

Report on activities of IUMRS ICA 2011

高振宏主任、洪建龍秘書長、蔡哲正

2011/12/13

本份資料用印後直接上傳國科會網站，勿須紙本重複送國科會。

國科會補助國內舉辦國際學術研討會成果報告書提要及會議檢討報告

申請人：蔡哲正

申請機構：國立清華大學材料系

補助編號：100-2916-1-007-009-A1

填表日期：100 年 9 月 29 日

會議名稱	中文：國際材料研究學會聯盟 - 2011 亞洲國際會議 英文：IUMRS - ICA 2011		
會議地點	南 港 展 覽 館	會議主辦機構	國立清華大學材料系 / 材料學會
會議時間	2011 年 9 月 19 日起至 2011 年 9 月 22 日止	實際支出總金額	8,650,000 元
其他補助機關名稱金額	名稱：清華大學 金額：20 萬元 名稱：台灣大學 金額：40 萬元 名稱：工研院 金額：30 萬元	國科會補助金額	800,000 元
實際參加人數	合計：1245 人 國外：480 人 國內：765 人	發表論文篇數	合計：1299 篇 國外：502 篇 國內：797 篇
參加國名稱及人數	中華民國 765 人、日本 182 人、中國大陸 103 人、韓國 96 人、美國 30 人、新加坡 20 人、印度 13 人、香港 8 人、英國 6 人、馬來西亞 4 人、澳大利亞 2 人、瑞典 2 人、法國 2 人、泰國 1 人、紐西蘭 1 人、加拿大 1 人、西班牙 1 人、丹麥 1 人		
是否印發論文集	☒ 是， ☐ 已寄送一份至國科會科學資料中心（北市和平東路二段 106 號 15F 科學資料中心國內資源組） ☐ 尚未印製完成，印製完成後將寄送國科會科學資料中心		

填表人簽章：蔡哲正

單位主管：

材料系系主任 蔡哲正

機關首長簽章：

校長陳水均 (印)

2011年中國材料科學學會年會大會議程

日期: 9月19日(一)

地點: 世貿南港展覽館

時間	活動	地點	主持人
10:00~19:00	報到/註冊(年會暨ICA會議)	一樓正門廳(Main Lobby)	
12:30~13:50	國科會材料學門座談會	504會議室	學門召集人 杜正恭教授
14:00~15:00	材料年會大會	504會議室	彭宗平 理事長
	14:00~14:10 主席致辭		彭宗平 理事長
	14:10~14:20 貴賓致辭		彭宗平 理事長
	14:20~14:40 大會頒獎		彭宗平 理事長
	14:40~14:45 年會暨ICA籌備報告		蔡哲正 主任
	14:45~15:00 會員大會暨年度工作報告		洪健龍 秘書長
15:00~15:20	Coffee Break		
15:20~16:00	Keynote Speech I- 蘇宗榮所長(工研院材化所)	504會議室	金重勳 教授
16:00~16:40	Keynote Speech II- 周美吟所長(中研院原分所)	504會議室	彭宗平 理事長
16:40~17:00	2010最佳MCP論文- 溫添進(成功大學化工系)	504會議室	林光隆 教授
17:00~17:25	「歐盟科研架構計畫」說明會	504會議室	廖峻德 教授
	2012新任理監事當選名單	504會議室外迴廊	
17:30~19:00	歡迎茶會(年會暨ICA會議)	504會議室外迴廊	

陸志鴻先生紀念獎

林光隆教授

材料科技傑出貢獻獎得獎人

陳繼仁博士

頒發傑出服務獎得獎人

李國榮 教授

本屆(第三屆)當選會士(100年)有五位，

韋光華、馬振基、莊東漢、傅勝利、蘇炎坤

國內會議中也包含兩場演講

工研院材化所蘇宗榮所長

中研院原分所周美吟所長

2010 MCP論文獎

成大化工系溫添進教授

IUMRS ICA 2011

Nangang Exhibition Hall
Sept. 20-22

Plenary Session (504R)

