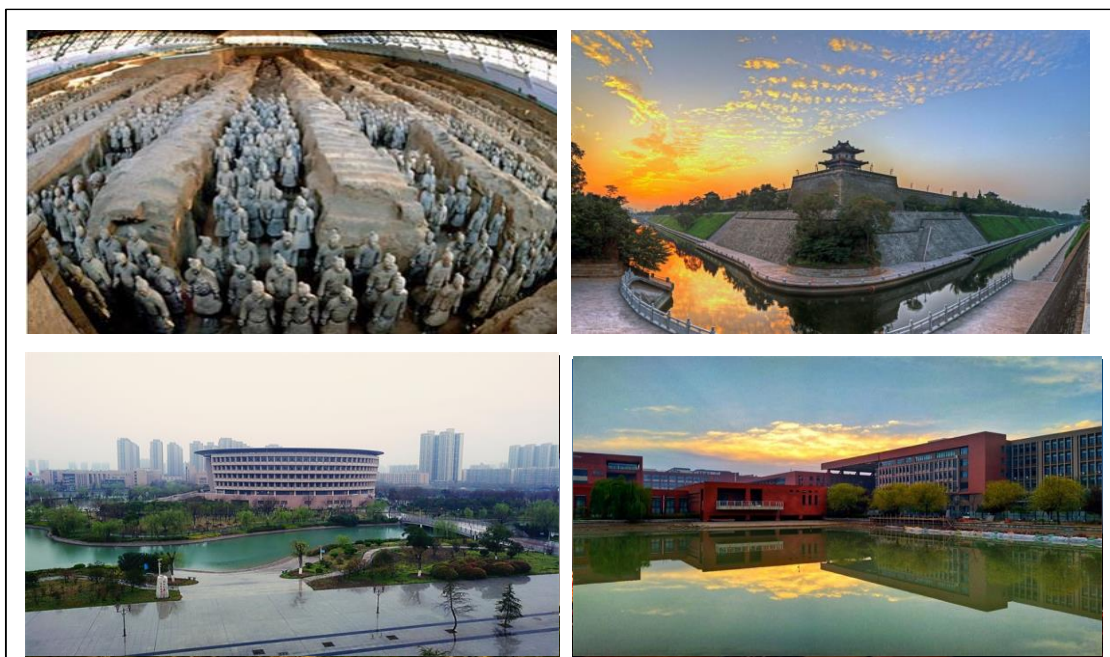


## 第三届先进凝胶材料与软物质国际学术讨论会

The 3<sup>rd</sup> International Symposium for Advanced Gel Materials & Soft Matters

Jun. 14-17, 2019 Xi'an, China

# Conference Handbook



## About Shaanxi University of Science and Technology

Shaanxi University of Science and Technology (SUST) located at Wei Yang university zone, beside the beautiful lake of Wei Yang and surrounded by the River Bahe.

Established in Beijing in 1958 as Beijing Institute of Light Industry it was under the administration of State Ministry of Light Industry. The University was the first institution covering educational needs of Chinese light industry. In 1970 The University was renamed to Northwest Institute of Light Industry and moved to Xianyang City in Shaanxi Province. It was in 1978 when it was recognized as one of 88 key universities in China by the State Council. Approved in 2002 by the Ministry of Education, the University acquired its present name - Shaanxi University of Science and Technology and in 2007, it was moved to the new campus in Xi'an, the capital city of Shaanxi Province.

SUST consists of three campuses and occupies an area of 388.5 Acre. There are about 21,000 students and 1,200 full time academic faculties.

SUST is a large multidisciplinary university with a wide array of programs, departments, and centers in 13 schools. SUST has 3 postdoctoral research stations, 4 first level and 18 second level doctoral degree-granting disciplines, 18 first level and 82 second level master degree-granting disciplines, 58 undergraduate programs spanning engineering, science, management, literature, economics, law, medical science, and art.



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## Introduction of ISAGMSM:

### History of the ISAGMSM

*As launched by Institute of Physical and Chemical Research of Japan (RIKEN), Hokkaido University, Institute of Chemistry Chinese Academy of Sciences, Shaanxi University of Science and Technology, Zhejiang University, Xi'an Jiaotong University, Tianjin University of Technology, Zhuhai GuoJia New Material Co. Ltd, the 1st ISAGMSM was successfully held at Beijing in October, 2016. The 2nd ISAGMSM was successfully held at Guiyang in August, 2017. It gathered over 100 experts in gel materials & soft matter to discuss the latest progress in these fields. The symposium also held a special section of polymer condensed state and conjugated polymer & ceremony of Renyuan QIAN's centenary birthday. The 3rd International Symposium for Advanced Gel Materials & Soft Matters (ISAGMSM) is held on Jun. 14-17, 2019.*

### The organizing committee:

**Chairman:** Yoshihito Osada, Jian Ping Gong, Jian Zhong Ma

**Executive Vice-Chairman:** Jian Xu, Yong Mei Chen

**Organizing Committee Members:** Li Chen, Jianhua Dong, Tai Sheng Gong, Xin Ping Li, Jin Ma, Haibo Wang, Zi Liang Wu, Ning Zhao, Yongjun Zhang, Qiang Zheng

**Secretary-general:** Jian Hu, Tao Lin Sun, Zi Liang Wu, Hui Jie Zhang

**Vice Secretary-general:** Haibo Wang

### The arrangement committee:

**Secretary-general:** Taisheng Gong, Xinping Li

**Permanent Vice Secretary-general:** Bin Lyu

**Vice Secretary-general:** Yongmei Chen, Wei Xu, Haijian Wang

**Secretary:** Huijie Zhang, Xing Zhu, Yuehong Zhang, Leipeng Liu, Xiaodan Sun, Jinfan Yang, Yang Wang, Jiaojun Tan, Chuanyin Xiong, Qiusheng Zhou, Ji Li, Jiabo Shi, Qingxin Han, Yan Zong, Xiaoling Wang, Li Ma, Haiwei Wu

### Conference Theme:

- 1) Hydrogel
- 2) Org-gel
- 3) Aerogel and porous material
- 4) Hybrid gel material
- 5) Soft matter and smart materials

