2022 ICMMA

KIET 한국세라믹기술원
KOREA INSTITUTE OF CERAMIC ENGINEERING & TECHNOLOGY

The 16th International Conference on Multi-functional Materials and Applications

24-25 November 2022

Korea Institute of Ceramic Engineering and Technology, Jinju, KOREA, With on-line

Co-organizers

Hanseo Univ.

Bengbu Univ.

Anhui Univ. Sci. Technol

Journal of Multifunctional Materials & Photoscience

Hefei Univ.

Yancheng Institute. Technol.

Anhui Jianzhu Univ.

Suzhou Univ. Sci. Technol.

KhonKean Univ.

Sun Moon Univ.

Inha Univ.

Nakhon Si Thammarat Rajabhat University

< 회 사 소 개 >

(주)정민실업은 1978년 창업 이래 국내의 진공시스템(고진공 및 초고진공 산업 분야) 설비기술 개발에 주력해 왔습니다. 현재는 초고진공 및 진공소결로 등을 개발, 진공도 10-10Torr, 최고 가열 온도 3,000℃, 단축 가압 500톤, 반응 소결로 70bar 가스 가압 능력 등의 극한 기술을 습득했으며, 추가 기술 개발에 전력을 다하고 있습니다. 또한 SiC CVD, 진공 함침로, GPS, SPS, 진공 열처리로, 진공 증착 시스템 및 플라즈마 공정기술 개발을 통하여, 국내 대기업(삼성, LG, SKC), 국책 연구소나 대학교 연구실의 실험장비를 지속적으로 납품하고 있습니다. 앞으로도 지속적인 품질 개선을 통하여 우수한 품질 및 기술개발에 최선을 다하는 (주)정민실업이 될 것을 약속드립니다.

<주요생산품목>

- SiC CVD Furnace
- Spark Plasma Sintering Furnace (S.P.S)
- Gas Pressure Sintering Furnace (G.P.S)
- Vacuum Hot Press
- Vacuum Tube Furnace
- Vacuum Sintering Furnace
- Rapid Melting / Spinning Furnace
- Lamp / Bottle Vacuum Exhaust System
- Vacuum Coater
- Vacuum Brazing System
- R.F Etching & Plasma System

S.P.S

Vacuum Furnace

Hot Press

Tube Furnace

Sintering Furnace

G.P.S

Vacuum Coater

Brazing

서울시 영등포구 선유서로 23 (문래동 5가 23-2)
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http://www.jmvac.co.kr E-mail : wjdalsc5@daum.net

ANGELUX

Biz & Life를 창조하는 주식회사엔젤럭스

우리가 꿈꾸는 미래기술을 현실로 바꾸어가고 있는 엔젤럭스의 첨단기술이 당신의 감성과 예술 그리고 꿈과 만날 때 세상을 아름답게 만들어 갑니다. 이제 엔젤럭스의 특화된 엔지니어링 서비스를 경험하실 수 있습니다.

제품디자인, 역설계, 3D프린팅 복합소재, 정밀가공, ICT융합 통해 해양레저분야에서부터 항공우주분야까지 혁신제품을 보다 빠르고 효율적으로 제작하는 엔지니어링 업무를 수행할 수 있습니다. 이와 같은 역량을 바탕으로 주식회사엔젤럭스는 융합의 가치 창출을 통해 조선해양분야에서 항공우주분야까지 비즈니스 아이디어를 발전시키고 성장시켜갈 든든한 파트너가 되겠습니다.

사업비전

오직 즐거움을 위해 도전하라

- **상생** 융합의 가치를 추구합니다
- **화합** 당신의 꿈을 응원합니다
- **나눔** 밝고 건강한 미래를 만들어 갑니다

사업분야

엔지니어링 서비스

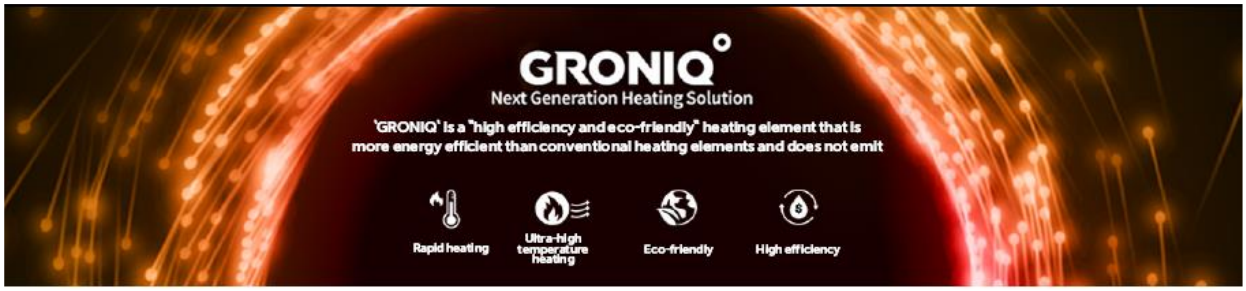
- **3D프린팅 서비스** 3D스캐닝, 역설계, 디자인목업, 3D프린팅
- **복합소재 실용화** 카누, 카약, 요트, 시뮬레이터, 자동차, 항공부품
- **정밀가공 서비스** CNC가공, 레이저조각, 전통목공, DIY
- **기술교육 서비스** 3D프린팅교육, 복합소재교육,정밀가공교육

