

















August 4	Registration 8:30-18:30	Welcome Dinner (Café Pacifica 17:30-20:30)	
<b>August 5</b> 8:30-11:50	Opening Ceremony Plenary Lectures (3F Ballroom 2+3)		
<b>August 5</b> 14:00-17:35	Session A (3F Tianyi Auditorium)	Session B (3F Sun Lake)	Session C (3F Pacific 1)
<b>August 5</b> 19:00-21:00	Poster Session (3F Tianyi Auditorium Foyer)		
<b>August 6</b> 9:00-11:45	Session D (3F Tianyi Auditorium)	Session E (3F Sun Lake)	Session F (3F Pacific 1)
August 6 14:00-17:10	Session G (3F Tianyi Auditorium)	Session H (3F Sun Lake)	Session I (3F Pacific 1)
<b>August 7</b> 9:00-11:45	Session J (3F Tianyi Auditorium)	Session K (3F Sun Lake)	Session L (3F Pacific 1)
<b>August 7</b> 14:00-17:10	Session M (3F Tianyi Auditorium)	Session N Session O (3F Sun Lake) (3F Pacific 1)	
August 7 18:00-21:00	Farewell Dinner (3F Ballroom 1)		

August 5	lugust	5
----------	--------	---

## 3F Ballroom 2+3

## **Opening Ceremony**

8:30~8:35 Dujin Wang

Institute of Chemistry, CAS

## **Plenary Lectures**

Chair: Piet J. Lemstra

8:35~9:15 Stephen Z. D. Cheng South China University of Technology

Superlattice engineering of giant molecules: Soft supramolecular alloys

9:15~9:55 Xiao 'Matthew' Hu Nanyang Technological University

A journey in high-performance network polymers: Stimuli response, precision 3D printing and sustainability

9:55~10:30 Group Photo and Coffee Break

**Chair: Philip Coates** 

10:30~11:10 Gregory Solan

University of Leicester

Late TM olefin polymerization catalysis: From concept to industrial application

11:10~11:50 Zhibo Li

Qingdao University of Science and Technology

Organocatalyzed ring opening polymerization towards sustainable polymers

## August 5: Session A

3F Tianyi Auditorium

## **Topic: Synthesis and Polymerization**

Chair: Wei You

## 14:00~14:25 Yongfang Li

Institute of Chemistry, CAS

Polymerized small molecule acceptors and giant molecucle acceptors for high performance polymer solar cells

### 14:25~14:50 Junwei Gu

orthwestern Polytechnical University

Intrinsically thermally conductive liquid crystalline polyimide and its composite films

#### 14:50~15:15 Wenxin Fu

Institute of Chemistry, CAS

Benzocyclobutene-based low- $\kappa$  polymeric materials for advanced packaging

#### 15:15~15:40 Haobin Zhang

Beijing University of Chemical Technology

Polymer nanocomposites for efficient electromagnetic interference shielding

#### 15:40~15:55 Coffee Break

Chair: Wenxin Fu

### 15:55~16:20 Jie Liu

Institute of Chemistry, CA

Molecular design of polymer interfaces for anti-icing

#### 16:20~16:45 Yanshan Gao

hanghai Institute of Organic Chemistry, CAS

Olefin insertion regiochemistry in constructing polyolefins with unique structures and properties

#### 16:45~17:10 Haobing Wang

South China University of Technology

Self-healing polyolefin elastomers by rare-earth-catalyzed olefin (co)polymerizations

### 17:10~17:35 Wei You

nstitute of Chemistry, CAS

Facile preparation of polyethylene derivatives from Mitsunobu functionalization of commercial EVA

August 5: Session B

3F Sun Lake

**Topic: Crystallization and Phase Transition** 

Chair: Wenbing Hu

14:00~14:25 Alejandro J. Müller

University of the Basque Country UPV/EHU

The effects of chemical structure and molecular weight on melt memory of semi-crystalline polymers

14:25~14:50 Yongfeng Men

Statistical aspect of mechanical properties of polyethylene

14:50~15:15 Pengju Pan

Critical role of chain entanglement in polymorphic crystallization and phase transition of polymers

