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IMCS 2023

The 19th International Meeting on Chemical Sensors

Aug 4(Fri) - 8(Tue), 2023

Jilin University, Changchun, China

Final Program

Organizer: Jilin University

Northeast Normal University

Co-organizer: Changchun Institute of Applied Chemistry, CAS

Changchun Institute of Optics, Fine Mechanics and Physics, CAS

ADVANCED SENSOR and ENERGY MATERIALS

Advanced Sensor and Energy Materials

ASEM

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Welcome Message

Dear Chemical sensor colleagues:

Welcome to Jilin University which is located in Changchun, northeast of China.

It's my great pleasure and honor to meet you at the 19th International Meeting on Chemical Sensors (IMCS) in Jilin University, China. IMCS is the world's largest interdisciplinary forum for all aspects of chemical sensors and has developed into the most prestigious conference in this scientific area. IMCS aims to provide an international platform for scholars, scientists, engineers, and students to present and discuss the latest research, bring novel insights and inspire new ideas on functional materials and sensors technologies.

I hope the IMCS 2023 is as successful as previous ones and that it can further the development of the sensor research. Our meeting includes a series of special sessions below:

S1: Chemical Sensors
S2: Electrochemical & Metal Oxide Sensors
S3: Sensing Materials & Sensing Interface Design
S4: Biosensors & Optical Sensors
S5: Flexible Sensors & Health Monitoring
S6: MEMS Sensors & Sensing Systems

All these sessions are well organized by experts in respective fields. I would like to express my special thanks to all those who have contributed to the conference.

I hope you can enjoy a wonderful time at Jilin University, China!

Dr. Geyu Lu, Professor
Conference Chair, 19th IMCS 2023
Dean of College of Electronic Science & Engineering, Jilin University, Changchun, China

Organizing Committees

Local Organizing Committee

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Geyu Lu Jilin University (China)

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Gang Xu, Fujian Institute of Research on the Structure of Matter, CAS (China)
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Qingan Huang, Southeast University (China)
Zhuangde Jiang, Xi'an Jiaotong University (China)
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Yichun Liu, Northeast Normal University (China)
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Erkang Wang, Changchun Institute of Applied Chemistry, CAS (China)
Lijun Wang, Changchun Institute of Optics, Fine Mechanics and Physics, CAS (China)
Yuelin Wang, Shanghai Institute of Microsystem and Information Technology, CAS (China)
Shanhong Xia, Aerospace Information Research Institute, CAS (China)
Zheng You, Huazhong University of Science and Technology (China)
Jihong Yu, Jilin University (China)
Wendong Zhang, North University of China (China)

Steering Committee of IMCS Meetings

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Conference Information

Overview

Title: The 19th International Meeting on Chemical Sensors
Date: Aug 4-8, 2023 (Beijing Time)
Venue: Dingxin Lecture Hall & Shaw Teaching Building, Jilin University
Organizer: Jilin University
Co-organizer: Northeast Normal University
Changchun Institute of Applied Chemistry, CAS
Changchun Institute of Optics, Fine Mechanics and Physics, CAS
General Secretary: Xiaoteng Jia xtjia@jlu.edu.cn
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Fangmeng Liu liufangmeng@jlu.edu.cn
Tianshuang Wang wangtianshuang@jlu.edu.cn
Guannan Liu liugn@jlu.edu.cn

Registration Information

Registration Time & Venue

Time: 08:30-23:30, Aug 4 (Fri)
Venue: Sheraton Hotel & Jun Yi Hotel

Time: 08:00-11:50, Aug 5 (Sat)
Venue: Dingxin Lecture Hall

Time: 14:00-16:55, Aug 5 (Sat)
Venue: Shaw Teaching Building

Receipt

The official receipt for your registration can be obtained on-site. The receipt is only available for those who complete his/her payment.

Certificate of Attendance

The certificate of attendance can be download from the IMCS 2023 official website *https://www.researching.cn/conference/IMCS2023* after the conference.

Technical Program Information

Presentation Guidelines

- Microsoft **PowerPoint 2016/2021** is recommended for presentation file(s). Please note that the computers in the session rooms are being supplied with **Windows 11**.
- All presentation files will be deleted after presentation.
- **It is not allowed to use your own laptop at the session room due to technical risk and time delay.**
- Be sure to meet the presentation time limit as below in order to be on schedule.

Plenary Presentation	Invited Presentation	Oral Presentation
40 min (including Q&A)	20 min (including Q&A)	15 min (including Q&A)

Preview

Location & Operating Time

Date	Operating Time	Location
Aug 5	09:00-11:50	Dingxin Lecture Hall
Aug 5	14:00-17:10	Shaw Teaching Building
Aug 6	08:30-11:40; 13:30-16:40	Shaw Teaching Building
Aug 7	08:30-11:40; 13:30-16:40	Shaw Teaching Building
Aug 7	13:30-16:40	Dingxin Lecture Hall

- Please copy your PPT to the designated computer in advance. Be sure to check or modify your file in the session room at least 30 minutes before the start of the session.

Poster Session Guidelines

- Location: The lobby on the 1F and 2F of Shaw Teaching Building
- Posting Time: 12:00 pm, Aug 5-18:00 pm, Aug 6
- Operating Time: 16:00 pm-18:00 pm, Aug 6
- Poster Size: 90 cm x 120 cm (Width x Height)
- **There is no place to print out your poster at the conference venue, please print it yourself and display at the assigned board.**
- Materials for mounting will be prepared at the reception desk near the poster session area.
- Any remaining posters left behind at the end of the day will be taken down and will be disposed. The organizers will not be responsible for saving the posters which are taken down at the end of the conference.

Social Events

Opening Ceremony

Date & Time: Aug 5 (Sat), 09:00-09:30
Venue: Dingxin Lecture Hall

Welcome Banquet

Date & Time: Aug 5 (Sat), 18:00-20:00
Venue: Yandu Hotel (Near the South Gate of Jilin University)
*Please wear your name badge in order to join the banquet. All registered participants and spouses are cordially invited for the reception.

Lunch

Date & Time: Aug 5 (Sat)-Aug 7 (Mon), 12:00-13:00
Venue: Lakeside Dining Hall 2F
*Please wear your name badge and give the “Lunch Coupon” to the volunteers when entering the hall.

Dinner

Date & Time: Aug 6 (Sun)-Aug 7 (Mon), 17:30-19:30
Venue: Lakeside Dining Hall 2F
*Please wear your name badge and give the “Dinner Coupon” to the volunteers when entering the hall.

Coffee Break

Date & Time: Aug 5 (Sat), 10:10-10:30
Aug 7 (Mon), 14:50-15:10
Venue: Dingxin Lecture Hall

Date & Time: Aug 5 (Sat), 15:25-15:50
Aug 6 (Sun), 9:55-10:20, 14:55-15:20
Aug 7 (Mon), 9:55-10:20
Venue: The lobby on the 1F and 2F of Shaw Teaching Building

Closing Ceremony

Date & Time: Aug 7 (Mon), 13:30-15:20
Venue: Dingxin Lecture Hall
*The “Best Oral Presentation Award” and “Best Poster Presentation Award” will be presented at the closing ceremony.

Map and Transportation

Map of Jilin University

Transportation Service

Aug 5 (Sat)

Route:
08:10, From Sheraton Hotel to Dingxin Lecture Hall
08:10/08:20, From Jun Yi Hotel to Dingxin Lecture Hall
12:00, Dingxin Lecture Hall to Lakeside Dining Hall
13:30, Lakeside Dining Hall to Shaw Teaching Building
17:30, Shaw Teaching Building to Yandu Hotel
20:00, Yandu Hotel to Sheraton & Ju Yi Hotel

Aug 6 (Sun)

Route:
07:40, From Sheraton Hotel to Shaw Teaching Building
07:50/08:00, From Jun Yi Hotel to Shaw Teaching Building
11:50, Shaw Teaching Building to Lakeside Dining Hall
13:00, Lakeside Dining Hall to Shaw Teaching Building
17:10, Shaw Teaching Building to Likeside Dining Hall
19:30, Likeside Dining Hall to Sheraton & Ju Yi Hotel

Aug 7 (Mon)

Route:
07:40, From Sheraton Hotel to Shaw Teaching Building
07:50/08:00, From Jun Yi Hotel to Shaw Teaching Building

11:50, Shaw Teaching Building to Lakeside Dining Hall
13:00, Lakeside Dining Hall to Dingxin Lecture Hall
17:10, Dingxin Lecture Hall to Likeside Dining Hall
19:30, Likeside Dining Hall to Sheraton & Ju Yi Hotel

Lakeside Dining Hall (湖畔餐厅):
Lakeside Dining Hall is located near the beautiful Qinghu Lake of Jilin University, which offers a variety of dishes, from local traditional cuisine to international cuisine.

Yandu Hotel (宴都酒店):
Yandu Hotel is located in No.1 Overseas Street, High-Tech Zone, Chaoyang District, next to the south gate of Jilin University. The hotel has a beautiful environment and elegant style.

Rixin Building (日新楼):
Rixin Building is a comprehensive campus commercial center that integrates dining and entertainment, located in the central area of the campus. Natatorium, gym and Starbucks are available.

Externalities of the Venue

Dingxin Buliding (鼎新楼)

Dingxin Lecture Hall is located in the west of Dingxin Building, near the northwest gate of Jilin University.

Shaw Teaching Building (逸夫教学楼)

Shaw Teaching Building is located in the central area of the campus, near the north gate of Jilin University.

Session Themes

Session Theme	Session Time	Session Room
S1	14:00-17:10, Aug 5 08:30-16:40, Aug 6 08:30-11:40, Aug 7	Second Lecture Theatre (第二阶梯教室)
S2	14:00-17:10, Aug 5 08:30-16:40, Aug 6 08:30-11:40, Aug 7	Third Lecture Theatre (第三阶梯教室)
S3	14:00-17:10, Aug 5 08:30-16:40, Aug 6 08:30-11:40, Aug 7	Fourth Lecture Theatre (第四阶梯教室)
S4	14:00-17:10, Aug 5 08:30-16:40, Aug 6 08:30-11:40, Aug 7	Seventh Lecture Theatre (第七阶梯教室)
S5	14:00-17:10, Aug 5 08:30-16:40, Aug 6 08:30-11:40, Aug 7	Eighth Lecture Theatre (第八阶梯教室)
S6	14:00-17:10, Aug 5 08:30-16:40, Aug 6	Ninth Lecture Theatre (第九阶梯教室)
Sessions location: Shaw Teaching Building **S1**: Chemical Sensors **S2**: Electrochemical & Metal Oxide Sensors **S3**: Sensing Materials & Sensing Interface Design **S4**: Biosensors & Optical Sensors **S5**: Flexible Sensors & Health Monitoring **S6**: MEMS Sensors & Sensing Systems		

Program at a Glance

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<tr><th>Aug 4 (Fri)</th><th colspan="2">Aug 5 (Sat)</th><th>Aug 6 (Sun)</th><th>Aug 7 (Mon)</th></tr>
<tr><td rowspan="11">Registration
(Sheraton Hotel & Jun Yi Hotel)
(08:30-23:30)</td><td rowspan="4">Registration
(Dingxin Lecture Hall)
(08:00-11:50)</td><td>Opening Ceremony
(Dingxin Lecture Hall)
(09:00-09:30)</td><td>Invited Presentation
S1-6 (08:30-9:10)</td><td>Invited Presentation
S1-5 (08:30-9:10)</td></tr>
<tr><td>Plenary Presentation 1
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(9:30-10:10)</td><td>Oral Presentation
S1-6 (09:10-9:55)</td><td>Oral Presentation
S1-5 (09:10-9:55)</td></tr>
<tr><td>Coffee Break
(10:10-10:30)</td><td colspan="2">Coffee Break
(09:55-10:20)</td></tr>
<tr><td rowspan="2">Plenary Presentation 2&3
(Dingxin Lecture Hall)
(10:30-11:50)</td><td>Invited Presentation
S1-6 (10:20-10:40)</td><td>Invited Presentation
S1-5 (10:20-10:40)</td></tr>
<tr><td>Oral Presentation
S1-6 (10:40-11:40)</td><td>Oral Presentation
S1-5 (10:40-11:40)</td></tr>
<tr><td colspan="3">Lunch Time
(Lakeside Dining Hall) (12:00-13:30)</td></tr>
<tr><td rowspan="6">Registration
(Shaw Teaching Building)
(14:00-16:55)</td><td>Invited Presentation
S1-6 (14:00-14:40)</td><td>Invited Presentation
S1-6 (13:30-14:10)</td><td rowspan="2">Plenary Presentation 4&5
(Dingxin Lecture Hall)
(13:30-14:50)</td></tr>
<tr><td>Oral Presentation
S1-6 (14:40-15:25)</td><td>Oral Presentation
S1-6 (14:10-14:55)</td></tr>
<tr><td>Coffee Break
(15:25-15:50)</td><td>Coffee Break
(14:55-15:20)</td><td>Coffee Break
(14:50-15:10)</td></tr>
<tr><td>Invited Presentation
S1-6 (15:50-16:10)</td><td>Invited Presentation
S1-6 (15:20-15:40)</td><td rowspan="3">Closing Ceremony
(Dingxin Lecture Hall)
(15:10-16:40)</td></tr>
<tr><td>Oral Presentation
S1-6 (16:10-17:10)</td><td>Oral Presentation
S1-6 (15:40-16:40)</td></tr>
<tr><td colspan="2" rowspan="2">Welcome Banquet
(Yandu Hotel) (18:00-)</td><td>Poster (16:00-18:00)</td></tr>
<tr><td colspan="2">Dinner
(Lakeside Dining Hall) (17:30-)</td></tr>
<tr><td colspan="5">Sessions location: Shaw Teaching Building
S1: Chemical Sensors S2: Electrochemical & Metal Oxide Sensors
S3: Sensing Materials & Sensing Interface Design S4: Biosensors & Optical Sensors
S5: Flexible Sensors & Health Monitoring S6: MEMS Sensors & Sensing Systems</td></tr>
</table>

Plenary Speakers

Plenary 1: "Molecular Electronics for Chemical/Bio-Sensors"

Time: Aug 5 (Sat), 09:30-10:10

Timothy M. Swager
Massachusetts Institute of Technology, USA

Timothy M. Swager is the John D. MacArthur Professor of Chemistry at the Massachusetts Institute of Technology. He has published more than 500 peer-reviewed papers and more than 120 issued/pending patents. Swager's honors include: Election to the National Academy of Sciences, National Academy of Inventors Fellow, The Pauling Medal, The Lemelson-MIT Award for Invention and Innovation, Election to the American Academy of Arts and Sciences, The American Chemical Society Award for Creative Invention, The American Chemical Society Award in Polymer Chemistry, and The Carl S. Marvel Creative Polymer Chemistry Award (ACS).