라파 300M(Rapha 300M) 25% 축소형 스케일기 모형

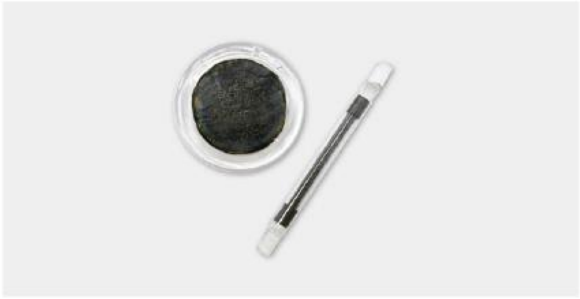
라파 300M은 2인용의 수륙양용 군용 에어택시 컨셉의 디자인이다. 탑승공간 상부에 로터시스템을 위치시켜 탑승과 비행시 군인을 더욱 안전하게 보호하며 지상과 수상에서 이착륙이 가능한 수륙양륙형 기체다. 동체 양쪽에는 항력을 최소화한 스테빌라이저(Stabilizer)를 장착하여 수상에서 수평안정성을 높였다. 동체 내부구조는 유선형의 링 구조(Ring Structure)로 추락시 충격 흡수와 내부구조를 단단히 잡아주는 형태이다. 후미쪽에 추력모터 2개를 장착해 비행 중이나 수상에서 후류를 이용해 비행과 운항에 도움이 된다.

라파 300H(Rapha 300H) 25% 축소형 스케일기 모형

라파 300H은 2인용의 수륙양용 의료용 에어택시 컨셉의 디자인이다. 탑승공간 상부에 로터시스템을 위치시켜 탑승과 비행시 환자를 더욱 안전하게 보호하며 지상과 수상에서 이착륙이 가능한 수륙양륙형 기체다. 동체 양쪽에는 항력을 최소화한 스테빌라이저(Stabilizer)를 장착하여 수상에서 수평안정성을 높였다. 동체 내부구조는 유선형의 링 구조(Ring Structure)로 추락시 충격 흡수와 내부구조를 단단히 잡아주는 형태이다. 후미쪽에 추력모터 2개를 장착해 비행 중이나 수상에서 후류를 이용해 비행과 운항에 도움이 된다.



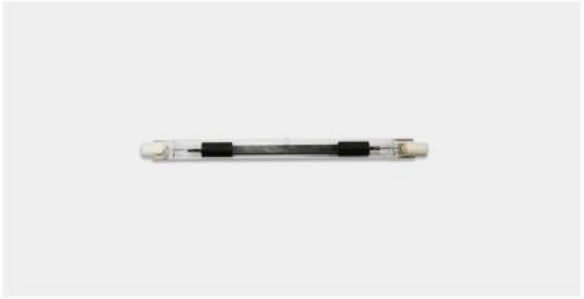
PRODUCT



GRONIQ (Microwave Type)

- Quick heating to ultra-high temperature in response to the electromagnetic waves in the air
- For stability, it is provided in a form that SiC fiber, the raw material, is stored in Quartz ware.

Product type Circle and bar types



GRONIQ (Electric Type)

- Quick heating to ultra-high temperature in response to the current in the air
- For stability, it is provided in a form that SiC textile, the raw material, is stored in Quartz ware.

Product type Bar type

·Dental furnace·

·Combustion-type exhaust abatement system·

·Dryer·

·Hot air blower·

Applied Products

- Various applied products which use GRONIQ as the heater
- Low power consumption, compared to other ordinary metal and non-metal heater. Installed in a cartridge box,

Product type Dental furnace, dryer, hot air blower, electric stove, and other heating system

Make-to-order support Customized production service to meet customers' specific requirements

Smart solution DAEHO I&T

daehoint.co.kr

DAEHO I&T Co., Ltd.

Address 5F, Standard Factory 3, 211, Jayumuyeok 3-gil, Masanhoewon-gu, Changwon-si, Gyeongsangnam-do

Tel 82-55-715-2233 **Fax** 82-55-715-2245 **Email** daehoint@daehoint.co.kr

GRONIQ's exceptional heat performance will give your product a competitive edge.