15:15~15:40 Juan Peng

Controlling the crystalline structure of polythiophene-based conjugated polymers

15:40~15:55 Coffee Break

Chair: Alejandro J. Müller

15:55~16:20 Wenbing Hu

Understanding thermoplastic elastomers in strain-induced crystallization

16:20~16:45 Shouke Yan

Structure regulation of poly(lactic acid) thin films

16:45~17:10 Weichao Shi

Nankai University

Polymer phase transitions at double emulsion interfaces

August 5: Session C

3F Pacific 1

**Topic: Polymer processing** 

Chair: Ping Gao

14:00~14:25 Qi Wang

Advanced foaming technologies for high-performance and multi-functional polymer foams and parts

14:25~14:50 Theo Tervoort

Finite nonlinear elasto-viscoplastic modeling of the ultra-drawing process leading to high-performance polyethylene fibers spun from vegetable oils

14:50~15:15 Yongyan Pang

How phase morphology, crystallization and nanoparticle change the foaming temperature window of polymer systems?

15:15~15:40 Shuguang Yang

Polymer complexation for low dimension materials

15:40~15:55 Coffee Break

**Chair: Theo Tervoort** 

15:55~16:20 Philip Coates

Enhancing polymer properties by solid phase orientation processing: research to products

16:20~16:45 Ping Gao The Hong Kong University of Science and Technology (Guangzhou)

Ultrastrong and porous polyethylene nanofilms with delaunay topological pores

16:45~17:10 Ganji Zhong

Toward high performance by stress-induced hierarchical structure during polymer processing

17:10~17:35 Jingquan Liu

Polymer/graphene composites prepared via RAFT mechanism for efficient chemical removal of air pollutants

#### 3F Tianyi Auditorium August 6: Session D

## **Topic: Synthesis and Polymerization**

Chair: Zhong	bao J	lian
--------------	-------	------

9:00~9:25	Andrew Whittaker	University of Queensland
	Sequential infiltration synthesis: From fundamental studies to block copolymer infiltration	
9:25~9:50	Yang Wang	University of Chinese Academy of Sciences
	Single site high perfor	mance olefin polymerization catalysts
9:50~10:15	Qaiser Mahmood	Chemistry and Chemical Engineering Guandong Laboratory
	Transition metal catalyzed synthesis of polyolefin thermoplastic elastomers	
10:15~10:30	Coffee Break	

#### Chair: Andrew Whittaker

10:30~10:55	Zhongba	o Jian	Changchun Institute of Applied Chemistry, CA	S

Folye	illylelle-baseu	materiais with	versame	uncuons

10:55~11:20	Yixian Wu	Beijing University of Chemical Technology
	Synthesis of high performadvanced catalyst	rmance ethylene-propylene elastomer by
11:20~11:45	Shaofeng Liu	Qingdao University of Science and Technology

Non-metallocene catalysts toward olefin polymerization with high activity and great control on molecular weight and distribution

11:45~12:10 Jean Raynaud	Lyon University
--------------------------	-----------------

Catalysis to construct, deconstruct and reconstruct polymers

## August 6: Session E

3F Sun Lake

## **Topic: Structure Characterization**

		Chair: Eamor Woo
9:00~9:25	Joachim Loos	South China University of Technology
	A vision on advan	ced imaging for soft matter sciences
9:25~9:50	Haijin Zhu	Guangdong Technion-Israel Institute of Technology
	NMR study of prof	on exchange and transport in polymerized ionic
9:50~10:15	Liangyi Song	Xenocs China
	Investigating sam	oles with laboratory SAXS under various in-situ

### 10:15~10:30 Coffee Break

#### Chair: Joachim Loos

## 10:30~10:55 Eamor Woo

National Cheng Kung University

Synchrotron X-ray microbeam diffraction coupled with 3D microscopy for probing periodic self-assembly in polymeric crystal aggregates

### 10:55~11:20 Dong Wang

Beijing University of Chemical Technology

Probing surface and interface properties of dynamic polymer networks

## 11:20~11:45 Dong Qiu

Solvent-exchange to tailor the mechanical properties of poly(vinyl alcohol) based materials

August 6: Session F	3F Pacific 1
---------------------	--------------

## **Topic: Polymer Processing**

Chair: Dario Cavallo

9:00~9:25 Jinliang Qiao SINOPEC Beijing Research Institute of Chemical Industry

Amphiphilic superspreading polymer membranes prepared by capillary force-driven self-assembly