## Locations:



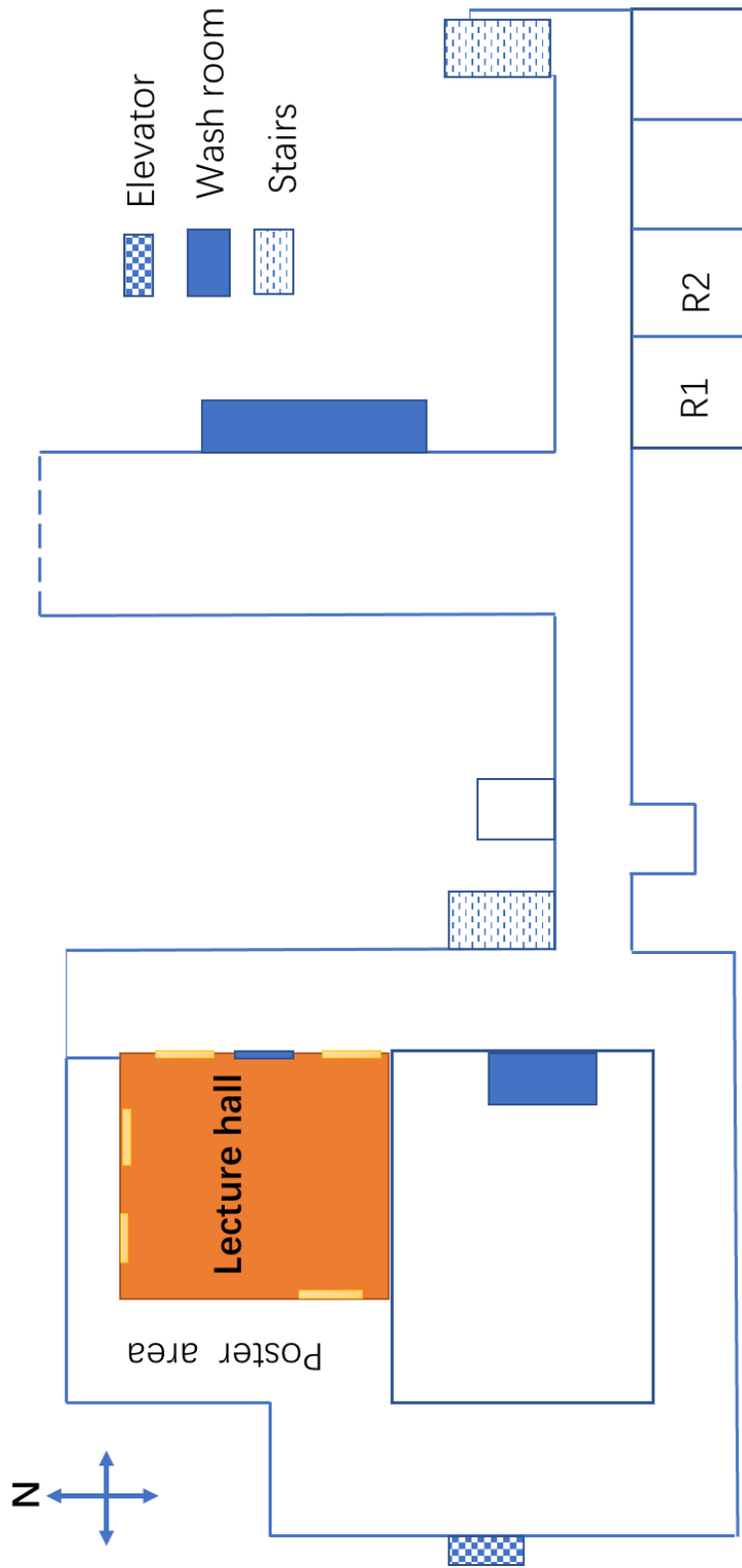
### Xi'an Xianglong Grand Hotel

At: Xi'an Xianglong Grand Hotel, Wude Road, Weiyang District, Xi'an

Tel: 4008281661;029-68298666

### Lecture hall and meeting rooms:

At: The 5<sup>th</sup> floor of the building for College of Art and Design, Shaanxi University of Science and Technology, Weiyang District, Xi'an



The map of 5th floor of the building for College of Art and Design

**General Schedule:**

Date	Time	Content	Venue
Jun. 14 <sup>th</sup>	08:00-22:00	Registration	Xi'an Xianglong Grand Hotel
Jun. 15 <sup>th</sup> , 16 <sup>th</sup>	08:00-08:30	Registration	Outside of Lecture Hall
Jun. 15 <sup>th</sup>	08:20-09:00	Opening Ceremony	Lecture Hall
	09:00-09:20	Group Photo	South of Library
	09:20-11:20	Plenary Lectures	Lecture Hall
	11:20-11:30	Coffee Break	Outside of the Lecture Hall
	11:30-12:05	Oral Sections	Meeting Rooms: Lecture Hall R1, R2
	12:05-13:30	Buffet Lunch	Xinyuan Restaurant, 2F
	13:30-15:05	Oral Sections	Meeting Rooms: Lecture Hall R1, R2
	15:05-15:35	Coffee Break & Poster Section	Outside of the Lecture Hall
	15:35-17:40	Oral Sections	Meeting Rooms: Lecture Hall R1, R2
	17:40-18:25	Introduction of Wiley and sponsors	Lecture Hall
	18:25-20:30	Welcome Party	Xinyuan Restaurant, 2F
Jun. 16 <sup>th</sup>	08:30-10:00	Plenary Lectures	Lecture Hall
	10:00-10:30	Coffee Break & Poster Section	Outside of the Lecture Hall
	10:30-12:10	Oral Sections	Meeting Rooms: Lecture Hall R1, R2
	12:10-13:30	Buffet Lunch	Xinyuan Restaurant, 2F
	13:30-14:55	Oral Section	Lecture Hall
	14:55-15:25	Coffee Break & Poster Section	Outside of the Lecture Hall
	15:25-17:05	Oral Section	Lecture Hall
	17:05-18:05	Academic Tour	The Museum of Chinese Light Industry & The University History Museum
18:05-21:00	Farewell Party	Xinyuan Restaurant, 2F	
Jun. 17 <sup>th</sup>	08:00-22:00	Departure	

**Notes:**

- ✧ **Plenary Lecture (PL): 30 min;**
- ✧ **3 Parallel Oral Sessions consist of Invited Lectures (IL): 20 min and Oral Lectures (OL): 15 min**
- ✧ **The presentation time includes discussion.**
- ✧ **Please finish the paste of your poster before the first Coffee Break & Poster Section time (15:05 am, Jun. 15<sup>th</sup>)**

**Scientific Program:****Opening Ceremony and Plenary Lectures (08:20-11:20, Jun. 15<sup>th</sup>;****08:30-10:00, Jun. 16<sup>th</sup>), Location: Lecture Hall:**

