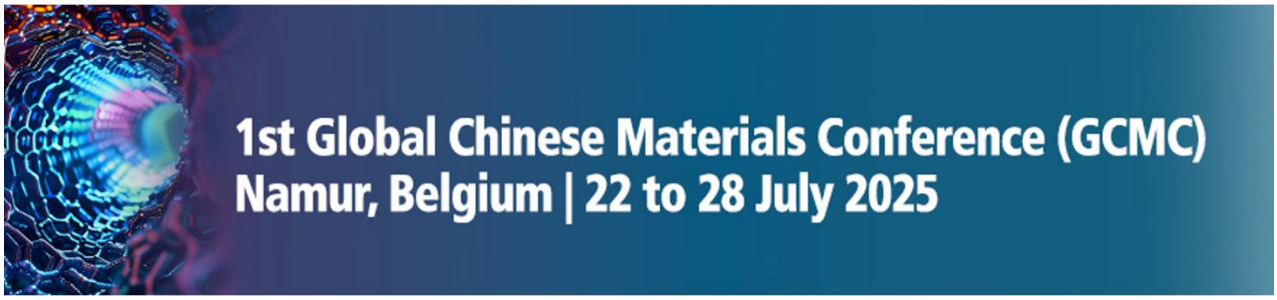
GCMC
全球华人材料大会
GLOBAL CHINESE MATERIALS CONFERENCE

GAOCMS
Global Association of Overseas Chinese Materials Scholars



Materials Frontier in the AI Era

Conference Booklet

UNIVERSITÉ DE NAMUR

武漢理工大學
WUHAN UNIVERSITY OF TECHNOLOGY

佛山仙湖实验室
FOSHAN XIANHU LABORATORY

Dear Colleagues,

On behalf of the Organizing Committee of the First Global Chinese Materials Conference, GCMC2025, we cordially welcome you to Namur, Belgium. This conference marks the establishment of the Global Association of Overseas Chinese Materials Scholars (GAOCMS), opening a new chapter in the field of Chinese Materials.

This conference is jointly organised by the University of Namur, the Wuhan University of Technology and Guangdong Xianhu Laboratory, and supported by the Federation of Guangdong Academicians, Science China Press, Interdisciplinary Materials and Chemical Synthesis-OAE Publishing on behalf of the GAOCMS.

Energy, environmental issues and health care are amongst the top priorities of modern society. Such issues have sparked phenomenal interest in materials as they hold great promise to develop new advanced devices and equipment which revolutionise the way we live. Materials play a key role in our daily life and in the development of our society. “No Materials, No progress”.

Artificial intelligence has penetrated into our lives, our travel, and our scientific research. Artificial intelligence will surely accelerate the discovery and application of new materials, and will surely change our lives, travel, and scientific research just like materials. Therefore, the theme of this conference is the of “Materials Frontier in the Era of Artificial Intelligence”.

The aim of this international conference is to offer an update of recent innovations in both fundamental and applied aspects and to highlight the latest advances and progress in the field of materials. The emphasis will be put on interdisciplinarity, AI and on future directions.

The GCMC2025 conference will offer 16 plenary, 12 keynote, and 100 invited lectures from eminent scientists as well as many oral and poster presentations from more than 20 different countries and regions and covering a wide variety of domains. This conference also contains five special events: The 1st Global Overseas Young Chinese Top Talent Forum, Metallic and Composite Materials Forum, Interdisciplinary Materials Forum, Science China Press Forum and Chemical Synthesis-OAE Publishing Forum.

We wish to extend our sincere gratitude to the session chairs and the various committees that have helped to organise this event. We wish to thank you the participants for the high standard you have set in the research you present to us all here at GCMC2025, without you this conference would not be possible.

We are grateful to our sponsors, supporting organisations and exhibitors. The organisers would also like to acknowledge the support provided from the University of Namur, Wuhan University of Technology and Guangdong Xianhu Laboratory.

Finally, we would like to wish you all a pleasant stay and we hope that you enjoy the social events we have arranged especially for you.

Bao-Lian Su, Gaoqing Lu and Qing-Jie Zhang,

The GCMC Organising Committee

尊敬的各位参会代表：

我谨代表首届全球华人材料大会（GCMC2025）组委会，诚挚地欢迎您来到那慕尔。本次大会宣布了全球海外华人材料学者联盟（GAOCMS）的成立，开启了华人材料领域的新篇章。

本次大会由全球海外华人材料学者学会主办，比利时那慕尔大学、中国武汉理工大学和广东仙湖实验室联合主办，并得到了广东省院士联合会、中国科学出版社、交叉学科材料，OAE 出版社的支持。

能源、环境和医疗保健是现代社会的首要任务。这些问题引发了人们对材料的浓厚兴趣，因为它们有望开发出能够彻底改变我们生活方式的新型先进设备和装置。材料在我们的日常生活和社会发展中发挥着关键作用。“没有材料，就没有进步”。

人工智能已经渗透到我们的生活、出行和科研领域。人工智能必将加速新材料的发现和应用，并必将像材料一样改变我们的生活、出行和科研。因此，本次会议的主题是“人工智能时代的材料前沿”。

本次国际会议旨在汇报材料领域在基础和应用方面的最新创新成果，并重点关注材料领域的最新进展和发展。会议将重点关注跨学科、人工智能以及未来发展方向。

GCMC2025 会议将包含 16 场大会报告、12 场主题演讲和 100 场特邀报告，并进行大量口头报告和海报展示。共有来自 20 多个国家和地区的杰出科学家进行报告，涵盖多个领域。会议还包含五场特别活动：首届全球海外华人青年拔尖人才论坛、金属与复合材料论坛、交叉学科材料论坛、《中国科学》出版社论坛和 Chemical Synthesis《OAE》出版社论坛。

我们衷心感谢各位分会主席和各委员会为组织此次活动所做的贡献。感谢各位参会者在 GCMC2025 会议上向我们展示的高水准研究成果。没有你们，这次会议就不可能成功。

我们衷心感谢赞助商、支持机构和参展商。主办方也衷心感谢那慕尔大学、武汉理工大学和广东仙湖实验室的支持。

最后，祝大家旅途愉快，在比利时那慕尔一切顺利，开心，并希望您能享受我们为您精心安排的社交活动。

苏宝连、逯高清、张清杰
GCMC2025 组委会

Useful information

Emergency Call :	112 from a cellular phone
Police :	101

Laboratory of Inorganic Materials Chemistry	+32 81 72 54 16
In case of **extreme** emergency (organisers' personal phones) :	+32 473 28 54 48 (Hongtao Qu) +32 494 74 06 35 (B-L. Su); +32 496 54 04 99 (I. Virlet)
Brussels Airport Info Phone	+32 2 753 77 53

Hotel Numbers:

Hôtel Les Tanneurs:	+32 81 24 00 24
Hôtel IBIS:	+32 81 25 75 40
Hôtel Château de Namur:	+32 81 72 99 00
Grand Hôtel de Flandre :	+32 81 23 18 68
Hôtel Mercure:	+32 81 64 92 20
The Royal Snail Hotel :	+32 81 57 00 23
Hôtel B&B :	+32 81 23 40 10

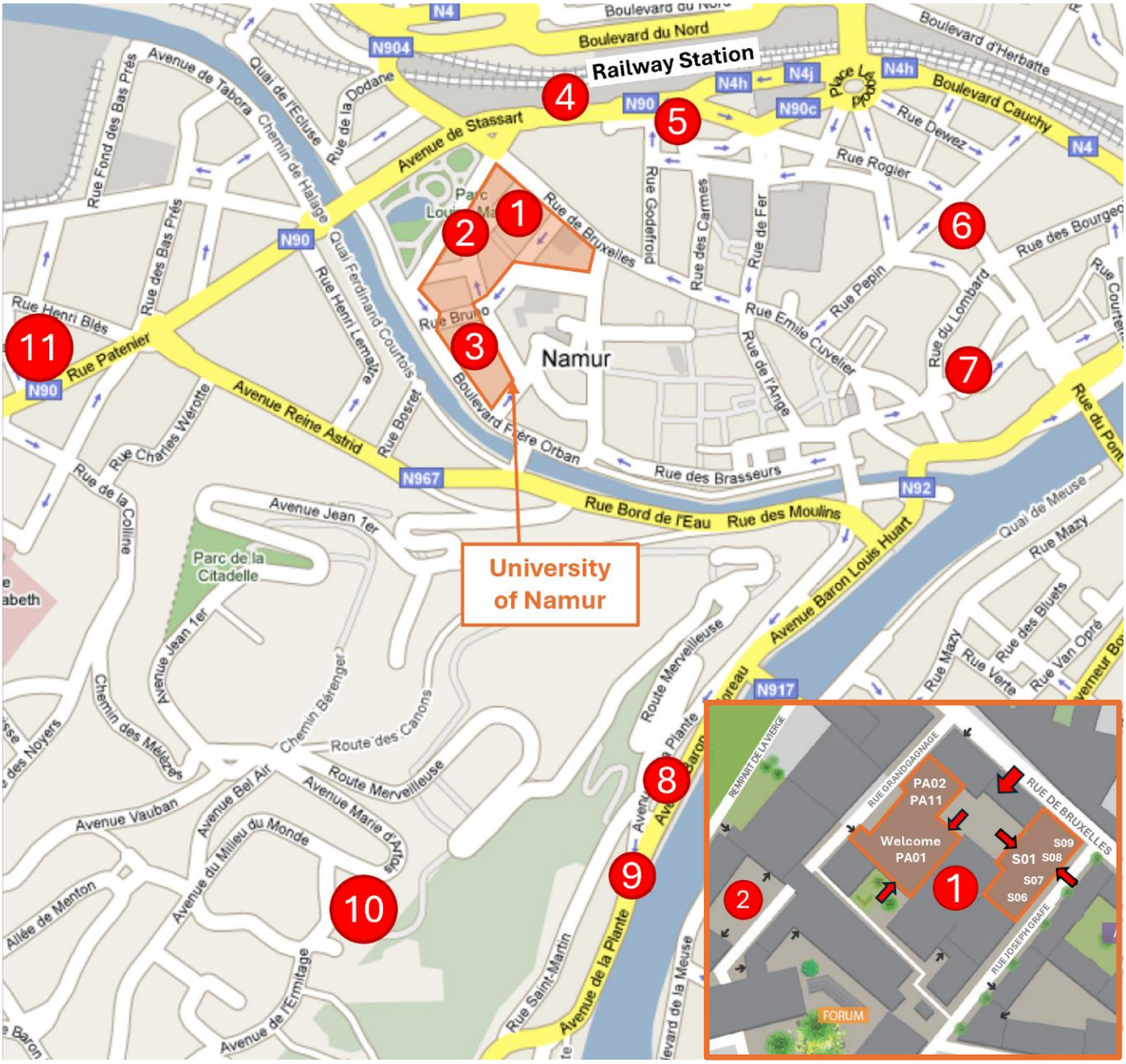
WiFi Code

Wi-Fi : unamur_events (prxhbu492g)
Université de Namur - juillet 2025

Website

https://www.gcmc2025.be/
(For digital files - book of abstracts)