Swager's research interests are in design, synthesis, and study of organic-based electronic, sensory, energy harvesting, membrane, high-strength, liquid crystalline, and colloid materials. His liquid crystal designs demonstrated shape complementarity to generate specific interactions between molecules and includes fundamental mechanisms for increasing liquid crystal order by a new mechanism referred to as minimization of free volume. Swager's research in electronic polymers has been mainly directed at the demonstration of new conceptual approaches to the construction of sensory materials. These methods are the basis of the FidoTM explosives detectors (FLIR Systems Inc), which have the highest sensitivity of any explosives sensor. Other areas actively investigated by the Swager group include radicals for dynamic nuclear polarization, applications of nano-carbon materials, organic photovoltaic materials, polymer actuators, separation membranes, and luminescent molecular probes for medical diagnostics. He has founded five companies (DyNuPol, Iptyx, PolyJoule, C_2 Sense and Xibus Systems) and has served on a number of corporate and government boards.

Plenary 2: "MEMS Technologies for Characterizing Chemical Heat of Advanced Gas Sensors"

Time: Aug 5 (Sat), 10:30-11:10

Xinxin Li
Shanghai Institute of Microsystem and Information Technology, CAS, China

Xinxin Li received B.S. degree from Tsinghua University, Beijing, China, in 1987, and Ph.D. degree from Fudan University, Shanghai, China, in 1998. He was engaged as Research Associate in Hong Kong University of Science and Technology, Hong Kong, Research Fellow in Nanyang Technological University, Singapore, and Lecturer (COE Fellowship) in Tohoku University, Japan. Since 2001, he has been a Professor of Shanghai Institute of Microsystem and Information Technology, Chinses Academy of Sciences, where he has served as the director of State Key Lab of Transducer Technology of China. He is also an Adjunct Professor for Fudan University, Shanghai Jiaotong University, Dalian University of Technology, ShanghaiTech University, and Suzhou University. From 2009 to 2013, he was a Consultant Professor for World Class University Program of Korean in Chonnam National University, Korea.

His research interest includes micro/nano sensors and MEMS/NEMS technology. He was granted the National Science Fund of China for Distinguished Young Scholar in 2007. His Ph.D. student was awarded National Excellent 100 Ph.D. Dissertation in 2009. He has invented more than 100 patents and published more than 600 articles in refereed journals and conferences (including about 300 SCI journal articles), with total citation of more than 10 thousands. He served as TPC member for the conferences of IEEE MEMS and IEEE Sensors. He has been served to Transducers as ETPC member, International Steering Committee member and Asia/Oceania regional TPC Chair. He is the Editorial Member for J Micromech. Microeng., Microsystema and Nanoengineering, Scientific Reports, and Micromachines.

Plenary 3: “Conformal Sense Digitalization”

Time: Aug 5 (Sat), 11:10-11:50

Xiaodong Chen
Nanyang Technological University, Singapore

Professor Xiaodong Chen is the President's Chair Professor of Materials Science and Engineering, as well as Professor of Chemistry and Medicine (by courtesy) at Nanyang Technological University (NTU) in Singapore. Professor Chen's research interests include mechanomaterials science and engineering, flexible electronics technology, sense digitalization, cyber-human interfaces and systems, and carbon negative technology. He has received numerous accolades for his exceptional scientific contributions, including the Singapore President Science Award, Singapore National Research Foundation (NRF) Investigatorship and NRF Fellowship, a winner of Falling Walls, Friedrich Wilhelm Bessel Research Award, and Dan Maydan Prize in Nanoscience and Nanotechnology. He is also Fellow of the Singapore National Academy of Science, the Academy of Engineering Singapore, the Royal Society of Chemistry, and the Chinese Chemical Society, and serves on the editorial advisory boards of more than 16 globally renowned journals, including *Advanced Materials* and *Small*. He is currently the Editor-in-Chief of *ACS Nano*, *a flagship* journal in nanoscience and nanotechnology.

Plenary 4: “Optical Fiber Gas Sensors”

Time: Aug 7 (Mon), 13:30-14:10

Wei Jin
The Hong Kong Polytechnic University, China

Wei Jin holds the position of Chair Professor of Photonic Instrumentation at the Hong Kong Polytechnic University (PolyU). He obtained BEng from Beihang University and PhD from University of Strathclyde, UK. He was a Postdoctoral Fellow at Strathclyde University before joining PolyU as Assistant Professor in 1996. He was promoted to Associate Professor in 1998 and Professor in 2003. He has published over 300 Journal papers and successfully supervised >30 PhDs. He received PolyU President Awards (twice) for Outstanding Performance in Research, PolyU Outstanding Professional Service and Innovation Award for technology transfer, NSFC Distinguished Oversea Young Scholar Award, MOE Chiang Jiang Chair Professor Award, and 2020 China’s Top Ten Optical Breakthroughs in applied research category. He is a Fellow of Optica and a director of Chinese Optical Society. He was the Co-Chair of the 25th International Conference on Optical Fiber Sensors (OFS-25) and the Technical Chair of OFS-22.

Plenary 5: “Single-molecule Reliable Detections with a Large-area Electronic Interface”

Time: Aug 7 (Mon), 14:10-14:50

Luisa Torsi

University of Bari, Italy

Luisa Torsi is a full professor of chemistry at the University of Bari and since 2017, she is an adjunct professor at the Abo Academy University in Finland. Luisa Torsi is the winner of the Wilhelm Exner Medal 2021, a prize awarded since 1921 by the Austrian Industrial Association to celebrate excellence in science. The Exner Medal awardees include also more than twenty Nobel prizes. The Italian President, Sergio Mattarella invited Prof. Torsi at the Quirinale to personally congratulate her on this award. She is also Fellow of the Royal Society of Chemistry since 2022. Presently she is serving as Vice-President of the Scientific Committee of the Italian National Research Council. Torsi has authored almost 230 ISI papers, including papers published in Science, Nature Materials, Nature Communications, PNAS, Advanced Materials, and is co-inventor of several international awarded patents. Her works gathered almost 15.500 Google scholar citations resulting in an h-index of 60. She has given over190 invited lectures, including almost 50 plenary and keynotes contributions to international conferences.

Awarded research funding for over 30 million € comprises several European contracts as well as national and regional projects. She is coordinating the “Single molecule bio-electronic smart system array for clinical testing – SiMBiT” a H2020-ICT-2018-2020 research and innovation action working on liquid biopsy for pancreatic cancer early detection. She has also coordinated a “European Industrial Doctorate” Marie Curie project in collaboration with Merck and a Marie Curie ITN European network as well as several national PRIN projects; was also a principal investigator in an ICT STREP proposal. She has also been the scientific coordinator of a Structural Reinforcement PON Project awarded to UNIBA for 2012-2014 and is engaged with several other Structural Reinforcement PON projects.

Daily Program

IMCS 2023

The 19th International Meeting on Chemical Sensors

Time: August 4th- 8th, 2023 (Beijing Time)

Jilin University, China

Reception **Time: 08:30-23:30 August 4th, 2023 (Beijing Time)** **Venue: Sheraton Hotel & Junyi Hotel**	
Opening Ceremony **Time: 09:00-09:30 August 5th, 2023 (Beijing Time)** **Venue: Dingxin Lecture Hall**	
Plenary Session (I) **Chair: Peter Lieberzeit (University of Vienna, Austria)**	
09:30-10:10 **(Online)**	**Molecular electronics for chemical/bio-sensors** **Timothy M. Swager** **(Massachusetts Institute of Technology, United States)**
10:10-10:30	**Coffee Break**
Plenary Session (II) **Chair: Kengo Shimanoe (Kyushu University, Japan)**	
10:30-11:10	**MEMS technologies for characterizing chemical heat of advanced gas sensors** **Xinxin Li** **(Shanghai Institute of Microsystem and Information Technology, CAS, China)**
11:10-11:50	**Conformal sense digitalization** **Xiaodong Chen** **(Nanyang Technological University, Republic of Singapore)**
Lunch **Time: 12:00-13:30** **Venue: Lakeside Dining Hall**	

Daily Program

(14:00-17:30 August 5th, 2023 (Beijing Time))

1.1 Chemical Sensors (I) Time: 14:00-17:25 August 5th, 2023 (Beijing Time) Venue: Second Lecture Theatre (Shaw Teaching Building)		
Chair: Liang Feng (Dalian Institute of Chemical Physics, CAS, China)		
I-1-1 (Invited)	14:00-14:20	Development of MEMS-type gas sensors for high performance Kengo Shimanoe (Kyushu University, Japan)
I-1-2 (Invited) (Online)	14:20-14:40	Human-centered and selective gas sensing Andreas Güntner (ETH Zürich, Switzerland)
O-1-1 (Online)	14:40-14:55	Collective effects of copper (II) oxide layers for selective mono-nitrogen oxide sensing Pongsak Sarapukdee (Department of Electrical Engineering and Information Technology, TU, Dortmund, Germany) Janosch Kneer, Pongsak Sarapukdee, Stefan Palzer
O-1-2	14:55-15:10	Surface modification methods leading highly sensitive SnO_2-based gas sensor using WO_3 as receptor Tao Ren (Kyushu University, Japan) Tao Ren, Koichi Suematsu, Ken Watanabe, Kengo Shimanoe
O-1-3	15:10-15:25	Surface acoustic wave based hydrogen sensors Baile Cui (Institute of Acoustics, CAS, China) Wen Wang, Baile Cui, Lina Cheng, Jing Jin
	15:25-15:50	Coffee Break Venue: Lobbies on the 1F and 2F
Chair: Jiaqiang Xu (Shanghai University, China)		
I-1-3 (Invited)	15:50-16:10	High performance thin film-based sensors Liang Feng (Dalian Institute of Chemical Physics, CAS, China)
O-1-4 (Online)	16:10-16:25	Development of sensing devices capable of evaluating oil degradation in real time Shumon Yamanaka (Nagaseki University, Japan) Shumon Yamanaka, Taro Ueda, Moritsugu Kasai, Takeo Hyodo, Yasuhiro Shimizu
O-1-5 (Online)	16:25-16:40	Low-temperature and selective formaldehyde sensing with metal cluster-loaded Co_3O_4 catalysts Matteo D'Andria (ETH Zürich, Switzerland) Matteo D'Andria, Andreas T. Güntner
O-1-6	16:40-16:55	Large area, fully printed polymer gas sensors circuits with good batch uniformity Siying Li (Shanghai Jiao Tong University, China) Siying Li, Sujie Chen, Xiaojun Guo

O-1-7	16:55-17:10	NH_4^+ detection sensor based on the principle of galvanic cell Huibing Fu (Zhengzhou Winsen Electronics Technology Co., China) Huibing Fu, Hongxia Liu, Ping Liu, Yingjie Wang, Jiankui Zhou, Shengguo Gao, Ruiqin Gu
O-1-8	17:10-17:25	Enhancement of ethanol gas-sensitive performance by gold-tin synergy Siqi Li (Northeast Forestry University, China) Ke Xu, Siqi Li

1.2 Electrochemical & Metal Oxide Sensors (I)

Time: 14:00-17:25 August 5th, 2023 (Beijing Time)
Venue: Third Lecture Theatre (Shaw Teaching Building)

Chair: Xiaohong Wang
(Tsinghua University, China)

I-2-1 (Invited)	14:00-14:20	Effects of base materials (α-Alumina and/or γ-Alumina) on VOC-sensing properties of adsorption/combustion-type micro gas sensors Takeo Hyodo (Nagasaki University, Japan)
I-2-2 (Invited) (Online)	14:20-14:40	Sensing of volatile organic compounds with semiconducting metal oxide-based gas sensors Nicolae Barsan (University of Tübingen, Germany)
O-2-1	14:40-14:55	Influences of impurity gases in air on room temperature metal oxide gas sensors Jiannan Song (Wuhan University, China) Jiannan Song, Xilai Lu, Menghan Wu, Jieting Zhao, Wanping Chen
O-2-2	14:55-15:10	Restraining SnO_2-based gas sensor response degradation via trace impurity doping Valeriy V. Krivetskiy (Scientific-Manufacturing Complex < Technological Centre >, Zelenograd, Moscow, Russia) Alina S. Sagitova, Elizaveta A. Konstantinova, Valeriy V. Krivetskiy
O-2-3	15:10-15:25	Precise regulation of single-atom catalysts and studies on gas-sensing performance Zhenggang Xue (Shanghai University, China) Zhenggang Xue, Jiaqiang Xu
	15:25-15:50	Coffee Break Venue: Lobbies on the 1F and 2F

Chair: Takeo Hyodo
(Nagasaki University, Japan)

I-2-3 (Invited) (Online)	15:50-16:10	**Multifaceted MOF-based catalysts with broad applicability** Soo Young Kim (Korea University, Republic of Korea)
O-2-4	16:10-16:25	**Toluene gas sensor based on spark-ablated zinc-oxide nanoparticles** **Vincent Mazzola (VSParticle B.V., the Netherlands)** **F. Ricciardella, P. Roels, A.Panella, A. van Vugt**
O-2-5	16:25-16:40	**Understanding the increasing trend of sensor-signal with decreasing oxygen partial pressure by a sensing-reaction model based on O^{2-} species** **Liupeng Zhao (Jilin University, China)** **Liupeng Zhao, Peng Sun, Geyu Lu**
O-2-6	16:40-16:55	**Surface defects engineering of metal oxides for gas sensing applications** **Xiao Wang (University of Jinan, China)**
O-2-7 (Online)	16:55-17:10	**From gas sensors to artificial neural network: a new precision farming approach for crop coefficient determination** **Francesco Tralli (University of Ferrara, Italy)** **Francesco Tralli, Barbara Fabbri, Matteo Valt, Alessandro Drago, Vincenzo Guidi**
O-2-8 (Online)	17:10-17:25	**Diffusion behavior of ferrocene derivative in bicontinuous microemulsions using interdigitated array electrodes** **Rintaro Suzuki (Chuo University, Japan)** **Rintaro Suzuki, Osamu Niwa, Yuko Ueno**

