

APAM 2019

**The Congress of Asia Pacific Academy of
Materials 2019**

Congress Program

Guangzhou, China

November 15-18, 2019

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Hosted by

Asia Pacific Academy of Materials (APAM)

Organized by

Institute of Metal Research (IMR), Chinese Academy of Sciences
(CAS)

Guangzhou Development District

Key Laboratory of Nuclear Materials and Safety Assessment, IMR,
CAS

National Engineering Center for Corrosion Control, IMR, CAS

Sponsored by

Guangdong Science and Technology Department

Guangzhou Municipal Science and Technology Bureau

Guangzhou Global Star Investment Ltd.

The Congress of Asia Pacific Academy of Materials 2019

Chair's Welcome

On behalf of the Congress Organizing Committee, it is our great pleasure to welcome you to Guangzhou and to the Congress of Asia Pacific Academy of Materials 2019, hosted by Asia Pacific Academy of Materials (APAM).

APAM, in close cooperation with concerned national and international bodies, and with governmental agencies and private institutions, seek to increase awareness and expertise in scientific and technical knowledge for sustainable development and use of materials, to promote international collaboration in scientific research for academic and industrialization among the member countries and regions, and to promote the free exchange of knowledge, healthy discussions and cooperation among all members. APAM held several conferences and seminars in various countries and regions in last 27 years. From this year, APAM Congress will be held biannually.

The objectives of this congress are to exchange technical information, operational experiences, and latest research findings among engineers and researchers of utilities, vendors, research institutes and universities and to enhance the international cooperation in the fields of materials.

We sincerely hope you enjoy your stay in Guangzhou and enjoy the congress.

En-Hou Han

Chairman, the Congress Organizing Committee
President, Asian Pacific Academy of Materials (APAM)

The Congress of Asia Pacific Academy of Materials 2019

Chairman: En-Hou Han

Advisory Committee

Yiyi Li, Lian Zhou, Hengqiang Ye, Zhenxi Wang, Boyun Huang, Yong Gan, Hailing Tu, Kesong Zhou, Yafang Han

Academic Committee

Wei Ke, Qunji Xue, Yicheng Wu, Desheng Jiang, Yu Zhou, Benzong Tang, Wei Huang, Yanrong Li, Xigao Jian, Yi Xie, Yingjun Wang, Wei Li, Xiping Mao, Feng Wu, Fusheng Pan, Lianmeng Zhang, Ji Zhou, Xiaowei Huang

Organizing Committee

B.V.R Chowdari, Hideomi Koinuma, Wei-Fang Su, K. Byrappa, Haitao Wang, Hui-Liang Hwang, Albert Chin, Tserenjav Erdenebat, Chennupati Jagadish, Suk-Joong L. Kang, Yoshiyuki Kawazoe, Pulat K. Khabibullaev, Stephen Kim, Marina Kosinova, H.S. Kwok, Krishan Lal, Mikhail Reznichenko, O.N. Srivastava, M. Sumiya, James Stanislaus Williams, Ya Fei Zhang

Short History of APAM

Idea of Scientific Society oriented on problems of promotion of close cooperation in the Asia-Pacific region in field of advanced materials was repeatedly discussed for many years.

In 1991 Initiative group consisting of representatives of different countries of the region met in Novosibirsk, hosted by Institute of Inorganic Chemistry of Siberian Branch of the USSR Academy of Sciences. After this two more meetings of the Initiative group as well as intensive communications between members of the group took place. As the results Concept and Constitution of Asia-Pacific Society for Advanced Materials (APSAM) were prepared for the constituent meeting. Initiative group has acted as a first nominating committee and prepared a list of candidates for election by the Constituent meeting.

The APSAM established formally in Shanghai, April 26-30, 1992. Prof. J.I. Nishizawa was elected as the first president of APSAM. Then, almost one meeting each year were organized.

