Mechanism on MX(B)ene	Neng Li	Wuhan University of Technology	Invited Lecture
17:00-17:15	$Ti_3C_2T_x$/PEDOT:PSS Hybrid Materials for Room-Temperature Methanol Sensor	Xiaofeng Wang	Dalian University of Technology	Oral Talk
17:15-17:30	Enhancement of Electromagnetic Absorption Bandwidth of MXene Based Composites Through Structural Design	Pritom J. Bora	Guangdong Technion Israel Institute of Technology	Oral Talk

Maps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