Map of Namur



1. **Conference Venues :** Pedro Arrupe Auditoriums - **PA01, PA02 & PA11**
   Sciences Auditoriums **- S01, S06, S07, S08 & S09**
2. **Parking UNamur** (14 rue Grandgagnage)
3. **Arsenal**
4. **B&B Hôtel Namur (**5’ walking)
5. **Grand Hôtel de Flandre** (5’ walking)
6. **Hôtel IBIS** (10-15’ walking)
7. **Hôtel Les Tanneurs** (10-15’ walking)
8. **Hôtel Mercure** (20-25’ walking)
9. **The Royal Snail Hotel** (20-25’ walking)
10. **Hôtel Château de Namur** (5’ by Taxi/Shuttle)
11. **University Accommodation** (33bis rue Henri Blès) (10-15’ walking)

Organizing Committee

Honorary Chairman

Prof. Chunli Bai
Academician and Former President of the Chinese Academy of Sciences, China

Chairs

Prof. Bao-Lian Su,	University of Namur, Belgium & Wuhan University of Technology, China
Prof. Max Gao-Qing Lu,	University of Surrey, United Kingdom
Prof. Qing-Jie Zhang,	Wuhan University of Technology, China

International Advisory Committee

Prof. Desheng Jiang,	Wuhan University of Technology, China
Prof. Lianmeng Zhang,	Wuhan University of Technology, China
Prof. Zhigang Zou,	Nanjing University, China
Prof. Yue Zhang,	University of Science and Technology Beijing, China
Prof. Hejun Li,	Northwestern Polytechnical University, China
Prof. Weimin Liu,	Lanzhou Institute of Chemical Physics, CAS, China
Prof. Zhongfan Liu,	Peking University, China
Prof. Yuliang Li,	Institute of Chemistry, CAS, China
Prof. Jun Sun,	Xi'an Jiaotong University, China
Prof. Jianlin Shi,	Shanghai Institute of Ceramics, China
Prof. Huibin Xu,	Beihang University, China
Prof. Enge Wang,	Peking University, China
Prof. Weihua Wang,	Institute of Physics, CAS, China
Prof. Ning Gu,	Southeast University, China
Prof. Wenjing Ding,	Shanghai Jiao Tong University, China
Prof. Xue Duan,	Beijing University of Chemical Technology, China
Prof. Shigang Sun,	Xiamen University, China
Prof. Tongyi Zhang,	Shanghai University, China
Prof. Shuit-Tong Lee,	Soochow University, China
Prof. Xionghou Gao,	Petrochina Lanzhou Petrochemical Company, China
Prof. Zhenfeng Xi,	Peking University, China
Prof. Guang Chen,	Nanjing University of Science and Technology, China
Prof. Yuliang Zhao,	Institute of High Energy Physics, CAS, China
Prof. Jinsong Leng,	Harbin Institute of Technology, China
Prof. Xianhui Chen,	University of Science and Technology of China, China

Members of the Organizing Committee

Prof. Jinbo Bai,	CentraleSupélec, France
Prof. Aicheng Chen,	University of Guelph, Canada
Prof. Huiming Cheng,	Institute of Metal Research, CAS, China
Prof. Hongbiao Dong,	University of Leicester, United Kingdom
Prof. Xinliang Feng,	Technical University of Dresden, Germany
Prof. Zhengyi Fu,	Wuhan University of Technology, China
Prof. Yong Lei,	Ilmenau University of Technology, Germany
Prof. Ling Peng,	Aix-Marseille University, France
Prof. Deyi Wang,	IMDEA Materials Institute, Spain
Prof. Lianzhou Wang,	University of Queensland, Australia
Prof. Nianjun Yang,	Hasselt University, Belgium
Prof. Jiayan Yuan,	Stockholm University, Sweden
Prof. Di Zhang,	Shanghai Jiao Tong University, China
Prof. Xianghua Zhang,	University of Rennes, France
Prof. Xiaodong Zou,	Stockholm University, Sweden
Prof. Mingdong Dong	Aarhus Unviersity, Denmark

Secretary General

Isabelle Virlet, Dr. Hongtao Qu, University of Namur
Emails: hongtao.qu@unamur.be; gcmc2025@unamur.be

Local Organizing Committee

Dr. Yuchi Zhang	Pengyao Yu	Patrick Sanglier
Dr. Xikun Zhang	Nan Xue	Andrei Tchernichev
Dr. Amanda Kale	Weibin Yan	Louis Garin
Dr. Laroussi Chaabane	Guanying Wang	Corentin Parache
Dr. Yuanguo Wu	Zhonghao Miao	Bastien Serverius
Jing Li	Jun Chen	Clotilde Hiernaux
Runtian Zheng	Maxime Mathieu	Gérard Dubuisson
Liuxi Yang	Dimitri Dick	

GCMC 2025

22nd	23rd July		24th July				
Arrival			8:30	PL6			
			9:00	PL7			
			9:30	PL8			
			10:00	PL9			
			10:30	**Coffee Break**			
	11:00-14:30	**Registration**	*Venue:* Parallel Sessions	*PA01* **Energy & Catalysis**	*PA02* **Functional Materials** *IM Forum*	*PA11* **Metallic & Comp. Mater.**	*S01* **Young Scholars**
			10:50	KN1	KN5	KN9	10:50-12:30
			11:10	INL1-1	INL2-1	INL3-1	
			11:25	INL1-2	INL2-2	INL3-2	Young Scholars Opening Session
			11:40	INL1-3	INL2-3	INL3-3	
			11:55	INL1-4	INL2-4	INL3-4	
			12:10	OP1-1	OP2-1	OP3-1	
			12:20	OP1-2	OP2-2	OP3-2	
			12:30-14:00	**Lunch Break & Poster Session I**			
			14:00	KN2	KN6	KN10	14:00-15:30
			14:20	INL1-5	INL2-5	INL3-5	
			14:35	INL1-6	INL2-6	INL3-6	YOP1-YOP9
	14:30-15:10	**Opening Ceremony**	14:50	INL1-7	INL2-7	INL3-7	
			15:05	INL1-8	INL2-8	INL3-8	
			15:20	INL1-9	INL2-9	INL3-9	
	15:10	PL1	15:35	**Flash P1-5**	**Flash P24-28**	**Flash P13-17**	
	15:40	PL2	**15:55**	**Coffee Break**			
				CS Forum			
			16:15	INL1-10	INL2-10	INL3-10	16:15-17:45
	16:10	PL3	16:30	INL1-11	INL2-11	INL3-11	
			16:45	INL1-12	INL2-12	INL3-12	
			17:00	INL1-13	INL2-13	INL3-13	
	16:40	PL4	17:15	INL1-14	INL2-14	INL3-14	YOP10-YOP18
			17:30	INL1-15	INL2-15	INL3-15	
	17:10	PL5	17:45	OP1-3	OP2-3	OP3-3	
			17:55	OP1-4	OP2-4	OP3-4	
	17:40	**Break**	18:05	**Flash P6-P12**	**Flash P29-P34**	**Flash P18-P23**	
	18:15-21:30	**Walking Dinner & Poster Assembly**	**18:30-21:30**	**Informal Dinner / Belgian Beer Party & Poster Session II**			

25th July

PL10			
PL11			
PL12			
PL13			
Coffee Break			
PA01 **Energy & Catalysis**	*PA02* **Functional Materials** *IM Forum*	*PA11* **Metallic & Comp. Mater.**	*S01* **Young Scholars**
KN3	KN7	KN11	10:50-12:10
INL1-16	INL2-16	INL3-16	
INL1-17	INL2-17	INL3-17	YOP19-YOP26
INL1-18	INL2-18	INL3-18	
INL1-19	INL2-19	INL3-19	
OP1-5	OP2-5	OP3-5	
OP1-6	OP2-6	OP3-6	
Lunch Break			
KN4	KN8	KN12	14:00-15:30
INL1-20	INL2-20	INL3-20	
INL1-21	INL2-21	INL3-21	YOP27-YOP35
INL1-22	INL2-22	INL3-22	
INL1-23	INL2-23	INL3-23	
INL1-24	INL2-24	INL3-24	
OP1-7	OP2-7	OP3-7	
OP1-8	OP2-8	OP3-8	
Coffee Break			
SCP Forum			16:15-17:45
INL1-25	INL2-25	INL3-25	
INL1-26	INL2-26	INL3-26	
INL1-27	INL2-27	INL3-27	YOP36-YOP44
INL1-28	INL2-28	INL3-28	
INL1-29	INL2-29	INL3-29	
INL1-30	INL2-30	INL3-30	
OP1-9	OP2-9	OP3-9	
OP1-10	OP2-10	OP3-10	
Break			
19:00-22:00	**Conference Banquet**		

26th July

Venue: Parallel Sessions	*PA01* **Energy & Catalysis**	*PA02* **Functional Materials** *IM Forum*	*PA11* **Biomedical materials**	*S01* **Young Scholars**
9:00	INL1-31	INL2-31	INL3-31	9:00-10:00
9:15	INL1-32	INL2-32	INL3-32	
9:30	INL1-33	INL2-33	INL3-33	YOP45-YOP50
9:45	INL1-34	INL2-34	INL3-34	
10:00	OP1-11	OP2-11	OP3-11	
10:10	**Coffee Break**			
10:30	**PL14**			
11:00	**PL15**			
11:30	**PL16**			
12:00	**Closing Ceremony & Prizes**			
12:25-14:00	**Closing Snacks & Drinks**			
PM	Academic Exchange			