At the General Assembly held in December 1996 in Bangalore (India) Prof. C.N.R. Rao has made a suggestion to transform the Society (APSAM) into different form – regional material academy. This suggestion was discussed at the next meeting of APSAM hold in Shenyang (China) in June 22-26, 1997 and the society was formally transformed into Asia Pacific Academy of Materials - APAM. Prof. C.N.R. Rao was elected as president of APAM. The constituent APAM meeting among other things recommended in addition to General assemblies and science conferences to organize topical seminars with programs of special interest to the organizing country. The academy followed this recommendation and a big number of seminars and conferences took place.

APAM Organization

The organization of APAM consists of president, 3 vice presidents, secretary general and regional officers.

President: En-Hou Han

Vice Presidents: B.V.R. Chowdari, Hideomi Koinuma, Wei-Fang Su

Secretary General: K. Byrappa

Immediate Past President: H.L. Hwang

Regional Officers

China: Ya Fei Zhang, En-Hou Han

Russia: Mikhail Reznichenko, Marina Kosinova

India: Krishan Lal, O.N. Srivastava

Japan: Hideomi Koinuma, M. Sumiya, Yoshiyuki Kawazoe

Korea: Stephen Kim, Suk-Joong L. Kang

Taiwan: Wei-Fang Su, Albert Chin

Singapore: B.V.R. Chowdari

Hong Kong: H.S. Kwok

Mongolia: Tserenjav Erdenebat

Uzbekistan: Pulat K. Khabibullaev

Australia: James Stanislaus Williams, Chennupati Jagadish

Turkmenistan: G. Mezilov

Mission

To promote international collaboration in scientific research for academic and industrialization among the member countries and regions. To promote the free exchange of knowledge, healthy discussions and co-operation among all members. To increase awareness and expertise in scientific and technical knowledge for suitable development and use of materials.

Member Countries & Regions of APAM

Australia	China
Hong Kong	India
Japan	Korea
Mongolia	Russia
Singapore	Taiwan
Turkmenistan	Uzbekistan

General Information

The Congress of Asia Pacific Academy of Materials 2019 will be held on November 15-18, 2019 in the Hilton Guangzhou Science City, 28 Ningcai Road, Science City, Guangzhou, China.

Preliminary Program

November 15, Registration

November 16, Opening Ceremony & Certificate Presentation
Ceremony for APAM Academicians & Plenary Session & APAM
General Assembly & Banquet

November 17-18, Parallel Sessions

Working Language

English is the working language. Presentations both in oral and poster sessions will be given in English.

Schedule & Venue at a glance

Date	Time	Activity	Venue
November 15, 2019 (Friday)	9:00-18:00	Registration	Hilton Lobby
	16:00-18:00	Colloquium: The Local Leaders with Invited Guests (Private Session, Invited only)	Guangzhou Science City Convention Center
	18:00-21:00	Welcome Reception	Sense Allday Dining, 1F
November 16, 2019 (Saturday)	8:30-9:40	Opening Ceremony & Certificate Presentation Ceremony for APAM Academicians	Jade Ballroom A, 1F
	9:40-10:10	Group Photo & Coffee Break	
	10:10-11:55	Plenary Lectures	Jade Ballroom A, 1F
	12:00-13:30	Buffet Lunch	Sense Allday Dining, 1F
	13:30-15:15	Plenary Lectures	Jade Ballroom A, 1F
	15:15-15:45	Coffee Break	
	15:45-17:30	Plenary Lectures	Jade Ballroom A, 1F
	17:30-18:30	APAM General Assembly	Gardenia, 1F
	18:30-20:30	Banquet	Jade Ballroom A, 1F
November 17, 2019 (Sunday)	8:30-10:00	Invited Lectures	
		Advanced Structural Materials I	Gardenia, 1F
		Advanced Function Materials I	Jade Ballroom B, 1F