The 16th International Conference on Multi-functional Materials and Applications (ICMMA 2022)

November 24-25, 2022

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Theme field of the conference:

- Materials: preparation, basic principle and characterization;
- Catalytic materials and mechanism;
- Environmental friendly materials and applications;
- Advanced composites and applications;
- Advanced building functional materials;
- Nanomaterials, sensors and applications;
- Materials related to biology, medical and human health;
- Photo-induced materials and applications;
- Others

Conference Registration

Deadline	**October 31 (Thursday), 2022**
All of presenters (Speakers) should be paid Registration fee.	

Registration fee

Forigner : 100USD (50USD) (On-site Attendee), 50USD (30USD) (Virtual Attendee)
Korean : 300,000KWN (100,000KWN)

- ( ) : Student rate

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Address : Buldangdong, Seobukgu, Cheonan, Chungnam, Korea

Venue: Korea Institute of Ceramic Engineering and Technology, Korea

Meeting Name	Meeting ID	PW	Breakout Room
ICMMA2022_KICET	**477 967 3888**	ICMMA2022	Zoom A
ICMMA2022_KICET	**710 662 5033**	ICMMA2022	Zoom B
ICMMA2022_KICET	**947 539 6783**	ICMMA2022	Zoom C
ICMMA2022_KICET	**857 926 6363**	ICMMA2022	Zoom D

Presentation Guide

Plenary Lecture : 20 minutes speech, 5 minutes Q&A
Invited and Oral Lecture : 17 minutes speech, 3 minutes Q&A
Poster Presentation : 3 minutes speech, 2 minutes Q&A (Only 1)

Full Paper Submission

1. **Nanomaterials** (SCIE) , ISSN: 1420-3049
   APC : 2,200 CHF.

Submission : https://www.mdpi.com/journal/nanomaterials/special_issues/multifunctional_nano_icmma Guest Editor (R. Editorial Board Member) : Prof. Won-Chun Oh (wc_oh@hanseo.ac.kr)

2. **Journal Multifunctional Materials and Photoscience**, ISSN: 2229-743x
   APC : Free Registration fee for submitter
   Editor-in-Chief (Submission) : Prof. Won-Chun Oh (wc_oh@hanseo.ac.kr)

3. **Korean Journal of Materials Research** (SCOPUS), ISSN : 1225-0562
   APC : 300USD
   Guest Editor (Submission) : Prof. Won-Chun Oh (wc_oh@hanseo.ac.kr)

ICMMA2022-Opening Ceremony

(Host by Dr. Kwang Youn Cho)

<table>
<tr><td>09:00~09:10</td><td colspan="2">Opening address by Dr. Kwang Youn Cho
(Voice President, Korea Institute of Ceramic Engineering and Technology, Korea)–Conference Chairman -</td></tr>
<tr><td>09:10~09:20</td><td colspan="2">Congratulation address by Dr. Yeong Gil Jeong
(President of Korea Institute of Ceramic Engineering and Technology, Korea)</td></tr>
<tr><td rowspan="2">09:20~09:40</td><td>09:20~09:30</td><td>ICMMA News by Prof. Dr. Won-Chun Oh
(Hanseo University, Korea)
– Conference Vice Chairman -</td></tr>
<tr><td>09:30~09:40</td><td>ICMMA 2023_Address by Prof. Dao Sheng Sun
(President, Anhui Jianzhu University, China)
Introduction of ICMMA2023</td></tr>
<tr><td>09:40~09:50</td><td colspan="2">"Award of Appreciation Plaque"
Plaque to Prof. Dr. Surasak Kaew-On
(Nakhon Si Thammarat Rajabhat University, Thailand)

“Award of Appreciation Plaque to Retired Scientists”
Prof. Dr. Chang Sung Lim (Hanseo University, Korea)
Prof. Dr. Masahiro Toyoda (Oita University, Japan)
Dr. Chong-Hun Jung (Korea Atomic Energy Research Institute, Korea)

“Best Paper Award – (Supported by Journal “Nanomaterials” : MDPI)”
Dr. Kwang Youn Cho (Korea Institute of Ceramic Engineering and Technology, Korea)
nanomaterials
“JMMP Award”
Prof. Dr. Jing Wang (Anhui University of Science and Technology, China)
Ass. Prof. Dr. Yonrapach Areerob (King Mongkut’s Institute of Technology Ladkrabang, Thailand)
International JMMP</td></tr>
<tr><td>09:50</td><td colspan="2">The conference chairman announces ICMMA 2022 begins</td></tr>
<tr><td>09:55</td><td colspan="2">Group Photo</td></tr>
<tr><td>09:55~10:00</td><td colspan="2">Break</td></tr>
</table>