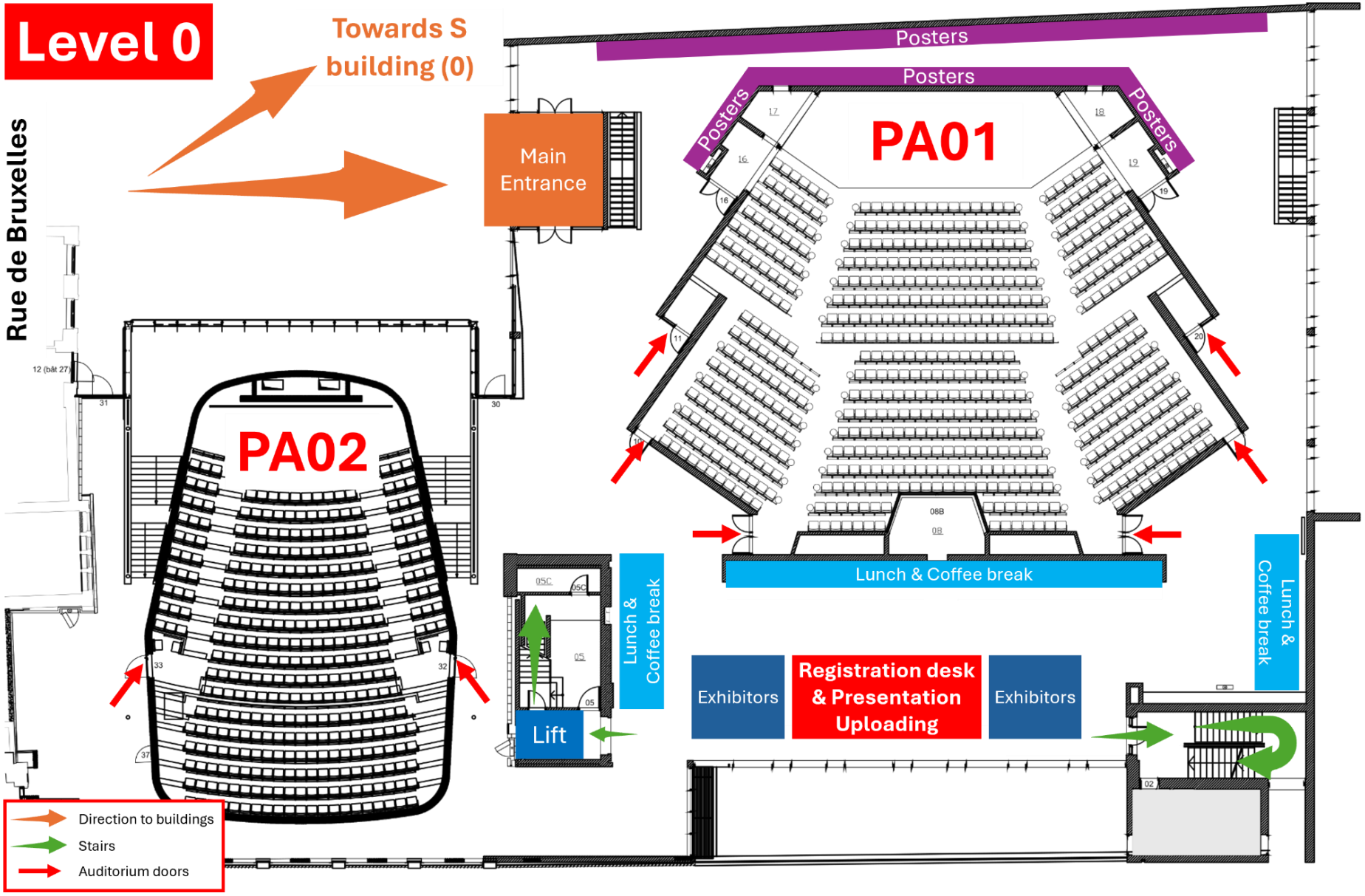
27th

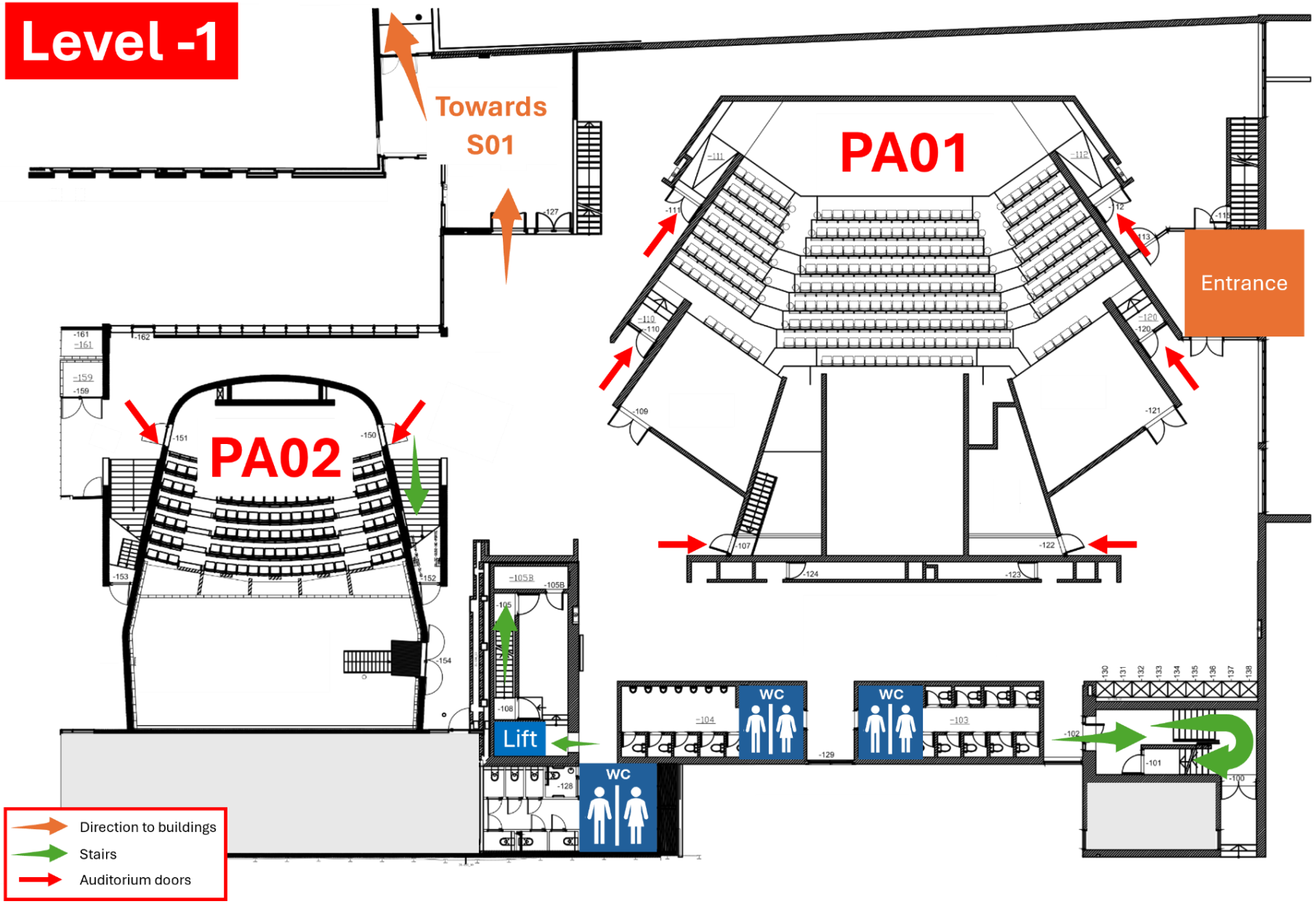
Academic exchange

28th

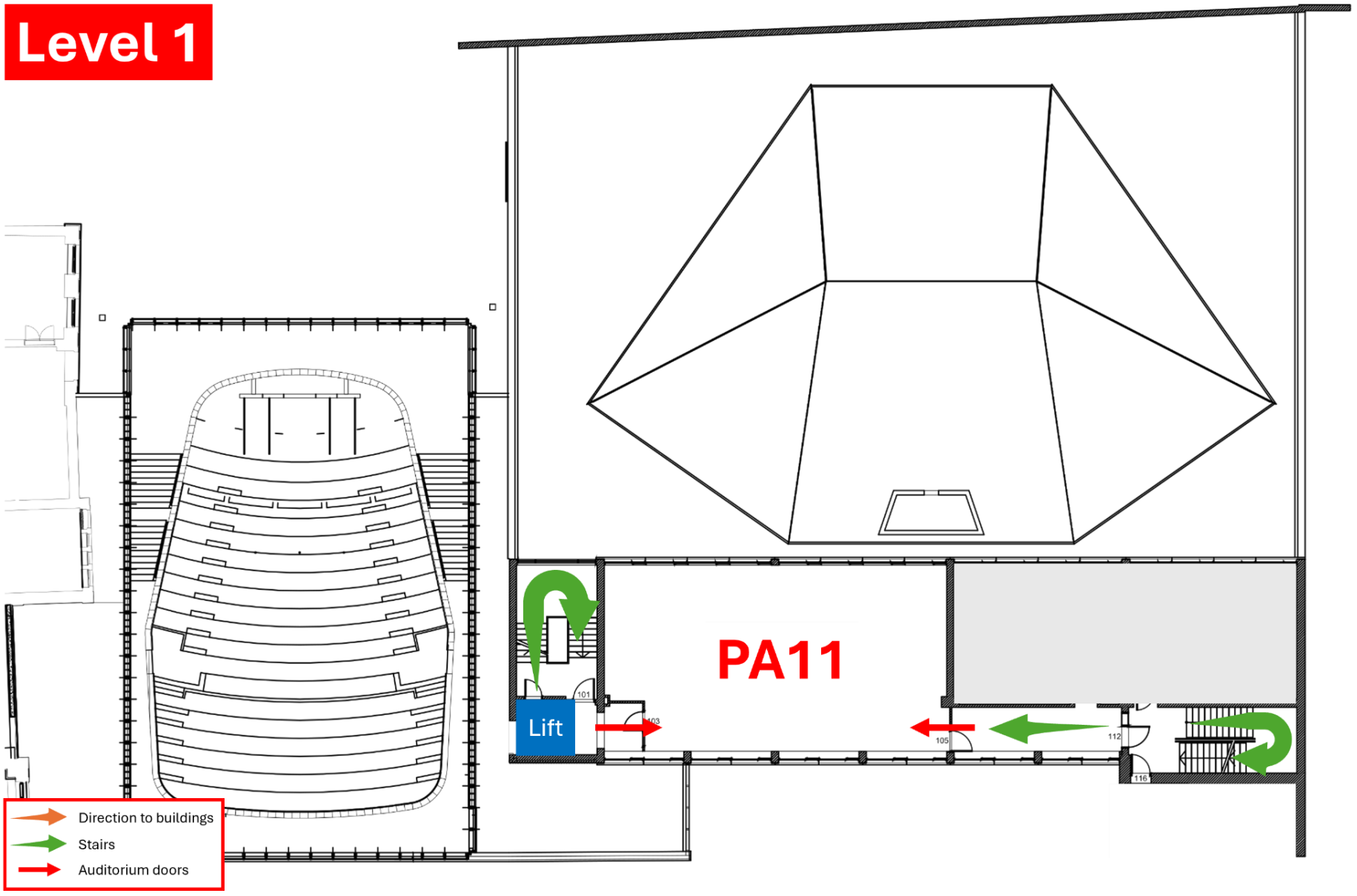
Event closing & departure

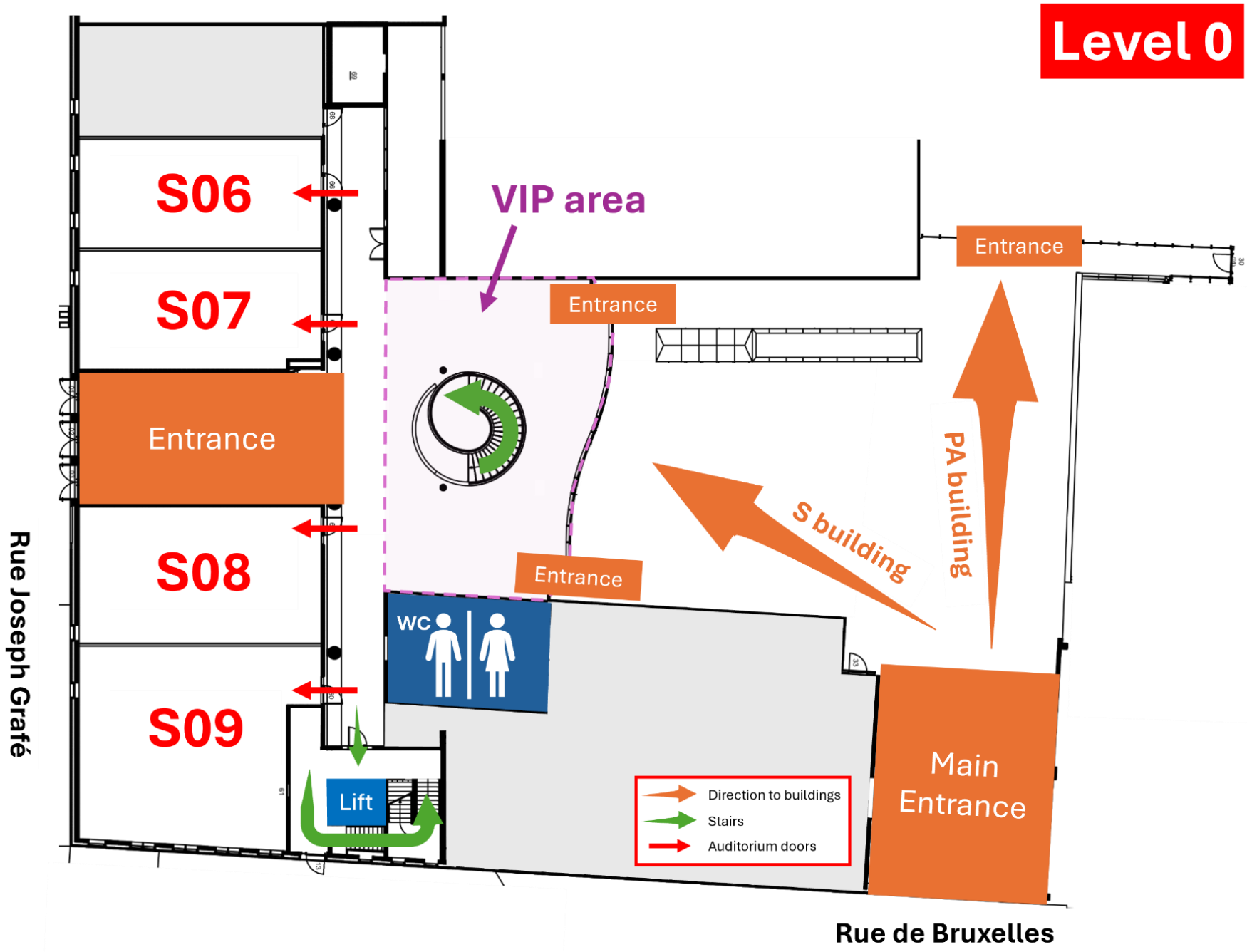
	KEY
PL	**Plenary lecture** 25 min + 5 min Q&A
KN	**Keynote lecture** 17 min + 3 min Q&A
INL	**Invited lecture** 12 min + 3 min Q&A
OP	**Oral presentation** 8 min + 2 min Q&A
YOP	**Young scholar presentation** 8 min + 2 min Q&A
Forum	
IM	Interdisciplinary Materials
CS	Chemical Synthesis
SCP	Science China Press (National Science Review, Journal of Energy Chemistry, Science China Chemistry, Science China Materials)

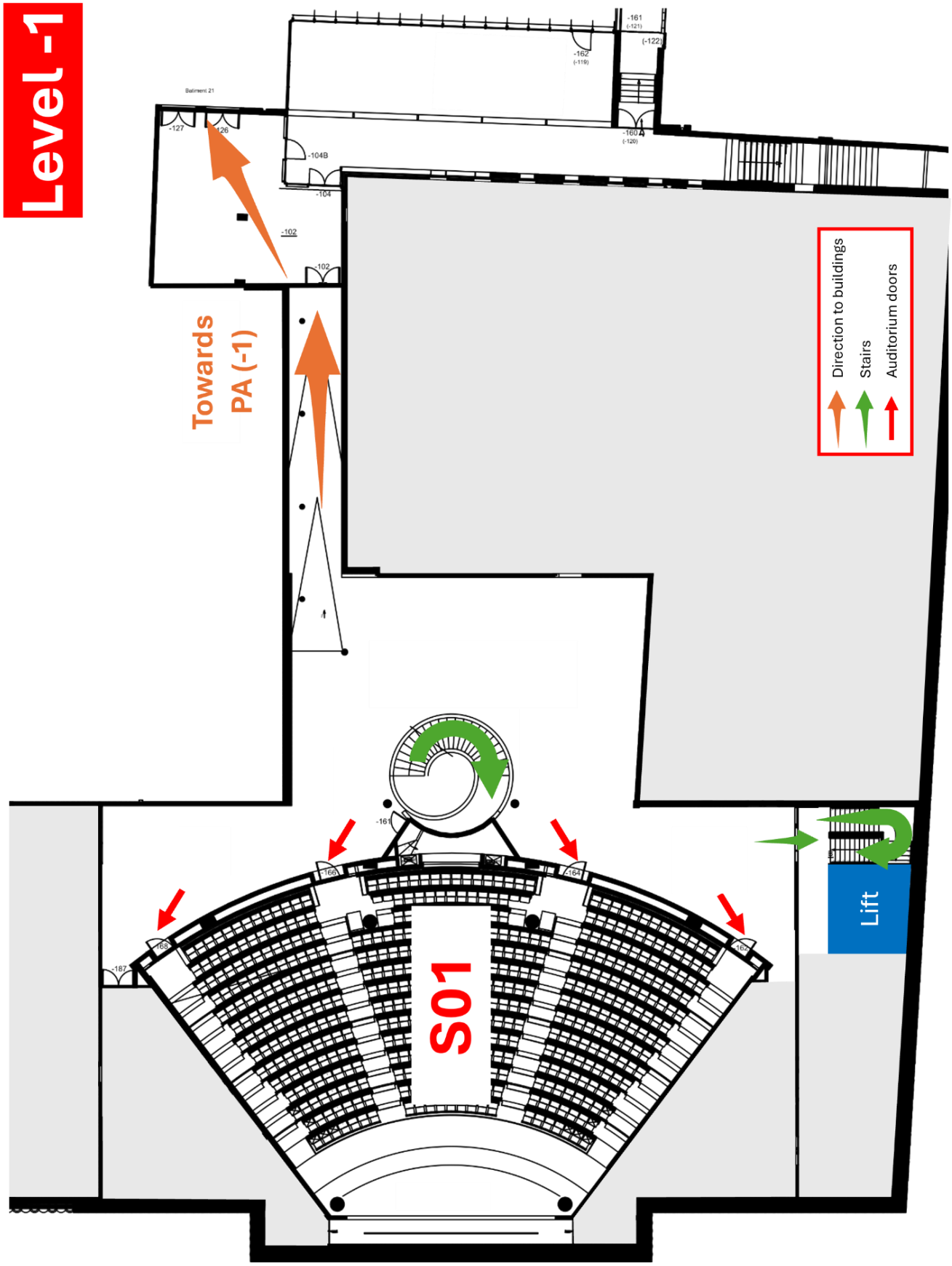

Level 0
Towards S building (0)
Rue de Bruxelles
Main Entrance
Posters
Posters
Posters
Posters
PA01
PA02
Lunch & Coffee break
Lunch & Coffee break
Lunch & Coffee break
Exhibitors
Registration desk & Presentation Uploading
Exhibitors
Lift
Direction to buildings
Stairs
Auditorium doors


Level -1
Towards S01
PA01
PA02
Entrance
Lift
WC
WC
WC
Direction to buildings
Stairs
Auditorium doors

Level 1


PA11
Lift
101
103
105
112
116
Direction to buildings
Stairs
Auditorium doors


Level 0
S06
S07
S08
S09
VIP area
Entrance
Entrance
Entrance
Entrance
Entrance
PA building
S building
WC
Lift
Main Entrance
Direction to buildings
Stairs
Auditorium doors
Rue Joseph Grafé
Rue de Bruxelles


Level -1
Towards PA (-1)
Direction to buildings
Stairs
Auditorium doors
S01
Lift

GCMC 2025 Conference schedule

Wednesday 23rd July 2025

Plenary lectures

Auditorium PA01

11:00 –14:30 **Registration (in front of PA01) - Coffee**

14:30 –15:10 **Opening ceremony**