	Sept. 20 (Tue)	Sept. 21 (Wed)
9:00-9:30	Addresses by honor guests	Chair: Prof. T. S. Chin (Chair Professor, FCU) Dr. Harriet Kung Associate Director of Science for Basic Energy Sciences "Science for Energy"
9:30-10:00	Chair: Prof. Lih J. Chen (President, NTHU) Dr. C. Y. Lu President of Macronix International Co., Ltd. "IC Technology and Material Research and Manufacturing - from Transistor to Terascale Nanotechnology Integration"	Prof. Soo Wahn Lee President of Materials Research Society-Korea "Synthesis and characterization of molybdates by different routes of wet chemistry to enhance photocatalytic activity"
10:00-10:30	Prof. Harry Atwater Howard Hughes Professor of Applied Physics and Materials Science at the California Institute of Technology "New Photonic Materials and Devices for Solar Energy Conversion"	
10:30-11:00	Break	
11:00-11:30	Chair: Dr. Jong-Min Liu (Executive Vice President, ITRI) Prof. PAN Fusheng President of Chongqing Academy of Sci. & Tech., "Magnesium: Status and Prospects"	
11:30-12:00	Prof. SAITO Nagahiro Division of Nanomaterials Science Executive director, MRS-J "Biomimetic Materials Processing ~ a cold plasma in cold solution ~"	

IUMRS ICA 2011

Introduction to Plenary Speakers

Dr. C. Y. Lu



Dr. C. Y. Lu received his Ph.D. in department of Physics from Columbia University, N.Y. He is President of Macromax International Co., Ltd., Chairman & CEO of Ardence Corporation, Chairman of IC Industry Committee of CIEE, and Honorary Chair Professor of National Taiwan University.

Dr. Lu has published more than 350 technical papers in international journals and conferences, more than 140 invention patents, and many articles in newspapers or magazines about education, science, technology, and public services. He was awarded received "National Applied Science & Technology Prize", "Pan Wen-Yuan Outstanding Research Award", "Distinguished Alumni Award" of National Chiao-Tung University, "Distinguished Achievement Award" of Physics Dept. at National Taiwan University, "Distinguished Achievement Award" of Chinese Institute of Engineers (CIE/USA), "Superiority Business Award" of ROC Chamber of Commerce, and "Individual Special Contribution Awards" of AT&T Bell Laboratories...etc.

Prof. Harry Atwater



Harry Atwater obtained his Doctor's degree in Massachusetts Institute of Technology. He is currently Howard Hughes Professor and Professor of Applied Physics and Materials Science at the California Institute of Technology. His research interests center around two interwoven research themes: photovoltaics and solar energy; and plasmonics and optical metamaterials.

Atwater and his group have been active in photovoltaics research for more than 20 years. Recently they have created new photovoltaic devices, including the silicon wire array solar cell, and layer-transferred fabrication approaches to III-V semiconductor III-V and multijunction cells, as well as making advances in plasmonic light absorber structures for III-V compound and silicon film films. He is an early pioneer in surface plasmon photonics, he gave the name to the field of plasmonics in 2001.

He has authored or co-authored over 200 publications, and his group's developments in the solar and plasmonics field have been featured in Scientific American and in research papers in Science, Nature Materials, Nature Photonics and Advanced Materials.

Atwater has been honored by awards including the Joep Los Fellowship from the Dutch Society for Fundamental Research on Matter in 2005, MRS Kavli Lecturer in Nanoscience in 2010; Popular Mechanics Breakthrough Award, 2010; A.T. & T. Foundation Award, 1999; NSF Presidential Young Investigator Award, 1989; IBM Faculty Development Award, 1989-1990; Member, Bohmische Physical Society, 1990; IBM Postdoctoral Fellowship, 1987.

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Prof. PAN Fusheng



Prof. Pan obtained his Doctor's degree in Northwestern Polytechnic University (NPU). He is President of Chongqing Academy of Science & Technology, Director of National Engineering Research Centre for Magnesium Alloys in Chongqing University, First Deputy Director-General of Chongqing Science & Technology Commission of Chongqing Government, Vice-President of the China Magnesium Association, and Member of the Materials Committee of the State Council Degree Commission.