Date	Time	Activity	Venue	
		Advanced Technology on Materials Characterization	Pearl Room 8, L1	
	10:00-10:30	Coffee Break		
	10:30-12:00	Invited Lectures		
		Advanced Structural Materials I	Gardenia, 1F	
		Advanced Function Materials I	Jade Ballroom B, 1F	
		Advanced Technology on Materials Characterization	Pearl Room 8, L1	
	12:00-13:30	Buffet Lunch	Sense Allday Dining, 1F	
	13:30-15:00	Invited Lectures		
		Advanced Structural Materials II	Gardenia, 1F	
		Advanced Function Materials II	Jade Ballroom B, 1F	
		Advanced Technology on Materials Preparation	Pearl Room 8, L1	
	15:00-15:30	Coffee Break & Poster		
	15:30-17:00	Invited Lectures		
		Advanced Structural Materials II	Gardenia, 1F	
		Advanced Function Materials II	Jade Ballroom B, 1F	
		Advanced Technology on Materials Preparation	Pearl Room 8, L1	
	18:00-21:00	Buffet Dinner	Sense Allday Dining, 1F	
	November 18,	9:00-10:20	Invited Lectures	

Date	Time	Activity	Venue
2019 (Monday)		Advanced Function Materials III	Jade Ballroom B, 1F
		Advanced Function Materials IV	Pearl Room 8, 1F
	10:20-10:40	Coffee Break	
	10:40-12:00	Invited Lectures	
		Advanced Function Materials III	Jade Ballroom B, 1F
		Advanced Function Materials IV	Pearl Room 8, L1
	12:00-13:30	Buffet Lunch	Sense Allday Dining, 1F

Congress Program

Friday, November 15 2019

Time	Project
10:00-20:00	Shuttle bus from airport to hotel at 2 hours intervals (Guangzhou Baiyun Airport)
9:00-18:00	Registration (Lobby of the Hilton Hotel, 28 Ningcai Road, Science City, Guangzhou, China)
16:00-18:00	Colloquium: The Local Leaders with Invited Guests (Private Session, Invited only) (Guangzhou Science City Convention Center)
18:00-21:00	Welcome Reception (Sense Allday Dining of the Hilton Hotel, 1F)

Congress Program

Saturday, November 16 2019

Time	Project	Host
8:00-17:00	Registration	/
8:30-8:40	Address by Local leader	En-Hou Han
8:40-8:50	Address by Prof. Yafang Han, President of IUMRS	
8:50-9:05	APAM Activities' Review, President of APAM	K. Byrappa
9:05-9:40	Certificate Presentation Ceremony for APAM Academicians	
9:40-10:10	Group Photo & Coffee Break	

Saturday, November 16 2019

Scientific Program (11.16)

Time	Topics	Speakers & Chairs	Page
Session 1-1: Plenary Lectures [10:10-11:55]		Chairs: Fusheng Pan, Xiaowei Huang	
Venue: Jade Ballroom A, 1F			
10:10-10:45	Conceptually New Luminescence Materials with AIE Characteristics	Benzhong Tang The Hong Kong University of Science and Technology	1
10:45-11:20	Nano and Amorphous Si-B-C-N System Ceramics and Their Matrix Composites Based on Mechanical Alloying Technique	Yu Zhou Harbin Institute of Technology	3
11:20-11:55	Merging of Metamaterials and Conventional Materials	Ji Zhou Tsinghua University	5
12:00-13:30	Buffet Lunch (Sense Allday Dining, 1F)		

Time	Topics	Speakers & Chairs	Page
Session 1-2: Plenary Lectures [13:30-15:15] Venue: Jade Ballroom A, 1F		Chairs: Lianmeng Zhang, Hejun Li	
13:30-14:05	Recent Advances in Flexible Optoelectronics	Wei Huang Northwestern Polytechnical University	7
14:05-14:40	A New Paradigm of Advanced Materials Research Driven by Smart Combinatorial Technology	Hideomi Koinuma National Institute for Materials Science	11
14:40-15:15	Ordered Mesoporous Carbon Nitrides and Their Multiple Applications	Ajayan Vinu The University of Newcastle	13
15:15-15:45	Coffee Break		