<b>Jun. 15<sup>th</sup></b>		<b>Program</b>
		<b>Opening Ceremony</b>
<b>08:20-09:00</b>		Opening & Welcome Lectures
<b>09:00-09:20</b>		Group photo (Southern side of the Library)
<b>09:20-11:20</b>		<b>Plenary Lectures      Chair: Prof. Jian Ping Gong</b>
<b>09:20-09:50</b>		PL 1: Future subjects of gel science---inspired from biology <b>Prof. Yoshihito Osada,</b> RIKEN, Japan
<b>09:50-10:20</b>		PL 2: Functional hydrogels constructed from natural polymers <b>Prof. Lina Zhang</b> Wuhan University
<b>10:20-10:50</b>		PL 3: Low-molecular mass compounds-based gels and gel emulsions: from aerogels to high performance porous monoliths <b>Prof. Yu Fang</b> Shaanxi Normal University
<b>10:50-11:20</b>		PL 4: DNA hydrogels <b>Prof. Dan Luo,</b> Cornell University, USA
<b>Jun. 16<sup>th</sup></b>		<b>Program</b>
<b>08:30-10:00</b>		<b>Plenary Lectures      Chair: Prof. Yoshihito Osada</b>
<b>08:30-09:00</b>		PL 5: Self-growing hydrogels by repetitive mechanical training <b>Prof. Jian Ping Gong,</b> Hokkaido University, Japan
<b>09:00-09:30</b>		PL 6: Photo-reactive polymers for medical applications <b>Prof. Yoshihiro Ito,</b> RIKEN, Japan
<b>09:30-10:00</b>		PL 7: Mechanical stability of fiber networks <b>Prof. Miklos Zrinyi</b> Semmelweis University, Hungary



**Oral Sessions:****Section 1: Hydrogels, Jun. 15<sup>th</sup> 11:30-18:25 & Jun. 16<sup>th</sup> 10:30-17:05****Location: Lecture Hall**

Time		Oral lecture
<b>Jun. 15<sup>th</sup> 11:30-12:05 Chairs: Liming Bian, Xiong Lu</b>		
11:30-11:50	IL 1-1	Polyampholyte hydrogels with pH modulated shape memory and spontaneous actuation <b>Zhen Tong</b> South China University of Technology
11:50-12:05	OL 1-1	Super-elastic and multifunctional polymer hydrogel strengthened by low-content cement-released nanoparticles <b>Xiao Xu Liang</b> University of Macau
<b>Jun. 15<sup>th</sup> 13:30-15:05 Chairs: Zhen Tong, Dan Luo</b>		
13:30-13:50	IL 1-2	Hydrogels with ultra-dynamic network enhance mechanosensing-dependent activities of encapsulated stem cells <b>Liming Bian</b> Chinese University of Hong Kong
13:50-14:05	OL 1-2	OSA-AM hydrogel with high-strength and faster self-healing property from sodium alginate <b>Ya Ping Li</b> Hainan University
14:05-14:20	OL 1-3	High strength globular protein hydrogels <b>Qiang Chen</b> Henan Polytechnic University
14:20-14:35	OL 1-4	Multiple functions of high performance hydrogels enhancement by hydrogen bond <b>Xue Feng Li</b> Hubei University of Technology
14:35-14:50	OL 1-5	Predictions of thermo-mechanical properties of cross-linked polyacrylamide hydrogels using molecular simulations <b>Meng An</b> Shaanxi University of Science & Technology
14:50-15:05	OL 1-6	Solvent responsive ultra-strong shape memory gels based on hydrophobic association with fantasy applications <b>Tao Wang</b> South China University of Technology

Jun. 15 <sup>th</sup> 15:35-18:25 Chairs: Takamasa Sakai, Bao Lin Guo		
15:35-15:55	IL 1-3	Mussel inspired cell/tissue adhesive hydrogels with multi-functions <b>Xiong Lu</b> Southwest Jiaotong University
15:55-16:10	OL 1-7	Electroactive hydrogels: synthesis, characterization and application <b>Zhi Jun Shi</b> Huazhong University of Science and Technology
16:10-16:25	OL 1-8	Highly-tough single-network polysaccharide hydrogel <b>Chao Xi Wu</b> Jinan University
16:25-16:40	OL 1-9	Molecular engineering of metal-coordination interactions for strong, tough and fast-recovery hydrogels <b>Yi Cao</b> Nanjing University
16:40-16:55	OL 1-10	Injectable hydrogel formed by metal–ligand coordination assembly as biomaterials <b>Li Yang Shi</b> Hunan University
16:55-17:10	OL 1-11	Fabrication of chitosan functionalized graphene oxide-embedded nanocomposite hydrogels with enhanced mechanical properties <b>Si Jun Liu</b> Shanghai Jiao Tong University
17:10-17:25	OL 1-12	Freezing-Tolerant gelatin organohydrogels with high mechanical performances, thermoplasticity, and adhesivity <b>Zhi Hui Qin</b> Tianjin University
17:25-17:40	OL 1-13	Electrochemical analysis of bovine serum albumin imprinting CaAlg based composite hydrogel sensor <b>Meng Qi</b> Tianjin Polytechnic University
17:40-17:55	From Wiley	Introduction of Wiley <b>Yan Li</b> Wiley
17:55-18:10	From	Release of industrialization demands from Guojia New Materials Co. Ltd
18:10-18:25	sponsors	Introduction of Hefei Puliang Technology Co. Ltd.
Jun. 16 <sup>th</sup> 10:30-12:10 Chairs: Xu-Ming Xie, Chuan Liang Feng		
10:30-10:50	IL 1-4	Underwater microphones: electric double layers at the electrode-gel Interface <b>Li Tan</b> University of Nebraska-Lincoln