His Research work is focused on magnesium alloys, aluminum alloys, metal matrix composites and thin-strip casting. He has experiences of studying and working in Oxford University, UK (1991-1993); the State Materials Testing Institute, Germany (1994-1996); Tsinghua University, Japan (2002-2003); University of California (UCLA), USA (2004); University of London (Queen Mary), UK (2006-2007). He is author or co-author of more than 300 scientific and technical papers and 9 books. He was awarded the BEHJ Prize in 2008, the National S&T Prize in 2005, Deyuan S&T Innovation Prize in 2001 and the S&T Prize of Ministry of Education of China in 2000. He was Chairman of "1st UK-China Advanced Materials Symposium 2003", "3rd China-Europe Advanced Materials Symposium", "3rd International Conference on Magnesium" and "4th International Conference on Magnesium".

Dr. Harriet Kung



Dr. Kung received her Ph.D. in Materials Science and Engineering with a minor in Applied and Engineering Physics from Cornell University. Dr. Harriet Kung has served as the Associate Director of Science for Basic Energy Sciences (BES) since June 9, 2008. During her tenure, Dr. Kung led a number of Basic Research Needs workshops to define scientific research directions for science-to-technology pathways and was instrumental in the success of interagency collaborations, DOE research integration efforts, and international coordination activities. Under her leadership, BES has pursued new funding modalities in advancing the science for the energy research agenda, including the establishment of 46 Energy Frontier Research Centers and the Fuels from Sunlight Energy Innovation Hub. In 2010, BES also successfully completed the world's first x-ray free electron laser user facility – the Linac Coherent Light Source.

Dr. Kung served as the Director of the Materials Sciences and Engineering (MSE) Division in BES from 2004 to 2008. Before joining DOE in 2002 as a program manager in MSE, Dr. Kung was a technical staff member and a project leader in the Materials Science and Technology Division at Los Alamos National Laboratory (LANL). Her research group focused on structure-property relationship in nanoscale materials. She also conducted research in high temperature superconductivity in the Superconductivity Technology Center at LANL. She has published approximately 100 refereed papers and has given over 50 invited technical presentations.

She also owns the honor of the DOE Distinguished Postdoctoral Fellowship award, several performance and leadership service awards at Los Alamos, and the Presidential Meritorious Executive Rank Award in 2010.

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Prof. SAITO Nagahiro



Dr. Nagahiro Saito obtained his Doctor's degree in Waseda University. He is Professor of Green Mobility Collaborative Research Center, Nagoya University. He is also a Project Leader of Eco Topia Science Institute, Nagoya University from 2009. The project is focus on the research of materials system for human, ecosystem and environment.

His research interests include Physical chemistry, Metallic production engineering, Nano materials/nano bioscience, Material processing/treatment, Environmental technology/environmental material. He owns the honor of "ASIA-PACIFIC INTERFINISH 2010 1st Prize Poster Winner" and "Excellence Award of Poster Presentation" of The 12th International Symposium on Eco-materials Processing and Design in 2011. Besides, he is also a member of academic society of The Surface Science of Japan (2006/04 -), and The Chemical Society of Japan.

Prof. Soo Wahn Lee



Prof. Lee obtained his Doctor's degree in University of Illinois at Chicago. He is Professor of Department of Materials Engineering, Sun Moon University. He is also "Organizer of the international symposium on eco-materials processing & design", "Vice president of Korean Institute of Surface Engineering", "General Secretary of ISO/TC107 (Metallic and other inorganic coatings)", and "President of Materials Research Society-Korea".

Prof. Lee has published more than 200 scientific papers on ceramic nano-composites, plasma spray coating in nano ceramics, transparent ceramics, photocatalysis, and tribology in ceramics. He also pays a lot of attention in serious global and environmental problems. He has led the ceramics manufacturing industries to closely monitor the formation and accumulation of carbon dioxide and other toxic gases in the atmosphere, the reduction of raw materials, the consumption of energy and other factors of impact to the industry.