9:25~9:50 Yongjin Li Hangzhou Normal University

Tailoring asymmetric filler arrangement towards enhanced through-plane thermal conductivity of engineering plastics

9:50~10:15 Wei Feng Dongyue Group Institute

Effect of sintering process on mechanical properties of polytetrafluoroethylene

#### 10:15~10:30 Coffee Break

Chair: Jinliang Qiao

10:30~10:55 Dario Cavallo University of Genoa

Inter-layer adhesion in material extrusion 3D printing: Effect of processing and molecular variables

10:55~11:20 Lixin Wu Fujian Institute of Research on the Structure of Matter, CAS

High-performance and functional 3D printing elastomers and their applications

11:20~11:45 Xiang Lin Beijing University of Chemical Technology

Mechanical control of additively manufactured elastomers

## August 6: Session G

3F Tianyi Auditorium

## **Topic: Functional Polymers**

Chair: Dongsheng Liu

14:00~14:25 Jianjun Wang Technical Institute of Physics and Chemistry, CAS

Construction of ice-binding materials for cryopreservation of cells and tissues

14:25~14:50 Zhihua Gan Beijing University of Chemical Technology

The application of nanomedicine in the intravesical instillation therapy of non-muscle invasive bladder cancer

14:50~15:15 Jing Sun

Jilin University

Antimicrobial nanostructured assemblies from amp-mimetic polypeptoids with extremely low toxicity and potent activity

15:15~15:30 Coffee Break

Chair: Jianjun Wang

15:30~15:55 Dongsheng Liu

Tsinghua University

Supramolecular DNA hydrogel

15:55~16:20 Zongbo Zhang

Institute of Chemistry, CAS

Flexible hard coating for transparent polymer films

16:20~16:45 Pengcheng Ma Xinjiang Technical Institute of Physics and Chemistry, CAS

Aggregation-induced oil-water separation with presence of polymer materials

16:45~17:10 Nanying Ning

Beijing University of Chemical Technology

Dielectric elastomer materials for microgenerator with high energy density

August 6: Session H

3F Sun Lake

**Topic: Structure and Properties** 

Chair: François Boué

14:00~14:25 Xinhua Wan

**Peking University** 

Efficient preparation of tailor-made polymeric additives for crystallization resolution of racemic compounds

14:25~14:50 Guoming Liu

Institute of Chemistry, CAS

Conformation, aggregation, and solid-state structure of crystalline conjugated polymers

14:50~15:15 Yajun Cheng Ningbo Institute of Materials Technology and Engineering, CAS

Application of polymeric additive in high performance lithium-ion batteries

15:15~15:30 Coffee Break

Chair: Xinhua Wan

15:30~15:55 Di Jia

Institute of Chemistry, CAS

Self-assembly of the dipole-driven physical polyzwitterions in solutions: Biology and beyond

15:55~16:20 François Boué

Effect of structure on digestion of proteins

16:20~16:45 Lili Wang

Qingdao University

Suppressed freezing tuned polymer amorphization for cryogels

August 6: Session I

3F Pacific 1

**Topic: Biodegradable Polymers** 

Chair: Xianhong Wang

14:00~14:25 Jin Zhu

Ningbo Institute of Materials Technology and Engineering, CAS

Stimulated decomposable and biodegradable polymers

14:25~14:50 Jun Xu

Tsinghua University

Biodegradable polyesters synthesized from diacids and diols: From academic research to industrial applications

14:50~15:15 Piming Ma

Can engineering plastic becomes bio-based and/or biocompostable?

15:15~15:30 Coffee Break

Chair: Jin Zhu

15:30~15:55 Xianhong Wang

Changchun Institute of Applied Chemistry, CAS

Construction material system based on PPC

15:55~16:20 Liuchun Zheng

Tiangong University

Synthesis, modification, industrialization and nanomaterials of PBS

16:20~16:45 Xiaoqing Liu

Ningbo Institute of Materials Technology and Engineering, CAS

Sustainable epoxy resins: From bio-based to degradable

16:45~17:10 Jinming Zhang

Institute of Chemistry, CAS

Room temperature phosphorescence materials from cellulose

## August 7: Session J

## 3F Tianyi Auditorium

## **Topic: Polymer Recycling and Upcycling**

Chair: Tao Xie

9:00~9:25 Piet. J. Lemstra Eindhoven University of Technology

Recycling of (engineering) plastics, quo vadis?

