### Agenda of APSTP 2019 & AWMFT2019

**Day 1: Wednesday, July 31, 2019**  
★ Conference Tower 7F #703

<table>
<thead>
<tr>
<th>Time</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>18:00-20:00</td>
<td>Registration</td>
</tr>
<tr>
<td>18:30-20:00</td>
<td>Welcome reception</td>
</tr>
</tbody>
</table>

**Day 2: Thursday, August 1, 2019**  
★ Conference Tower 7F

<table>
<thead>
<tr>
<th>Time</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30-16:00</td>
<td>Registration</td>
</tr>
<tr>
<td>9:00-9:10</td>
<td>Opening Speech</td>
</tr>
</tbody>
</table>
| 9:10-10:00 | Keynote Speech I  
Title: Integrated, Multi-disciplinary Approaches for Micro-Manufacturing Research and Personal View on Future Opportunities and Challenges  
Speaker: Professor Yi Qin  
Chairman: Professor Ming YANG  
★ Conference Tower #703 |
| 10:00-10:20| Break                                           |
| 10:20-12:20| Session A-I Evaluation of material properties I  
Chairman: Prof. Xinyun Wang  
★ Conference Tower #703  
TP001 Research on the thermoplastic formability of lightweight Ti-based bulk metallic glasses  
Pan Gong, Kefu Yao, Xinyun Wang  
TP002 Remodeling of Dies and Plug for Reducing Residual Stress of Cold-drawn Duplex Stainless Steel Tube using Finite Element Analysis  
Bae Seongjun, Lee Kwang Seok, Jung Joong Eun |
|            | Session B-I Micro processes I  
Chairman: Prof. Debin Shan  
★ Conference Tower #701  
MF001 Highly-uniform micro/nano structures of metallic glasses prepared by die-imprinting technology  
K. F. Yao, X. Liu, G.L. Gu  
MF002 Development of precision glass molding machine for micro-nano optics  
Tianfeng Zhou |
|            | Session C-I Special Session"Young Researcher Forum on Advanced Materials Processing and Modeling"  
Chairman: Prof. Tsuyoshi Furushima  
★ Conference Tower #702  
Numerical/Experimental investigation of the local heat treatment for improving sheet metal forming processes  
Gianfranco Palumbo (Polytechnical University of Bari, Italy)  
Material inhomogeneous modeling for real micro metal forming  
Tsuyoshi Furushima (The University of Tokyo, Japan) |

---

**1/6**
<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Chairmen</th>
<th>Tower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session A-II</td>
<td>Evaluation of material properties II</td>
<td>Chairman: Prof. Kunio Hayakawa</td>
<td>#703</td>
</tr>
</tbody>
</table>

| Session B-II | Micro processes II                                                  | Chairman: Prof. Tomomi Shiratori                                        | #701  |

| Session C-II | Simulation and modelling I                                          | Chairman: Prof. Tetsuo Oya                                                | #702  |

| Invited paper | TP009 | Material Modeling of Cold-Rolled Steel Sheet and Effects on the Accuracy of Hole Expansion Forming Simulation | Kazuhiro Ichikawa, Toshihiko Kuwabara |

| MF008 | Research on the ultrasonic assisted micro-forming process with different vibration modes | Guangchao Han, Yulan Lei, Zhaochen Zhang, Linhong Xu |

| MF009 | Microstructure evolution and forming quality in electrically-assisted drawing of thin-walled superalloy capillary | Yizhe Liu, Bao Meng, Yuechao Zhao, Min Wan |

| TP024 | Finite Element Study on Sheet Metal Forming with an Elastic Blankholder Supported by Individual Length-Adjustable Pins | Kuang-Jau Fann, Mathias Liewald, Kim Riedmüller, Ranko Randonjic, Celalettin Karadogan |