1.3 Sensing Materials & Sensing Interface Design (I)

Time: 14:00-17:30 August 5th, 2023 (Beijing Time)
Venue: Fourth Lecture Theatre (Shaw Teaching Building)

Chair: Yanbai Shen
(Northeastern University, China)

I-3-1 (Invited)	14:00-14:20	**SERS Analysis by Ag-based nano structures** **Zhengjun Zhang (Tsinghua University, China)**
I-3-2 (Invited)	14:20-14:40	**Single-electrode electrochemiluminescence** **Guobao Xu (Changchun Institute of Applied Chemistry, CAS, China)**
I-3-3 (Invited) (Online)	14:40-15:00	**Graphene oxide-based electrochemical gas sensor** **Tetsuya Kida (Kumamoto University, Japan)**

O-3-1	15:00-15:15	Multi-dimensional gas detection and discrimination with a chemiresistive- potentiometric multivariate sensor Jianxin Yi (University of Science and Technology of China, China) Hong Zhang, Zuobin Zhang, Jianxin Yi
O-3-2	15:15-15:30	Semicon soft porous interface: adsorption, sensing, and beyond Mingshui Yao (Institute of Process Engineering, CAS, China) Mingshui Yao, Kenichi Otaker, Susumu Kitagawa (Kyoto University, Japan)
	15:30-15:50	Coffee Break Venue: Lobbies on the 1F and 2F
		Chair: Guobao Xu (Changchun Institute of Applied Chemistry, CAS, China)
I-3-4 (Invited)	15:50-16:10	Sandwich-structured MSnx-rGO-SnO_2 nanocomposites modified by intermetallic compounds for enhancing sub-ppm H_2 detection Yanbai Shen (Northeastern University, China)
I-3-5 (Invited) (Online)	16:10-16:30	Discriminating structural isomers of odor molecules on metal oxide surfaces Takeshi Yanagida (University of Tokyo, Japan)
O-3-3 (Online)	16:30-16:45	Tailoring selectivity of flame-made porous metal oxides for chemoresistive gas sensing Adrien Baut (ETH Zurich, Switzerland) Adrien Baut, Andreas T. Güntner
O-3-4	16:45-17:00	Synthesis and gas sensing properties of ZnO-based heterostructure nanowires Sikai Zhao (Northeastern University, China) Sikai Zhao, Yanbai Shen, Maboudian Roya
O-3-5	17:00-17:15	Defect modulation and heterojunction engineering of SnS_2 based gas sensing materials Juanyuan Hao (Harbin Institute of Technology, China) Juanyuan Hao, You Wang
O-3-6	17:15-17:30	Machine learning-assisted development of sensitive electrode materials for mixed potential-type NO_2 gas sensors Bin Wang (Jilin University, China) Bin Wang, Xishuang Liang, Geyu Lu

1.4 Biosensors & Optical Sensors (I)

Time: 14:00-17:20 August 5th, 2023 (Beijing Time)
Venue: Seventh Lecture Theatre (Shaw Teaching Building)

Chair: Xiaoqiang Chen
(Nanjing Tech University, China)

I-4-1 (Invited)	14:00-14:20	Biosensor-based methods for exosome analysis with clinical application Genxi Li (Nanjing University, China)
I-4-2 (Invited)	14:20-14:40	Characterization of magnetically labelled biomolecules by evaluating magnetization motion on QCM Yumei Wen (Shanghai Jiao Tong University, China)
O-4-1	14:40-14:55	Ultrasensitive organic luminescent systems via supramolecular scale designing strategy Wei Xu (Shanghai institute of Microsystem and information Technology, China) Wei Xu, Zhen Zhu, Pengfei Ding, Yanyan Fu, Qingguo He, Jiangong Cheng
O-4-2	14:55-15:10	Metal-free cysteamine-functionalized graphene alleviates mutual interferences in heavy metal electrochemical detection Qiuyue Yang (Barcelona Institute for Global Health, Spain) Qiuyue Yang, Emily P. Nguyen, David Panáček, Veronika Šedajová, Vítězslav Hrubý, Giulio Rosati, Cecilia de Carvalho Castro Silva, Aristides Bakandritsos, Michal Otyepka, Arben Merkoçi
O-4-3	15:10-15:25	Dengue NS1 QCM sensor based on epitope-imprinted polymers Kitima Sirivibulkovit (Mahidol University, Thailand) Kitima Sirivibulkovit, Dominik Johannes Windisch, Markus Muttenthaler, Phoonthawee Saetear, Peter A. Lieberzeit
	15:25-15:40	**Coffee Break** **Venue: Lobbies on the 1F and 2F**

Chair: Genxi Li
(Nanjing University, China)

I-4-3 (Invited)	15:40-16:00	Molecularly imprinted polymers for magnetite nanoparticle sensing – in-situ polymerization on QCM surfaces Peter Lieberzeit (University of Vienna, Austria)
I-4-4 (Invited)	16:00-16:20	The molecular probes for fluid imaging and biological detection Xiaoqiang Chen (Nanjing Tech University, China)

O-4-4	16:20-16:35	Wearable sweat sensors for personal health monitoring Jiangqi Zhao (Sichuan University, China)
O-4-5	16: 35-16:50	Narrow-band quantum dot photodetector for infrared gas sensing Peng Chen (Huazhong University of Science and Technology, China) Peng Chen, Yingying Mei, Qi Yan, Fei Yi, Huayao Li, Huan Liu
O-4-6	16:50-17:05	CHA-based AIEgen/graphene oxide nanocomposite fluorescence -enhanced sensor for ultrasensitive detection of intracellular miRNA Yuchen Song (Shanghai University, China) Yuchen Song, Jingyao Song, Wenjiao Zhang, Dongmei Deng, Liqiang Luo
O-4-7	17:05-17:20	A design of biosensor based on microneedle glucose extraction Lulu Liu (Shanghai University, China) Lulu Liu, Yi Li, Jie Liang

1.5 Flexible Sensors & Health Monitoring (I)

Time: 14:00-17:10 August 5th, 2023 (Beijing Time)
Venue: Eighth Lecture Theatre (Shaw Teaching Building)

Chair: Guozhen Shen
(Beijing Institute of Technology, China)

I-5-1 (Invited) (Online)	14:00-14:20	Flexible thin-film devices for bioelectronics Yuan Lin (University of Electronic Science and Technology of China, China)
I-5-2 (Invited)	14:20-14:40	Viscoelastic dry electrodes for long-term electrophysiological monitoring on hairy skin Zhiyuan Liu (Shenzhen Institute of Advanced Technology, CAS, China)
O-5-1	14:40-14:55	Devices enabling in-sensor analysis for chronic disease management Benhui Hu (Nanjing Medical University, China)
O-5-2	14:55-15:10	Permeable electronic skins for health monitoring Yan Wang (Guangdong Technion-Israel Institute of Technology, China)
O-5-3	15:10-15:25	In-sensor compression and computing based on phototransistors Hong Wang (Xidian University, China)
	15:25-15:50	Coffee Break Venue: Lobbies on the 1F and 2F

Chair: Zhiyuan Liu (Shenzhen Institute of Advanced Technology, CAS, China)		
I-5-3 (Invited)	**15:50-16:10**	**MXene based flexible optoelectronic devices** **Guozhen Shen (Beijing Institute of Technology, China)**
O-5-4	**16:10-16:25**	**Wireless wearable devices for passive monitoring pressure information** **Yang Li (Shandong University, China)**
O-5-5	**16:25-16:40**	**Electromechanical conversion fiber and its applications in self-powered sensors** **Kai Dong (Beijing Institute of Nanoenergy and Nanosystems, CAS, China)**
O-5-6	**16:40-16:55**	**Breath analysis system with convolutional neural network (CNN) for early detection of lung cancer** **Byeongju Lee (Electronics and Telecommunications Research Institute, Republic of Korea)** **Byeongju Lee, Junyeong Lee, Jin-Oh Lee, Yoohwa Hwang, Inkyu Park, Sanghoon Jheon, Dae-Sik Lee**
O-5-7	**16:55-17:10**	**Wearable gas sensor based on reticular Sb-doped SnO_2/PANI nanocomposite realizing intelligent detection of ammonia within a wide range of humidity** **Yiwen Li (Jilin University, China)**

1.6 MEMS Sensors & Sensing Systems (I)

Time: 14:00-17:15 August 5th, 2023 (Beijing Time)
Venue: Ninth Lecture Theatre (Shaw Teaching Building)

Chair: Dongfang Wang (Jilin University, China)		
I-6-1 (Invited)	**14:00-14:20**	**Wearable NDIR CO_2 gas sensor with integrated enhanced-chips** **Tie Li (Shanghai Institute of Microsystem and Information Technology, CAS, China)**
I-6-2 (Invited)	**14:20-14:40**	**Fabrication and applications of high performance implantable microelectrode arrays** **Juntao Liu, Xinxia Cai (Aerospace Information Research Institute, CAS, China)**
O-6-1 (Online)	**14:40-14:55**	**Influence of solvent and connection of MLGs on exciton transfer in 3H-thioxanthene-TTF dibenzoBODIPY** **Artur I. Martynov (National Research University of Electronic Technology, Russia)** **Artur I. Martynov, Alexander S. Belov**

O-6-2 (Online)	14:55-15:10	VOC-response characteristics of adsorption/combustion-type micro gas sensor using Pt-loaded alumina catalyst Manami Narisue (Nagasaki University, Japan) Manami Narisue, Taro Ueda, Takahiko Sasahara, Takeo Hyodo, Yasuhiro Shimizu
O-6-3	15:10-15:25	Sensing signal augmentation with gas flow effects for accurate differentiation of complex odors Mengqun Feng (National Institute for Materials Science, Japan) Mengqun Feng, Tanju Yildirim, Kosuke Minami, Kota Shiba, Genki Yoshikawa
	15:25-15:50	Coffee Break Venue: Lobbies on the 1F and 2F
Chair: Tie Li (Shanghai Institute of Microsystem and Information Technology, CAS, China)		
I-6-3 (Invited)	15:50-16:10	Coupled resonant transducers-forefront and challenges Dongfang Wang (Jilin University, China)
I-6-4 (Invited)	16:10-16:30	Detect the undetectable: the synergy of organic microelectronics and electrochemistry for future biowearables Shiming Zhang (The University of Hong Kong, China)
O-6-4 (Online)	16:30-16:45	Room temperature sensing with metal non-oxides for medical breath analysis Simone Hersberger (ETH Zürich, Switzerland) Simone Hersberger, Andreas T. Güntner
O-6-5	16:45-17:00	A bio-inspired lateral flow assay for improving the sensitivity of low volume samples Pengfei Song (Xi'an Jiaotong-Liverpool University, China) Shuhe Liu, Yifan Li, Hang Yuan, Sixuan Duan, Ruiqi Yong, Lizhe Chen, Pengfei Song
O-6-6	17:00-17:15	Non-invasive passive resonant galvanometer: forefront and challenges Xun Zhu (Jilin University, China) Xun Zhu, Hongxiang Han, Ziqi Zhao, Kainan Ouyang, Wang Cai, Dongfang Wang, Takahito Ono, Toshihiro Itoh, Ryotaro Maeda

Welcome Banquet

Time: 18:00 - 20:00, August 5th, 2023
Venue: Yandu Hotel

Daily Program

(08:30-11:45 August 6th, 2023 (Beijing Time))

2.1 Chemical Sensors (II)

Time: 08:30-11:40 August 6th, 2023 (Beijing Time)
Venue: Second Lecture Theatre (Shaw Teaching Building)

Chair: Xincun Dou
(Xinjiang Technical Institute of Physics and Chemistry, China)

I-1-4 (Invited) (Online)	08:30-08:50	Toward visible light activated chemoresistive gas sensor array Ho Won Jang (Seoul National University, Republic of Korea)
I-1-5 (Invited) (Online)	08:50-09:10	Low level nitrogen oxide detection: relevance for disease diagnosis, climate change and air Prabir K. Dutta (Ohio State University, United States)
O-1-9	09:10-09:25	Green wood gas sensor with femtosecond laser-induced graphene Cheolmin Kim (Korea Advanced Institute of Science and Technology, Republic of Korea) Cheolmin Kim, Hanku Nam, Mingu Kang, Kichul Lee, Dongwook Yang, Ji-Hwan Ha, Yeongjae Kwon, Youngjin Kim, Inkyu Park
O-1-10	09:25-09:40	YSZ-based mixed potential sensor achieving fast detection and complete recovery to SO_2 Qi Lu (Jilin University, China) Qi Lu, Xishuang Liang, Geyu Lu
O-1-11	09:40-09:55	Engineering atomic interface by single Pt atoms for enhanced SO_2 sensing at room temperature Xin Jia (Shanghai University, China) Xin Jia, Zhenggang Xue, Jiaqiang Xu
	09:55-10:20	Coffee Break Venue: Lobbies on the 1F and 2F

Chair: Yan Wang
(Henan Polytechnic University, China)

I-1-6 (Invited)	10:20-10:40	Design and construction of ultrasensitive artificial olfactory system for improvised explosives sensing Xincun Dou (Xinjiang Technical Institute of Physics and Chemistry, China)
O-1-12	10:40-10:55	Bismuth-doping in the SnO_2 nanoparticles for enhancing the ethanol detection Haoyue Yang (Kyushu University, Japan) Haoyue Yang, Koichi Suematsu, Ken Watanabe, Kengo Shimanoe
O-1-13	10:55-11:10	Enhanced NO_2 sensing performance at room temperature using a-C-decorated TeO_2 nanowires Wansik Oum (Hanyang University, Republic of Korea) Wansik Oum, Ka Yoon Shin, Eun Bi Kim, Hyeong Min Kim, Sungjoon Moon, Hyoun Woo Kim