9:25~9:50 Changle Chen University of Science and Technology of China

High-value transformation and upcycling of polyolefins

9:50~10:15 Hui Niu Dalian University of Technology

Study on the strengthening and recycling of polypropylene based on dynamic covalent bonds

#### 10:15~10:30 Coffee Break

Chair: Changle Chen

### 10:30~10:55 Tao Xie

Zhejiang University

Chemical upcycling of commodity polyurethane foam

### 10:55~11:20 Kotohiro Nomura

Tokyo Metropolitan University

Biobased aliphatic polyesters: Synthesis, properties and their catalytic chemical recycling, upcycling

## 11:20~11:45 Yanfeng Zhang

Xi'an Jiaotong University

Reinforcing and toughening recyclable polyurea and polyurethane

## August 7: Session K

3F Sun Lake

## **Topic: Simulation and Modelling**

Chair: Maosa Doi

9:00~9:25 Anchang Shi McMast University

Regulating nanostructured polymeric materials via dispersity

9:25~9:50 Jiaping Lin East China University of Science and Technology

Al-assisted design of high performance and functional polymers

9:50~10:15 Wenhong Yang PetroChina Petrochemical Research Institute

High performance of polyethylene catalyst based on the artificial model by machine learning

#### 10:15~10:30 Coffee Break

Chair: Anchang Shi

### 10:30~10:55 Masao Doi

Wenzhou Institute, University of Chinese Academy of Science

Diffusion-mechanical coupling-elastic effects in the diffusion of gels and polymer solutions

## 10:55~11:20 Wensheng Xu

Changchun Institute of Applied Chemistry, CAS

Can Johari-Goldstein relaxation be identified by non-Gaussian parameter in glass-forming polymer fluids?

## August 7: Session L 3F Pacific 1

## **Topic: Elastomers**

Chair: Hongzhi Liu

### 9:00~9:25 Ping Zhu

Institute of Chemistry, CAS

Fatigue characteristics of poly(ether-b-amide) elastomers during cyclic dynamic tensile/compression tests and the underlying microstructural evolution

## 9:25~9:50 Ruoyu Zhang

Ningbo Institute of Materials Technology and Engineering, CAS

Multi-scale structure in polyurethane and its application in medical catheters and flexible sensors

## 9:50~10:15 Miaoming Huang

Zhengzhou University

Structure and performance of intrinsic anti-UV thermoplastic polyurethane, recyclable cross-linked polythiourethane composites

## 10:15~10:30 Coffee Break

Chair: Ping Zhu

## 10:30~10:55 Hongzhi Liu

NingboTech University

Diisocyanate-induced dynamic vulcanization of difunctional fatty acids toward mechanically robust PLA blends

#### 10:55~11:20 Gengsheng Weng

Ningbo University

Tough and self-healable elastomers through dynamic coordination cross-linking

#### 11:20~11:45 Xiaoli Sun

Beijing University of Chemical Technology

The fabrication of polar poly(vinylidene fluoride) materials with improved piezo- and ferroelectric properties

## August 7: Session M

3F Tianyi Auditorium

## **Topic: Functional Polymers**

Chair: Aleksei Zezin

### 14:00~14:25 Huaping Xu

Tsinghua University

Non carbon inorganic backbone polytelluoxane

## 14:25~14:50 Chuanzhuang Zhao

Ningbo University

Regulating stimuli-responsiveness of intelligent polymers with hydrogen-bonding

## 14:50~15:15 Ning Zheng

Zhejiang University

Plasticity, reprocessing, and regeneration of dynamic covalent polymer networks

### 15:15~15:30 Coffee Break

Chair: Huaping Xu

### 15:30~15:55 Aleksei Zezin

Moscow State University

Biocidal coatings prepared from inerpolyelectrolyte complexes and metal polymer nanocomposites

## 15:55~16:20 Jinrong Wu

Sichuan University

Room-temperature autonomous self-healing glassy polymers

#### 16:20~16:45 Tao Wen

South China University of Technology

Controlled room-temperature phosphorescence in phosphor-doped polymers: when "polymer physics" meets "triplet emissions"

#### 16:45~17:10 Wenxi Gao

ExxonMobil Asia Pacific Research & Development Co. Ltd.