<b>10:50-11:10</b>	IL 1-5	Bioinspired nucleobase-driven adhesive hydrogels with excellent underwater adhesion <b>Guang Hui Gao</b> Changchun University of Technology
<b>11:10-11:25</b>	OL 1-14	Ultrastiff and tough hydrogels with dense and robust hydrogen bond complexes <b>Zi Liang Wu</b> Zhejiang University
<b>11:25-11:40</b>	OL 1-15	Anisotropic all-cellulose 3D wrinkled hydrogels with programmable patterns for cells alignment <b>Dong Dong Ye</b> Wuyi University
<b>11:40-11:55</b>	OL 1-16	An injectable self-assembling collagen-gold hybrid hydrogel for combinatorial antitumor photothermal/photodynamic therapy <b>Ti Feng Jiao</b> Yanshan University
<b>11:55-12:10</b>	OL 1-17	PAM/CaAlg/CaSiO <sub>3</sub> @SiO <sub>2</sub> composite hydrogel with high strength, good transparency and low swelling under physiological environment <b>Kong Yin Zhao</b> Tianjin Polytechnic University
<b>Jun. 16<sup>th</sup> 13:30-14:55 Chairs: Jian Xu, Li Tan</b>		
<b>13:30-13:50</b>	IL 1-5	Creating super tough hydrogels based on multi-bond network (MBN) strategy <b>Xu-Ming Xie</b> Tsinghua University
<b>13:50-14:10</b>	IL 1-6	Thermo-responsive toughening by crack bifurcation in isochoric gels <b>Alba Marcellan,</b> Sorbonne University, ESPCI Paris, France
<b>14:10-14:25</b>	OL 1-18	Multicolor fluorescent polymeric hydrogels: fabrication and sensing/actuating applications <b>Wei Lu</b> Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences
<b>14:25-14:40</b>	OL 1-19	Mechano-responsive, tough and antibacterial zwitterionic hydrogels with controllable drug release for wound healing <b>Rong Wang</b> Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences
<b>14:40-14:55</b>	OL 1-20	Shape memory and injectable hydrogel via the hierarchical physical crosslinks: insights into synergistic effect of block copolymer and hydrogen bonds <b>Jing Chen</b> Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences

Jun. 16 <sup>th</sup> 15:25-17:05 Chairs : Miklos Zrinyi, Guang Hui Gao		
15:25-15:45	IL 1-7	Bioinspired chiral supramolecular hydrogels <b>Chuan Liang Feng</b> Shanghai Jiaotong University
15:45-16:05	IL 1-8	Multifunctional hydrogels for rapid hemostasis and tissue repair <b>Bao Lin Guo</b> Xi'an Jiaotong University
16:05-16:20	OL 1-21	Natural triterpenoid-tailored phosphate: in situ reduction of heavy metals spontaneously to generate electrochemical hybrid gels <b>Yu Xia Gao</b> China Agricultural University
16:20-16:35	OL 1-22	High-strength and self-healing hydrogel based on carboxymethylcellulose <b>Nan Li</b> Qufu Normal University
16:35-16:50	OL 1-23	Ultrastiff and tough supramolecular hydrogels with a dense and robust hydrogen bond network <b>Yan Jie Wang</b> Tianjin Polytechnic University
16:50-17:05	OL 1-24	Alginate-based hydrogel microcapsules for immobilized biocatalysis <b>Xiu Dong Liu</b> Dalian University

## Section 2,3,4: Org-gel, Aerogel and Porous Material and Hybrid Gel Material, Jun. 15<sup>th</sup> 11:30-17:45 & Jun. 16<sup>th</sup> 10:30-12:10

**Location: Meeting room R1**

Time		Oral lecture
<b>Jun. 15<sup>th</sup> 11:30-12:05 Chairs: Tetsuharu Narita, Zi Liang Wu</b>		
11:30-11:50	IL 2-1	Highly plasticized PVC gel with smart functions electrical, optical, mechanical <b>Toshihiro Hirai</b> Shinshu University
11:50-12:05	OL 2-1	Natural triterpene-tailored supramolecular gels: chiral transfer and amplification <b>Jun Hu</b> Beijing University of Chemical Technology
<b>Jun. 15<sup>th</sup> 13:30-15:05 Chairs: Toshihiro Hirai, Li Dong Zhang</b>		
13:30-13:50	IL 2-2	High frequency dynamics of polymer solutions and gels studied by micro rheology <b>Tetsuharu Narita</b> ESPCI Paris – CNRS – Sorbonne Université
13:50-14:05	OL 2-2	The “Morse Code” between solvent polarity and morphology flexibility <b>Si Chen</b> Zhejiang University of Technology
14:05-14:20	OL 2-3	Hierarchical macro porous networks construct by supramolecular chiral self-assembly of POSS core dendrimers <b>Hui Wen He</b> Zhejiang University of Technology
14:20-14:35	OL 3-1	Nanocellulose based bio-scaffold routed for biomedical applications <b>Arun Saini</b> Shaanxi University of Science and Technology
14:35-14:50	OL 3-2	Controlled self-assembly of MXene-polymer at liquid/liquid interfaces <b>Shao Wei Shi</b> Beijing University of Chemical Technology
14:50-15:05	OL 3-3	“Stiff-Soft” binary synergistic aerogels with super flexibility and high thermal insulation performance <b>Jun Yan Zhang</b> Donghua University
<b>Jun. 15<sup>th</sup> 15:35-17:45 Chairs: Hideyuki Mitomo, Xue Feng Li</b>		
15:35-15:55	IL 4-1	Anisotropic composite gels from liquid crystalline nanosheets

		<b>Nobuyoshi Miyamoto</b> Fukuoka Institute of Technology
<b>15:55-16:15</b>	IL 4-2	Biomimetic shape-transformation of composite hydrogel films <b>Zhihong Nie</b> Fudan University
<b>16:15-16:30</b>	OL 3-4	Highly porous polymer aerogel film-based triboelectric nanogenerators <b>Li Ming Fang</b> South China University of Technology
<b>16:30-16:45</b>	OL 3-5	Graphene-crosslinked CNT aerogel for the preparation of elastic porous polymer composites <b>Fei Zhang</b> Tianjin University
<b>16:45-17:00</b>	OL 3-6	The organic acids assisted sol-gel method for preparing functional aerogels <b>Xiao Qing Wang</b> Zhejiang University
<b>17:00-17:15</b>	OL 3-7	Mesoporous silica nanoparticles as nanocarriers for controlled pesticide release <b>Li Dong Cao</b> The Institute of Plant Protection, Chinese Academy of Agricultural Sciences
<b>17:15-17:30</b>	OL 4-1	Achieving fracture-resistant composite hydrogels by large energy-dissipative process zones <b>Yi Wan Huang</b> Hubei University of Technology
<b>17:30-17:45</b>	OL 4-2	Bio-inspired hydrogel/organogel materials with special adhesion <b>Xi Yao</b> Henan University
<b>Jun. 16<sup>th</sup> 10:30-12:10 Chairs: Nobuyoshi Miyamoto, Jian Hu</b>		
<b>10:30-10:50</b>	IL 4-3	Active gap control of gold nanodots using gels in nanoscale <b>Hideyuki Mitomo</b> Hokkaido University
<b>10:50-11:10</b>	IL 4-4	Anomalous expansion of clusters in percolation process in diluted system <b>Takamasa Sakai</b> The University of Tokyo
<b>11:10-11:25</b>	OL 4-3	Mussel-inspired cellulose nanocomposite tough hydrogels with synergistic self-healing, adhesive, and strain-sensitive properties <b>Chang You Shao</b> Beijing Forestry University
<b>11:25-11:40</b>	OL 4-4	Hollow hydrogel networks for temperature-controlled water fluidics <b>Li Dong Zhang</b> East China Normal University
<b>11:40-11:55</b>	OL 4-5	Deswelling behavior of pNIPAM composite gel consisting of nanosheet

		liquid crystal whose orientation is controlled by asymmetric electric field <b>Takumi Inadomi</b> Graduate School of Fukuoka Institute of Technology
<b>11:55-12:10</b>	OL 4-6	Strong and tough hydrogels with highly ordered and controllable microstructure <b>Jian Hu</b> Xi'an Jiaotong University