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Six Topics:

- (1) Energy and Green Materials
- (2) Biological Materials
- (3) Materials Modeling, Simulation, and Characterization
- (4) Advanced Structural Materials
- (5) Electronic, Optoelectronic, and Photonic Materials
- (6) Novel Functional Materials

30 sessions, 24 rooms

IUMRS-ICA 2011

Session Locator

Room#	9/20 PM	9/21 AM	9/21 PM	9/22 AM	9/22 PM
626	A1	A1	A6		
504a	A2	A2	A2	A2	A2
402c	A3	A3	A3	A3	
610	A4		F5		
614	A5	A5	A5		
429	A7	A7	A7		
504c	B1+B2	B1+B2	B1+B2	B1+B2	
501	B3	B3	B3	B3	B3
634	B4+B6		D4		
630	B5	E5	E5		
403	C	C	C	C	
402b	D1	D1	D1	D2	D2
402a	D2	D2	D2	D2	D2
521	D3	D3	D3		
509	D5	D5	D5		
609	E1	E1	E1	E1	
503	E3	E3	E3	E3	
449	E6	E6	E6	E4	
504b	E7	E7	E7	E7	
616	F1	F1	F1	F1	
644	F2	E2	E2		
622	F3	F3	F3		
502	F4	B3	B3	B3	B3
404	F6	F6	F6	F6	

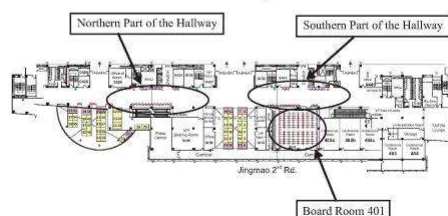
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12th IUMRS
International Conference in Asia

Poster

	Sept. 20(Tue)	Sept. 21(Wed)
9:00-10:30 (90 min.)	P1 posting (Symposium A+B)	P3 posting (Symposium C+E)
10:30-10:45 (15 min.)	P1 posting	P3 posting
10:45-12:00 (75 min.)	P1 posting	P3 posting
12:00-13:40 (100 min.)	13:00-13:40 pm (personnel station) Remove P1 poster 13:40-14:00	13:00-13:40 pm (personnel station) Remove P1 poster 13:40-14:00
14:00-15:00 (60 min.)	P2 posting (Symposium D+F)	
15:00-15:40 (40 min.)	15:00-15:40 pm (personnel station)	
15:40-16:40 (60 min.)	P2 posting Remove poster 16:40-17:00	

Board # arrangement



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	Oral	Poster	Total
A1	13	36	49
A2	33	31	64
A3	34	30	64
A4	13	29	42
A5	20	33	53
A6	9	10	19
A7	14	12	26
B1+B2	23	24	47
B3	50	28	78
B4+B6	10	16	26
B5	7	0	7
C	31	41	72
D1	23	32	55
D2	42	11	53
D3	24	30	54

	Oral	Poster	Total
D4	9	64	73
D5	20	27	47
E1	22	41	63
E2	13	25	38
E3	31	59	90
E4	7	17	24
E5	10	24	34
E6	16	6	22
E7	30	16	46
F1	23	25	48
F2	7	11	18
F3	12	52	64
F4	14	5	19
F5	9	6	15
F6	31	29	60