Time	Topics	Speakers & Chairs	Page
Session 1-3: Plenary Lectures [15:45-17:30] Venue: Jade Ballroom A, 1F		Chairs: Yi Xie, Wei Gao	
15:45-16:20	Grain Growth and Microstructural Evolution: An Enduring Subject of Materials Science and Engineering	Suk-Joong L. Kang Korea Advanced Institute of Science and Technology	15
16:20-16:55	Molecular Engineering of Direct Z-Scheme Multi-Functional Metal Oxides Heterostructures	K. Byrappa Adichunchanagiri University	17
16:55-17:30	Molecular Design, Synthesis and Processing of Nanomaterials for Applications in Solar Cell and Tissue Engineering	Wei-Fang Su Taiwan University	19
17:30-18:30	APAM General Assembly (Gardenia, 1F)	APAM Academicians	/
18:30-20:30	Banquet (Jade Ballroom A, 1F)		

Sunday, November 17 2019

Scientific Program (11.17)

Time	Topics	Speakers & Chairs	Page
Session 2-1: Advanced Structural Materials I [8:30-10:00]			
Chairs: Jianqiu Wang, Zhiguang Wang			
Venue: Gardenia, 1F			
8:30-9:00	(Invited Lecture) Microstructures and Mechanical Properties of CoCrFeMnNiV_x High Entropy Alloy Films	Chun-Hway Hsueh Taiwan University	21
9:00-9:30	(Invited Lecture) Characterization of Grain Size Refinement in Crack Initiation Region of High-Strength Alloys Subjected to Very-High-Cycle Fatigue	Youshi Hong Institute of Mechanics, Chinese Academy of Sciences	23
9:30-10:00	(Invited Lecture) Quantitative Electron Tomography with Applications to Studying Aluminum Alloys	Jianghua Chen Hunan University	25

Time	Topics	Speakers & Chairs	Page
10:00-10:30	Coffee Break		
Session 2-2: Advanced Structural Materials I [10:30-12:00]			
Chairs: Jianghua Chen, Youshi Hong			
Venue: Gardenia, 1F			
10:30-11:00	(Invited Lecture) New Insights into the Mechanism of Rare Earth in Steels	Dianzhong Li Institute of Metal Research, Chinese Academy of Sciences	27
11:00-11:30	(Invited Lecture) Surface Cold Work and Corrosion	Jianqiu Wang Institute of Metal Research, Chinese Academy of Sciences	29
11:30-12:00	(Invited Lecture) Research on Structural Materials for Lead-Based Fast Reactors	Zhiguang Wang Institute of Modern Physics, Chinese Academy of Sciences	31

Time	Topics	Speakers & Chairs	Page
12:00-13:30	Buffet Lunch (Sense Allday Dining, 1F)		
Session 3-1: Advanced Structural Materials II [13:30-14:50] Chairs: Cong Wang, Mingyue Sun Venue: Gardenia, 1F			
13:30-14:00	(Invited Lecture) Challenges in Integrity Management of Ageing Energy Pipelines	Wenyue Zheng University of Science and Technology Beijing	33
14:00-14:30	(Invited Lecture) Control of Solidification Microstructure of Metallic Materials by High Magnetic Fields	Qiang Wang Northeastern University	35
14:30-14:50	Design of Stable Nanostructures through Boundary Engineering	Xiaochun Liu Changsha University of Science & Technology	37
14:50-15:30	Coffee Break & Poster		

Time	Topics	Speakers & Chairs	Page
Session 3-2: Advanced Structural Materials II [15:30-17:00]			
Chairs: Wenyue Zheng, Qiang Wang			
Venue: Gardenia, 1F			
15:30-16:00	(Invited Lecture) A Control Forming Technique of the Large-Sized Magnesium Alloy Shell with Inner Ring Ribs	Zhimin Zhang North University of China	39
16:00-16:30	(Invited Lecture) A Fundamental Investigation on Welding Flux Tunability Geared towards High Heat Input Submerged Arc Welding for Shipbuilding Applications	Cong Wang Northeastern University	41
16:30-17:00	(Invited Lecture) A Novel Metal Processing Method: Additive Forging, from Concept to Practice	Mingyue Sun Institute of Metal Research, Chinese Academy of Sciences	43
18:00-21:00	Buffet Dinner (Sense Allday Dining, 1F)		