**Section 5: Soft Matter and Smart Materials, Jun. 15<sup>th</sup> 11:30-17:30 &  
Jun. 16<sup>th</sup> 10:30-12:00**

**Location: Meeting room R2**

Time		Oral lecture
<b>Jun. 15<sup>th</sup> 11:30-12:05 Chairs: Ryuzo Kawamura, Jun Fu</b>		
11:30-11:50	IL 5-1	Ion-to-Ion amplification through an open junction ionic diode <b>Jeong-Yun Sun</b> Seoul National University
11:50-12:05	OL 5-1	Structural constructions and multi-functions of biodegradable polyurethanes <b>Feng Luo</b> Sichuan University
<b>Jun. 15<sup>th</sup> 13:30-14:55 Chairs: Akira Kakugo, Tao Lin Sun</b>		
13:30-13:50	IL 5-2	Active network of motor proteins as artificial dynamic microenvironment for cells <b>Ryuzo Kawamura</b> Saitama University
13:50-14:10	IL 5-3	Functional modification, controllable fabrication and biomedical applications of natural polymer hydrogel <b>Guang Yang</b> Huazhong University of Science and Technology
14:10-14:25	OL 5-2	Inducing molecular isomerization assisted by water <b>Dong Sheng Wang</b> University of Electronic Science and Technology of China
14:25-14:40	OL 5-3	Rational design of UCST polymers as functional materials guided by a thermodynamic map <b>Chuan Zhuang Zhao</b> Ningbo University
14:40-14:55	OL 5-4	Biocompatible photoluminescent silk fibers with stability and durability <b>Yuan He</b> Xi'an Jiaotong University
<b>Jun. 15<sup>th</sup> 15:35-17:30 Chairs: Jeong-Yun Sun, Guang Yang</b>		
15:35-15:55	IL 5-4	Ultrastretchable stress and strain sensors based on tough conductive hydrogels <b>Jun Fu</b> Ningbo Institute of Materials Technology and Engineering



15:55-16:15	IL 5-5	Instabilities in soft materials: from gels to metamaterials <b>Jinxiong Zhou</b> Xi'an Jiaotong University
16:15-16:30	OL 5-5	From shear-thickening gel to multifunctional anti-impact body armor <b>Shou Hu Xuan</b> Institute of flexible electronic technology of Tsinghua, Zhejiang
16:30-16:45	OL 5-6	A self-healing hydrogel with pressure sensitive photoluminescence for remote force measurement and healing assessment <b>Wei Jun Li</b> China University of Petroleum (Beijing)
16:45-17:00	OL 5-7	Controlled phase transitions of dipeptide-based gels <b>Jin Bo Fei</b> Institute of Chemistry Chinese Academy of Sciences
17:00-17:15	OL 5-8	Histidine-based supramolecular $\pi$ -gel: dynamic self-assembly and controlled switching of circularly polarized luminescence <b>Guanghui Ouyang</b> Institute of Chemistry Chinese Academy of Sciences
17:15-17:30	OL 5-9	Biomimetic anisotropic hydrogel actuators <b>Jia Wei Zhang</b> Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences
<b>Jun. 16<sup>th</sup> 10:30-12:00 Chairs: Liang-Yin Chu, Jinxiong Zhou</b>		
10:30-10:50	IL 5-6	Stimuli-Responsive Smart Membranes <b>Liang-Yin Chu</b> Sichuan University
10:50-11:10	IL 5-7	Construction of molecular swarm robot integrating biomolecular soft actuators and processors <b>Akira Kakugo</b> Hokkaido University
11:10-11:30	IL 5-8	Polysaccharide-based ionic hydrogel <b>Kun Yan Sui</b> Qingdao University
11:30-11:45	OL 5-10	Bioinspired soft sensing and actuating materials <b>Xue Min Du</b> Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences
11:45-12:00	OL 5-11	Hydrophobic hydrogels with fruit-like structure and functions <b>Hui Guo</b> Sun Yat-sen University

**Poster Section:**

No.	Presenter	Affiliation	Poster Title
P 1-1	Ya Chao Li	Donghua University	Investigation of photo-crosslinkable injectable poly(vinyl alcohol) hydrogel for cartilage repair
P 1-2	Li Zhang Chen	Fuzhou University	A highly stretchable conductive polymer hydrogel by freeze-thaw-shrink treatment for flexible electrodes
P 1-3	Bin Chu	Research Institute of Tsinghua University in Shenzhen Training Center	Peptide nanofiber hydrogels to vascularization in skin regeneration
P 1-4	Zi Yang Liu	Suzhou University	Anti-freezing Zwitterionic Poly(ionic liquid) hydrogel-based multimodal artificial skin
P 1-5	Chun Hui Luo	Beifang University of Nationalities	Synthesis and properties of a Tough and multifunctional hydrogel based on grape seed polymer
P 1-6	Wen Jing Ma	Southeast University	Physically cross-Linked hydrogel with toughness, high stretchability, biocompatibility, conductivity, and self-healability
P 1-7	Meng Meng Kang	Southeast University	Reverse Photochromic hydrogel with self-healing property for potential rewritable display application
P 1-8	Xiao Hui Ge	Guangxi University	CO <sub>2</sub> sensitive self-supporting cellulose hydrogel as food spoilage indicator
P 1-9	Gang Qin	Henan Polytechnic University	Flexible semi-IPN network gel polymer electrolyte for supercapacitor
P 1-10	Jia Yang	Henan Polytechnic University	All-in-one configured stretchable flexible supercapacitor with high strength, excellent self-recovery and self-healing performances
P 1-11	Qi Lin Wang	Henan Polytechnic University	Complex deformation of bilayer hydrogels based on shape memory hydrogel and elastic hydrogel
P 1-12	Shao Ping Lu	Henan Polytechnic University	Hybrid cross-linked natural protein hydrogels with high strength
P 1-13	Shu Rui Yang	South China University of Technology	Body-temperature responsive ultrafast shape memory hydrogel based on natural materials
P 1-14	Xu Fang	Jilin University	One-Step synthesis of healable weak-polyelectrolyte-based hydrogels with high mechanical strength, toughness, and excellent self-recovery
P 1-15	Bo Xu	Jiangnan University	Preparation and properties of nanocomposite hydrogels cross-linked by alumina nanoparticles
P 1-16	Ping Rao	Southern University of Science and Technology	Fast underwater adhesion based on a multi-scale design
P 1-17	Ying Li	Nanjing University of Information Science & Technology	A Highly stretchable, tough and fast self-healing hydrogel based on peptide-metal ion coordination
P 1-18	Lu Qin Hua	Ningbo University	Asymmetric interpenetrating UCST polymer network as multiple-responsive hydrogel actuator
P 1-19	Man Qing Xie	Ningbo University	A shape memory hydrogel with editable permanent shape based on orthogonal supramolecular interactions
P 1-20	Xing Dong Xu	Shandong University	Color-tunable fluorescent supramolecular metallohydrogels constructed by lanthanide (Eu/Tb)