Reversible epoxy polymer with dynamic boronic bond

August 7: Session N

3F Sun Lake

**Topic: Rheology and Dynamics** 

Chair: Wei Yu

14:00~14:25 Liangbin Li

University of Science and Technology of China

Shear banding in monodisperse polymer melt

14:25~14:50 Quan Chen

Changchun Institute of Applied Chemistry, CAS

Elongational rheology of entangled ionomers based on poly(hexyl methacrylate)

14:50~15:15 Gengxin Liu

Donghua University

Standard rheological characterizations using 2 mg of sample

15:15~15:30 Coffee Break

Chair: Liangbin Li

15:30~15:55 Wei Yu

Shanghai Jiao Tong University

Structures and linear rheology of polymer nanocomposites

15:55~16:20 Ziliang Wu

Zhejiang University

Mechanical and rheological behaviors of glassy hydrogels with dense and robust associative interactions

16:20~16:45 Biao Zuo

Zhejiang Sci-Tech University

Chain diffusion at surfaces of polymer glasses

August 7: Session O

3F Pacific 1

**Topic: Polymer Processing** 

Chair: Jingshen Wu

14:00~14:25 Deyi Wang

**IMDEA Materials Institute** 

Sustainable flame-retardant strategies for polymers: State-of-theart and future perspectives

14:25~14:50 Ehsan Naderi Kalali

Southwest Jiaotong University

Eco-friendly and bio-based flame-retardant treatment of cotton fabric by a one-pot ultra-fast deposition approach

14:50~15:15 Xuzhou Yan

Shanghai Jiao Tong University

Mechanically interlocked polymers: Synthesis and structureproperty relationship

15:15~15:30 Coffee Break

Chair: Deyi Wang

15:30~15:55 Jingshen Wu

Hong Kong University of Science and Technology

Challenges and opportunities in Al-empowered semiconductor packaging design

15:55~16:20 Xuezheng Cao

Xiamen University

Active nanoparticles strengthened and toughened gel of noncovalently-bonded supramolecular chains

16:20~16:45 Wei You

Shanghai Jiao Tong University

Modulus reinforcement of polymer nanocomposites: From welldispersed to aggregated nanoparticles

16:45~17:10 Haq Nawaz

**Huaiyin Normal University** 

Design, synthesis and fabrication of cellulose-based smart materials for multi-purpose applications

15 m

手扶电梯 Escalator

Associates Elevator

Ť

\*

消防通道 Emergency Exit

消防通道 Emergency Exit

Tea Break Area

Cloakroom

Pantry 间

大宴会厅 Grand Ballroom

消防通道

**Emergency Exit** 



宴会厅平面图 (酒店三层) Floor plan of banquet hall (3F)

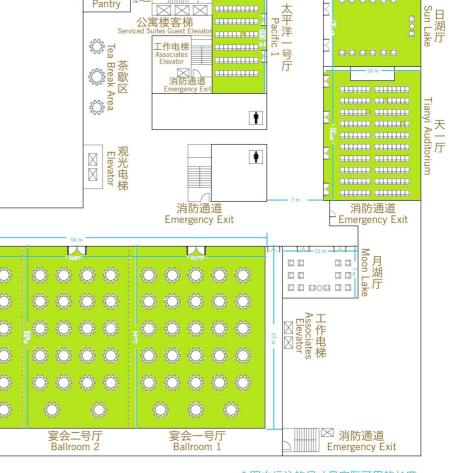
#### 标识图例 Conventional signs

- ¶ 男洗手间 Men's room
- ♦ 女洗手间 Women's room
- 箱式电梯 Elevator
- 多 手扶电梯 Escalator

消防通道

Emergency Exit

10 m



工作间

Pantry

通

工作间

Pantry

工作间

Pantry

太平洋五号厅 太平洋四号厅 Pacific 4 Pacific 5

\* 图中标注的尺寸是实际可用的长度。

18 19

宴会三号厅 Ballroom 3

太平洋二号厅 Pacific 2

太平洋三号厅 Pacific 3

## THE TENTH INTERNATIONAL SYMPOSIUM ON ENGINEERING PLASTICS

## **EP'2023**

Ningbo, China August 4-7, 2023

# **Program**



## Organized by

Institute of Chemistry, Chinese Academy of Sciences

Ningbo Institute of Materials Technology & Engineering,
Chinese Academy of Sciences