Time	Topics	Speakers & Chairs	Page
Session 4-1: Advanced Functional Materials I [8:30-10:30]			
Chairs: Liquan Zhang, Nikolai F. Uvarov			
Venue: Jade Ballroom B, 1F			
8:30-9:00	(Invited Lecture) 1D Nanofiber Technologies: Selective Sensing and Energy Storage Applications	Il-Doo Kim Korea Advanced Institute of Science and Technology	45
9:00-9:30	(Invited Lecture) Nano-Materials and Their Energy and Environmental Applications	Wei Gao The University of Auckland	47
9:30-10:00	(Invited Lecture) Key Materials and Technologies of High Energy Density Solid Batteries	Zhaoyin Wen Shanghai Institute of Ceramics, Chinese Academy of Sciences	49
10:00-10:30	Coffee Break		
Session 4-2: Advanced Functional Materials I [10:30-12:00]			
Chairs: Wen-Chang Chen, Jau-Ho Jean			
Venue: Jade Ballroom B, 1F			

Time	Topics	Speakers & Chairs	Page
10:30-11:00	(Invited Lecture) Elastomeric Materials towards Energy and Sustainable Development	Liqun Zhang Beijing University of Chemical Technology	51
11:00-11:30	(Invited Lecture) Estimation of Electrical Properties of Ternary Composites for Electrochemical Applications	Nikolai F. Uvarov Institute of Solid State Chemistry and Mechanochemistry, SB RAS	55
11:30-12:00	(Invited Lecture) Semiconducting Polymers for Stretchable Electronics through Side Chain Engineering	Wen-Chang Chen Taiwan University	57
12:00-13:30	Buffet Lunch (Sense Allday Dining, 1F)		
Session 5-1: Advanced Functional Materials II [13:30-15:00]			
Chairs: Xiaosu Yi , Bing Joe Hwang			
Venue: Jade Ballroom B, 1F			

Time	Topics	Speakers & Chairs	Page
13:30-14:00	(Invited Lecture) A 13000x Superstretchable Material Based on Transient Polymer Networks	Jian Xu Shenzhen University	59
14:00-14:30	(Invited Lecture) Mechanochemically Modified Polymers for Radiation Protective Materials	Nikolay Z. Lyakhov Institute of Solid State Chemistry and Mechanochemistry, SB RAS	61
14:30-15:00	(Invited Lecture) Investigation of a dual Self-Healing Coating of Mg Alloys Based on the Porous Structure of Micro-Arc Oxidation Film	Yingwei Song Institute of Metal Research, Chinese Academy of Sciences	63
15:00-15:30	Coffee Break & Poster		
Session 5-2: Advanced Functional Materials II [15:30-17:00]			
Chairs: Jian Xu, Nikolay Z. Lyakhov			
Venue: Jade Ballroom B, 1F			
15:30-16:00	(Invited Lecture) Optimized Fabrication and Application of Carbon/Carbon Composites Reinforced by Carbon Nanotubes	Hejun Li Northwestern Polytechnical University	65

Time	Topics	Speakers & Chairs	Page
16:00-16:30	(Invited Lecture) Bio-Composites and Multifunctional Composites for Aircraft Application	Xiaosu Yi University of Nottingham Ningbo China	67
16:30-17:00	(Invited Lecture) Anode Free Lithium Metal Batteries	Bing Joe Hwang Taiwan University of Science and Technology	69
18:00-21:00	Buffet Dinner (Sense Allday Dining, 1F)		
Session 6-1: Advanced Technology on Materials Characterization [8:30-10:00] Chairs: Xiuliang Ma, Qing Jiang Venue: Pearl Room 8, L1			
8:30-9:00	(Invited Lecture) Monolithic Three-Dimensional Technologies toward Brain-Mimicking Hardware	Albert Chin Chiao Tung University	71
9:00-9:30	(Invited Lecture) Development of RF Front-end Devices for Wireless Communication	Jau-Ho Jean Tsing Hua University	73