			dependent coordination interaction
<b>P 1-21</b>	Xue Lian Wang	Shaanxi University of Science & Technology	Tough lignin bonded hydrogels with tunable mechanical properties
<b>P 1-22</b>	Chun Lin Liu	Shaanxi University of Science & Technology	Reinforcement of gelatin hydrogel by heat-induced phase separation
<b>P 1-23</b>	Yan Jie Wang	Shanghai Jiao Tong University	Dual physically cross-linked double network hydrogel with high toughness and self-healing capability
<b>P 1-24</b>	Liang Chen	Shihezi University	Control of ice crystal growth and its effect on porous structure of chitosan cryogels
<b>P 1-25</b>	Yan Jun Wang	Sichuan University	N-situ forming thermosensitive polyurethanes-based hydrogel crosslinked by Diels-Alder reaction for 3D cell culture
<b>P 1-26</b>	Xu Dong He	Sichuan Normal University	Shape memory hydrogel based on sodium alginate crosslinked by double networks
<b>P 1-27</b>	Liang Hu	Suzhou University	Highly adhesive and stretchable photothermal hydrogels for preventing postoperative recurrence of cancer
<b>P 1-28</b>	Ze Peng Deng	Tianjin Polytechnic University	Sulfonated MXene nanocomposite hydrogels for self-healing, adhesive and conductive properties
<b>P 1-29</b>	Xiao Juan Ren	Xi'an Shiyou University	Research on gel analyzer based on image processing
<b>P 1-30</b>	Rong Min Wang	Northwest Normal University	Preparation of keratin-based polymer hydrogel with double sensitivity for drug releasing
<b>P 1-31</b>	Ran Wang	Yanshan University	Facile preparation and enhanced stretchable performance of self-assembled polyelectrolytes-based composite hydrogels
<b>P 1-32</b>	Jing Zhang	Zhejiang University of Technology	Tough, antibacterial and antifouling double network hydrogels based on hybrid ionic-covalent crosslinking
<b>P 1-33</b>	Lin Jie Zhou	Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences	Double cross-linking the second network of DN hydrogel for tough sensitive strain and pressure sensors
<b>P 1-34</b>	Jiu Dong Xu	Changchun Institute of Applied Chemistry Chinese Academy of Sciences	Synthesis and swelling properties of superporous anionic hydrogel based polyvinyl alcohol-formaldehyde sponges
<b>P 1-35</b>	Kai Chen	China University of Mining and Technology	Biotribology behavior of UHMWPE grafted with PVA/HA composite hydrogel as artificial cartilage materials
<b>P 1-36</b>	Hong Lei Guo	Sun Yat-sen University	Internal damage evolution in double-network hydrogels studied by microelectrode technique
<b>P 1-37</b>	Si Yu Zheng	Zhejiang University	Programmed deformations of 3D printed tough physical hydrogels with metal-coordination complexes
<b>P 1-38</b>	Chen Yu Li	Zhejiang University	Programmed multi-stable configurations of composite hydrogels with in-plane and through-thickness gradients
<b>P 1-39</b>	Ao Kai Zhang	Changzhou Vocational Institute of Light Industry	Mechanical Property of Polyelectrolyte Networks
<b>P 1-40</b>	Zhang Jing Wen	Shaanxi University of Technology	Dual-Physical Cross-Linked Tough and Photoluminescent Hydrogels with Good Biocompatibility and Antibacterial Activity

P 2-1	Zhi Xing Zhang	Tianjin University	Adhesive, self-healable, and transparent micro-crosslinked organogels as flexible sensor
P 2-2	Hong Wei Zhou	Xi'an Technological University	Highly stretchable, electrically conductive and temperature tolerant ionogels for flexible sensors
P 2-3	Xue Feng Zhu	Institute of Chemistry Chinese Academy of Sciences	A shorter alkyl chain dominated self-assembly of homochiral nanotubes in heterochiral lipid organogels
P 2-4	Juan Li	Central South University	Anti-freezing, non-drying tough organohydrogel with good flexibility and conductivity
P2-5	Kai Qiang Liu	Shaanxi Normal University	Organic or inorganic crystallization in functional molecular gels
P 3-1	Chen Chen Dai	Northeast Forestry University	Oil-water separation, lightweight, flexible and thermally-insulating aerogels derived from wood nanofibrillated cellulose
P 3-2	Xie Zheng	Donghua University	Preparation and characterization of ultra-fast temperature-responsive nanofibrous hydrogel
P 3-3	Xue Sun	Fuzhou University	Cu/Cu <sub>2</sub> O/CuO nanoparticles loaded on porous carbon from a novel hypercrosslinked porous polymer for catalytic reduction of 4-Nitrophenol
P 3-4	Na Zhao	Beijing University	synthesis of leafy-shape TiO <sub>2</sub> -C nanosheets by alkaline treatment of Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> MXene
P 3-5	Xing Xiao Li	Beijing University	Removal of perrhenate using radiation synthesized hierarchically macro/mesoporous silica-graft-quaternary phosphonium
P 3-6	Yu Feng He	Northwest Normal University	Preparation of feather keratin based polymer spongy aerogel for wound dressings
P 3-7	Rong Min Wang	Northwest Normal University	Zein-based magnetic polymer aerogel as oil absorbing agent
P 3-8	Wang Liao	Xihua University	Microstructure and mechanical properties of aerogels prepared by freeze casting
P 4-1	Lei Meng	Beijing Forestry University	Ionically cross-linked silk microfibrils/alginate tough composite hydrogels with hierarchical structures
P 4-2	Lin Wang	Fujian Agriculture and Forestry University	Effects of zein on the formation of konjac glucomannan electrospun nanofibres for controlled release of curcumin
P 4-3	Yu Feng He	Northwest Normal University	Zein-based composite film with pH-sensitivity for drug controlling release
P 4-4	Bo Tian Li	China University of Petroleum (Beijing)	Synthesis of self-supporting composite nanowires based on 3D-network metallogel template
P 4-5	Dian Dian Dong	Shaanxi University of Technology	Flexible and Lightweight Microcellular RGO@Pebax Composites with Synergistic 3D Conductive Channels and Microcracks for Piezoresistive Sensors
P 5-1	Yong Yuan Ren	Suzhou University	Freeze and heat-resistant, nonflammable and highly robust ionic liquid-based click-ionogels
P 5-2	Yang Yang Gao	Beijing University of Chemical Technology	Molecular dynamics simulation of rupture mechanism in nanofiller filled polymer nanocomposites
P 5-3	Lan Lan Liu	Institute of flexible electronic technology of Tsinghua, Zhejiang	Research and application of implantable blood detection device based on shape memory polymer
P 5-4	Bai Cheng Zhang	Institute of flexible electronic technology of Tsinghua, Zhejiang	Stretchable resistance sensor based on liquid metal direct writing method
P 5-5	Xiao Xia Le	Ningbo Institute of Materials Technology &	Ionoprinting controlled information storage of fluorescent hydrogel for hierarchical and