Conference Program

November 25 (Friday), 2022

Session I (Zoom A: 477 967 3888 , PW: ICMMA2022) (10:00-10:50) **(Session Chairman : Prof. Dr. Won-Chun Oh (Hanseo University)**	
10:00-10:25	**Plenary Lecture 1** **Prof. Toyoda**, Department of Applied Chemistry, Graduate School of Engineering, Oita University, 700 Dannoharu, Oita 870-1192, Japan
10:25-10:50	**Plenary Lecture 2** **Prof. Shin R. Mukai,** Division of Applied Chemistry, Faculty of Engineering, Hokkaido University, N13N8 Kita-ku, Sapporo 060-8628, Japan
10:50-11:15 Video	**Plenary Lecture 3** **Prof. Leonard, Estelle[*a], Otani, Nao[b] ; Fayeulle, Antoine[a] ; Nakane, Daisuke[b] ; Akitsu, Takashiro[b]**, [a]Université de technologie de Compiègne, ESCOM, TIMR (Integrated Transformations of Renewable Matter), Centre de recherche Royallieu - CS 60 319 - 60 203 Compiègne Cedex, France. [b]Department of Chemistry, Faculty of Science, Tokyo University of Science, 1-3 Kagurazaka, Shinjuku-ku, Tokyo 162-8601, Japan
11:10–11:30	**Invited Lecture 1** **Prof. Wen-Hui Wei, Afandi Yusuf, Hsin-Chih Huang, Chen-Hao Wang**[*], Department of Materials Science and Engineering, National Taiwan University of Science and Technology, Taipei 106335, Taiwan
11:30-11:50	**Invited Lecture 2** **Prof. Wen Ji[a], Xianbiao Wang[a*], Tianqi Ding[a], Soufian Chakir[a], Yongfei Xu[a], Xianhuai Huang[b], Huanting Wang[c]**, [1]Anhui Province International Research Center on Advanced Building Materials, School of Materials Science and Chemical Engineering, Anhui Jianzhu University, Hefei Anhui, PR China 230601; [2]Anhui Provincial Key Laboratory of Environmental Pollution Control and Resource Reuse, Anhui Jianzhu University, Hefei, PR China 230601; [3]Department of Chemical and Biological Engineering, Monash University, Clayton, VIC, Australia 3800
11:50-13:00 Lunch Time	
Session II (Zoom A : No 477 967 3888, PW: ICMMA2022) (13:00-14:25) **(Session Chairman : Prof. Is Fatimah (Islam University of Indonesia), Dr. Rajesh Kumar Jyothi (Korea Institute of Geosciences and Mineral Resources)**	
13:00-13:20	**Invited Lecture 3** **Prof. Suresh Sagadevan**, Nanotechnology & Catalysis Research Centre, University of Malaya, Kuala Lumpur 50603, Malaysia
13:20-13:40	**Invited Lecture 4** **Prof. Rajesh Kumar Jyothi**, Korea Institute of Geosciences and Mineral Resources (KIGAM), Daejeon 34132, Korea
13:40-13:55	**Oral Lecture 1** **Prof. Noor Haida Mohd Kaus* and Ahmad Fadhil Rithwan**, School of Chemical Sciences, Universiti Sains Malaysia, 11800, Penang MALAYSIA
13:55-14:10	**Oral Lecture 2** **Prof. Chiv Sinly[1], Rutchyaporn Anurach[1], Kiettipum Phontree[1], Thanavit Thongsodsaeng[1], Thatsanand Xayavong [2], Theera Rittirod[1,*]**, [1]Faculty of Pharmaceutical Sciences, Khon Kaen University, Khon Kaen, Thailand, [2]Faculty of pharmacy, University of Health sciences, Vientiane, Lao PDR
14:10-14:25	**Oral Lecture 3**