O-1-14	11:10-11:25	Improvement in the selective detection of NO_2 gas through the xenon ion irradiation of ZnO nanoparticles Ka Yoon Shin (Hanyang University, Republic of Korea) Ka Yoon Shin, Wansik Oum, Eun Bi Kim, Hyeong Min Kim, Sungjoon Moon, Hyoun Woo Kim
O-1-15	11:25-11:40	Highly selective gas sensor for rapid detection of triethylamine using PdRu alloy nanoparticles functionalized SnO_2 Yilin Wang (Jilin University, China) Yilin Wang, Ziqi Liu, Fengmin Liu, Geyu Lu

2.2 Electrochemical & Metal Oxide Sensors (II)

Time: 08:30-11:45 August 6th, 2023 (Beijing Time)
Venue: Third Lecture Theatre (Shaw Teaching Building)

Chair: Huan Liu
(Huazhong University of Science and Technology, China)

I-2-4 (Invited)	08:30-08:50	Heterogeneous integration method of electrochemical devices and semiconductors for a monolithic chip Xiaohong Wang (Tsinghua University, China)
I-2-5 (Invited) (Online)	08:50-09:10	Ionic liquids: solvents and electrolytes for real-time gas sensor development in harsh real-world conditions Xiangqun Zeng (Oakland University, USA)
O-2-9	09:10-09:25	Ferroelectric polarization and oxygen vacancy synergistically induced ultrasensitive and fast humidity sensor for multifunctional applications Xinyi Chen (Shanghai Institute of Ceramics, CAS, China) Xinyi Chen, Cheng Liu, Zhongqiu Hua, Nan Ma
O-2-10	09:25-09:40	In situ photoreduction of bimetallic PtRu on SnO_2 nanocrystals: synergistic modulation of NH_3 oxidation process for the enhancement of its sensing Hanlin Wu (Jilin University, China) Hanlin Wu, Liupeng Zhao, Tianshuang Wang, Peng Sun, Geyu Lu
O-2-11	09:40-09:55	W-CeO_2 nanospheres gas sensor array for the detection of H_2S: ultra-accurate in complex environment Qiuyang Duan (Huazhong University of Science and Technology, China) Qiuyang Duan, Long Li, Wenjian Zhang, Huayao Li, Huan Liu
	09:55-10:10	Coffee Break Venue: Lobbies on the 1F and 2F

Chair: Yufei Liu
(Chongqing University, China)

I-2-6 (Invited)	10:10-10:30	Room-temperature semiconductor gas sensor based on colloidal quantum dots Huan Liu (Huazhong University of Science and Technology,China)

O-2-12	10:30-10:45	Boosting C_3H_6O selectivity detection via in-site interfacial engineering on $BiFeO_3$/ZnO heterostructures Xiaojie Li (Shanghai University, China) Xiaojie Li, Jinrong Cheng, Jiaqiang Xu
O-2-13	10:45-11:00	Enhancing moisture resistance of metal oxide semiconductor gas sensors by fabricating superhydrophobic composite films through magnetron sputtering and laser modification Xiaojie Zhu (Shanghai Maritime University, China) Xiaojie Zhu, Junfeng Li, Weixiang Gao, Shibin Sun
O-2-14	11:00-11:15	Effect of heterogenous dopant and high temperature pulse excitation on ozone sensing behavior of In_2O_3 nanostructures and an image recognition method coupled to ozone sensing array Ning Sui (Jilin University, China) Ning Sui, Tingting Zhou, Tong Zhang
O-2-15	11:15-11:30	Hollow double-shelled structural V_2O_5 with spatial confinement for ethanol gas sensing Feiyu Zhang (Northeast Forestry University, China) Feiyu Zhang, Siqi LI, Song Liu
O-2-16	11:30-11:45	MOF structure engineering to synthesize core-shell heterostructures with controllable shell layer thickness: Regulating gas selectivity and sensitivity Ke Chen (Jilin University, China) Ke Chen, Tianshuang Wang, Peng Sun, Geyu Lu

2.3 Sensing Materials & Sensing Interface Design (II)

Time: 08:30-11:40 August 6th, 2023 (Beijing Time)
Venue: Fourth Lecture Theatre (Shaw Teaching Building)

Chair: Dacheng Wei
(Fudan University, China)

I-3-6 (Invited)	08:30-08:50	Mesoporous metal oxide semiconductors for gas sensing applications Yonghui Deng (Fudan University, China)
I-3-7 (Invited)	08:50-09:10	A camel nose-inspired highly durable neuromorphic humidity sensor with water source locating capability Weiguo Huang (Fujian Institute of Research on the Structure, CAS, China)
O-3-7 (Online)	09:10-09:25	Development of a glucose- and temperature-sensitive hydrogel for force-compensated biomedical sensors Simon Binder (University of Utah, United States) Jonathan Grubb, Swomitra Mohanty, Jules J. Magda, Christopher F. Reiche, Florian Solzbacher, Simon Binder

O-3-8	09:25-09:40	Mesoporous semiconductor metal oxides with adjustable pore microenvironments and enhanced gas sensing performance at low working temperature Jing Wei (Xi'an Jiaotong University, China)
O-3-9	09:40-09:55	Preparation of atomically dispersed Ru on three dimensionally ordered macroporous In_2O_3 and their formaldehyde sensing properties Xing Qiao (Beijing University of Chemical Technology, China) Xing Qiao, Dongmei Han, Zhihua Wang, Fubo Gu
	09:55-10:20	Coffee Break Venue: Lobbies on the 1F and 2F
		Chair: Yonghui Deng (Fudan University, China)
I-3-8 (Invited)	10:20-10:40	Two-dimensional field-effect transistor sensors Dacheng Wei (Fudan University, China)
O-3-10	10:40-10:55	InSe field effect transistor gas sensor for NO_2 detection at room temperature Jianbo Sun (Harbin Normal University, China) Jiaxin Cao, Jie Sun, Jianbo Sun
O-3-11	10:55-11:10	Black phosphorus based conductometric gas sensors Yong Zhou (Chongqing University, China) Yong Zhou, Yanjie Wang, Yongcai Guo, Cheng Zou
O-3-12	11:10-11:25	The application prospect of monolayer fullerene network in VOCs sensing field Xiao Chang (Qingdao University, China) Xiao Chang, Jun Zhang
O-3-13	11:25-11:40	Gas sensitive field-effect transistor based on multilayer black phosphorus Yanting Tang (Huazhong University of Science and Technology, China) Yanting Tang, Bowen Zhou, Jingyao Liu, Zhixiang Hu, Hua-Yao Li, Huan Liu

2.4 Biosensors & Optical Sensors (II)

Time: 08:30-11:45 August 6th, 2023 (Beijing Time)
Venue: Seventh Lecture Theatre (Shaw Teaching Building)

		Chair: Xiaoqiang Chen (Nanjing Tech University, China)
I-4-5 (Invited)	08:30-08:50	Development of organic transistor-based bio/chemical sensors for real-sample analysis Tsuyoshi Minami (University of Tokyo, Japan)
I-4-6 (Invited)	08:50-09:10	Design and application of organic fluorescent sensing materials and device Yanyan Fu (Shanghai Institute of Microsystem and Information Technology, CAS, China)

I-4-7 (Invited)	09:10-09:30	Designed synthesis of highly luminescent aromatic architectures for multi-functional sensing Enquan Jin (Jilin University, China)
O-4-8 (Online)	09:30-09:45	Localized surface plasmon resonance biosensor for biomedical diagnostic applications Sezin Sayin (George Washington University, United States)
O-4-9	09:45-10:00	Miniaturized photoelectrochemical sensing system for reusable detection of marcomolecules and its applications for unattended environmental monitoring Zhao Yue (Nankai University, China) Gang Xiao, Shengli Cao, Ziyu Xie, Yutao Jiao, Yichen Ren, Zhao Yue
	10:00-10:20	Coffee Break Venue: Lobbies on the 1F and 2F
Chair: Yanyan Fu (Shanghai Institute of Microsystem and Information Technology, CAS, China)		
I-4-8 (Invited)	10:20-10:40	Improvement strategies on colorimetric detection performance for explosives precursors Baiyi Zu (Xinjiang Technical Institute of Physics and Chemistry, China)
I-4-9 (Invited)	10:40-11:00	Design, synthesis and application of stable organic luminescent radicalsLuminescent RadicalsAlim Abdurahman (Jilin University, China)
O-4-10	11:00-11:15	Precise evaluation of exercise-induced metabolic fat burning through analysis of ketone biomarkers in deep breath Junyeong Lee (Electronics and Telecommunications Research Institute, Republic of Korea) Junyeong Lee, Hyung-kim Lee, Minji Sohn, Soo Lim, Dae-Sik Lee
O-4-11	11:15-11:30	Highly sensitive aptamer sensor for sweat albumin detection Hanghang Cheng (The University of Chinese Academy of Sciences, China) Hanghang Cheng, Tiezhu Liu, Minghui Yin, Guangyang Gou, Mei Zhou, Ning Xue, Chunxiu Liu
O-4-12	11:30-11:45	Sensitive colorimetric sensor based on nanozymes for point-of-care detection of acetylcholinesterase Rui Jin, Hongxia Li (Jilin University, China) Rui Jin, Hongxia Li, Chunyan Sun, Xu Yan, Geyu Lu

2.5 Flexible Sensors & Health Monitoring (II)

Time: 08:30-11:40 August 6th, 2023 (Beijing Time)
Venue: Eighth Lecture Theatre (Shaw Teaching Building)

Chair: Ting Zhang
(Suzhou Institute of Nano-Tech and Nano-Bionics, CAS, China)

I-5-4 (Invited)	08:30-08:50	Bioelectronic nose and bioelectronic tongue Ping Wang (Zhejiang University, China)
I-5-5 (Invited) (Online)	08:50-09:10	Self-powered biosensor devices and their applications Zhou Li (Beijing Institute of Nanoenergy and Nanosystems, CAS, China)
O-5-8	09:10-09:25	Enhancing prosthetic control through high-fidelity myoelectric mapping with molecular anchoring technology Liang Pan (University of Electronic Science and Technology of China, China)
O-5-9	09:25-09:40	Building a spiking sensory neuron with oxide-based neuromorphic devices Changjin Wan (Nanjing University, China)
O-5-10	09:40-09:55	Hydrogel-based highly selective ammonia sensor for exhaled breath analysis Hongran Zhao (Jilin University, China) Hongran Zhao, Yaping Song, Teng Fei, Tong Zhang
	09:55-10:20	Coffee Break Venue: Lobbies on the 1F and 2F

Chair: Ping Wang
(Zhejiang University, China)

I-5-6 (Invited)	10:20-10:40	Bioinspired flexible sensing electronics for wearable systems Ting Zhang (Suzhou Institute of Nano-Tech and Nano-Bionics, CAS, China)
O-5-11	10:40-10:55	Highly elastic polymer substrates with local strain management for stretchable electronic applications Sujie Chen (Shanghai Jiao Tong University, China) Sujie Chen, Lei Han, Li'ang Deng, Siying Li
O-5-12	10:55-11:10	Flexible machine learning textile-based graphene fibers for hydrogel sensing Jianxiong Zhu (Southeast University, China)

O-5-13	11:10-11:25	Selective ion sensing organic electrochemical transistors for blood serum analysis Xiang Meng (The University of Hong Kong, China)
O-5-14	11:25-11:40	Organic electrochemical transistors for highly sensitive biosensing Wei Huang (University of Electronic Science and Technology of China, China) Wie Huang, Yuhua Cheng, Tobin J. Marks, Antonio Facchetti

2.6 MEMS Sensors & Sensing Systems (II)

Time: 08:30-11:40 August 6th, 2023 (Beijing Time)
Venue: Ninth Lecture Theatre (Shaw Teaching Building)

Chair: Hyung-Gi Byun
(Kangwon National University, Republic of Korea)

I-6-5 (Invited)	08:30-08:50	Low-power and self-powered environmental sensor assisted by deep-learning technology Inkyu Park (Korea Advanced Institute of Science & Technology, Republic of Korea)
O-6-7	08:50-09:05	Sensor drift compensation of electronic noses with image fusion based on a deep residual shrinkage network Yuan Xu (Shandong Technology and Business University, China) Yuan Xu, Guangfen Wei, Aixiang He, Wei Zhang, Shasha Jiao
O-6-8	09:05-09:20	Preparation method and array performance study of silicon-based tungsten oxide gas sensors using electrohydrodynamic jet printing Meng Ouyang (Huazhong University of Science and Technology, China) Meng Ouyang, Peng Wang, Huayao Li, Huan Liu
O-6-9	09:20-09:35	Coupled oscillators for highly sensitive trace sensing Shaokang Chen (Jilin University, China) Shaokang Chen, Puyuan Cong, Hanjie Cheng, Zheyu Yao, Jialin Zhang, Jin Wang, Cao Xia, Xu Du, Dongfang Wang, Takahito Ono, Masayoshi Esashi
O-6-10 (Online)	09:35-09:50	Understanding the effect of Si-impurities on metal oxide gas sensors based on insights from fuel cell cathode degradation Anna F. Staerz (Colorado School of Mines, United States) Anna F. Staerz, Han Gil Seo, Harry Tuller
	09:50-10:20	Coffee Break Venue: Lobbies on the 1F and 2F

		Chair: Chuantao Zheng **(Jilin University, China)**
I-6-6 **(Invited)**	**10:20-10:40**	**Standardization for electronic nose and beyond** **Hyung-Gi Byun (Kangwon National University, Republic of Korea)**
O-6-11	**10:40-10:55**	**Light-excited chemiresistive sensors integrated on LED microchips** **Xiaoxue Wang (Huazhong University of Science and Technology, China)** **Xiaoxue Wang, Shuang Zhang, Yuan Liu, Jiangnan Dai, Huayao Li, Xin Guo**
O-6-12	**10:55-11:10**	**Analytical extraction of sorption kinetic information using nanomechanical sensors** **Yingcheng Zhou (National Institute for Materials Science, Japan)** **Yingcheng Zhou, Kosuke Minami, Kota Shiba, Genki Yoshikawa**
O-6-13	**11:10-11:25**	**Hydrodynamic dimensions of biomolecule-magnetic bead particles evaluated by magnetization motion on quartz crystal microbalance provide insights into the properties of biomolecules** **Can Zuo (Shanghai Jiao Tong University, China)** **Can Zuo, Yumei Wen, Ping Li, Tao Dong**
O-6-14	**11:25-11:40**	**MEMS gas sensor based on Ir nanochain sensitized defective state cubic phase WO_3 for xylene gas monitoring** **Mengmeng Guo (Shanghai University, China)** **Mengmeng Guo, Jiaqiang Xu**