Time	Topics	Speakers & Chairs	Page
9:30-10:00	(Invited Lecture) Recent Progress in Electronic Display Technologies	H.S. Kwok The Hong Kong University of Science and Technology	75
10:00-10:30	Coffee Break		
Session 6-2: Advanced Technology on Materials Characterization [10:30-12:00] Chairs: Albert Chin, H.S. Kwok Venue: Pearl Room 8, L1			
10:30-11:00	(Invited Lecture) Aberration-Corrected Transmission Electron Microscopy of Advanced Materials	Xiuliang Ma Institute of Metal Research, Chinese Academy of Sciences	77
11:00-11:20	Roles of 6d States on the Chemical Properties of Uranium	Yu Yang Institute of Applied Physics and Computational Mathematics	79

Time	Topics	Speakers & Chairs	Page
11:20-11:40	Preferential Hydriding in Double-Phased Uranium and its Multiscale Theory	Xin-Xin Wang Institute of Applied Physics and Computational Mathematics	81
11:40-12:00	Strain Engineering of Epitaxial Oxide Heterostructures beyond Substrate Limitations	Deyang Chen South China Normal University	83
12:00-13:30	Buffet Lunch (Sense Allday Dining, 1F)		
Session 7-1: Advanced Technology on Materials Preparation [13:30-15:00] Chairs: Hua Chun Zeng, Meifang Zhu Venue: Pearl Room 8, L1			
13:30-14:00	(Invited Lecture) Study and Application of SiCf/SiC Composites for Hot Section Components of Aero-Engines	Shaoming Dong Shanghai Institute of Ceramics, Chinese Academy of Sciences	85

Time	Topics	Speakers & Chairs	Page
14:00-14:30	(Invited Lecture) Discovery of New Layered Ternary Borides (MAB phases) and the 2D Nanosheets (MBene)	Yanchun Zhou Aerospace Research Institute of Materials & Processing Technology	87
14:30-15:00	(Invited Lecture) Microstructure Design of Silicon Nitride Ceramics for Performance and Applications	Hua-Tay Lin Guangdong University of Technology	89
15:00-15:30	Coffee Break		
Session 7-2: Advanced Technology on Materials Preparation [15:30-17:00] Chairs: Tserenjav Erdenebat, Yanchun Zhou Venue: Pearl Room 8, L1			
15:30-16:00	(Invited Lecture) Design and Synthesis of Organic-Inorganic Hybrid Soft Materials for Diverse Applications	Meifang Zhu Donghua University	91
16:00-16:30	(Invited Lecture) Synthetic Architecture of Catalytic Materials	Hua Chun Zeng National University of Singapore	93

Time	Topics	Speakers & Chairs	Page
16:30-17:00	(Invited Lecture) Catalyst Design for Formic Acid Dehydrogenation	Qing Jiang Jilin University	95
18:00-21:00	Buffet Dinner (Sense Allday Dining, 1F)		

Monday, November 18 2019

Scientific Program (11.18)

Time	Topics	Speakers & Chairs	Page
Session 8-1: Advanced Functional Materials III [9:00-10:20] Chairs: K. Byrappa, Hideomi Koinuma Venue: Jade Ballroom B, 1F			
9:00-9:30	(Invited Lecture) Development and Application of Refractory Materials for Coal Gasification	Hongxia Li Sinosteel Luoyang Institute of Refractories Research Co.,Ltd.	97
9:30-10:00	(Invited Lecture) 2D Materials: 2D Atomic, 2D Molecular and 2D Morphological and 2D Holey, Which One?	John Wang National University of Singapore	99
10:00-10:20	High Emissivity Ceramic Coatings Formed on Light Metals by Microarc Oxidation: Microstructure and Heat Dissipation Property	Yaming Wang Harbin Institute of Technology	101
10:20-10:40	Coffee Break		