	Prof. Chang-Min Yoon[*], Department of Chemical and Biological Engineering, Hanbat National University, 125 Dongseo-daero, Theera Rittirod[1,*], [1]Faculty of Pharmaceutical Sciences, Khon Kaen University, Khon
14:25-14:35	**Coffee Break**
Session II (Zoom A : No 477 967 3888, PW: ICMMA2022) (14:35-15:25) **(Session Chairman : Prof. Jing Wang (Ahui University of Science and Yechnology), Prof. Swat Nanan (Khon Kaen University))**	
14:35-14:55	**Invited Lecture 5** **Prof., Jing Wang [1*], Binquan Cao[1], Xiao Chen[1], Yu Tian[1], Lei Zhang[1], Chenwei Shang[1], Zhou Zhou[2], Chul Gyu Jhun[2*]**, [1]College of Materials Science and Engineering, Anhui University of Science And Technology, Huainan, Anhui 232001, [2]School of Electronic Display Engineering, Hoseo University 20, Hoseo-ro 79beon-gil, Baebang-eup, Asan City 31499, Korea
14:55-15:10	**Oral Lecture 4** **Prof. Chiv Sinly[1], Rutchyaporn Anurach[1], Kiettipum Phontree[1], Thanavit Thongsodsaeng[1], Thatsanand Xayavong[2], Rachadaporn Benchawattananon[3], Theera Rittirod[1,*]**, [1]Faculty of Pharmaceutical Sciences, Khon Kaen University, Khon Kaen, Thailand, [2]Faculty of pharmacy, University of Health sciences, Vientiane, Lao PDR, [3]Faculty of Science, Khon Kaen University, Khon Kaen, Thailand
15:10-15:25	**Oral Lecture 5** **Prof. Wimol Pararach[1], Aphinya Thinthasit[2] and Rachadaporn Benchawattananon[2*]**, [1]Medical Technician Loei hospital Muang Loei Province 42000 Daejeon 34158, Korea
Session III (Zoom B : 710 662 5033, PW: ICMMA2022) (13:00-14:25) **(Session Chairman : Dr. Suresh Sagadevan (Malaya University), Prof. Zhishan Su (Sichuan University))**	
13:00-13:20	**Invited Lecture 6** **Prof. Suwat Nanan**, Materials Chemistry Research Center, Department of Chemistry and Center of Excellence for Innovation in Chemistry (PERCH-CIC), Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand
13:20-13:40	**Invited Lecture 7** **Prof. Chang Sung Lim[1*], Won-Chun Oh[1], Aleksandr S. Aleksandrovsky[2,3], Victor V.Atuchin[4,5], Maxim S. Molokeev[6,7,8], Aleksandr S. Oreshon kov[7,9]**, Department of Aerospace Advanced Materials Engineering, Hanseo University, Seosan 31962, Korea, [2]Laboratory of Coherent Optics, Kirensky Institute of Physics Federal Research Center KSC SB RAS, Krasnoyarsk 660036, Russia, [3]Institute of Nanotechnology, Spectroscopy and Quantum Chemistry, Siberian Federal University, Krasnoyarsk 660041, Russia, [4]Laboratory of Optical Materials and Structures, Institute of Semiconductor Physics, SB RAS, Novosibirsk, 630090, Russia, [5]Research and Development Department, Kemerovo State University, Kemerovo 650000, Russia, [6]Laboratory of Crystal Physics, Kirensky Institute of Physics, Federal Research Center KSC SB RAS, Krasnoyarsk 660036, Russia, [7]Siberian Federal University, Krasnoyarsk 660041, Russia, [8]Department of Physics, Far Eastern State Transport University, Khabarovsk 680021, Russia, [9]Laboratory of Molecular Spectroscopy, Kirensky Institute of Physics Federal Research Center KSC SB RAS,
13:40-13:55	**Oral Lecture 6** **Prof. Trai Wongsiri[1], Apinya Chotiyano[2] and Rachadaporn Benchawattananon[3]**, [1]Department of Pathology, Faculty of Medicine, Khon Kaen University, THAILAND, [2]Unit of Pathology, Khon Kaen Hospital, Muang, Khon Kaen, THAILAND, [3]Department of Forensic Science, Faculty of Science, Khon Kaen University, THAILAND.
13:55-14:10	**Oral Lecture 7** **Prof. Md Nazmodduha Rafat and Won-Chun Oh[*],** [1]Department of Advanced Materials Science & Engineering, Hanseo University, Seosan-si, Chungnam, Korea, 356-706Science Forensic Science Faculty of Science
14:10-14:25	**Oral Lecture 8**