<p>| TP025 | Numerical Analysis of Effect of Coverage on Curvature in Peen Forming | Yoshihiro Sato, Takahiro Ohta, Taiga Okai, Akihiko Inoue, Akira Kono |</p>
<table>
<thead>
<tr>
<th>Session A-III</th>
<th>Session B-III Die and surface treatment I</th>
<th>Session C-III Simulation and modelling II</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:30-16:00</td>
<td>16:00-16:20 Break</td>
<td>16:20-17:50</td>
</tr>
<tr>
<td>TP010 The superplastic characteristics and forming process of LZ91 Mg-Li alloy</td>
<td>MF010 Electrical heating assisted forging using surface modified punch</td>
<td>TP026 Simulation of curing process for composite thin-walled parts And Deformation prediction</td>
</tr>
<tr>
<td>Shaosong Jiang, Yong Jia, Ying Zhu</td>
<td>Takeaki Noro, Tetsuhide Shimizu, Ming Yang</td>
<td>Zhang Li, Guo Xin-jun, Pan Xin</td>
</tr>
<tr>
<td>TP011 Influence of vibrational loading on the deformation behavior of Zr50Cu46Al4 metallic glass thin film</td>
<td>MF011 Influence of scale on interfacial pattern of multilayered imprinting</td>
<td>TP027 Numerical analysis of high-speed resistance heating and cooling process of CFRTP press mold</td>
</tr>
<tr>
<td>Mao Zhang, Jiacheng Zhang, Qiaomin Li, Xinyun Wang</td>
<td>Kazuki Tokumaru, Kazuhiro Yonekura, Fujio Tsumori</td>
<td>Kosei Suzuki, Kota Yamahaku, Kunio Hayakawa</td>
</tr>
<tr>
<td>TP012 Microstructure evolution on Al/Al welding interface and steel/Al diffusion interface during the extrusion process of the fiber-reinforced aluminum-based composite profile</td>
<td>MF012 The effects of initial specimen size and current density on deformation behavior of electrically-assisted micro-compression in Ti-6Al-4V alloy</td>
<td>TP028 Mechanical response of a single crystal of magnesium when undergoes a simple tension test</td>
</tr>
<tr>
<td>Cunsheng Zhang, Wei Kong, Mingfu Liu</td>
<td>Jianxing Bao, Jie Xu, Jianan Bai, Debin Shan, Bin Guo</td>
<td>Giorgio Vago, Tetsuo Oya</td>
</tr>
<tr>
<td>TP013 Combined Effect of Pre-strain at Elevated Temperature and Pre-aging on Aging Strength and Microstructures of AA6082</td>
<td>MF013 Comparative study on effect of electricity on uniaxial tensile test of magnesium alloy AZ31B</td>
<td>TP029 Constitutive relationship for modelling superplastic behavior of Zn-0.05Mg biodegradable alloy</td>
</tr>
<tr>
<td>Zhenhai Xu, Ru Chen, Debin Shan</td>
<td>Ichsan Indhiarto, Tetsuhide Shimizu, Tsuyoshi Furushima, Ming Yang</td>
<td>Zhe Du, Bao Meng, Min Wan</td>
</tr>
<tr>
<td>16:00-16:20 Break</td>
<td>Invited paper</td>
<td>MF014 Construction of material constitutive relationship based on surface-layer model at the micro-scale</td>
</tr>
<tr>
<td>TP014 Study of Bonding Behavior at Welding Surface in Aluminum Alloy Tube Extrusion</td>
<td>TP019 Friction Properties of Laminate Film for Battery Case of Automobile</td>
<td>Jiqiang Zhai, Yanjin Guan, Weiguo Wang</td>
</tr>
<tr>
<td>Yeong-Maw Hwang, I-Peng Hsu</td>
<td>Susumu Takahashi, Kosuke Suzuki</td>
<td></td>
</tr>
<tr>
<td>TP015 A Study of Rollover Distribution along Convex and Concave Punched Contours</td>
<td>MF014 Nano-scale stress relaxation effect on formability by molecular dynamics simulation</td>
<td>Quang-Cherng Hsu, Bao-Hsin Liu, Anh-Tuan Dang, Jau-Wen Lin</td>
</tr>
<tr>
<td>Kozoh Katoh, Kazuyoshi Kondo, Tokiyasu Yokoh, Takayuki Naitoh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TP016 A novel porthole die co-extrusion process to fabricate Al/Mg/Al laminate</td>
<td>TP020 Tribological characterization of carbon-based films containing diamond structures using MVP method</td>
<td>MF016 Numerical investigation on the effect of microforming loads on the precision of desktop press</td>
</tr>
<tr>
<td>Liang Chen, Jianwei Tang, Xingrong Chu, Tao Wu</td>
<td>Hiroshi Okubo, Ippei Tanaka, Yasunori Harada</td>
<td>Mohammad Ali Mirzai, Sepehr Farrahi</td>
</tr>
<tr>
<td>Session</td>
<td>Title</td>
<td>Authors</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>TP017</td>
<td>Effect of Deformation Rate on Lubrication Performance of Environmentally Friendly Lubricant in Cold Forward Can – Backward Can Combined Extrusion</td>
<td>Ippei Takahashi, Kunio Hayakawa, Yoshihiro Kubota, Itaru Ishibashi, Tamotsu Nakamura</td>
</tr>
<tr>
<td>TP021</td>
<td>Die Design Procedure to Roll Forge a Dog-Bone Shaped Round Bar</td>
<td>Kuang-Jau Fann, Hao-Yu Hsieh, Hermann Eratz, Bo-Hao Peng</td>
</tr>
<tr>
<td>MF017</td>
<td>An investigation on the flow of material during the roll-to-plate micro imprinting process based on crystal plasticity finite element simulations</td>
<td>Zhutian Xu, Linfa Peng, Xinmin Lai</td>
</tr>
<tr>
<td>TP018</td>
<td>Stress Superposition for Axial Load Reduction and Strain Increase in Forging Process</td>
<td>Ryo Matsumoto, Hiroshi Utonomiya</td>
</tr>
<tr>
<td>TP022</td>
<td>Optimization of Edge Rounding of a Cutting Tool</td>
<td>Shinn-Liang Chang, Cheng-Hsiung Chen, Yao-Ting Tsai, Wei-Tsung Lai, Cheng-Ru Zhan, Hong-Lin Lin</td>
</tr>
<tr>
<td>TP023</td>
<td>Fabrication of Miniature Metal Die Using Solvent-Free Slurry Printing System</td>
<td>M Fahrur Rozy Hentihu, Cho-Pei Jiang, Jia-Chang Wang</td>
</tr>
</tbody>
</table>

