

# MIRAI 國際精微製造研討會

March  
25~26  
2015

The 8th Manufacturing Institute for Research on Advanced Initiatives  
- The 8th MIRAI Conference -

## 前言

MIRAI(Manufacturing Institute for Research on Advanced Initiatives) 國際研討會係由IJWMF(International Joint Workshop on Micro Fabrication)演進而來。IJWMF由日本理化學研究所(RIKEN)與韓國生產技術研究院(KITECH)於1999年首次於日本舉辦(創辦人RIKEN之Dr.Ohmori)，之後輪流在日、韓舉辦，2007年加入美國與台灣，並首次在美國(U.C.Berkeley)舉辦，且擴充為MIRAI Conference。金屬中心(MIRDC)曾於2008年在高雄主辦一次，頗獲各界好評。第八屆MIRAI Conference將於2015年3月下旬再次由金屬中心在台主辦，本次會議將有來自日、韓、美、台及大陸等地之學者、專家發表精微製造技術相關論文20餘篇，並將安排參觀精微模具及成形實驗室等參訪行程，為吸收技術新知及國際交流之一大良機。

## 活動日程表

### March 25 (三)

Time	content	Section Chair	Speaker	Remarks
9:00-9:20	Registration			MIRDC
9:20-9:30	Welcome remarks	Dr. H.C. Fu, CEO (MIRDC)	Dr. H.C. Fu, CEO (MIRDC)	Auditorium
9:30-9:40	Honored Guest speaking		Officer	Auditorium
9:40-10:20	Keynote Speech #1 Ultrafine and Micro-mechanical fabrication for Green Technology		Dr. Hitoshi Ohmori (RIKEN)	Auditorium
10:20-10:40	Coffee break			MIRDC
10:40-11:05	Oral presentation #1 The additive manufacturing bone nail after treatment process using ultrasonic vibration assisted machining technology		Tsung-Pin Hung	Auditorium
11:05-11:30	Oral presentation #2 Effects of a continuous hybrid process on mechanical property, microstructure and texture evolution of a low-carbon steel wire		Sun Kwang Hwang	Auditorium
11:30-11:55	Oral presentation #3 A study on high quality and high efficiency CMP of SiC substrate with special shape abrasive		Hideaki Nishizawa	Auditorium
11:55-12:20	Oral presentation #4 Influence of surfactant on the friction and wear performance of boric acid based lubricant		Jong-Hyoun Kim	Auditorium
12:20-13:00	Lunch			MIRDC
13:00-13:50	Show Room and Lab. Visiting			MIRDC(Four groups & four locations, 2 locations/day)
13:50-14:15	Oral presentation #5 The study of high functional shearing die manufactured by additive manufacturing process using various materials		Myoung Pyo Hong	Auditorium
14:15-14:40	Oral presentation #6 Analysis of Cutting Path Effect on AE Signal Based Tool Wear Monitoring System in Micro Milling		Ming-Chyuan Lu	Auditorium
14:40-15:05	Oral presentation #7 Using a punch with micro ridges to reduce process stages of brass connectors		Cheng-Yu Yang	Auditorium
15:05-15:30	Oral presentation #8 Study of Punching Process on Electrical Steel with Low Deterioration of Iron Loss		Yu-Da Liu	Auditorium
15:30-15:50	Coffee break			MIRDC
15:50-16:15	Oral presentation #9 Assessment on power consumption of machine tool feed drive units		Sangkee Min	Auditorium
16:15-16:40	Oral presentation #10 Tribological Properties of Cr2N Ceramic Films with Tungsten Dopant		C.W.Chu	Auditorium
16:40-17:05	Oral presentation #11 Study on a rotational speed/pressure polishing for hard-to-process materials using Dilatancy <sup>TM</sup>		Hideaki Nishizawa and Sachi Murakami	Auditorium
17:05-17:30	Oral presentation #12 Fabrication Micro-Tools by Ni-/Ni-Co Diamond Electro-deposition and Their Application to Micro-EDM Grinding of Precision Molds		Albert Wen-Jeng Hsue	Auditorium
17:30-18:00	Keynote Speech #2 Manufacturing 3.0		Prof. F.Z. Fang (Tianjin Univ.)	Auditorium
18:00-20:00	Banquet			At MIRDC (buffet&performance)
20:00-20:30	Return Hotel			"THE LEES" Hotel