15:10 – 15:40 **PL1 - Tao Zhang 张涛**
Single-Atom Catalyst: A New Frontier Material in Chemistry
Chair: *Chunli Bai*

15:40 – 16:10 **PL2 - Zhengyi Fu 傅正义**
Bioprocessing-inspired Synthesis and Processing for Advanced Materials
Chair: *Hejun Li*

16:10 – 16:40 **PL3 - Meifang Zhu 朱美芳**
Fiber Materials for Humanoid Robots: From Biomimetics to Sensing
Chair: *Desheng Jiang*

16:40 – 17:10 **PL4 - Wei Huang 黄维**
Perovskite Photovoltaics, Light-emitting Diodes, and X-ray Detectors for Flexible Electronics
Chair: *Yuliang Li*

17:10 – 17:40 **PL5 - Huiming Cheng 成会明**
Exploration of New 2D Materials and Their New Properties
Chair: *Jinsong Leng*

17:40 – 18:15 **Break**

18:15 – 21:30 **Walking dinner**
Posters Assembly

Thursday 24th July 2025

Plenary lectures

Auditorium PA01

08:30 – 09:00	**PL6 - Tongyi Zhang 张统一** AI Supercharging Materials Science and Engineering ***Chair**: Yue Zhang*
09:00 – 09:30	**PL7 - Dongyuan Zhao 赵东元** Supra-assembly of functional mesoporous materials for the applications ***Chair**: Huiming Cheng*
09:30 – 10:00	**PL8 - Shigang Sun 孙世刚** PEM Fuel Cell Non-Precious Metal Catalysts -– From Basic Research to Rational Design and Preparation ***Chair**: Jinghong Li*
10:00 – 10:30	**PL9 - Jin Zhang 张锦** Artificial Intelligence for Materials Science: Transforming Research Paradigms ***Chair**: Shuit-Tong Lee*
10:30 – 10:50	**Coffee Break**
10:50 – 18:30 (with lunch and coffee break)	**Parallel sessions (see next pages)** Energy & catalysis **(PA01)** Metallic & Composite Materials **(PA02)** Functionnal materials **(PA11)** Young scholar **(S01)**
18:30 – 21:30	**Poster session 2** **Informal Dinner & Belgian Beer Party**