	Prof. Zambaga Otgonbayar[1], Won-Chun Oh[1,2], [1]Department of Advanced Materials Science & Engineering, Hanseo University, Seosan-si, Chungnam, Korea, 356-706, [2]Anhui International Joint Research Center for Nano Carbon-based Materials and Environmental Health, College of Materials Science and Engineering, Anhui University of Science & Technology, Huainan 232001, PR China
14:25-14:35	**Coffee Break**
Session III (Zoom B : 710 662 5033, PW: ICMMA2022) (14:35-15:25) **(Session Chairman : Prof. Chan-Kyung Kim (Inha University), Prof. Daming Gao (Hefei University))**	
14:35-14:55	**Invited Lecture 8** **Prof. Is Fatimah,** Chemistry Department, Universitas Islam Indonesia, Kampus Terpadu UII, Jl. Kaliurang Km 14, Sleman, Yogyakarta, Indonesia, 55584
14:55-15:10	**Oral Lecture 9** **Optical Design of Energy Conversion Layer for high Photoelectric Conversion Efficiency of an Organic Solar Cell**, Liang Zhang, Chul Gyu Jhun, School of Electronics and Display Engineering, Hoseo University, Asan 31499, Korea
15:10-15:25	**Oral Lecture 10** **Prof. JU YONG CHO[1], HANSEUL MA[1], HYEONG JIN KIM[1], AND WON KWEON JANG[1,*],** [1]Department of Aeronautic Electricity, Hanseo University, 46, Hanseo 1-ro, Seosan-si 31962, South Korea
Session IV (Zoom C : 947 539 6783, PW: ICMMA2022) (13:00-14:25) **(Session Chairman : Prof. K. L. Ameta (Mody University of Science and Technology), Prof. Theera Rittirod (Khon Kaen University))**	
13:00-13:20	**Invited Lecture 9** **Prof. Y.-L. Yang[a], J.-Y. Yuan[a], Z.-J. Zhang[a], J.-T Zhao[a,b*],** [a]School of Materials Science and Technology, Shanghai University, China, [b]School of Materials Science and Technology, Guilin University of Electronic Technology, China
13:20-13:40	**Invited Lecture 10** **Prof. Ngoc_Diep Pham[1,2], Ngoc-Quoc-Duy Vo[1,2], Ngoc Diem Trinh Huynh[1,2], Ho Thi Ngoc Suong[1,2] and Minh-Vien Le[1,2],** [1]Faculty of Chemical Engineering, Ho Chi Minh city University of Technology, Ho Chi Minh City, 700000, Vietnam [2]Vietnam National University Ho Chi Minh City, Ho Chi Minh City,700000
13:40-13:55	**Oral Lecture 11** **Prof. Xiwen Zeng[a], Yanfen Wang[a,b*], Guangming Zhao[c], Xiang Cheng[c], Shunjie Huang[c],** [a]School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, Anhui 232001, PR China, [b]Anhui International Joint Research Center for Nano Carbon-based Materials and Environmental Health, Huainan, Anhui, 232001, China, [c]Key Laboratory Sponsored Jointly by Ministry of Education and Anhui Province for Efficient and Safe Coal Mining, Anhui University of Science and Technology, Huainan, Anhui 232001, China
13:55-14:10	**Oral Lecture 12** **Prof. Zhenfei Lv[a,b], Yukun Cao[a], Yuhang Yang[a], Chong Lan[a], Yixian Yang[a], Xiulin Shen[a,b,*],** [a] School of Materials Science and Engineering, Anhui University of Science and Technology, Huainan, Anhui, 232001, PR China, [b] Anhui International Joint Research Center for Nano Carbon-based Materials and Environmental Health, Huainan, Anhui, 232001, PR China
14:10-14:25	**Oral Lecture 13** **Prof. Jiali Shi, Xiuling Lin,** Department of Materials Science and Engineering, Anhui University of Science and Technology, Huainan 232001, China
14:25-14:35	**Coffee Break**
Session IV (Zoom C : 947 539 6783, PW: ICMMA2022) (14:35-15:25) **(Session Chairman : Prof. Minhvien Le (Ho Chi Minh city University of Technology), Prof. Chang-Min Yoon (Hanbat National University))**	

14:35-14:55	**Invited Lecture 11** **Prof. Tae Ho Shin**[*], Hydrogen Energy Materials Centre, Korea Institute of Ceramic Engineering and Technology, Jinju-si, Gyeongsangnam-do 52851, Republic of Korea
14:55-15:10	**Oral Lecture 14** **Prof. Leilei Lan*, Juan Gao**, School of Mechanics and Optoelectronic Physics, Anhui University of Science and Technology, Huainan 232001, China
15:10-15:25	**Oral Lecture 15** **Prof. Lingcheng Zheng**, School of Mechanics and Photoelectric Physics, Anhui University of Science and Technology, Huainan 232001, PR China
15:25-15:40	**Oral Lecture 16** **Prof. Xiao Chen[1], Lei Zhang[1], Chenwei Shang[1], Yu Tian[1], Binquan Cao[1], Yufei Li[2], Lixin Xu2, Jing Wang[1*]**, [1]School of Materials Science and Engineering, Anhui University of Technology, Huainan, Anhui 232001, China, [2]Pinghu Institute of Advanced Materials, Zhejiang University of Technology, Pinghu Zhejiang 314204, China
Session V (Zoom D : 857 926 6363, PW: ICMMA2022) (13:00-14:25) **(Session Chairman : Prof. Chen-Hao Wang (National Taiwan University of Science and Technology), Prof. Teguh Ariyanto (Universitas Gadjah Mada))**	
13:00-13:20	**Invited Lecture 12** **Prof. K. L. Ameta**, Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar-388120, Gujarat, India
13:20-13:40	**Invited Lecture 13** **Jiadong Zhao, Caiyu Ni, Zhihui Wang, Xiaoxiao Zhao, and Daming Gao***, Department of Chemical Engineering, School of Energy Materials and Chemical Engineering, Hefei University, Hefei 230601, Anhui, China
13:40-13:55	**Oral Lecture 17** **Prof. Dimas Agung Pramudikto, Rochim Bakti Cahyono, Teguh Ariyanto**[*], Department of Chemical Engineering, Universitas Gadjah Mada, Jl Grafika No 2 Kampus UGM 55281, Yogyakarta, Indonesia
13:55-14:10	**Oral Lecture 18** **Prof. Muhammad Dzikiy Dzikri Robbi**, **Teguh Ariyanto, Imam Prasetyo**[*], Department of Chemical Engineering, Gadjah Mada University,
14:10-14:25	**Oral Lecture 19** **Prof. Farah Khilma Yustica**, **Rochim Bakti Cahyono, Teguh Ariyanto**[*], Department of Chemical Engineering, Universitas Gadjah Mada, Jl Grafika No 2 Kampus UGM 55281, Yogyakarta, Indonesia
14:25-14:35	**Coffee Break**
Session V (Zoom D : 857 926 6363, PW: ICMMA2022) (14:35-15:40) **(Session Chairman : Prof. Prawit Nuengmatcha (Nakhon Si Thammarat Rajabhat University), Prof. Feng-Jun Zhang (Anhui Jianzhu University))**	
14:35-14:50	**Oral Lecture 20** **Prof. Yonraphach Areerob[a)*], and Won-Chun Oh[b),c)**]**, [a)]Department of Industrial Engineering, School of Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok 10520, Thailand, [b)]College of Materials Science and Engineering, Anhui University of Science & Technology, Huainan, 232001, PR China, [c)]Department of Advanced Materials Science & Engineering, Hanseo University, Seosan-si, Chungcheongnam-do, 31962, South Korea
14:50-15:05	**Oral Lecture 21** **Prof. Yu Tian[1], Chenwei Shang[1], Lei Zhang[1], Xiao Chen[1], Binquan Cao[1], Yufei Li[2], Lixin Xu[2], Jing Wang[1*]**, [1]School of Materials Science and Engineering, Anhui University of Technology, Huainan, Anhui 232001, China, [2]Pinghu Institute of Advanced Materials, Zhejiang University of Technology, Pinghu, Zhejiang
15:05-15:10	**Oral Lecture 22**