Lunch

Time: 11:50-13:30, August 6th, 2023
Venue: Lakeside Dining Hall

Daily Program

(13:30-17:25 August 6th, 2023 (Beijing Time))

3.1 Chemical Sensors (III)

Time: 13:30-17:10 August 6th, 2023 (Beijing Time)
Venue: Second Lecture Theatre (Shaw Teaching Building)

Chair: Jun Zhang
(Qingdao University, China)

I-1-7 (Invited) (Online)	13:30-13:50	Sensors for the hydrogen economy Rangachary Mukundan (Lawrence Berkeley National Laboratory, United States)
I-1-8 (Invited) (Online)	13:50-14:10	Advances about the development of an operando system to investigate the responses of chemoresistive gas sensors Vincenzo Guidi (University of Ferrara, Italy)
O-1-16 (Online)	14:10-14:25	Operando DRIFT-spectroscopy on a ternary oxides solid solution-based chemoresistive gas sensor Elena Spagnoli (University of Ferrara, Italy) Elena Spagnoli, Barbara Fabbri, Matteo Valt, Arianna Rossi, Andrea Gaiardo, Vincenzo Guidi
O-1-17	14:25-14:40	Insight of volatile benzenes sensing mechanisms for conjugated polymer based gas sensors Jian Song (Shanghai University, China)
O-1-18	14:40-14:55	Enhanced ammonia sensing performance based on HPW-PANI/KH550-GO nanocomposite Jiankui Zhou (Hanwei Electronics Group Corporation, China) Jiankui Zhou, Zhizhan Wang, Sihang Tian, Huibing Fu, Shengguo Gao, Ruiqin Gu
	14:55-15:20	Coffee Break Venue: Lobbies on the 1F and 2F

Chair: Zhi Yang
(Shanghai Jiao Tong University, China)

I-1-9 (Invited) (Online)	15:20-15:40	Full printed piezoelectric gravimetric sensors: design and process optimization towards VOC's detection Hélène Debéda (University of Bordeaux, France)
O-1-19 (Online)	15:40-15:55	Protection of NO_x sensors from sulfur poisoning in glass furnaces by the optimization of "SO_2 trap" Carole Naddour (University of Lyon, France) C. Naddour, M. Rieu, A. Boreave, S. Gil, P. Vernoux, J.P. Viricelle
O-1-20 (Online)	15:55-16:10	Preliminary study on visible light-activated chemoresistive gas sensor based on alkali-doped ZnO Barbara Fabbri (University of Ferrara, Italy) Barbara Fabbri, Elena Spagnoli, Emanuela Tavaglione, Arianna Rossi, Paolo Bernardoni, Vincenzo Guidi

O-1-21 (Online)	16:10-16:25	Ultrasensitive indium oxide based chemoresistive gas sensor for CO_2 detection Arianna Rossi (University of Ferrara, Italy) Arianna Rossi, Barbara Fabbri, Elena Spagnoli, A. Gaiardo, M. Valt, Vincenzo Guidi
O-1-22	16:25-16:40	Research on nitrogen dioxide gas sensor based on molybdenum disulfide Yifan Yang (Lanzhou University, China) Yifan Yang, Yanrong Wang, Erqing Xie
O-1-23	16:40-16:55	Highly sensitive room-temperature ammonia gas sensors based on MXene interfacially confined with Ni-N-C single atoms Min Zeng (Shanghai Jiao Tong University, China) Wenjing Quan, Min Zeng, Jianhua Yang, Nantao Hu, Zhi Yang
O-1-24	16:55-17:10	Stabilization of PbS colloidal-quantum-dot gas sensors using atomic-ligand engineering Zhixiang Hu (Huazhong University of Science and Technology, China) Zhixiang Hu, Long Li, Huayao Li, Huan Liu

3.2 Electrochemical & Metal Oxide Sensors (III)

Time: 13:30-17:10 August 6th, 2023 (Beijing Time)
Venue: Third Lecture Theatre (Shaw Teaching Building)

Chair: Fanli Meng
(Northeastern University, China)

I-2-7 (Invited)	13:30-13:50	Nanostructured smart chemical sensor system for smart homes Zhiyong Fan (The Hong Kong University of Science and Technology, China)
O-2-17	13:50-14:05	Atomically dispersed Pt on MOF derived In_2O_3 for high performance formaldehyde gas sensor Weiyi Bu (Jilin University, China) Weiyi Bu, Xiaohong, Chuai, Geyu Lu
O-2-18	14:05-14:20	Selective methane sensing based on ZnO/Pd@ZIF-8 Shirui Luo (Tsinghua University, China) Shirui Luo, Lan Xiang
O-2-19	14:20-14:35	ZIF-L derived Co doped In_2O_3 hollow nanofibers for high performance formaldehyde gas sensor Lei Zhu (Xi'an Jiaotong University, China) Lei Zhu, Jianan Wang, Ze Wang, Yan Wei
O-2-20 (Online)	14:35-14:50	Gas sensing with highly Cr (III)-doped nanocrystalline TiO_2 Dmitriy Kuranov (Lomonosov Moscow State University, Russia) Dmitriy Kuranov, A. Grebenkina, V. Krivetskiy

	14:50-15:20	Coffee Break Venue: Lobbies on the 1F and 2F
Chair: Zhiyong Fan (The Hong Kong University of Science and Technology, China)		
I-2-8 (Invited) (Online)	15:20-15:40	Sensors for biomass use in energy technology Gunter Hagen (University of Bayreuth, Germany)
O-2-21 (Online)	15:40-15:55	Semiconductor VOC gas sensors with B-site substituted $SmFeO_3$ Masashi. Muraki (Ehime University, Japan) Masashi. Muraki, Masami. Mori, Yositeru. Itagaki
O-2-22	15:55-16:10	High performance potentiometric hydrogen sensor based on ZIF-8 derived ZnO porous cages sensing electrode Hong Zhang (Anhui University of Science and Technology, China)
O-2-23	16:10-16:25	Reverse potentiometric gas response of mixed-conducting perovskites Zuobin Zhang (University of Science and Technology of China, China) Zuobin Zhang, Hongjie Han, Jianxin Yi
O-2-24	16:25-16:40	Impedimetric-type NH_3 sensor based on In_2O_3 sensing electrode using a mixed conductive porous layer Xiaodi Xu (North China University of Science and Technology, China) Xiaodi Xu, Weiwei Meng, Yuehua Li, Lei Dai, Ling Wang
O-2-25	16:40-16:55	Fast-responding electrochemical hydrogen gas sensor with Pt-Pd based electrode and ionic liquid/polymeric ionic liquid membrane Zhuoru Huang (Zhejiang University, China) Zhuoru Huang, Zhejia Li, Ping Wang, Hao Wan
O-2-26	16:55-17:10	Electrochemical ammonia sensors based on ionic liquid electrolyte Yingjie Wang (Zhengzhou Winsen Electronics Technology Co., China)

3.3 Sensing Materials & Sensing Interface Design (III)

Time: 13:30-17:10 August 6th, 2023 (Beijing Time)
Venue: Fourth Lecture Theatre (Shaw Teaching Building)

Chair: Zhongqiang Wang (Northeast Normal University, China)		
I-3-9 (Invited)	13:30-13:50	MOF thin film based high-performance gas sensing materials Gang Xu (Fujian Institute of Research on the Structure of Matter, CAS, China)
O-3-14	13:50-14:05	Hydrogen sensing with high stability and selectivity Dachi Yang (Nankai University, China) Dachi Yang, Chen Wang, Lingling Du, Xinhua Zhao, Xiaxia Xing

O-3-15	14:05-14:20	The Pd functionalized Co_3O_4@MOFs hollow cage for humidity-independent acetone sensing Wei Jin (Wuhan University of Technology, China) Wei Jin, Ning Zhang, Jianbo Wang, Shuang Yang,Yueli Liu, Wen Chen
O-3-16	14:20-14:35	Construction and sensing property studies of fluorescent assembled films Jing Liu (Shaanxi Normal University) Jing Liu, Nan An, Liangwen Chu, Hairui Lei, Yu Fang
O-3-17	14:35-14:50	Flexible all-inorganic oxide semiconductor gas sensors Xiaowei Li (Northeast Normal University, China)
	14:50-15:20	**Coffee Break** **Venue: Lobbies on the 1F and 2F**
		Chair: Gang Xu **(Fujian Institute of Research on the Structure of Matter, CAS, China)**
I-3-10 (Invited)	15:20-15:40	Emerging multimode memristors for neuromorphic sensory system Zhongqiang Wang (Northeast Normal University, China)
O-3-18	15:40-15:55	Fe-functionalized α-Fe_2O_3/ZnO nanocages for ppb-level acetone gas sensing Jiajia Liu (Beijing Institute of Technology, China) Dandan Li, Jiajia Liu, Jiatao Zhang
O-3-19	15:55-16:10	Vacancy defects enabled high-performance gas sensing: from metal oxides to halide perovskites Lexi Zhang (Tianjin University of Technology, China) Lexi Zhang, Yue Xing, Chengtao Li, Yifei Liu, Lijian Bie
O-3-20	16:10-16:25	The electrical conductivity of platinum doped ordered mesopore titania Azhar Ali Haidry (Nanjing University of Aeronautics and Astronautics, China) Azhar Ali Haidry, Qawareer Fatima, Zhe Wang, Yucheng Wang, He Chen, Adil Raza, Courtney Rutendo Mandebvu, Fazal Ghani
O-3-21	16:25-16:40	The enhanced sensitivity and regulation of selectivity with confined structure via ALD Qingmin Hu (Shanghai University, China) Qingmin Hu, Jiaqiang Xu
O-3-22	16:40-16:55	Enhanced toluene gas-sensing properties of Co_3O_4 nanosheet based on crystal facet engineering Dehao Kong (Jilin University, China) Dehao Kong, Yuan Gao, Geyu Lu
O-3-23 (Online)	16:55-17:10	Xerogel material for selective VOCs detection by photonic sensors Beatriz Rosales-Reina (Public University of Navarre, Spain) Beatriz Rosales-Reina, Diego López-Torres, Guillermo Cruz-Quesada, César Elosua, Santiago Reinoso, Maialen Espinal, Julián J. Garrido

3.4 Biosensors & Optical Sensors (III)

Time: 13:30-17:25 August 6th, 2023 (Beijing Time)
Venue: Seventh Lecture Theatre (Shaw Teaching Building)

		Chair：Tsuyoshi Minami (University of Tokyo, Japan)
I-4-10 (Invited)	13:30-13:50	Albumin-targeting dyes for bioimaging and tumor diagnosis Shoujun Zhu (Jilin University, China)
I-4-11 (Invited) (Online)	13:50-14:10	Colony fingerprinting for rapid detection and discrimination of the pathogenic microorganisms Tsuyoshi Tanaka (Tokyo University of Agriculture and Technology, Japan)
I-4-12 (Invited)	14:10-14:30	Optical properties of carbon dots in the deep-red to near-infrared region Di Li (Jilin University, China)
O-4-13	14:30-14:45	Graphene-enhanced colorimetry for detection of the Mec A gene of staphylococcus aureus based on toehold-mediated strand displacement Yuting Zhang (Jiangnan University, China) Zongkang Guo, Yuting Zhang, Xueting Fan, Xiaoli Wang, Nandi Zhou
O-4-14	14:45-15:00	The road to commercialization of carbon nanotube transistor bio-sensors Haiyang Liu (Peking University, China) Haiyang Liu, Mengmeng Xiao, Zhiyong Zhang
	15:00-15:15	**Coffee Break** **Venue: Lobbies on the 1F and 2F**
		Chair: Shoujun Zhu (Jilin University, China)
I-4-13 (Invited)	15:15-15:35	Design, synthesis, and application of organic luminescent materials with high luminescence efficiency Jinbei Wei (Jilin University, China)
I-4-14 (Invited) (Online)	15:35-15:55	Bioinspired nanomaterials for the specific sensing of food contaminants Marloes Peeters (Newcastle University, United Kingdom)
O-4-15 (Online)	15:55-16:10	Naked eye detection of air pollutants using chemical reaction mediated plasmonic nanoparticles Michael Pereira Martins (ETH Zürich, Switzerland) Michael Pereira Martins, Andreas T. Güntner

O-4-16 (Online)	16:10-16:25	Optimization of a luminescent optical fiber sensor for relative humidity measurements Diego López-Torres (Public University of Navarre, Spain) Adur Albizu, Diego López-Torres, Beatriz Rosales-Reina, Guillermo Cruz-Quesada, César Elosua, Mailen Espinal, Santiago Reinoso, Julián J. Garrido
O-4-17	16:25-16:40	Construction of colorimetric/fluorescent sensing materials for improvised explosives detection Zhenzhen Cai (Xinjiang Technical Institute of Physics and Chemistry, China) Zhenzhen Cai, Xincun Dou
O-4-18	16:40-16:55	Dual-gas sensor for simultaneous detection of methane and carbon monoxide Fang Song (Jilin University, China) Fang Song, Di Yu, Chuantao Zheng, Mingquan Pi, Yiding Wang
O-4-19	16:55-17:10	Rational design of core-shell Cu@Cu_2S@N-doped carbon hollow nanocubes for electrochemical detection of glucose Yuanyuan Li (Shanghai Jiao Tong University, China) Yuanyuan Li, Huinan Chen, Liqiang Luo
O-4-20	17:10-17:25	Dual-emission of fluorescence and phosphorescence for ratiometric oxygen sensing based on metal-free thianthrene luminophores Haichao Liu (Jilin University, China) Haichao Liu, Bing Yang

3.5 Flexible Sensors & Health Monitoring (III)

Time: 13:30-16:25 August 6th, 2023 (Beijing Time)
Venue: Eighth Lecture Theatre (Shaw Teaching Building)

Chair: Dianpeng Qi
(Harbin Institute of Technology, China)