Thursday 24th July 2025

Energy & Catalysis

Auditorium PA01

Chairs : Qiang Zhang & Weishen Yang

10:50	**KN1**	**Huijun Zhao** **赵惠军**	Green Electrochemical Transformation of Carbon Dioxide: Challenges and Solutions
11:10	**INL1-1**	**Shanqing Zhang** **张山青**	Biomass based functional materials for electrochemical energy storage
11:25	**INL1-2**	**Quan Li** **李泉**	In operando nanothermometry in electrocatalytic devices by nanodiamond sensors
11:40	**INL1-3**	**Weishen Yang** **杨维慎**	Applications of Inorganic Membrane in Aqueous Zinc ion Batteries
11:55	**INL1-4**	**Wenjun Zhang** **张文军**	Electrode interface engineering towards stable metal anodes
12:10	**OP1-1**	**Hua Xie** **谢华**	High-Temperature Rapid Thermal Processing for Tunable Ceramic Materials in Energy Applications
12:20	**OP1-2**	**Jixin Zhu** **朱纪欣**	Lithium batteries storage and fire safety

12:30-14:00 **Lunch Break & Poster session 1**

Chairs : Fengwei Huo & Jian Liu

14:00	**KN2**	**Feng-Shou Xiao 肖丰收**	Design of Efficient Catalytic Materials by Adjusting Adsorbates
14:20	**INL1-5**	**Peng Cheng 程鹏**	Lanthanide molecular materials towards luminescent and magnetic application
14:35	**INL1-6**	**Lifeng Liu 刘利峰**	Hybrid Seawater Electrolysis for Hydrogen Production
14:50	**INL1-7**	**Xiaojie Liu 刘肖杰**	Preferential Regulation of Crystal Plane in Zinc Anode
15:05	**INL1-8**	**Dewu Lin 林德武**	Harnessing Multiscale Engineering for Advancing CNT Technology From AI Driven Synthesis to Functional Nanocarbon Assembly
15:20	**INL1-9**	**Xin Gao 高鑫**	Battery Materials Innovation Toward High Energy Li–S Systems
15:35	**Flash Poster session**		P01-P05 (See info on poster p 47)
15:55-16:15	**Coffee Break**		

Chairs : Peng Cheng & Shanqing Zhang

Chemical Synthesis Forum

16:15	**INL1-10**	**Siqing Hu** **胡斯清**	A New Horizon for Open Access Publishing: Innovative Practices of Chemical Synthesis Journal and OAE Publishing
16:30	**INL1-11**	**Shulei Chou** **俞术雷**	Low Cost and High Safety Sodium-Ion Batteries
16:45	**INL1-12**	**Changshui Huang** **黄长水**	The Interface Design of Graphdiyne for Electrochemical Energy Storage
17:00	**INL1-13**	**Jianqiang Wang** **王建强**	Material Research of Solid Oxide Electrolysis Cells
17:15	**INL1-14**	**Zhu Liu** **刘铸**	Laser Synthesis of Single atom Catalysts
17:30	**INL1-15**	**Yuefeng Liu** **刘岳峰**	Engineering Oxide-Oxide Interfaces in Supported Catalysts for Enhanced CO_2 Hydrogenation
17:45	**OP1-3**	**Jiangong Ma** **马建功**	Quasi-Homogeneous Catalysts based on Metal-Organic Framework Support toward Gas Resources Conversion
17:55	**OP1-4**	**Ping She** **佘萍**	Zeolite-based heterogeneous photocatalysts
18:05	**Flash Posters**		P06-P12 (See info on poster p 47)

Thursday 24th July 2025

Functional Materials

Auditorium PA02

Chairs : Haiyan Xie & Qichun Zhang

Interdisciplinary Materials Forum

10:50	**KN5**	**Yi-Bing Cheng 程一兵**	Carbon-free combustion technology for decarbonisation in high temperature manufacturing industries
11:10	**INL2-1**	**Wei Ji 季伟**	Densification, microstructure and properties of advanced ceramics sintered under high/ultrahigh pressure
11:25	**INL2-2**	**Yang Tian 田阳**	Brain Molecular Atlas Analysis
11:40	**INL2-3**	**Pengfei Wang 汪鹏飞**	Plant-Derived Phototheranostic Agents Based on Perylenequinones
11:55	**INL2-4**	**Feng Wang 王锋**	Doping Inorganic Crystals for Photonic Applications
12:10	**OP2-1**	**Bofei Xue 薛勃飞**	Multidentate Polymer-Stabilized Buried Interface for Efficient Planar Perovskite Solar Cells
12:20	**OP2-2**	**Guoyin Chen 陈国印**	Integrated Dynamic Wet Spinning of Hydrogel Optical Fibers for Photomedicine in Deep Body

12:30-14:00 **Lunch Break & Poster session 1**

Chairs : Zengfeng Di & Xianran Xing

Interdisciplinary Materials Forum

14:00	**KN6**	**Lin Li** **李琳**	Laser Additive Manufacturing of Multiple Materials and Functional Gradient Components
14:20	**INL2-5**	**Di Wei** **魏迪**	Electrical Double Layers as the Foundation of Iontronics for Electronic Ionic Coupling and Charge Regulation
14:35	**INL2-6**	**Yanglong Hou** **侯仰龙**	Chemical Synthesis and Modulation of Two-dimensional Magnetic Materials
14:50	**INL2-7**	**Qichun Zhang** **张其春**	Roadmap towards single crystals of covalent organic polymers/frameworks
15:05	**INL2-8**	**Qiyuan He** **何其远**	On-chip Investigation of 2D electrocatalysts
15:20	**INL2-9**	**Yuanlong Shao** **邵元龙**	Controllable preparation and functionalization application of Carbonene hybrid fibers
15:35	**Flash Poster session**		P24-P28 (See info on poster p 47)

15:55 – 16:15 **Coffee Break**

Chairs : Zhihong Nie & Wencai Ren

Interdisciplinary Materials Forum

16:15	**INL2-10**	**Zhifeng Ding 丁志峰**	Bright Electrochemiluminescence of Metal Nanoclusters
16:30	**INL2-11**	**Johnny Ho 何颂贤**	Tellurium Based Electronics
16:45	**INL2-12**	**Qiangang Fu 付前刚**	Research on Carbon based Nanotube/nanowires Toughened Carbon/Carbon Composites and Their Surface Coatings
17:00	**INL2-13**	**Xiaoxu Zhao 赵晓续**	Deep Learning for Precise Atomic Defect Identification
17:15	**INL2-14**	**Xuerong Zheng 郑学荣**	Interface design of cathode materials and their application in metal air batteries
17:30	**INL2-15**	**Meikang Han 韩美康**	Interactions of MXene with Electromagnetic Waves
17:45	**OP2-3**	**Xusheng Qiao 乔旭升**	A combined atomic-scale and electronic structure study on silver nanocluster activated glass towards high density optical storage
17:55	**OP2-4**	**Haifeng Ling 凌海峰**	Photo-adaptive Visuomorphic Electronics for Efficient Machine Vision in Harsh Lighting Conditions
18:05	**Flash Poster session**		P29-P34 (See info on poster p 47)

Thursday 24th July 2025

Metallic & Composite Materials

Auditorium PA11

Chairs : Guojun Liu & Yao Li

10:50	**KN9**	**Lei Lu** **卢磊**	Gradient structured metallic materials: design, properties and mechanisms
11:10	**INL3-1**	**Xiaoyan Li** **李晓雁**	Lightweight and ultrastrong nano architectured materials
11:25	**INL3-2**	**Siming Wu** **吴思明**	Single Atom Cocatalysts for Efficient Photocatalytic H_2 Production
11:40	**INL3-3**	**Nairong Tao** **陶乃镕**	Precipitation strengthening of nanostructured materials
11:55	**INL3-4**	**Shuai Chen** 陈帅	Local Chemical Ordering and Its Impact on Mechanical and Thermodynamic Properties of Multi Principal Element Alloys
12:10	**OP3-1**	**Xiaoming Liu** **刘晓明**	AI-Assisted Structure Design and Materials Screening of Selective Metamaterial Absorbers
12:20	**OP3-2**	**Hongjian Zhang** **张洪健**	Bioactive inorganic biomaterials for innervated tissue regeneration

12:30-14:00 **Lunch Break & Poster session 1**

Chairs : Lei Lu & Kai Sun

14:00	**KN10**	**Wenwen Song 宋雯雯**	Nano-engineering of Sustainable Metallic Materials
14:20	**INL3-5**	**Daniel Tan 谭启**	Optimized millimeter wave properties of cordierite ceramics via innovative processing and machine learning prediction
14:35	**INL3-6**	**Yong Liu 刘勇**	Mg alloy with Hierarchical Structure
14:50	**INL3-7**	**Yida Deng 邓意达**	Structural design and catalytic mechanisms of electrocatalytic materials
15:05	**INL3-8**	**Shiyong Tan 谭世勇**	Research on superconductivity, magnetism, and strongly correlated electron behaviour in Uranium based compounds
15:20	**INL3-9**	**Guohua Gao 高国华**	Collaborative Multi Active Site Catalysis Structural Engineering Strategies for Enhanced Electrosynthesis and Resource Upcycling
15:35	**Flash Poster session**		P13-P17 (See info on poster p 47)

15:55 - 16:15 Coffee Break

Chairs : Qi Tan & Jianfeng Shen

16:15	**INL3-10**	**Mingxu Xia** **夏明许**	Decoding Single Crystal Blade Solidification A Step Towards Digital and Intelligent Casting
16:30	**INL3-11**	**Jian Zhang** **张鉴**	Artificial magneto metasurface through local-stress engineering
16:45	**INL3-12**	**Jun Shen** **沈军**	Chinese Recent Progress of Aerogels Applications
17:00	**INL3-13**	**Xiaodong Su** **苏晓东**	Low Silver Content Metallization Approaches for High-Efficiency Silicon Solar Cells
17:15	**INL3-14**	**Zhanqiu Tan** **谭占秋**	Strengthening and toughening of heterostructured Aluminium matrix nanocomposites
17:30	**INL3-15**	**Ai Du** **杜艾**	The interaction between nanoporous aerogels and other matters
17:45	**OP3-3**	**Guodong Hou** **侯国栋**	Light-induced asymmetry enables autonomous phototaxis of photo-responsive tough hydrogel
17:55	**OP3-4**	**Shanyu Zheng** **郑珊瑜**	Colossal electrocaloric effect in an interface-augmented ferroelectric polymer
18:05	**Flash Poster session**		P18-P23 (See info on poster p 47)