	Prof. Xin Liang[*], Lei Hu, and Sheng Liang, School of Energy, Materials and Chemical Engineering, Hefei University, Hefei 230601, China
15:10-15:25	**Oral Lecture 23** **Prof.Yucheng Hao[1*], Yongjian Chen[1], Xin Cao[1], Kunhong Hu[1], Evgeny V. Alekseev[2]**, [1]School of Energy Materials and Chemical Engineering, Hefei University, Hefei 230000, China, [2]Institute of Energy and Climate Research (IEK-9), Forschungszentrum Jülich GmbH, 52428 Jülich, Germany
15:25-15:40	**Oral Lecture 24** **Prof. Vivek Dhand[1], Mantae Kim[2], Jaehyeok Doh[3], Kyongyop Rhee[4], Sanghoon Kim[1*]**, [1] Department of Mechanical Design Engineering, Chonnam National University, 50 Daehak-ro, Yeosu, Jeonnam 59626, Republic of Korea, [2]Ceramic Fiber and Composite Center, Korea Institute of Ceramic Engineering and Technology, Jinju, Gyeongsangnam, 52851, Republic of Korea, [3]School of Mechanical and Material Convergence Engineering, Gyeongsang National University, Jinju-si, Gyeongsangnam-do 52725, Republic of Korea, [4]Department of Mechanical Engineering, College of Engineering, Kyung Hee University, Yongin, 446-701, Republic of Korea
15:40-17:40	**PO1-PO39**
Poster Session-1 (ZoomA: 477 967 3888, PW: ICMMA2022) **(Session Chairman: Prof. Paweena Porrawatkul (Nakhon Si Thammarat Rajabhat University) and Prof. Rachadaporn Benchawattananon (Khon Kaen University))**	
15:40-17:40	**PO40-PO78**
Poster Session-2 (ZoomB: 710 662 5033, PW: ICMMA2022) **(Session Chairman: Prof. Yonrapach Areerob (King Mongkut's Institute of Technology Ladkrabang) and Prof. Jingtai Zhao (Guilin University of Electronic Technology))**	
15:40-17:40	**PO79-PO117**
Poster Session-3 (ZoomC: 947 539 6783, PW: ICMMA2022) **(Session Chairman: Prof. Xianbiao Wang (Anhui Jianzhu University) and Dr. Tae-Ho Shin (Korea Institute of Ceramic Engineering and Technology))**	
15:40-17:40	**PO118-PO157**
Poster Session-3 (ZoomD: 857 926 6363, PW: ICMMA2022) **(Session Chairman: Prof. Noor Haida Mohd Kaus (Universiti Sains Malaysia) and Dr. Woo-Sik Kim (Korea Institute of Ceramic Engineering and Technology))**	
17:40-18:00	**Closing Remark & Ceremony – Zoom A : No 477 967 3888, PW: ICMMA2022)** **(Prof. Dao Sheng Sun (Anhui Jianzhu University))**
18:30 ~	**Banqut**