I-5-7 (Invited) (Online)	13:30-13:50	Low-dimensional semiconductor materials for stretchable electronics and tactile sensing Caofeng Pan (Beijing Institute of Nanoenergy and Nanosystems, CAS, China)
I-5-8 (Invited)	13:50-14:10	Flexible graphene artificial throat and related sensors He Tian (Tsinghua University, China)
O-5-15	14:10-14:25	Biomolecular perception on soft interfaces Ting Wang (Nanjing University of Posts and Telecommunications, China)
O-5-16	14:25-14:40	Ultrasound enriching analysis Tailin Xu (Shenzhen University, China)
O-5-17	14:40-14:55	Nanomaterial-based high sensitive biosensors and systems for non-invasive biomarker detection in body fluids Hao Wan (Zhejiang University, China) Hao Wan, Xianyou Sun, Xinyi Wang, Ping Wang

	14:55-15:20	Coffee Break Venue: Lobbies on the 1F and 2F
		Chair: He Tian (Tsinghua University, China)
I-5-9 (Invited)	15:20-15:40	Soft neural electrode arrays for electrophysiological signal monitoring Dianpeng Qi (Harbin Institute of Technology, China)
O-5-18	15:40-15:55	The new respiratory gas sensor detects the exhaled landmark gas to realize the early diagnosis and monitoring of cancer Chao Wang (Shandong First Medical University, China) Chao Wang, XiuLi Kong, Hongshuai Song
O-5-19	15:55-16:10	Wireless, battery-free, wearable biosensor system based on the LC resonance circuit Yan Dong (China University of Petroleum (East China), China) Yan Dong, Dongzhi Zhang, Jinghua Li
O-5-20	16:10-16:25	Self-healing, laminated, and low resistance NH_3 sensor based on TPA-3DCNPZ sensing material operating at room temperature Junming He (Jilin University, China) Junming He, Fangmeng Liu, Geyu Lu

3.6 MEMS Sensors & Sensing Systems (III)

Time: 13:30-17:10 August 6th, 2023 (Beijing Time)
Venue: Ninth Lecture Theatre (Shaw Teaching Building)

		Chair: Inkyu Park (Korea Advanced Institute of Science & Technology, Republic of Korea)
I-6-7 (Invited)	13:30-13:50	MEMS based single-cell transduction Jian Chen (Aerospace Information Research Institute, CAS, China)
I-6-8 (Invited) (Online)	13:50-14:10	Machine learning-enabled biomimetic olfaction for odor discrimination and odor identification Gianaurelio Cuniberti (Technical University Dresden, Germany)
O-6-15	14:10-14:25	A novel algorithm for gas sensor array combining savitzky-golay smooth and image conversion Mingzhi Jiao (China University of Mining and Technology, China) Mingzhi Jiao, Xi Wang, Chen Qian
O-6-16	14:25-14:40	Smart electronic nose enabled by low dimensional nanomaterials and deep learning algorithm Huayao Li (Huazhong University of Science and Technology, China) Huayao Li, Cong Fang, Long Li, Huan Liu

O-6-17	14:40-14:55	Automatic feature extraction of gas sensor responses based on phase space Xuerong Wang (Shandong Technology and Business University, China) Xuerong Wang, Guangfen Wei, Aixiang He,Wei Zhang, Shasha Jiao
	14:55-15:20	Coffee Break Venue: Lobbies on the 1F and 2F
		Chair: Jian Chen (Aerospace Information Research Institute, CAS, China)
I-6-9 (Invited)	15:20-15:40	On-chip mid-infrared gas sensing technology using optical waveguide on silicon Chuantao Zheng (Jilin University, China)
O-6-18	15:40-15:55	Sensing applications of microwave resonators Shanshan Xue (Jilin University, China) Shanshan Xue, Nan Zhang, Xiaolong Wang, Tianshuang Wang, Peng Sun, Geyu Lu
O-6-19	15:55-16:10	Research on MEMS hydrogen sensor based on Pd-Ni alloy thin film Qing Wang (Zhengzhou Winsen Electronics Technology Co., China)
O-6-20	16:10-16:25	Bio-inspired energy harvesting for self-powered systems Yingying Fan (Jilin University, China) Yingying Fan, Jie Song, Minglei Han, Yicheng Yu, Xin Liu, Xu Yang, Dongfang Wang, Takahito Ono
O-6-21	16:25-16:40	Digital microfluidics chip for sweat detection based on dielectric wetting Zhiwei Zhang (Shanghai University, China) Zhiwei Zhang, Yi Li, Jie Liang, Xiaojie Li, Jinrong Cheng, Jiaqiang Xu
O-6-22	16:40-16:55	Construction of a scalable DNA computing nano-system for large-scale and complex logical operations Chunyang Zhou (Changchun University of Science and Technology, China) Chunyang Zhou, Yiwei Song, Xiuyan Jin, Bei Li, Chunying Pang
O-6-23	16:55-17:10	Machine olfaction and its application in food freshness detection Wei Li (Zhengzhou Winsen Electronics Technology Co., China)

Poster Session

Time: 16:00-18:00, August 6th, 2023
Venue: Lobbies on the 1F and 2F of Shaw Teaching Building

Dinner

Time: 18:00-19:30, August 6th, 2023
Venue: Lakeside Dining Hall

Daily Program

(8:30-11:45 August 7th, 2023 (Beijing Time))

4.1 Chemical Sensors (IV)

Time: 08:30-11:40 August 7th, 2023 (Beijing Time)
Venue: Second Lecture Theatre (Shaw Teaching Building)

Chair: Lin Xu
(Jilin University, China)

I-1-10 (Invited)	08:30-08:50	Exhaled breath analysis based on ion mobility spectrometry Xiuli He (Aerospace Information Research Institute, China)
I-1-11 (Invited)	08:50-09:10	Construction and property regulation of semiconductor sensitive materials for gas detection in coalmine Yan Wang (Henan Polytechnic University, China)
O-1-25	09:10-09:25	Single atom Rh-sensitized SnO_2 nanoparticles via atomic layer deposition for formaldehyde detection Lihao Zhou (Qingdao University, China) Lihao Zhou, Xianghong Liu, Jun Zhang
O-1-26	09:25-09:40	Room temperature fuel cell type NO_2 sensor using MoS_2 nanosheet/carbon fiber sensing electrode Lingchu Huang (Jilin University, China) Lingchu Huang, Xishuang Liang, Geyu Lu
O-1-27	09:40-09:55	Development of ultra-low-power e-nose system based on micro-LED and deep learning for real-time, highly-selective gas prediction Kichul Lee (Korea Advanced Institute of Science and Technology, Republic of Korea) Kichul Lee, Incheol Cho, Inkyu Park
	09:55-10:20	Coffee Break Venue: Lobbies on the 1F and 2F

Chair: Xiuli He
(Aerospace Information Research Institute, China)

I-1-12 (Invited)	10:20-10:40	A wearable healthcare platform integrated with biomimetically ions conducted metal-organic framework composites for gas and strain sensing in nonoverlapping mode Lin Xu (Jilin University, China)
O-1-28	10:40-10:55	AuPd bimetallic functionalized monodisperse In_2O_3 porous spheres for ultrasensitive trimethylamine detection Zhen Sun (Hebei University of Technology, China) Zhen Sun, Xueli Yang

O-1-29	10:55-11:10	CuO nanostructure fabricated by nanosecond-laser ablation in chosen liquid Wenqing Zhao (Dalian University of Technology, China) Wenqing Zhao, Jun Yu, Guanyu Yao, Hao Wu, Huichao Zhu, Zhenan Tang
O-1-30	11:10-11:25	A proton conductor hydrogen sensor using a self-separating proton electron hybrid conductor material sensitive electrode Shaozhe Sun (North China University of Science and Technology, China) Shaozhe Sun, Weiwei Meng, Yuehua Li, Lei Dai, Ling Wang
O-1-31	11:25-11:40	Study on preparation and VOCs sensitivity of metal oxide composites Guofeng Pan (Hebei University of Technology, China) Guofeng Pan, Caixuan Sun, Junkai Shao

4.2 Chemical Sensors (V)

Time: 08:30-11:40 August 7th, 2023 (Beijing Time)
Venue: Ninth Lecture Theatre (Shaw Teaching Building)

Chair: Tong Zhang
(Jilin University, China)

I-1-13 (Invited)	08:30-08:50	Gas sensors based on two-dimensional layered nanomaterials Zhi Yang (Shanghai Jiao Tong University, China)
I-1-14 (Invited)	08:50-09:10	MXene-based heterojunction for room-temperature NH_3 sensors: materials desgin and sensing mechanisms Xiaogan Li (Dalian University of Technology, China)
O-1-32	09:10-09:25	Room temperature gas sensors based on 2D materials Yinhua Hu (Qingdao University, China) Yinhua Hu, Xianghong Liu, Jun Zhang
O-1-33	09:25-09:40	Functionalized conductive $Co_3(HITP)_2$ chemiresistor for H_2S detection at room-temperature Yongjiao Sun (Taiyuan University of Technology, China) Yongjiao Sun, Baoxia Wang, Zihan Wei, Bingliang Wang, Koichi Suematsu, Kengo Shimanoe, Jie Hu
O-1-34	09:40-09:55	Preparation of BiOI functionalized ZnO nanorods for ppb-level NO_2 detection at room temperature Yueyue Li (Jilin University, China) Yueyue Li, Fengmin Liu, Geyu Lu
	09:55-10:20	Coffee Break Venue: Lobbies on the 1F and 2F

Chair: Xiaogan Li
(Dalian University of Technology, China)

I-1-15 (Invited)	10:20-10:40	New era of zeolite in chemiresistive sensor for breath analysis Tianshuang Wang (Jilin University, China)

O-1-35	10:40-10:55	Enhancing gas-phase mercury detection for environmental monitoring using chemiresistive mercury sensors Dong Wang (Northeast Electric Power University, China) Dong Wang, Hairui Fang, Jianbo Sun
O-1-36 (Online)	10:55-11:10	Nanomechanical sensors for detecting trace amount water Kosuke Minami (National Institute for Materials Science, Japan) Kosuke Minami, Tomohiro Murata, Tomohiko Yamazaki, Genki Yoshikawa, Katsuhiko Ariga
O-1-37	11:10-11:25	Development of waterproof package for ultra-thin film platinum hydrogen sensors Shoki Wakabayashi (Okayama University, Japan) Shoki Wakabayashi, Yuki Oh, Jin Wang, Toshihiko Kiwa
O-1-38	11:25-11:40	Microjunction modulated selective ammonia sensor with p-type oxides decorated WS_2 microflakes Qiyilan Guang (Dalian University of Technology, China) Qiyilan Guang, Shupeng Sun, Baoyu Huang, Jianwei Zhang, Nan Wang, Xiaogan Li

4.3 Electrochemical & Metal Oxide Sensors (IV)

Time: 08:30-11:20 August 7th, 2023 (Beijing Time)
Venue: Third Lecture Theatre (Shaw Teaching Building)

Chair: Dachi Yang
(Nankai University, China)

I-2-9 (Invited)	08:30-08:50	Lunar soil volatile detection module based on semiconductor gas sensor Wei Luo (Huazhong University of Science and Technology, China)
I-2-10 (Invited) (Online)	08:50-09:10	Precious metal free catalytic combustion-type gas sensors Shinji Tamura (Osaka University, Japan)
O-2-27 (Online)	09:10-09:25	3-ethyl-1-methylimidazolium hydrogen sulfate as electrolyte for ultra-thin electrochemical gas sensors Tamara Russ (San Jose State University, United States) Tamara Russ, J. R. Stetter, V. Patel, D. Ebeling, F. Mohadjerani, D. Peaslee, E. Stetter
O-2-28	09:25-09:40	Hydrogel-based electrochemical device for Pb (II) removal Nan Wang (Dalian University of Technology, China) Nan Wang, Baoyu Huang, Xiaogan Li
O-2-29	09:40-09:55	Exhaled gas simulation and ultrafast atmosphere switching technology Dongmei Xu (Beijing Sino Aggtech Co., Ltd, China)
	09:55-10:20	**Coffee Break** **Venue: Lobbies on the 1F and 2F**

	Chair: Wei Luo (Huazhong University of Science and Technology, China)	
O-2-30	**10:20-10:35**	**Mixed potential type gas sensor based on YSZ solid state electrolyte and $CuSb_2O_6$ sensing electrode for ketosis diagnosis** **Siyuan Lv (Jilin University, China)** Siyuan Lv, Fangmeng Liu, Geyu Lu
O-2-31 (Online)	**10:35-10:50**	**Effects of structure and thickness of $Ce_{0.9}Pr_{0.1}O_2$ electrodes of YSZ-based gas sensors on VOC-sensing properties** **Hirofumi Hayashi (Nagasaki University, Japan)** Hirofumi Hayashi, Taro Ueda, Takeo Hyodo, and Yasuhiro Shimizu
O-2-32	**10:50-11:05**	**YSZ-based acetone sensor for exhaled breath detection** **Li Jiang (Jilin University, China)** Li Jiang, Fangmeng Liu, Geyu Lu
O-2-33 (Online)	**11:05-11:20**	**Effects of thickness of CeO_2-added Au electrodes of YSZ-based gas sensors on VOC-sensing properties** **Taro Ueda (Nagasaki University, Japan)** Taro Ueda, Shinichi Kamura, Takeo Hyodo, and Yasuhiro Shimizu

4.4 Sensing Materials & Sensing Interface Design (IV)

Time: 08:30-11:40 August 7th, 2023 (Beijing Time)
Venue: Fourth Lecture Theatre (Shaw Teaching Building)

	Chair: Teng Fei (Jilin University, China)	
I-3-11 (Invited)	**08:30-08:50**	**Metal nitride functional materials: from structure design to applications** **Minghui Yang (Dalian University of Technology, China)**
I-3-12 (Invited)	**08:50-09:10**	**Research on the assembly and application of micro-nano structure gas and humidity sensing materials** **Yingming Xu (Heilongjiang University, China)**
O-3-24	**09:10-09:25**	**Distinctive detection of H_2 and CO by adjusting the film and interface structure of TiO_2 heterojunctions** **Xiaohong Xia (Hubei University, China)** Wei Wei, Huanhuan Zhang, Xiaoyan Zhou, Zhigang Sun, Ya Zhang, Xuefeng Wang, Xuankun Zan, Wen Cheng, Jianhu Liang, Yuwen Bao, Xiaohong Xia, Yun Gao
O-3-25	**09:25-09:40**	**0D-2D heterostructures of SnO_2 QDs-metallic sulphide nanomaterials for room-temperature NH_3 sensing** **Jinzhou Bai (Northeastern University, China)** Jinzhou Bai, Chao Tang, Yanbai Shen, Sikai Zhao