### March 26 (四)

Time	content	Speaker	Remarks
08:45-09:15	Registration		MIRDC
09:15-09:40	Oral presentation #13 Measurement of multi-degree-of-freedom for precision linear stage by using an optical encoder	Tsai, Hsiu-An	Auditorium
09:40-10:05	Oral presentation #14 Synthesis and characterization of electrochemical-exfoliated graphene nanosheets	Wei-Ren Liu	Auditorium
10:05-10:30	Oral presentation #15 A Study on the Surface Deflection in Automobile Exterior Body by Stoning and Curvature Analysis	Wan Jin Chung	Auditorium
10:30-10:50	Coffee break		MIRDC
10:50-11:15	Oral presentation #16 The Effective Cutting Edges of Diamond Tools for Ductile Mode Cutting of Sapphire	Hiroshi Kasuga	Auditorium
11:15-11:45	Keynote Speech #3 The US Manufacturing Technology and Policy Trend	Dr. Sangkee Min (U.C. Berkeley)	Auditorium
11:45-12:30	Lunch		MIRDC
12:30-13:20	Show Room and Lab. Visiting		MIRDC(Four groups & four locations, 2 locations/day)
13:20-18:00	City sightseeing <small>(only for foreign visitors and staffs at MIRDC)</small>		Kaohsiung
18:00-19:00	Return Hotel		"THE LEES" Hotel
19:00-21:00	Banquet		At "THE LEES" Hotel (Only for foreign visitors and staffs at MIRDC)

## 報名及繳費

- 報名時間：即日起至 **104/03/20** 止
- 通訊報名：請填寫報名表後寄至811高雄市楠梓區高楠公路1001號『金屬工業研究發展中心 產業人力發展組收』
- 傳真報名：請填寫報名表後傳真至(07)3533971或(07)3534316
- E-mail報名：請填寫報名表後E-mail至anita@mail.mirdc.org.tw
- 網路報名：  
[http://learning.mirdc.org.tw/class\\_detail.aspx?class\\_no=04R001](http://learning.mirdc.org.tw/class_detail.aspx?class_no=04R001)
- 報名費：
  - (1)發表作者(含共同發表者)及國外人士免費
  - (2)金屬中心會員工廠會員、台灣精微製造聯誼會會員及台灣電加工學會會員免費，報名時請提供會員編號
  - (3)一般參加者每人新台幣1,000元，學生每人新台幣500元。
  - (4)請於3/20前完成報名及繳費(費用包含教材、午餐、茶水、點心、03/25晚餐及營業稅)。
- 繳費辦法：
  - a.郵局劃撥：劃撥帳號00420048(請註明參加MIRAI研討會與服務單位)  
※郵政處理時間約一星期，劃撥收據請保留妥當
  - b. ATM轉帳：兆豐銀行代號 017，帳號00220009670轉帳後請將轉帳明細註明班別及學員姓名傳真至07-3534316；或個人轉出帳號後五碼、研討會名稱及學員姓名Email至betty@mail.mirdc.org.tw；或來電確認(請於上班時間每日17:00以前) 07-3513121轉2447 陳小姐
  - c.電匯：(請將匯款資料及所需要參加課程資料一併回傳) 帳戶名稱"83300307 財團法人金屬工業研究發展中心"入帳銀行名稱"兆豐國際商業銀行 港都分行" 解款行代號"0170022" 入帳帳號"00220009670" 請傳真至07-3534316或來電確認07-3513121轉2447 陳小姐
- 洽詢電話：(07)3513121 轉2478 or 2448林小姐

## 活動相關訊息查詢：

<http://mirai2015.infolindex.html>

指導單位：經濟部技術處、高雄市政府經濟發展局

主辦單位：財團法人金屬工業研究發展中心

協辦單位：台灣精微製造聯誼會、Izumi 台灣電加工學會、RIKEN 日本 RIKEN、

KITECH 韓國 KITECH、中國天津大學、mirai 美國 University of California, Berkeley