Thursday 24th July 2025

Young Scholars

Auditorium S01

10:50 - 12:30 **Young Scholar opening session**

12:30 - 14:00 **Lunch Break & Poster session 1**

Chairs : Han Hu & Xin Gao

14:00	**YOP-1**	**Yuhang Dai 戴宇航**	Interfacial energy storage in aqueous Zn-ion batteries
14:10	**YOP-2**	**Shuai Bi 毕帅**	Vinylene-linked Covalent Organic Frameworks: Design, Synthesis, Applications and Challenges
14:20	**YOP-3**	**Ting Cheng 程婷**	First-Principles Insights into Graphene Growth Mechanisms on Insulating Substrates and Beyond
14:30	**YOP-4**	**Yongwen Ren 任勇文**	Ammonia electrosynthesis from nitrogen and water under mild conditions
14:40	**YOP-5**	**Yu Zhang 张宇**	Regulating zinc plating/stripping behaviours for stable zinc anode in rechargeable zinc ion batteries
14:50	**YOP-6**	**Ye Chen 陈也**	Precise lattice engineering of metal nanomaterials by “addition” and “substraction”
15:00	**YOP-7**	**Boyang Mao 毛博阳**	Approaches to Make Layered Materials Beyond the Lab Benches

15:10	**YOP-8**	**Duyao Zhang** **张都耀**	Stronger titanium alloys via grain refinement in additive manufacturing
15:20	**YOP-9**	**Xiao Zhang** **张晓**	Materials synthesis and chemical reactor design for electrochemical carbon capture and upgrading

15:55 – 16:15 **Coffee Break**

Chairs : Jing Ning & Zaiwang Zhao

16:15	**YOP-10**	**Tianxiang Chen** **陈天翔**	Modular assembly of atom-precise multiatomic catalysts within porous materials
16:25	**YOP-11**	**Tao Zhang** **张涛**	High-dimensional Strain Catalysis for Hydrogen Evolution
16:35	**YOP-12**	**Xiaoyu Tan** **谭潇雨**	Designing Next-Generation Membranes for High-Performance Gas Separations
16:45	**YOP-13**	**Jie Ding** **丁杰**	Integrative Catalytic Pairs: The Smallest Catalytic Units to Drive Complex Chemical Reactions
16:55	**YOP-14**	**Hongjin Li** **李红金**	Surface Construction and Display Application of Perovskite Quantum Dots
17:05	**YOP-15**	**Yuan Xie** **谢源**	Ultrabright near-infrared organic light-emitting diodes
17:15	**YOP-16**	**Haifeng Qi** **齐海峰**	Single-atom catalysts for synthesis and transformation of nitrogen-containing chemicals

17:25	**YOP-17**	**Yusheng Chen** **陈煜升**	Sensory-Memory-Processing-Display integration Devices
17:35	**YOP-18**	**Xiaodong Lin** **林晓东**	Design Principles of Quinone Redox Systems for Advanced Sulfide Solid-State Lithium-Organic Batteries

Friday 25th July 2025

Plenary lectures

Auditorium PA0

08:30 – 09:00	**PL10 - Johan Hofkens** Looking inside operational perovskite-based devices ***Chair**: Lianzhou Wang*
09:00 – 09:30	**PL11 – Xiaodong Zou 邹晓冬** Emerging electron diffraction techniques in crystallography – from ab initio structure determination to high-throughput phase analysis ***Chair**: Ling Peng*
09:30 – 10:00	**PL12 – Hua Zhang 张华** Phase Engineering of Nanomaterials (PEN) ***Chair**: Aicheng Chen*
10:00 – 10:30	**PL13 - Hongbiao Dong 董洪标** Manufacturing Foundation Models: Data Challenges, Architecture, Key Technologies and Applications ***Chair**: Zhigang Shuai*
10:30 – 10:50	**Coffee break**
10:50 – 18:05 (with lunch and coffee break)	**Parallel sessions** Energy & catalysis **(PA01)** Metallic & Composite Materials **(PA02)** Functional materials **(PA11)** Young scholar **(S01)**
18:05 – 19:00	**Break**
19:00 – 22:00	**Conference Banquet**

Friday 25th July 2025

Energy & Catalysis

Auditorium PA01

Chairs: Tong-Bu Lu & Lijie Dong

10:50	**KN3**	**Lianzhou Wang** **王连洲**	Nanomaterials for photoelectrochemical energy conversion
11:10	**INL1-16**	**Liqiang Mai** **麦立强**	Nanowire Energy Storage Materials and Devices
11:25	**INL1-17**	**Zhenhai Wen** **温珍海**	Electrochemical Synthesis of High Entropy Alloys toward Electrochemical Applications
11:40	**INL1-18**	**Renhua Jin** **金仁华**	Application of Polyethyleneimine in Development of Chiral, Photoluminescent and Conductive Materials
11:55	**INL1-19**	**Han Hu** **胡涵**	Operando Characterization of Energy Materials Based on Electron Spin
12:10	**OP1-5**	**Heng Zhao** **赵恒**	Biomass Photorefinery for Coproduction of Sustainable Hydrogen and Value-added Chemicals
12:20	**OP1-6**	**Jianchuan Wang** **王建川**	First-principles study on the dehydrogenation thermodynamics and kinetics of Ti, Zr, V and Nb doped MgH_2
12:30 – 14:00	**Lunch Break**		

Chairs : Chang Liu & Feng Li

14:00	**KN4**	**Aicheng Chen 陈爱成**	Functionalization of Graphene Oxide-Based Nanomaterials for Clean Energy Applications
14:20	**INL1-20**	**Tong-Bu Lu 鲁统部**	Precise Synthesis and Synergistic Mechanism of Dual-Atom-Catalysts
14:35	**INL1-21**	**Chunting He 何纯挺**	Molecular Enhancement Catalysis in Hydrogen Production
14:50	**INL1-22**	**Fengwei Huo 霍峰蔚**	Design and Application of MOFs Film
15:05	**INL1-23**	**Jian Liu 刘健**	Precise Construction of Porous Carbon Materials for Energy Conversion
15:20	**INL1-24**	**Weijang Xue 薛伟江**	Sulfonamide-based electrolyte design for high-energy batteries
15:35	**OP1-7**	**Ruifeng Li 李瑞丰**	Acid site evolution of MFI unit structure and catalysis for macromolecules
15:45	**OP1-8**	**Xiujie Li 李秀杰**	Sustainable Synthesis of *MRE Zeolite: Tailored Acidity and Pore Structre for Hydroisomerization Reaction
15:55	**Coffee Break**		

Chairs : Yonghua Chen & Xinhua Wan

Science China Press Forum

16:15	**INL1-25**	**Guilin Wang 王贵林**	Reporting global advances in science — An introduction to National Science Review
16:30	**INL1-26**	**Xinhua Wan 宛新华**	Helix-sense-selective Polymerization of Diazoacetates Promoted by Rh(I) Complex and Organoamine
16:45	**INL1-27**	**Lijie Dong 董丽杰**	Flexible Polymer Dielectrics for Thin Film Capacitor Applications
17:00	**INL1-28**	**Feng Li 李峰**	Carbon materials with multi single atom metal for lithium sulfur batteries
17:15	**INL1-29**	**Chang Liu 刘畅**	High quality single wall carbon nanotubes and their assemblies
17:30	**INL1-30**	**Bilu Liu 刘碧录**	Mass production of 2D electrocatalysts for
17:45	**OP1-9**	**Xuemei Zhang 张学梅**	Publishing with Science China Chemistry & Science China Materials
17:55	**OP1-10**	**Lijuan Zhang 张丽娟**	Boosting the quality and impact of Journal of Energy Chemistry

Friday 25th July 2025

Functional Materials

Auditorium PA02

Chairs : Di Wei & Yu-Meng You

Interdisciplinary Materials Forum

10:50	**KN7**	**Zhigang Shuai** **帅志刚**	Quantum Machine Learning with Hybrid Quantum-Neural Wavefunction
11:10	**INL2-16**	**Wencai Ren** **任文才**	Van der Waals Layered $MoSi_2N_4$ family
11:25	**INL2-17**	**Han Zhou** **周涵**	Bioinspired thermal meta emitters by machine learning
11:40	**INL2-18**	**Bingbing Liu** **刘冰冰**	High Pressure Artificial Synthesis of Hexagonal Diamond
11:55	**INL2-19**	**Zengfeng Di** **狄增峰**	Integrating 2D Materials and 3D Materials
12:10	**OP2-5**	**Kuo Li** **李阔**	Diamond nanothread: prediction, synthesis, structure and properties
12:20	**OP2-6**	**Jin Wen** **闻瑾**	Polymer UV-Aging Resistance: Insights from Degradation Mechanisms and High-Throughput Screening

12:30-14:00 **Lunch Break**

Chairs: Bingbing Liu & Zhihui Dai

Interdisciplinary Materials Forum

14:00	**KN8**	**Ling Peng 彭玲**	Modular and adaptive dendrimer nanomaterials for biomedical applications
14:20	**INL2-20**	**Jianguo Guan 官建国**	Injectable thrombolytic and anti tumor nanorobots
14:35	**INL2-21**	**Zhiyong Fan 范智勇**	Bioinspired Intelligent Sensors with Nanostructures
14:50	**INL2-22**	**Li Lin 林立**	Automated processing and transfer of graphene wafers
15:05	**INL2-23**	**Zhiyi Hu 胡执一**	Electron microscopy for beam sensitive halide perovskite materials
15:20	**INL2-24**	**Li Peng 彭莉**	Surface Migration dynamics of Rubber Phase in TPO Injection Moldings Lily
15:35	**OP2-7**	**Qijun Sun 孙其君**	Triboelectric Potential Driven FETs for Interactive Neuromorphic Synaptic Devices and Systems
15:45	**OP2-8**	**Ran Cao 曹冉**	Construction of Artificial Skin and Its Application in Wound Healing