Day 3: Friday, August 2, 2019

**Registration**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session A-IV Micro materials and evaluations I</th>
<th>Session B-IV Dies and surface modification II</th>
<th>Session C-IV flexible forming</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00-9:50</td>
<td>Chairman: Prof. Mingwang Fu</td>
<td>Chairman: Prof. Tatsuhiko Aizawa</td>
<td>Chairman: Prof. Yasunori Harada</td>
</tr>
</tbody>
</table>

Banquet on the cruise ship
### MF019
**Mechanism study and optimized technology of multi-pass drawing process for ultrafine-grained Inconel 718 micro-tubes**
Biao Cui, Min Wan, Rui Zhao, Bao Meng

### MF020
**Grain refinement and texture modification of thin Mg-3Al-1Zn sheets by ECAB method**
Ming Cheng, Shi-hong Zhang, Shuai-feng Chen

### MF021
**Influence of surface treatment on the single-lap bonding strength of aluminum/CFRP joints**
Kwang Seok LEE

### MF022
**Size dependent yield behavior of metal foils under multiaxial stress states**
Cheng Cheng, Min Wan, Bao Meng

### MF023
**Study on scale effect in micro-tensile deformation of a nickel-based superalloy**
Qiang Zhu, Chuanjie Wang, Gang Chen, Peng Zhang

### MF024
**Grain refinement and texture modification of thin Mg-3Al-1Zn sheets by ECAB method**
Ming Cheng, Shi-hong Zhang, Shuai-feng Chen

### MF025
**Fabrication of Micro-Punch Array by Plasma Printing for Micro-Embossing into Copper Substrates**
Tatsuhiko Aizawa, Tomomi Shiratori, Yasuo Saito

### MF026
**Short-Pulse Laser Trimming of CVD-diamond Coated Punch for Fine Piercing**
Tatsuhiko Aizawa, Tomomi Shiratori, Tadahiko Inohara