		Engineering, Chinese Academy of Sciences	multidimensional decryption
<b>P 5-6</b>	Hai Fei Wang	Shenzhen University	Multifunctional wearable sensors based on repairable and recyclable carbon nanotubes conductive hydrogel
<b>P5-7</b>	Jakia Jannat Keya	Hokkaido University	Autonomous swarming of biomolecular robots utilizing the sequential signaling of DNA

## Biography of Plenary Speakers:

### Prof. Yoshihito Osada



Professor Yoshihito Osada, an associated member of Japan Academy of Sciences, is one of the pioneer and leader in the science of polymer gels. Already as early as 1975, he developed a chemomechanical gels and later developed it to Artificial Muscle Systems

(AMS) using various functional gels such as Shape Memory Gel, Double Network (DN) Gel and extremely Low Frictional Gel (LFG). His current interests focus to highly-hierarchical protein gels with “emergent” muscle functions, nano-patterning of the gel and electro-conductive gels. Prof. Osada published 300 referred original papers, many monographs and reviews.

He is the Fellow of The Chemical Society of Japan, Honorary Doctor of Polytechnic University of Caltagna, Spain and Visiting Professor of various universities. He is the winner of several awards from The Chemical Society of Japan, The Society of Polymer Science, Japan and others. He played important roles for the science community as a vice-president of The Society of Polymer Science, Japan and as a various committee members of the government. Prof. Osada obtained his Bachelor’s degree in chemistry from Waseda University, Japan in 1966 and received his Ph.D in polymer science from Moscow State University under supervision of Prof. V.A. Kabanov in 1971. He was an associate professor in 1973, professor in 1982 at Ibaraki University. He was invited as a professor from Hokkaido University, Sapporo in 1992, served as a Dean of Graduate School of Science, and then as the Vice President of Hokkaido University till 2007. He was invited from RIKEN in 2007, served as a Deputy Director of RIKEN Advanced Science Institute, Group Director and Unit Leader till 2012. He is currently Senior Visiting Scientist at RIKEN and a professor-Emeritus, Hokkaido University.

## Prof. Lina Zhang



Lina Zhang (female) is an Academician of Chinese Academy of Sciences, and Professor at Wuhan University, She was voted academician of Chinese Academy of Sciences in 2011, and Fellow of the Royal Society of Chemistry in 2014. She serves as an Associate Editor for ACS Sustainable Chemistry & Engineering as well as the Editorial board members for journals of Cellulose, Bioactive Carbohydrates and Dietary Fibre, and Journal of Applied Polymer Science etc. She established the Natural Polymers and Polymer Physics group in 1993. Since then, she has been devoting herself to the fundamental research and application on natural polymers. Her research interests include “green” conversions of natural polymers, chain conformation of polymer in solution, fabrication and applications of environmentally friendly materials, relationship of structure to properties of nanomaterials. Professor Zhang pioneered the development of low temperature technologies to dissolve the most intransigent macromolecules such as cellulose, chitin and polyaniline (PANI) in alkali/urea aqueous solvents with cooling that are non-toxic, low-cost and “green”. A new mechanism of the polymer dissolution at low-temperature through hydrogen-bonding self-assembly among the macromolecules and solvent molecules has been proposed. She has proved these low temperature dissolving technologies and theories have certain universality. Moreover, a series of novel functional materials have been constructed directly from the cellulose solution, chitin solution, chitosan solution or PANI/cellulose solution via "green" conversion methods, and their relationship of structure to properties was revealed, demonstrating their potential applications in biomedical materials, energy storage, sewage treatment and textile manufacturing. She has published more than 600 papers in the international journals, and her work has been cited over 18000 cited times. She is also one of the authors of 16 books and over 100 patents. Because of her profound research achievements and illuminating scientific discoveries, she became the first Chinese scientist received Anselm Payne Award of American Chemical Society in 2011. The “Chemistry World” of Royal Society of Chemistry made an exclusive interview for her as the vanguard of China’s green chemistry in 2016. She has been also awarded Second-place National Nature Science Prize of China (2012) etc.

## Prof. Yu Fang



Fang Yu, born in September 1956, Xi'an, China, got his Ph.D. degree in Polymer Physics Chemistry, Lancaster University, UK.

He now serves as Executive Director of the Chinese Chemical Society, Honorary Chairman of the Shaanxi Chemical Society, Deputy Director of the International Committee of the Chinese Chemical Society, Deputy Director of the Applied Chemistry Committee, editorial board member of *Langmuir*, *Carbohydrate Polymers*,

*Journal of Physical Chemistry*, *Imaging Science and Photochemistry Commission*.