Schedule List

11/25	Room1	Room2	Room3	Room4
09:00 – 10:00	Opening Ceremony			
10:10 – 11:50	Session I (Zoom A, PW: ICMMA2022)			
11:50 – 13:00	Lunch Time			
13:00 – 14:25	Session II Zoom A No 477 967 3888 PW: ICMMA2022	Session III Zoom B No 710 662 5033 PW: ICMMA2022	Session IV Zoom C No 947 539 6783 PW: ICMMA2022	Session V Zoom D No 857 926 6363 PW: ICMMA2022
14:25 – 14:35	Coffee Break			
14:35 – 15:40	Session II Zoom A No 477 967 3888 PW: ICMMA2022	Session III Zoom B No 710 662 5033 PW: ICMMA2022	Session IV Zoom C No 947 539 6783 PW: ICMMA2022	Session V Zoom D No 857 926 6363 PW: ICMMA2022
15:40 – 17:40	PO1-PO39 Zoom A No 477 967 3888 PW: ICMMA2022	PO40-PO78 Zoom B No 710 662 5033 PW: ICMMA2022	PO79-PO117 Zoom C No 947 539 6783 PW: ICMMA2022	PO118-PO157 Zoom D No 857 926 6363 PW: ICMMA2022
17:40 – 18:00	Ending Ceremony (Zoom A, No 477 967 3888 PW: ICMMA2022)			

Presentation Guide

Plenary Lectures

Invited Lectures

Oral Lectures

Posters

◆ Hotel information

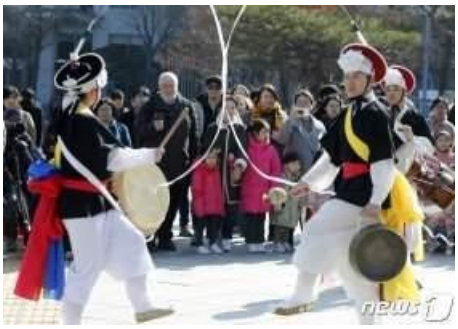
- New Raon Stay Hotel
- https://www.raonstay2.com/index.php
- Hotel rate : KWN55,000₩ (without Breakfast)
  KWN63,000₩ (with Breakfast)
- Address : Kyungnam, Jinju-si, Youngchengang-ro #166
- Tel : 055-751-1111

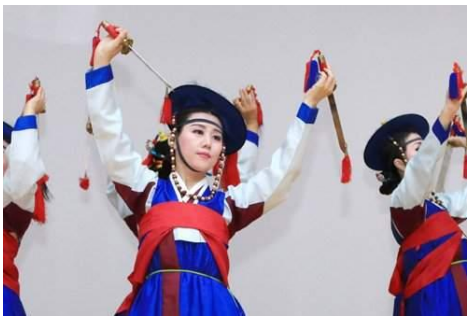
◆ Traffic information

- Incheon Airport → Busan (Kimhae) Airport (1 hour) → Shuttle bus (1 hour)
- Busan (Kimhae) Airport → Jinju Bus terminal (1 hour and 15 min.)
- Gimpo Airport → Sacheon Airport → Hotel (20 min.)

◆ Conference Events

- **Welcome Reception : 24 November**
- **Committee Board Member Meeting : 24 Nov. 20:00**
- **Banquet : Wedding Convention Center (Jinju Sports Complex) 25 Nov. 18:00**

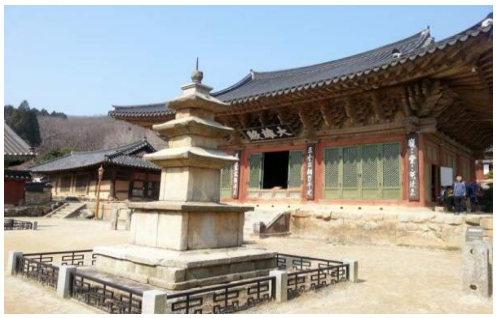




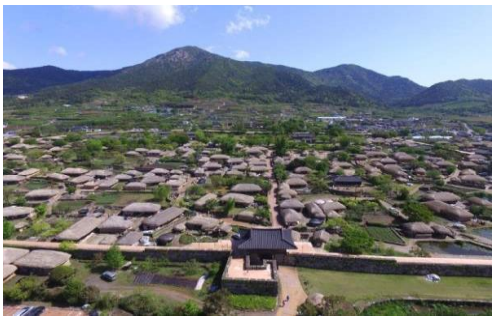
<Traditional Samuloli and Sword dance>

◆ Conference Events

• Conference Tour : 26 November



(1) Songkwang Temple



(2) Nakan Castle & Folk village

(3) Kwangyang Ironworks