Time	Topics	Speakers & Chairs	Page
Session 8-2: Advanced Functional Materials III [10:40-12:00]			
Chairs: John Wang, Hongxia Li			
Venue: Jade Ballroom B, 1F			
10:40-11:10	(Invited Lecture) Design of 2D Photo/Electrocatalysts for Promoting CO₂ Reduction	Yongfu Sun University of Science and Technology of China	103
11:10-11:40	(Invited Lecture) Hierarchically Cellulose Nanofiber/TiO₂ Nanofiber Composite Film for the Reusable Organic Pollutant Photodegradation	Ming-Chung Wu Chang Gung University	105
11:40-12:00	A fractal-Patterned Coating on Titanium Alloy for Stable Passive Heat Dissipation and Robust Superhydrophobicity	Guoliang Chen Harbin Institute of Technology	107
12:00-13:30	Buffet Lunch (Sense Allday Dining, 1F)		

Time	Topics	Speakers & Chairs	Page
Session 9-1: Advanced Functional Materials IV [9:00-10:20]			
Chairs: Suk-Joong L. Kang, Ajayan Vinu			
Venue: Pearl Room 8, L1			
9:00-9:30	(Invited Lecture) Towards High Performance of RE-Fe-B Permanent Materials with Low Cost	Mi Yan Zhejiang University	109
9:30-10:00	(Invited Lecture) Oxygen Transport Membrane: New Materials and Methods to Enhance the Performance	Alexander P. Nemudry Institute of Solid State Chemistry and Mechanochemistry, SB RAS	111
10:00-10:20	Bio-inspired Polymeric Heart Valves Exhibiting Valve-like Mechanical and Hemodynamic Behavior	Xing Zhang Institute of Metal Research, Chinese Academy of Sciences	113
10:20-10:40	Coffee Break		
Session 9-2: Advanced Functional Materials IV [10:40-11:30]			
Chairs: Alexander P. Nemudry, Mi Yan			
Venue: Pearl Room 8, L1			

Time	Topics	Speakers & Chairs	Page
10:40-11:10	(Invited Lecture) Some Physical Properties of Colloidal Silica Nanoparticles	Tserenjav Erdenebat The National University of Mongolia	115
11:10-11:30	The Magnetic Anisotropy and Magnetic Domains of Cr/SmCo/(Cu)/Cr Films	Zhaoguo Qiu South China University of Technology	119
12:00-13:30	Buffet Lunch (Sense Allday Dining, 1F)		

Session 10: Poster		
Topics	Author	Page
Effect of High-Intensity Ultrasound on the Quality and Structure of Twin-Roll Casting 1050 Aluminum Strip	Y.H. Kang, J.G. Li, S.C. Wang, J.W. Jiang Guangdong Institute of Materials and Processing	121
In-Situ Corrosion Performance Monitoring of Porous Ti-6Al-4V Alloys Fabricated by Electron Beam Melting in Phosphate Buffered Saline	Xin Gai, Yun Bai, Shujun Li, Wentao Hou, Yulin Hao, Xing Zhang, Rui Yang, R.D.K. Misra Institute of Metal Research, Chinese Academy of Sciences	123
Evaluation of Stress Corrosion Cracking behavior of Steam Generator Tube in PWR	Xinyu Wang, Yakui Bai University of Science and Technology Beijing	125
Effects of Pre-Compression Deformation on the Corrosion Fatigue of an Extruded AM60 Mg Alloy Rod	Jiaqi Hu, Yuxian Meng, Hong Gao, Xu Chen Tianjin University	127
Efficient Polarization-Selective CdSe-CdS/Ag/PMMA Sensing Material for Detection of Volatile Organic Compounds	Yin-Hsuan Chang, Chi-Hung Lin, Tz-Feng Lin, Shun-Hsiang Chan, Ting-Han Lin, Kai Wang, Chao-Sung Lai, Ming-Chung Wu Chang Gung University	131
Analysis, Purification and Obtaining of SiO₂ from Caracum Desert Sand	H. Koinuma, G. Mezilov, A. Altyyev, M. Ekayev National Institute for Materials Science	133

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