38 companies or institutions participate in Exhibition

IUMRS-ICA 2011

IUMRS ICA 2011 & MRS-T Annual Meeting

Exhibition and Advertisement

Booth No.	Company	Web-link
2	SCINCO CO., LTD.	www.scinco.tw
3	Sanpany Instruments Co., Ltd.	www.sanpany.com.tw
6	Unice E-O Services Inc.	www.unice.com.tw
8	MA-tek Co., Ltd.	www.ma-tek.com
4,5	Braker Co., Ltd.	www.braker.com.tw
11	EVERBEING INTERNATIONAL CORPORATION	www.probestation.tw
9,10	SCIENTEK CORPORATION	www.scientek.com.tw/ct/index.php
1,7,13	PENTAD SCIENTIFIC CORPORATION	www.pentad.com.tw
22	NATIONAL FORMOSA UNIVERSITY	nfsu.nrc.nyu.edu.tw/bn/home.php
25	Just Nanotech Co., Ltd.	www.justnano.com.tw
26	Three-Power Tech Co., Ltd.	www.threepower.com.tw
14,15	ALPHA PRECISION INSTRUMENTATION CORPORATION	www.apic.com.tw
18,12	Kee Chieh Tech Limited Company	www.kctech.com.tw
16,17	NEUTRON CORPORATION	www.neutron.co.kr
35	Industrial Technology Research Institute-Graduate Institute of Materials Science and Engineering	www.itri.org.tw
18	Wiley-Blackwell	as.wiley.com/WileyCDA/Section/index.html
39	Super Solutions & Services Co., Ltd.	www.s-s.com.tw
41	ChingYeh Co., LTD.	www.chingyeh.com
42	TITANEX CORPORATION	www.titanex.com.tw
43	SOLAR TECHNOLOGY, INC.	www.solar-tech.com.tw
44	Photon Machines & Optimization Solutions Asia	www.photon-machines.com/ www.guangdian.net/index.php/homepage-qyong
46	Analytical & Bio Science Instruments Co., Ltd.	www.AandB.com.tw
23,24	Carl Zeiss Nano Technology CO.,LTD.	www.zeiss.com/nts
50	Chia Yun Instrument Inc.	www.cyi-pmi.com
51	iZON Science Ltd	www.izon.com
52	Jun Sun Tech CO.,LTD.	www.jusun.com.tw
54	Taiwan Textile Research Institute	www.ttri.org.tw
27,28	Thermo-Calc Software(TCS)	www.thermocalc.com
55	Asylum Research CO.,LTD.	www.AsylumResearch.com
57	Porite Taiwan Co., Ltd.	www.porite.com.tw
58	Utek International Corporation	www.utekinc.com.tw

12th IUMRS
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Booth No.	Company	Web-link
19,20,21	Metal Industries Research & Development Centre	www.mircd.org.tw
31,34	High Density Lucky Apparatus Co.,Ltd.	www.tw-hdl.com
36,37	GREEN ENERGY TECHNOLOGY CO., LTD.	www.getinc.com.tw
45,49	JIE DONG CO., LTD.	www.jiedong.com.tw
47,48	E.B. TECH CO., LTD.	www.ebtech.com.tw
53,56	V-TEK CO., LTD.	www.go-vtc.com
29,30,32,33	Chung-shan Institute of Science and Technology, Armaments Bureau, M.N.D.-Graduate Institute of Materials Science and Photonics	cs.mnd.gov.tw
	CHENTAI SPECIAL STEEL CORPORATION	www.ct-tw.com
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ChinaSteel Co., Ltd.	www.csc.com.tw/index.html
Wabin Technology Corporation	www.passivecomponent.com/findex.asp
Hsinho Advanced Technology Inc.	www.hati.com.tw/company.html
MACRONIX INTERNATIONAL Co., Ltd.	www.macronix.com/QuickPlace/bq/Main.nsf/0_179475fb1d010482574440028bd470?OpenDocument
Atomic Energy Council-Institute of Nuclear Energy Research	www.iner.gov.tw/steiner/Website/mp/np/INER
Metal Industries Research & Development Centre	www.mircd.org.tw/