15:55 Coffee Break

Chairs: Tongxiang Fan & Zijian Zheng

Interdisciplinary Materials Forum

16:15	**INL2-25**	**Zhihong Nie** **聂志鸿**	Directional Bonding of Inorganic Nanoparticles Like Atoms
16:30	**INL2-26**	**Yonghua Chen** **陈永华**	Proton ionic liquid for perovskite solar cells
16:45	**INL2-27**	**Yu-Meng You** **游雨蒙**	Design and synthesis of molecular ferroelectrics
17:00	**INL2-28**	**Jing Ning** **宁静**	Wide bandgap semiconductor materials and devices
17:15	**INL2-29**	**Xianran Xing** **邢献然**	Local Structure and Physical Properties in Solids
17:30	**INL2-30**	**Bogeng Li** **李伯耿**	Molecular Design and Synthesis of High performance Thermoplastic Elastomers with Block Structure
17:45	**OP2-9**	**Xiaozhuang Zhou** **周小状**	Muscle-Inspired Self-Growing Anisotropic Hydrogels with Mechanical Training-Promoting Mechanical Properties
17:55	**OP2-10**	**Haitao Yang** **杨海涛**	Sustainable Soft Sensor Design by Machine Learning Tools

Friday 25th July 2025

Metallic & Composite Materials

Auditorium PA11

Chairs : Xiaodong Su & Yong Liu

10:50	**KN11**	**Qiang Wang 王强**	Application of electromagnetic fields on fabrication of advanced materials
11:10	**INL3-16**	**Wangzhong Mu 牟望重**	Application of machine learning tools for process control and microstructure design for advanced steels
11:25	**INL3-17**	**Pengfei Yan 严鹏飞**	Where Is the Road for Nuclear Additive Manufacturing
11:40	**INL3-18**	**Kang Wang 王慷**	AI Assisted Analysis of the Deformation Mechanisms of Metal Matrix Composites
11:55	**INL3-19**	**Ye Chen 陈也**	Wet-chemical phase and surface engineering of metal nanocrystals towards enhanced catalytic properties
12:10	**OP3-5**	**Xiaoqian Fu 符晓倩**	Ridge-twin boundaries as prolific dislocation sources in low stacking-fault energy metals and alloys
12:20	**OP3-6**	**Sheng Zhang 张胜**	Accelerating the Development of New Corrosion-resistant Uranium Alloys through Machine Learning
12:30 – 14:00		**Lunch Break**	

Chairs : Nairong Tao & Xiaoyan Li

14:00	**KN12**	**Guojun Liu** **刘国军**	Anti-Smudge Anti-Icing NP-GLIDE Coatings
14:20	**INL3-20**	**Hongjing Dou** **窦红静**	Cell mimic materials based on biomacromolecular self assembly
14:35	**INL3-21**	**Tie Liu** **刘铁**	Wetting behavior of molten Al on solid substrates in high magnetic fields
14:50	**INL3-22**	**Lizhong Zhao** **赵利忠**	Optimization study of matrix composition and diffusion sources of rare earth permanent magnet materials based on machine learning
15:05	**INL2-23**	**Kai Sun** **孙凯**	Design of confined structure for radio-frequency epsilon-near-zero materials and their broadband tuning mechanism
15:20	**INL3-24**	**Hang Ping** **平航**	Bioprocessing inspired confined synthesis in collagen fibrils
15:35	**OP3-7**	**Donglin Han** **韩东霖**	Enhancing Comprehensive Thermal Performances of Electrocaloric Polymer through Molecular Scale Regulations
15:45	**OP3-8**	**Cuilian Liu** **刘翠连**	Polyoxometalate-based Metal-Organic Assemblies Towards Supramolecular Catalysis and Functional Materials
15:55 -16:15		**Coffee Break**	

Chairs : Qiang Wang & Zhanqiu Tan

16:15	**INL3-25**	**Jianfeng Shen 沈剑锋**	Preparation and electromagnetic shielding of MXene enhanced polyimide aerogel
16:30	**INL3-26**	**Xianping Zhang 张现平**	Progress in the fabrication of high performance iron based superconducting wires
16:45	**INL3-27**	**Chengtie Wu 吴成铁**	3D Printing of Biomimetic Biomaterials
17:00	**INL3-28**	**Jingkun Xu 许靖堃**	DC field-assisted hot pressing: A new method for in situ microstructural tailoring of ceramics
17:15	**INL3-29**	**Yao Li 李尧**	Research on Biomimetic Configurational Energy Storage Materials
17:30	**INL3-30**	**Ying Ma 马莹**	AI-Assisted Self-Adaptive Intelligent Display Systems Based on Electrochromic Textiles
17:45	**OP3-9**	**Qiang Li 李强**	Highly-performance polymeric nanocomposites for sustainable solid-state refrigeration
17:55	**OP3-10**	**Jun Pan 潘军**	Bio-catalyzed Oxidation Self-Charging Zinc-Polymer Batteries

Friday 25th July 2025

Young Scholars

Auditorium S01

Chairs : Bilu Liu & Wei Ji

10:50	**YOP-19**	**Mengfan Guo 郭梦帆**	Data-driven and algorithm-assisted exploration of electrocaloric materials
11:00	**YOP-20**	**Hongchen Guo 郭宏晨**	Towards Sustainable Soft Materials for Intelligent Sensing and Actuation
11:10	**YOP-21**	**Yixuan Liu 刘亦轩**	High Electrostrain in Piezoceramics: From Domain-Wall Dynamics to Chemopiezoelectric Effects
11:20	**YOP-22**	**Hele Guo 郭和乐**	Entropy-Driven Stabilization of Noble Metal Single Atoms for Electrocatalytic Ammonia Synthesis
11:30	**YOP-23**	**Siyuan Li 李思远**	Wide-bandgap 2D perovskite oxides for advanced optoelectronics
11:40	**YOP-24**	**Wenjin Yu 俞文锦**	Ambient fabrication of perovskites for photovoltaics
11:50	**YOP-25**	**Bin Han 韩宾**	Interface Molecular Engineering of Field-Effect Transistors Based on Two-Dimensional Semiconductors
12:00	**YOP-26**	**Honglei Wang 王宏磊**	Liquid-Phase Exfoliation Engineering of 2D Materials for Tailored Optoelectronic Properties

Chairs : Shuai Chen & Shu-Lei Chou

14:00	**YOP-27**	**Jiarui Yang 杨嘉睿**	Chlorine evolution reaction motivated by metal and non-metal catalysts
14:10	**YOP-28**	**Tong Wu 吴桐**	Suppressing Deep-Level Traps Enable Cu_2ZnSnS_4 Thin Film Solar Cell with Certified Efficiency
14:20	**YOP-29**	**Gang Wen 闻刚**	Functionalized docetaxel probes for refined visualization of mitotic spindles by expansion microscopy
14:30	**YOP-30**	**Yuheng Jiang 蒋雨恒**	Selective Photocatalytic Methane Oxidation to value-added products
14:40	**YOP-31**	**Tsz Woon Lo 劳子桓**	Controlled Synthesis of 3d-metal Nanoclusters on Hierarchical Zeolites and Metal-organic Frameworks and the Structure-reactivity Correlations
14:50	**YOP-32**	**Jingjie Ge 葛婧捷**	Atomic Precision Design of Low-dimensional Transition Metal Nanocatalysts for Oxidation Reaction
15:00	**YOP-33**	**Longlong Wang 王龙龙**	All-solid-state lithium battery with $LiNiO_2$ cathode
15:10	**YOP-34**	**Caiwu Liang 梁才武**	Key Role of Oxidizing Species on Iridium Oxides for Electrocatalytic Water Oxidation
15:20	**YOP-35**	**Yan Guo 郭燕**	Innovative Photocatalytic Systems Based on Organic Semiconductors for Emerging Water Pollutant Remediation

Chairs : Xianghui Hou & Ruifeng Li

16:15	**YOP-36**	**Zema Chu** **储泽马**	High-Performance Blue Perovskite Light-Emitting Diodes
16:25	**YOP-37**	**Qianfeng Gu** **顾钱锋**	Precision Functionalization of Two-Dimensional Covalent Organic Frameworks: Structural Engineering for Functional Innovations
16:35	**YOP-38**	**Jiawei Liu** **刘佳玮**	Harnessing Structural Anisotropy in Low-Dimensional Nanomaterials for Electrocatalytic Applications
16:45	**YOP-39**	**An Zhang** **张安**	Atomic-Scale Engineering of Metal Nanomaterials for Efficient Electrochemical CO_2 Reduction
16:55	**YOP-40**	**Zijian Li** **李子健**	1T'-transition metal dichalcogenide monolayers stabilized on 4H-Au for ultrasensitive SERS detection
17:05	**YOP-41**	**Yanming Cai** **蔡延鸣**	Design and Fabrication of Copper-Based Catalysts for Electrochemical CO_2 Reduction
17:15	**YOP-42**	**Zhenyu Shi** **史振宇**	Single- atom electrocatalyst on 1T'-MoS_2 for highly efficient hydrogen evolution breaking mass transport limitation
17:25	**YOP-43**	**Junnan Hao** **郝俊南**	Electrode and electrolyte modifications for advanced aqueous Zn batteries
17:35	**YOP-44**	**Zhuangchai Lai** **赖壮钗**	Synthesis of Unconventional-phase 2D Transition Metal Dichalcogenides for Energy Applications

Saturday 26th July 2025

9:00 – 10:10	**Parallel sessions** Energy & catalysis **(PA01)** Functional materials **(PA02)** Biomedical Materials **(PA11)** Young scholars **(S01)**
10:10 – 10:30	**Coffee break**

Plenary lectures

Auditorium PA01

10:30 – 11:00	**PL14 - Lianmao Peng 彭练矛** Low-dimensional semiconductors and devices ***Chair**: Guang Chen*
11:00 – 11:30	**PL15 - Lidong Chen 陈立东** Semiconducting chalcogenides: ductility and thermoelectric ***Chair**: Tongyi Zhang*
11:30 – 12:00	**PL16 - Di Zhang 张荻** Architected Composites of Materials ***Chair**: Zhigang Zou*
12:00 – 12:25	**GCMC 2025 Closing Ceremony and Prizes**
12:25 – 14:00	**Closing Snacks & Drinks**

Saturday 26th July 2025

Energy & Catalysis

Auditorium PA01

Chairs : Liqiang Mai & Zhenhai Wen

09:00	**INL1-31**	**Qiang Zhang** **张强**	Battery Innovation Empowered by Lithium Bond and Artificial Intelligence
09:15	**INL1-32**	**Zaiwang Zhao** **赵再望**	Mesoporous Supraparticles: Synthesis and Applications
09:30	**INL1-33**	**Junjie Wang** **王俊杰**	Intelligent Design of Electron-Rich Materials for Catalytic Ammonia Synthesis
09:45	**INL1-34**	**Zhongbin Wu** **吴忠彬**	Organic Field effect Light-emitting Transistors
10:00	**OP1-11**	**Bo Chen** **陈博**	Controllable Construction of Unconventional Phase Materials