O-3-26	09:40-09:55	Experimental and theoretical studies of water adsorption on TiS_2 nano-discs Courtney Rutendo Mandebvu (Nanjing University of Aeronautics and Astronautics, China) Courtney Rutendo Mandebvu, Azhar Ali Haidry, Qawareer Fatima, Zhe Wang, Yucheng Wang, He Chen, Adil Raza, Fazal Ghani
	09:55-10:20	Coffee Break Venue: Lobbies on the 1F and 2F
		Chair: Minghui Yang (Dalian University of Technology, China)
I-3-13 (Invited)	10:20-10:40	Polymer electrolyte humidity sensors: material design and low humidity detection Teng Fei (Jilin University, China)
O-3-27	10:40-10:55	Room temperature detection of NO_2 gas using UV-activated CoPc/IGZO heterojunction sensor Rawat Jaisutti (Thammasat University, Thailand) Rawat Jaisutti, Kittiphong Thana
O-3-28	10:55-11:10	MOF-derived Pt loaded indium oxide hollow microtubules for high-sensitivity p-xylene detection at ppb-level Shisong Guo (Huazhong University of Science and Technology, China) Shisong Guo, Peng Wang, Huayao Li, Huan Liu
O-3-29	11:10-11:25	An ultrasensitive telluride semiconductor NO_2 sensor based on WTe_2@SnO_2 heterojunction Xinlei Li (Dalian University of Technology, China) Xinlei Li, Baoyu Huang, Nan Wang, Xiaogan Li
O-3-30	11:25-11:40	CuO/S-SnO_2 heterojunction for high efficiency n-butanol sensing Xu Li (Xidian University, China) Xu Li, Yinglin Wang, Pengfei Cheng, Yong Liu, Yanming Liu

4.5 Biosensors & Optical Sensors (IV)

Time: 08:30-11:30 August 7th, 2023 (Beijing Time)
Venue: Seventh Lecture Theatre (Shaw Teaching Building)

		Chair: Tuan Guo (Jinan University, China)
I-4-15 (Invited) (Online)	08:30-08:50	Noninvasive NIR fluorescent imaging and effective photocatalytic therapy based on carbon dots Songnan Qv (University of Macau, China)

I-4-16 (Invited)	08:50-09:10	High performance radiation and optoelectronic detection-from materials, devices to application Liang Shen (Jilin University, China)
O-4-21	09:10-09:25	Construction of high-performance optical sensor and applications in bio-chemical analysis Yuan Liu (Xinjiang Technical Institute of Physics and Chemistry, China) Yuan Liu, Yuling Wang, Xincun Dou
O-4-22 (Online)	09:25-09:40	The Influence of nanopillar array spatial effects and biomolecular packing on sensing performance Rosa L. Cromartie (National Institute of Standards and Technology, United States)
O-4-23 (Online)	09:40-09:55	Identification of immunoactivated T cells based on simultaneous electrorotation Masato Suzuki (University of Hyogo, Japan)
	09:55-10:05	Coffee Break Venue: Lobbies on the 1F and 2F
		Chair: Liang Shen (Jilin University, China)
I-4-17 (Invited)	10:05-10:25	Operando battery monitoring using lab-on-fiber optical sensing technologies Tuan Guo (Jinan University, China)
I-4-18 (Invited)	10:25-10:45	Application of nanozyme in surface-enhanced Raman spectroscopy-based sensor Wei Song (Jilin University, China)
O-4-24	10:45-11:00	Mid-infrared chalcogenide suspended waveguide gas sensor Mingquan Pi (Jilin University, China) Mingquan Pi, Chuantao Zheng, Fang Song, Yiding Wang
O-4-25	11:00-11:15	A general protonation strategy in ESIPT coupled TICT for zero background fluorescent turn-on sensing Da Lei (Xinjiang Technical Institute of Physics and Chemistry, China) Da Lei, Jiguang Li, Xincun Dou
O-4-26	11:15-11:30	Innovative visual dual-emission ratiometric fluorescence for Ag^+ sensing Jia An (Chongqing University, China) Jia An, Yaqin Han, Yufei Liu

4.6 Flexible Sensors & Health Monitoring (IV)

Time: 08:30-11:30 August 7th, 2023 (Beijing Time)
Venue: Eighth Lecture Theatre (Shaw Teaching Building)

Chair: Xuewen Wang
(Northwestern Polytechnical University, China)

I-5-10 (Invited)	08:30-08:50	Bio-inspired intelligent sensing systems Xin Guo (Huazhong University of Science and Technology, China)
I-5-11 (Invited) (Online)	08:50-09:10	Intelligent gold electronic skins and tattoos for connected healthcare Wenlong Cheng (Monash University, Australia)
O-5-21	09:10-09:25	Resistive Hydrogen sensors for early safety warning of Lithium-ion batteries Wenjun Yan (Hangzhou Dianzi University, China) Wenjun Yan, Waqar Ahmad, Min Ling
O-5-22	09:25-09:40	Development of oxygen sensor in humid hydrogen background based on metal oxide and machine learning algorithm Yeongjae Kwon (Korea Institute of Advanced Science and Technology, Republic of Korea) Yeongjae Kwon, Kichul Lee, Mingu Kang, Inkyu Park
O-5-23	09:40-09:55	All-nanofiber network structure for ultrasensitive piezoresistive pressure sensors Yue Zhou (Jilin University, China) Yue Zhou, Liupeng Zhao, Wei Tao, Tianshuang Wang, Peng Sun, Fangmeng Liu, Xu Yan, Geyu Lu
	09:55-10:20	**Coffee Break** **Venue: Lobbies on the 1F and 2F**

Chair: Xin Guo
(Huazhong University of Science and Technology, China)

I-5-12 (Invited)	10:20-10:40	Flexible mechanical sensors toward health-monitoring Xuewen Wang (Northwestern Polytechnical University, China)
I-5-13 (Invited)	10:40-11:00	Light-driven, ultra-sensitive and multifunctional ammonia wireless sensing system by plasmonic-functionalized Nb_2CT_x MXenes towards smart agriculture Tingting Zhou (Jilin University, China) Tingting Zhou, Peng Zhang, Tong Zhang
O-5-24	11:00-11:15	Triboelectrification induced self-powered gas sensor Zhen Wen (Suzhou University, China)
O-5-25	11:15-11:30	Alginate-based flexible gas sensors Kai Liu (Qingdao University, China) Kai Liu, Mingxin Zhang, Kewei Zhang

Lunch

Time: 12:00-13:30, August 7th, 2023
Venue: Lakeside Dining Hall

Plenary Session (II) Venue: Dingxin Lecture Hall Chair: Inkyu Park (Korea Advanced Institute of Science & Technology, Republic of Korea)	
13:30-14:10	Optical fiber gas sensors Wei Jin (The Hong Kong Polytechnic University, China)
14:10-14:50 (Online)	Single-molecule reliable detections with a large-area electronic interface Luisa Torsi (University of Bari, Italy)
14:50-15:10	Coffee Break

Closing Ceremony
Time: 15:10-16:40 August 7th, 2023 (Beijing Time)
Venue: Dingxin Lecture Hall

Dinner
Time: 17:30-19:30, August 7th, 2023
Venue: Lakeside Dining Hall

Farewell Session
Time: August 8th, 2023 (Beijing Time)

Poster Session

IMCS 2023

The 19th International Meeting on Chemical Sensors

Time: August 5th- 7th, 2023 (Beijing Time)

Venue: The lobby on the 1F and 2F of Shaw Teaching Building

Jilin University, China

Section 1 Chemical Sensors	
P1-01	**Gas sensors based on $ZnFe_2O_4$ in the detecting of 2-chloroethyl ethyl sulfide** Junchao Yang, Qibin Huang
P1-02	**Amperometric gas sensors based on screen printed electrodes with porous ceramic substrates** Jiaqi Gao, Zhongqiu Hua, Zinan Zhi, Xinyi Chen, Wanshuo Gao, Boxuan Yang, Chen Tian
P1-03	**Amperometric hydrogen gas sensor based on Pt/C/Nafion electrode and ionic electrolyte** Zinan Zhi, Wanshuo Gao, Jiawei Yang, Jiaqi Gao, Zhongqiu Hua
P1-04	**Al and W co-doping induced low crystallinity and rich oxygen vacancies NiO nanoflowers for selective detection of triethylamine** Tingyu Chen, Guodong Wang, LanLan Guo
P1-05	**TiO_2 nanotetratubes with burrs for ppb-Level NO_2 detection at room temperature** Fang Xu, Xuelan Cheng, Yizheng Liu, Wen Li
P1-06	**The fabrication and performance characterization of integrated Ag/AgCl microelectrodes** Jing Liang, Yuanqi Hu
P1-07	**Characterization and modeling of a Pt-In_2O_3 resistive sensor for hydrogen detection** Meile Wu, Zebin Wang, Zhanyu Wu, Peng Zhan, Shixin Hu, Xiaoshi Jin, Meng Li
P1-08	**In situ construction of $WO_3/W_{18}O_{49}$ homojunction nanostructure as high-performance NO_2 sensor** Qiuyue Zheng, Yingming Xu, Xiaoli Cheng
P1-09	**Promoting gas-sensing properties and mechanism of BP-SnO_2 heterojunction thin film for H_2S detection at room temperature** Dan Zhao, Haonan Yao, Xingyu Gu, Chenyang Zhang, Ce Fu, Jianqiao Liu
P1-10	**Simple synthesis of hydrangea-like CuO structue constructed by porous nanosheets for rapid detection of NO_2 at low temperature** Yuanyuan Wu, Yingming Xu, Lihua Huo
P1-11	**In-situ construction of novel heterogeneous interfaces for integrated VOCs gas sensors** Baosheng Li, Yingming Xu

P1-12	**Near-Room temperature trace NO_2 detection of Cu-MOF derived porous Cu/Cu_2O/CuO composite with rich oxygen vacancy** Ting Li, Yingming Xu, Lihua Huo
P1-13	**Preparation and humidity sensing performance study of Ni_2P-NiS composite** Yu Liu, Yingming Xu, Chuanyu Guo
P1-14	**Hollow multi-shelled structural ZnO with multiple spatial confinement for n-butanol gas sensing** Yuan Qu, Siqi Li, Song Liu
P1-15	**Catkin-templated synthesis of porous CuO microtubes for enhanced sensing detection of N-propanol vapors** Fengyun Sun, Fengqi Guo, Encheng Zhang, Sibo Wang, Jialiang Lu, Yanyu Liang
P1-16	**Preparation of Zn_2SnO_4 by template method for butyl acetate gas sensing** Xiang Lu, Siqi Li
P1-17	**Insight into Au functionalization on core-shell $LaFeO_3$ spheres for high-response and selectivity n-butanol gas sensors with DFT study** Junkai Shao, Caixuan Sun, Guofeng Pan, Xueli Yang
P1-18	**Au-loaded Zn_2SnO_4/SnO_2/ZnO nanosheets for fast response and highly sensitive TEA gas sensors** Caixuan Sun, Junkai Shao, Guofeng Pan, Xueli Yang
P1-19	**The E-nose for precise smell diagnosis** Weiwei Wu, Tianqing Liu, Yingying Jian
P1-20	**The microfluidic-based solid state pH sensor for microliter volume measurements** Weiyu Xiao, Qiuchen Dong
P1-21	**Characterization of ordered mesoporous anatase TiO_2 for room temperature hydrogen sensing** Chen He, Azhar Ali Haidry, Yucheng Wang, Qawareer Fatima, Adil Raza, Courtney Rutendo Mandebvu, Fazal Ghani
P1-22	**Simultaneous and sensitive detection of acetaminophen based on NiS/MoS_2@NHCS hollow nanoflowers** Li Liu, Xiaoxia Yan, Liqiang Luo

P1-23	**Bimetallic PtPd-functionalized MOF-derived α-Fe_2O_3 porous spindles for high efficiency low-temperature detection of triethylamine** Xianwen Yan, Xueli Yang, Zhen Sun, Caixuan Sun
P1-24	**Enhanced NO_2 gas sensing performance of monolayer $Ti_3C_2T_x$ via Ar/O_2 plasma treatment** Zhaorui Zhang, Haiying Du, Jingkui Chu
P1-25	**Gas sensitive properties of MOF-derived Ag-doped single atom ZnO nanorods** Wenpu Li, Wei Yang, Shantang Liu
P1-26	**Room-temperature ammonia gas sensor based on carbonitride and double-transition metal MXenes** Peng Huang, ZY Lin, Fangrong Qin, ShaoLin Zhang
P1-27	**The effect of Cu(I)/Cu(II) ratio for enhanced BTEX gas sensing performance of Cu doped SnO_2 nanoparticles** Kuan Tian, Kai Yang, Lu Xing, Yixiang Huang, Yuxing Miao, Zhenzhen Dong, Mengyao Liu, Yu'an Sun
P1-28	**Investigation of mixed-potential gas sensor with heterojunctions based on Co_3O_4/ZnO/Y_2O_3 nanocomposite for low concentration H_2S detection** Yanbin Wang, Tong Liu
P1-29	**MOFs-derived $M_{0.25}Zn_{0.75}Fe_2O_4$ nano-cube for an excellent NO_2 gas sensor : an experimental and first-principles study** Run Zhang, Yan Wang, Jianliang Cao, Yan Zhang, Shaofeng Zong
P1-30	**First-principles study of CH_4 adsorption on pristine and non-metal doped WS_2** Linghao Zhu, Cong Qin, Zhanxiang Wei, Yamei Liu, Yan Wang, Jianliang Cao
P1-31	**Preparation of hierarchical $BiOBr_{0.9}I_{0.1}$ nanoflowers for room-temperature ammonia gas detection** Fangrong Qin, Peng Huang, Xuekun Yang, Fang Chen, Shaolin Zhang
P1-32	**Biosensing with porphyrin functionalized graphene field-effect transistors** Gulimire Tuerdi, Xiaoyan Zhang, Qige Qi, Shen Ao, Qiushi Jing, Wangyang Fu
P1-33	**ZnO/ZnS nanocomposite materials for formaldehyde sensing performance at room temperature and first principles calculation** Meihua Li, Xiao Li, Chao Mou, Shikun Ge, Guangfen Wei