He is also a member of the National Textbook Committee, deputy director of the National Basic Education Experts Working Committee, deputy director of the Chemistry Major Teaching Steering Committee of the Ministry of Education, the head of the National High School Chemistry Curriculum Standards Revision Group. The deputy director of National Key Laboratories of Synthetic and Natural Functional Molecular Chemistry lab, Northwestern University and Applied Surface and Colloid Chemistry lab, Shaanxi Normal University. Director of the Academic Committee of the Shaanxi Key Laboratories of Polymer Physics and Chemistry lab, Northwestern Polytechnical University, and Phytochemistry lab, Baoji University of Arts and Sciences. He is also the member of the Academic Committee of Jiangnan Graphene Research Institute. He has won the title of National Excellent Teacher, Five-One Labor Medal, National Advanced Worker and National Teaching Master.

Professor Fang Yu has been engaged in the research of fluorescent sensitive film materials and molecular gels for a long time. He has presided over more than 30 projects such as 863 goal orientation, major scientific instruments, and national defense 973 projects. He has published more than 200 papers and has been authorized with 28 invention patents. As the program chair researcher, he won 2 first prizes and 1 second prize in Shaanxi Province. Among all his students, one won the National Top 100 Paper Award, four won the Shaanxi Excellent Bo paper Award, and one was selected for the National Bo Xin Project. He is also the chair researcher of an industrial program: The concealed explosive gas phase detector and the drug gas phase detector, which was already put into production.



## **Prof. Dan Luo**



Dan Luo is a Professor in the department of Biological and Environmental Engineering at Cornell University. He is currently also a faculty member in Nanobiotechnology Center, Cornell Center for Materials Research, Biomedical Engineering and New Life Science Initiatives at Cornell. Dr. Luo obtained his BS degree from the University of Science and Technology of China and his PhD in 1997 from The Ohio State University in Molecular, Cellular, and Developmental Biology. After a postdoctoral training in the School of Chemical Engineering at Cornell, he joined Cornell faculty in 2001.

Dr. Luo currently is an Associate Editor for "Journal of Biomedical Nanotechnology", Editorial Board Member for "Nanomedicine" and also for "Nano Today". Dr. Luo was awarded National Science Foundation's CAREER award in 2006 and Cornell Provost's Award for Distinguished Scholarship in 2007. Dr. Luo was also a recipient of New York State Foundation for Science, Technology and Innovation (NYSTAR) Technology Transfer Incentive Program Award (2005) and NYSTAR Faculty Development Program Award (2007). More recently in 2008, Dr. Luo was awarded the SUNY Chancellor's Award for Excellence in Scholarship and Creative Activities.

Dr. Luo's research interests have focused on using DNA as both a genetic and a generic material for real world applications including biosensing, drug discovery, drug delivery, alternative energy, photonic-electronic devices, etc. Since becoming a faculty member at Cornell in 2001, Dr. Luo has given more than 100 invited talks worldwide.

## **Prof. Jian Ping Gong**



Jian Ping Gong is a distinguished professor of Hokkaido University, Japan. She graduated from Zhejiang University, China, and received Doctor of Engineering at Tokyo Institute of Technology. She joined the faculty at Hokkaido University in 1993. She is focusing on development of novel hydrogels with high mechanical performances, including high strength and toughness, self-healing, shock-absorbing, low surface friction, under water adhesion and bonding, and the applications of the hydrogels as bio-tissues, including cartilages. She received several awards including Wiley Polymer Science Award (2001), The Award of the Society of Polymer Science, Japan (2006), The Chemical Society of Japan Award (2011), and DSM Materials Sciences Award (2014). She published 361 papers that have been cited for more than 14558 times with h-index 56 (ISI Web of Science).

## **Prof. Yoshihiro Ito**



Yoshihiro Ito received bachelor's, master's and doctoral degrees from Kyoto University, Japan in 1981, 1983 and 1987. He was an associate professor at Kyoto University in 1997, and a visiting scholar at the University of California from 1992 to 1993. He was a professor at Tokushima University in 1999. He was a research leader at the Kanagawa Institute of Technology in 2002. From 2004, he serves as chief scientist and laboratory director at the Nanomedical Engineering Laboratory of the Institute of Physical Chemistry. Professor Yoshihiro Ito's main research interests include biomaterials, regenerative medicine engineering, bio-fixation technology, functional polymers, etc., and has published many articles in journals, such as *Biomaterials*. Now he also serves in Editorial board of many internationally journals such as *Journal of Biochemistry* and *Biomacromolecules*.

## **Prof. Miklós Zrínyi**



Miklos Zrinyi received his MS degree in chemistry in Loránd Eötvös University, Budapest, Hungary in 1974. Then he joined to the Department of Colloid Science at the same university as Post Graduate Student (1974-1976). He obtained PhD in 1977 and became a Fellow till 1980. He was First Assistant between 1981-1987 and promoted to Associate Professor between 1988-1992 in the Department of Colloid Science. In 1993 he moved to Department of Physical Chemistry in Budapest University of Technology and Economics as full professor. Between 1994-2007 he was the Head of the Department of Physical Chemistry. Between 2004-2008 he was appointed as Vice-Rector of Budapest University of Technology and Economics. In 2008 he moved to Semmelweis (medical) University. Between 2008 and 2011 he was a professor at Faculty of Pharmacy and in 2011 he moved to Department of Biophysics and Radiation Biology of the same university. In 2011 he founded the Laboratory of and heads it. He published 4 books (in Hungarian), 11 chapters in various books (in English, Japanese and Chinese) more than 270 papers and articles in scientific journals, 6 patents. He has won several awards including Winner of the National Chemical Competition for High School Students in 1996, Alexander von Humboldt Fellowship (1991), Albert Szent-Györgyi Award (1999), Canon Award (2000), Jedlik Award (2003). In 2007 he was elected as Corresponding Member of Hungarian Academy of Sciences, and in 2012 he became as Ordinary Member of Hungarian Academy of Sciences. Current research interests include colloid science, physical chemistry, biophysics, stimuli responsive gels and physics of biomaterials.

## Introduction of the Main Sponsor:



珠海国佳新材股份有限公司 (股票代码: 833295) 成立于 2003 年, 集团坐落于广东省珠海经济特区——珠海市金湾区三灶科技工业园, 是我国第一家专业从事高分子凝胶核心材料及凝胶芯制品研发、生产与销售的国家级高新技术企业。其前身是武汉海格尔科技有限公司, 成立于 1999 年, 是国内第一款退热贴——兵兵退热贴的生产商。

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## Contact persons:

### 联系人及电话:

Yongmei Chen (陈咏梅) TEL: +86-13227788790

Bin Lyu (吕斌) TEL: +86-029-86168235, +86-13991372196

Huijie Zhang (张慧洁) TEL: +86-15710443286