Saturday 26th July 2025

Functional Materials

Auditorium PA02

Chairs : Bogeng Li & Qiangang Fu

Interdisciplinary Materials Forum

09:00	**INL2-31**	**Tongxiang Fan 范同祥**	Biomimetic Photonic Multiform Composite for High-Performance Radiative Cooling
09:15	**INL2-32**	**Zijian Zheng 郑子剑**	Permeable Electronic Skins term ice mitigation
09:30	**INL2-33**	**Xianghui Hou 侯向辉**	Multi-phase icephobic materials design for long-term ice mitigation
09:45	**INL2-34**	**Haoli Zhang 张浩力**	PyDI-Based Organic Photovoltaic Materials
10:00	**OP2-11**	**Xiaowang Liu 刘小网**	Rational design of uniform SiO_2-based afterglow microparticles for photonic crystals

Saturday 26th July 2025

Biomedical Materials

Auditorium PA11

Chairs : Lianhui Wang & Jianguo Guan

09:00	**INL3-31**	**Lianhui Wang 汪联辉**	Intelligent Materials for Biomedical Diagnosis and Treatment
09:15	**INL3-32**	**Haiyang Xie 谢海燕**	Natural cellular material-based biotherapy
09:30	**INL3-33**	**Zhihui Dai 戴志晖**	Using signal off to on strategy for designing precise and ultrasensitive biosensor towards tumor through proteinvariant detection based on
09:45	**INL3-34**	**Quan Yuan 袁荃**	New Approach for Microbial Metabolic Analysis
10:00	**OP3-11**	**Yujie Shi 石玉杰**	Unnatural amino acid-based ionic liquid enables oral treatment of nonsense mutation disease in mice

Saturday 26th July 2025

Young Scholars

Auditorium S01

Chairs : Meikang Han & Changshui Huang

09:00	**YOP-45**	**Qixin Zhou** **周启昕**	Micropore confinement dominates exciton dissociation in crystalline organic photocatalytic materials
09:10	**YOP-46**	**Xin Xu** **许新**	Material design for sustainable batteries (Mg/Na-ion battery)
09:20	**YOP-47**	**Xikun Zhang** **张西坤**	Dual ions co-intercalation induced spontaneous and reversible phase replacement chemistry enables superior Zn^{2+} storage
09:30	**YOP-48**	**Wei Zong** **宗伟**	Dynamical interface design for highly reversible aqueous zinc metal battery
09:40	**YOP-49**	**Chuanlian Xiao** **萧传连**	Unification of Intercalation Electrode Storage and Supercapacitive Storage
09:50	**YOP-50**	**Yuan Hou** **侯渊**	Surface and Interface Mechanics of 2D Materials

Posters

Thursday Flash Poster Sessions

	Energy & Catalysis	Functional Materials	Metallic & Composite Materials
15:35-15:55	Flash P1-5	Flash P24-28	Flash P13-17
18:05-18:25	Flash P6-12	Flash P29-34	Flash P18-23

P01	**Na Chen** 陈娜	Beyond natural synthesis via solar decoupled biohybrid photosynthetic system
P02	**Qingsong Weng** 瓮青松	Mitigated Intra-granular Stress in High Nickel Cathode Materials For Long-lived Cycling Performance
P03	**Haiyan Zou** 邹海燕	Photon-induced Modulation of Reaction Pathways at Ruδ+-Ru0 Interfaces in Dry Reforming of Methane
P04	**Zhen Pei** 裴振	Development of a novel multiphase Ni-Fe-O-S/NF bifunctional catalyst for efficient overall water splitting
P05	**Man Qi** 齐曼	Amination on structured microcrystalline cellulose aerogel for direct capture CO_2 from air
P06	**Yu Pang** 庞雨	Molecular Descriptors for High-Throughput Virtual Screening of Fluorescence Emitters with Inverted Singlet-Triplet Energy Gaps
P07	**Lei Chen** 陈雷	Dual-functional oxygen-deficient TiO_2 porous ceramics for enhanced stability in interfacial evaporation
P08	**Lingbo Yao** 姚凌波	Biomimetic bone hydrogel enables a seamless interface for aqueous battery and human/machine interaction
P09	**Mingwei Cui** 崔明伟	Electrolyte-Catalyst Matching for Dynamic Control of Polysulfides in Li-S Batteries

P10	**Kesong Yu** 喻科嵇	Separator Pore Size Induced Oriented Zn Deposition (Thinner Functional Separators for Zinc Batteries)
P11	**Yu Liu** 刘钰	Long-Term Durability of Seawater Splitting for Hydrogen Production
P12	**Bin Wang** **王斌**	Electron paramagnetic resonance as a tool to determine the sodium storage properties of hard carbon
P13	**Wenbo Wang** 王文波	Trace Crystal Water Enhances Structural Stability of Sodium Manganese Hexacyanoferrates by Strengthening Mn–N Bonds for Sodium-Ion Batteries
P14	**Xinti Yu** 于鑫倜	Bandgap engineering of $Zn_{1-x}Cd_xS$ for glycerol photo(electro)reforming into glyceric acid with hydrogen coproduction
P15	**Chaomin Chen** 陈超敏	How Carbon-Carbon Coupling Reactions Occur on Bimetallic Zeolite Frameworks?
P16	**Weida Zhang** 张伟达	Electrically Modulated Charge Transfer and Plasmon Coupling for SERS Enhancement in Bimetallic MXenes
P17	**Jialin Bai** 拜佳霖	Porous SiCNnw/C/Si_3N_4 ceramics with controlled component and structure for electromagnetic wave absorption
P18	**Yang Hu** 胡洋	Cf/(CrZrHfNbTa)C–SiC high-entropy ceramic matrix composites for potential multi-functional applications
P19	**Liang Zhou** 周亮	Thermal shock resistance and water vapor corrosion behaviors of quasi-EBC-SiCf/SiC integrated composites fabricated by tape casting and reactive melting infiltration
P20	**Fuchen Liu** 刘付晨	Long-term ablative behavior of Al_4SiC_4 and YB_4 modified Cf/ZrB_2-SiC composites at 2600 °C
P21	**Bojun Zeng** 曾博君	Hierarchical Design of Zeolites for Mass Transport Enhancement

P22	**Xiaomin Liu** 刘晓敏	AI-Assisted Structure Design and Materials Screening of Selective Metamaterial Absorbers
P23	**Jian Xu** 徐健	Bridging Cu-O-Ti Bonds for Methanol Photoreforming to Hydrogen on Highly Dispersed 0D/2D Cu_xO/TiO_2 Heterojunctions
P24	**Jiajun Luo** 罗家俊	Fabricating strong and tough aramid fibers by small addition of carbon nanotubes
P25	**Jihong Sun** 孙继红	Self-assemble performances and fractal evolution of the surfactant-assisted aluminosilicate species in the induced duration of the synthesized clinoptilolite
P26	**Yihan Chen** 陈奕涵	Gas therapy strategy of nanomaterials for spinal cord injury
P27	**Chengyi Li** 李诚逸	Synergistic Multi-Doping Engineering of Oxide Scintillators: Breaking Light Yield-Decay Time Trade-Off for Ultrafast Radiation Detection
P28	**Aochen Zhang** 张傲尘	Different Ions Codoping Strategies for GAGG:Ce Scintillators: Insights into Defect Engineering and Performance OptimizationTitle
P29	**Meihui Liu** 刘美惠	Molecular Descriptor of Intramolecular Noncovalent Interaction for Regulating Optoelectronic Properties of Organic Semiconductors
P30	**Yiming Wu** 吴一鸣	Advances in Novel Rare-Earth Hafnate-Based Thermal/Environmental Barrier Coatings (T/EBCs)
P31	**Mengdie Li** 李梦蝶	Intelligent carbonene fiber preparation and characterization platform: AI for Fiber
P32	**Chengcheng Guo** 郭成成	Multiscale study of shock Hugoniot on Al-Cu functionally gradient materials

P33	**Yinglong Ma** 马英龙	Effect of hydrogen on microstructure evolution and properties of high-strain pipeline steel under cyclic strain loading
P34	**Jinjiu Qi** 祁晋玖	Realizing radio-frequency epsilon-near-zero response via embedding cobalt nanoparticles into polyimide
P35	**Tao Xiao** 肖涛	Advanced aqueous metal-iodine batteries enabled by electrolytes and electrode interface design
P36	**Xiao Lin** 林逍	Crystal facet-exposed NiO for modulating hydrogen electrode in 4×4 cm^2 solid oxide fuel cell
P37	**Yitao He** 何一涛	Suspension Electrolyte for Aqueous Dual-Ion Batteries
P38	**Xiaochun Zhu** 朱小春	Constructing hierarchical zeolites with highly complete framework via controlled desilication
P39	**Jinghong Ma** 马静红	An efficient water-tolerant zeolite adsorbent for desulfuration of industrial gas
P40	**Yuting Qiu** 邱玉婷	Modifying roles of $CuSbSe_2$ in realizing high thermoelectric performance of GeTe
P41	**Qin Yao** 姚琴	The Ultralow Thermal Conductivity of Cs_2SnI_6 by Filling Interstitial Voids with Mg^{2+} Ions
P42	**Sijie Xie** 谢思杰	Probing Surface Concentrations of Metal-organic Framework's Building Units in its Cathodic deposition
P43	**Qiang Li** 李强	Pair distribution functions and 3D structure of nanomaterials
P44	**Qing Shi** 石晴	Electric Field–Assisted Interfacial Assembly of a Prebiotic-Inspired Material for Selective Ion Exchange Membranes

P45	**Jianjun Huang** **黄建军**	Visualization of F-Actin and Microtubules in Expansion Microscopy (ExM) with Trifunctional Linker
P46	**Hongtao Qu** **曲红涛**	Application of solid-state NMR in battery research
P47	**Xikun Zhang** **张西坤**	Dual ions co-intercalation induced spontaneous and reversible phase replacement chemistry enables superior Zn^{2+} storage
P48	**Jing Li** **李菁**	Localized Surface Plasmon Mediates the Visible Light-responsive Lithium-Oxygen Battery with Au Nanoparticles on TiO_2
P49	**Pengyao Yu** **于鹏瑶**	Self-limiting growth of thin dense LTA membranes boosts H_2 gas separation performance
P50	**Yuanguo Wu** **吴元果**	Hierarchical Architecture: a novel, facile and cost-efficient strategy to boost electrochemical performance of Li-O_2 battery cathodes
P51	**Yulong Xia** **夏雨龙**	Muscle-Inspired Self-Growing Anisotropic Hydrogels with Mechanical Training-Promoting Mechanical Properties

Note taking pages

Note taking pages

Note taking pages

Note taking pages

The GCMC Organising Committee would like to express their sincere gratitude to the various institutions and companies for their contribution and support

Supportive Organizations

Interdisciplinary Materials — Open Access

广东院士联合会

Chemical Synthesis

fnrs LA LIBERTÉ DE CHERCHER

《中国科学》杂志社 SCIENCE CHINA PRESS

Sponsors

KINGFA 金发科技

华尔达集团 HED Group