P1-34	**Hollow nanosphere CeO_2/In_2O_3 heterojunction realizing CO real-time detection under high humidity** Jintao Li, Saisai Zhang
P1-35	**Effect of noble metal doping on gas sensitivity of semicionductor tin sulfide** Shupeng Sun, Nan Wang, Baoyu Huang, Xiaogan Li
P1-36	**Au-modified TiO_2 nanorod arrays with high n-butanol sensitivity: A combined experimental and first-principle study** Chongyang Wang, Bowen Zhang, Hari Bala
P1-37	**Effect of technological parameters on performances of MISFET-based hydrogen sensors** Nikolay Samotaev, Boris Podlepetsky

Section 2 Electrochemical & Metal Oxide Sensors	
P2-01	**SnO_2-La_2O_3 nanomaterials for VOCs detection** Alina S. Sagitova, Valeriy V. Krivetskiy, Marina N. Rumyantseva
P2-02	**Ethanol gas sensor based on two-dimensional SnO_2/In_2O_3 heterojunction** Xuekun Yang , Fang Chen, Peng Huang , Fangrong Qin , Shaolin Zhang
P2-03	**A highly dispersed bifunctional metal zeolite based gas sensor for formaldehyde detection** Shouhang Fu, Yanhui Sun, Jiawen Cui
P2-04	**Humidity- resistant ethanol gas sensors based on electrospun tungsten-doped cerium oxide hollow nanofibers** Xukun Wang, Wenjian Zhang, Xinge Wang, Haiqing Jiang, Zhenxing Zhang
P2-05	**Facile fabrication of NiO foam @Sn-doped In_2O_3 nanowire heterosturctures for highly sensitive ethylene glycol gas sensors at low temperatures** Xukun Wang, Wenjian Zhang, Xinge Wang, Haiqing Jiang, Zhenxing Zhang
P2-06	**Response characteristics and photosensitization mechanism of tungsten oxide sensor to low concentration hydrogen** Beixi An, Yibing Luo, Yanrong Wang
P2-07	**Response characteristics and sensing mechanism of tin oxide sensors under low concentration of nitrogen dioxide** Zhengkun Wu, Yanrong Wang, Erqing Xie
P2-08	**Airport pollutant concentration monitoring and evaluation based on electrochemical sensors** Huanqin Wang, Guochao He, Wenke Ding, Zheng Guo, Palwasha Khan, Fajun Yu, Huimin Liang, Huaqiao Gui, Weiwei Xue
P2-09	**Ag doped ZnO electrospun nanofibers coated with 2-methylimidazole for high performance hydrogen sensing** Ze Wang, Lei Zhu, Jianan Wang, Wei Yan
P2-10	**Electrochemical detection of Pb(II) ions in aqueous solution by boron-doped diamond electrode** Jiaqi Li, Nan Wang, Baoyu Huang, Xiaogan Li
P2-11	**Study on VOCs and H_2S detection of gas sensor based on spinel ferrite semiconductors** Shuang Cao, Tingting Zhou, Tong Zhang

P2-12	**Porous CuO-SnO_2 composite thin films for high-response H_2S gas detection at high-vacuum environment** Kaixin Chen, Xinyue Li, Wei Luo
P2-13	**Researchon high performance triethylamine gas sensor based on tungsten trioxide semiconductor oxide** Xi Wang
P2-14	**Controlled preparation of Ho_2O_3 nanoarrays and humidity mapping application** Chuanyu Guo, Lihua Huo, Yingming Xu
P2-15	**In situ preparation of SnO_2 microspheres for highly selective Cl_2 monitoring** Weiqi Meng, Lihua Huo, Yingming Xu, Xiaoli Cheng, Xianfa Zhang
P2-16	**Improvement of the response performance of impedimetric NO_2 sensor by Ag non-stoichiometric doped $La_{0.8}Sr_{0.2}Co_{0.2}Fe_{0.8}O_{3-\delta}$ sensitive material** Ma Jianxin, Meng Weiwei, Li Yuehua, Dai Lei, Wang Ling
P2-17	**Synergistic Au passivation and prolonged aging optimization enhance the long-term catalytic stability of porous YSZ/Pt electrodes** Xiaoqing Jiang, Jie Zou, Yongjian Ni, YuhengWang, Xianwei Qian, Xuebin Li, Shihao Wei, Yuanjie Su, Guangzhong Xie, Mingjun Zhou, Jiawen Jian
P2-18	**Material processing and characterization methods for miniaturization field-effect gas sensor** Maya Etrekova
P2-19	**Effects of vacuum on the performance of metal oxide resistive gas sensors** Xi Chen, Kaixin Chen, Wei Luo

Section 3 Sensing Materials & Sensing Interface Design	
P3-01	**In-situ interfacial engineering of SnSe/Ag_2Se heterostructures for highly efficient room-temperature NO_2 detection** Tingting Wang, Yingming Xu
P3-02	**Facile synthesis of TiO_2 driven from metal organic framework (MOF) for acetone sensing** Yucheng Wang, Azhar Ali Haidry, He Chen, Qawareer Fatima, Adil Raza, Courtney Rutendo Mandebvu, Fazal Ghani
P3-03	**Hydrogen sensor based on dendritic anatase branch@rutile nanorod-TiO_2** Ya Zhang, Laixiang Huang, Zhigang Sun, Yuwen Bao, Xiaohong Xia, Yun Gao
P3-04	**Construction of core-shell ZnO@ZIF-8 architectures and improvement of selectivity for formaldehyde** Dan Meng, Xiaoguang San, Yue Zhang, Lei Zhang
P3-05	**Based on Exo I signal amplification of DNA hydrogel film combined with capillary self-driven for tumor marker EpCAM sensing** Zhiguang Wang, Zesheng Liu, Chunxue Yang, Xingpeng Huang,Sijin Cai,Shuang Li, Zhixian Gao
P3-06	**In situ growth of dopamine on QCM for humidity detection** Pengjia Qi, Ziwei Xu, Tong Zhang
P3-07	**Graphene quantum dots loaded SnO_2 nanotubes based ethanol gas sensor** Rui Wang, Yuan He, Tong Zhang
P3-08	**Highly sensitive H_2S gas sensor based on NiO nanoparticle thin films** Yanlin Zhang, Zheng Zhang, Guoliang Lv, Guotao Duan
P3-09	**Heterojunction of hollow Co_3O_4 nanocubes wrapped in NiO nanosheets for NO_2 sensing at room temperature** Yihe Fan, Jiahui Fan, Lin Jiang, Fangjie Qin, Lixue Qi, Bing Song, Hongyi Wu, Li Li, Keying Shi
P3-10	**Development of high-water stability solid-contact ion-selective electrodes** Minghui Yin,Tiezhu Liu,Hanghang Cheng,Guangyang Gou,Zhou Mei,Ning Xue, Chunxiu Liu
P3-11	**Ultra-sensitive SWCNT-based chemiresistive for drug vapor detection via 1D Van der Waals heterostructure** Zhen Zhu, Huan Liu,Wei Xu, Qingguo He , Jiangong Cheng

P3-12	**Layered $MoTe_2$/ZnO heterojunctions for sensitive TEA sensors at room temperature** Xi Li, Baoyu Huang, Nan Wang, Xiaogan Li
P3-13	**Ti_3C_2Tx MXene introducing template free SnO_2 microsphere for highly sensitive formaldehyde gas sensor** Min Li, Chong Li, Shanshan Shao, Baohui Zhang, Jingting Luo
P3-14	**Preparation and performance analysis of fluorescence enhanced structures based on double-stranded DNA** Liying Jiang, Yuxin Liu, Linjiao Ren, Pei Zhang, Zirui Qin
P3-15	**Piezoelectric In_2Se_3 Sensor for Fast and Sensitive NO_2 Detection** Shilei Fan, Wei Zheng, Xianghong Liu, Jun Zhang
P3-16	**Role of interfacial coupling in gas-sensing response of C/Co_3O_4/rGO composite heterojunction** Q. Feng, B. Huang, X. Li
P3-17	**Flexible sensor based on reduced graphene oxide/titanium dioxide for hydrogen detecting** Zhuoya He, Yuwen Bao, Xiaohong Xia, Gang Chang, Yun Gao, Zhechun Lu, Yang Yu
P3-18	**Growth and surface chemical etching GaN quantum dots films for NO_2 gas sensing at room temperature** Dan Han, Donghui Li, Shengbo Sang
P3-19	**Enhancement of $La_{0.8}Sr_{0.2}MnO_3$-based amperometric total NO_X sensor via modification with Pt nanoparticles** Xuebin Li, Jie Zou, Xianwei Qian, Xiaoqing Jiang, Jie Wang, Linguo Wan, Dongxing Zhang, Qinghui Jin, Xin Zhang, Jiawen Jian
P3-20	**Inversion of sensing polarity on ultrathin SnO_x nanosheets** Jiangyang Liu, Yue Zhang, Takuro Hosomi, Tsunaki Takahashi, Tanaka Wataru Takeshi Yanagida
P3-21	**Luminescent nanostructured sol-gel PbS-doped film for temperature measuring in the Near Infrared region** C. Hernández-López, D. López-Torres, C. Elosúa, F. J. Arregui, M. Elisa, I. C. Vasiliu
P3-22	**A ppb-level NO_2 gas sensor working at room temperature achieved by interfacial defects and energy-level engineering on CeO_2-PPy-rGO nanocomposites** Weirong Zhou, Yuan Gao, Geyu Lu
P3-23	**Acetone gas sensor based on YSZ/TiO_2 flexible nanofibers** Wanying Cheng, Xiaowei Li, Changlu Shao, Yichun Liu

Section 4 Biosensors & Optical Sensors	
P4-01	**Optimization of sensing cladding of distributed fiber-optic hydrogen gas sensor** Shinji Okazaki, Ishii Erika, Chihiro Tajima
P4-02	**Bioaerosol detection by aptamer-based electrochemical biosensor** Rui Zhang, Pu Wang, Yangyang Chang, Meng Liu
P4-03	**On-chip fluorescence photonic nose based on waveguide array for chemical vapor detection** Bo Wang, He Li, Chang Chen, Jiangong Cheng
P4-04	**A carbon nanotube enhanced NDIR emitter for the sensing of carbon dioxide in ambient air** Yuxin Xing, Daniel Popa, Florin Udrea, Julian W. Gardner
P4-05	**In-situ SERS spectroscopy sensing during efficient CO_2RR on bifunctional porous SnO_2/Ag nanofibers** Junjie Chen, Yumei Yang, Wei Song
P4-06	**Au-NiFe LDH/rGO nanocomposite for total removal and SERS sensing of organic mercury** Hao Liu, Yue Guo, Wei Song
P4-07	**Ag aerogel Sensing of Hg^{2+} contaminants by surface-enhanced Raman spectroscopy** Di Liu, Wei Song
P4-08	**Investigation of surface functionalization of carbon nanotubes for enhancement of electrochemical detection** Ariadna Schuck, Hyo Eun Kim, Yong-Sang Kim
P4-09	**Development and field deployment of a mid-infrared CO and CO_2 dual-gas sensor system for early fire detection and location** Yafei Li, Ling Yu, Zhuo Ma, Shuo Yang, Fang Song, Yiding Wang,Chuantao Zheng
P4-10	**Construction of hollow CuS-$NiCo_2S_4$ heterostructure nanocubes for glucose detection** Chengyu Zhang, Tengteng Chu, Dongmei Deng, Liqiang Luo
P4-11	**WMS-based near-infrared on-chip acetylene sensor using polymeric SU8 Archimedean spiral waveguide with Euler S-bend** Huan Zhao, Mingquan Pi, Fang Song, Yiding Wang, Chuantao Zheng
P4-12	**Carbon Nanotube Field-Effect Transistor Based pH Sensors** Kemin Wang, Xiaofeng Liu, Zijun Zhao, Luyao Li, Jiajun Tong, Qian Shang, Yiwei Liu, Zhiyong Zhang

P4-13	**NIR-triggered fluorescent paper-based sensor for the chlorpyrifos detection** Xu Zhao, Yang Lu, Minghui Kong, Geyu Lu, Xiaomin Liu
P4-14	**On-chip absorption spectroscopic waveguide gas sensor based on infrared transparent niobium pentoxide** Ran Bi, Chuantao Zheng, Yiding Wang
P4-15	**A sandwich-type electrochemical immunosensor for ultrasensitive detection of tumor biomarker based on DNazyme and hybridization chain reaction** Huinan Chen, Yuchen Song, Rong Huang, Dongmei Deng, Haibo He, Liqiang Luo
P4-16	**Highly selective and sensitive chiral UCNPs/Cu_xOS@ZIF nanoprobe for hydrogen sulfide sensing** Yang Lu, Xu Zhao, Geyu Lu, Xiaomin Liu
P4-17	**Ni-MOF-based field-effect transistor for detection of lactic acid** Pengwei Tan, Yushu Tang, Zihang Huang, Yuanyuan Luo, Guotao Duan
P4-18	**Ultrasensitive graphene field-effect transistor biosensor for rapidly detecting miRNA in human serum sample** Xin Liu, Fengheng Li, Yong Qiu, Yuxiang Pan, Hao Wan, Ping Wang
P4-19	**Multimodal data monitoring of 3D cardiac model based on microcarriers using microcavity array biosensor** Yong Qiu, Xinwei Wei, Xin Liu, Deming Jiang, Yuxuan Zhu, Hao Wan, Ping Wang
P4-20	**Neuron-net-based biosensor for dynamic electrophysiology detection in AD model in vitro** Wei Xu, Yan Xiao, Mu Chen, Zekai Liu, Xiaoyu Tu, Zhiyu Qian, Fan Gao
P4-21	**Drug-detecting in vivo bioelectronic nose based on odor cue memory and implantable brain-computer interface** Fan Gao, Peng Zhang, Tianyi Yang, Wei Xu, Yan Xiao, Zhiyu Qian, Keqiang Gao
P4-22	**Iridium oxide reference electrodes to enhance electrochemical signal for cortisol measurement** Tong Ji

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