IUMRS-ICA 2011

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Taiwan Semiconductor Manufacturing Company Limited	www.tsmc.com/chinese/default.htm
National Synchrotron Radiation Research Center	www.ssrc.gov.tw/
National Taiwan University-Department of Materials Science and Engineering	www.mse.ntu.edu.tw/main.php
National Tsing Hua University- Department of Materials Science and Engineering	www.mse.nthu.edu.tw/main.php
Yuan Ze University	www.yzu.edu.tw/
National Cheng Kung University-Department of Materials Science and Engineering	www.mse.ncku.edu.tw/main.php
National Chiao Tung University-Department of Materials Science and Engineering	www.mse.nctu.edu.tw/main.php
National Taiwan Ocean University-Institute of Materials Engineering	www.materials.ntou.edu.tw/
National Taipei University of Technology-Institute of Materials Science and Engineering	wwwmm.web.ntut.edu.tw/bin/home.php
National Central University- Institute of Materials Science and Engineering	www.ncu.edu.tw/~mse/
National United University- Department of Materials Science and Engineering	mse.nuu.edu.tw/
National Chung Hsing University-Department of Materials Science and Engineering	www.mse.nchu.edu.tw/
National Dong Hwa University-Department of Materials Science and Engineering	www.imeng.ndhu.edu.tw/bin/home.php
Tatung University-Department of Materials Science and Engineering	www.ttu.edu.tw/
I-SHOU UNIVERSITY-Department of Materials Science and Engineering	www.mse.isu.edu.tw/interface/overview.php?dept_mno=81204
Feng Chia University-Department of Materials Science and Engineering	www.mse.fcu.edu.tw/wSite/mp/mp-530101
Yuan Ze University-Department of Chemical Engineering and Materials Science	www.che.yzu.edu.tw/
Chang Gung University-Department of Chemical and Materials Engineering	ce.cgu.edu.tw/bin/home.php
Oriental Institute of Technology-Department of Materials and Textiles	www.oit.edu.tw/?m=9&o=GC2

Another 38 entities sponsored the meeting!

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Evaluations

- 1.會議宣傳期過短(不夠早)，因主要舉辦單位的決定太晚。
- 2.資訊系統的靈活度不足(Registration, Submitted papers accessible to the individual organizers, etc.)
- 3.會議無結合發表論文的期刊配合，
- 4.會議場所的休息區過少。

Photos from the meeting 9/19



















Photos from the meeting 9/20

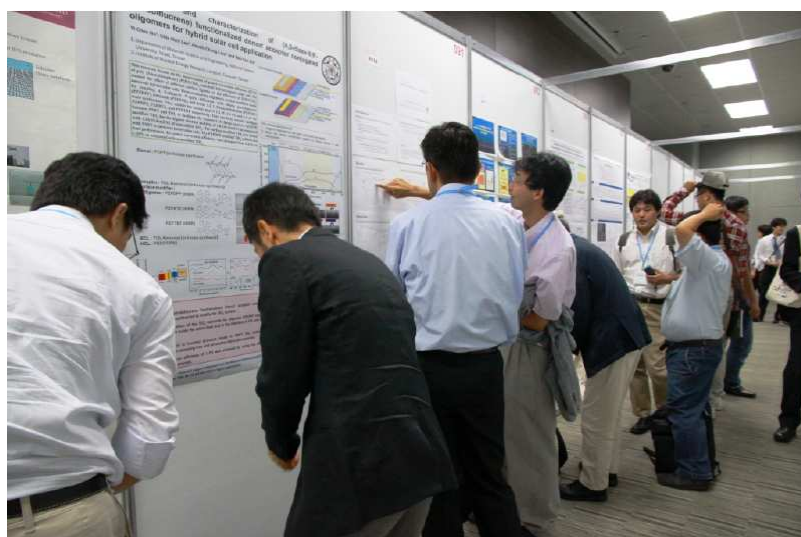
















Photos from the meeting 9/21









Special thanks to
the team members that made this meeting successful!

趙基揚教授、郭錦龍教授、溫政彥教授、張瑛梅
小姐、呂碧玲小姐、林由莉小姐、黃冠涵小姐、
吳明松先生、游忠憲先生、陳信安先生、徐鳳貞
小姐、陳玲珍小姐、彭成鑑博士、李智美小姐、
林錕松教授、孫安正教授、洪逸明教授、何政恩
教授、沈家傑教授、闕郁倫教授、林皓武教授、
吳怡璇小姐、魏慧琪小姐

and

to all organizers and participants of the meeting
& MRS-T