### MF027
**Analysis of Accuracy during Double Sided Incremental Forming by Incorporating Machine Errors in Tool Path**
Praveen Konka, Rakesh Lingam, Shiva Prasad Cherukupally, Venkata Reddy Nallagundla

### MF028
**Fabrication of Micro-Punch Array by Plasma Printing for Micro-Embossing into Copper Substrates**
Tatsuhiko Aizawa, Tomomi Shiratori, Yasuo Saito

### MF029
**Short-Pulse Laser Trimming of CVD-diamond Coated Punch for Fine Piercing**
Tatsuhiko Aizawa, Tomomi Shiratori, Tadahiko Inohara

### MF030
**Fabrication of Micro-Punch Array by Plasma Printing for Micro-Embossing into Copper Substrates**
Tatsuhiko Aizawa, Tomomi Shiratori, Yasuo Saito

### MF031
**Effect of laser remelting on the surface roughness of selective laser melted part**
Tae woo Hwang, Sang-wook Han, Young-hoon Moon

### MF032
**Microstructure evolution of magnesium alloy cylindrical parts with inner ribs during hot power spinning**
Qinxiang Xia, Shuai Yuan, Jinchuan Long, Gaozhu Huang, Xuquan Cheng

### MF033
**Analysis of Accuracy during Double Sided Incremental Forming by Incorporating Machine Errors in Tool Path**
Praveen Konka, Rakesh Lingam, Shiva Prasad Cherukupally, Venkata Reddy Nallagundla

### MF034
**Analysis of Accuracy during Double Sided Incremental Forming by Incorporating Machine Errors in Tool Path**
Praveen Konka, Rakesh Lingam, Shiva Prasad Cherukupally, Venkata Reddy Nallagundla

### MF035
**Analysis of Accuracy during Double Sided Incremental Forming by Incorporating Machine Errors in Tool Path**
Praveen Konka, Rakesh Lingam, Shiva Prasad Cherukupally, Venkata Reddy Nallagundla

### MF036
**Analysis of Accuracy during Double Sided Incremental Forming by Incorporating Machine Errors in Tool Path**
Praveen Konka, Rakesh Lingam, Shiva Prasad Cherukupally, Venkata Reddy Nallagundla

---

**Keynote Speech IV**

Title: DENSO’s "Co-Creation IoT" and its technology

Speaker: Mr. Yohei Fujimoto

Chairman: Prof. Susumu Takahashi

★ Conference Tower #703
<table>
<thead>
<tr>
<th>Session A-V Micro materials and evaluations II</th>
<th>Session B-V Dies and surface modification II</th>
<th>Session C-V Product Measurement and others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairman: Prof. Hyoung Seop Kim</td>
<td>Chairman: Prof. Tetsuhide Shimizu</td>
<td>Chairman: Prof. Quang-Cherng Hsu</td>
</tr>
<tr>
<td>★ Conference Tower #703</td>
<td>★ Conference Tower #701</td>
<td>★ Conference Tower #702</td>
</tr>
</tbody>
</table>

Invited paper

MF024 Damage and fracture in multi-scaled deformation-manufacturing
Mingwang Fu

MF035 Photolithography fine patterning on mold surface for the metal scale of rotary encoder
Yuta Yamada, Jiwang Yan, Minoru Sasaki

TP037 Automatic Rib Height Measurement and Burr Detection for Large Hollow Shaft of Sheet Metal Forming Parts
Jhan-Hong Ye, Zi-Rong Ye, Quang-Cherng Hsu

MF036 Randomization of metallic texture of ultra-fine grained stainless steel by superplastic deformation
Takaya Takeuchi, Hidenori Yoshimura, Masahito Kato, Tomomi Shiratori, Tomoaki Yoshino

TP038 Research on Feature Extraction Technology for Digital Detection of Composite Materials
Zhang Li, Che Wencheng

MF025 Investigation on surface quality and establishment of the prediction model for micro metal forming processes
Juanjuan Han, Yao Lin, Wei Zheng, Guangchun Wang

MF037 On the tribological performance of laser-textured DLC patterns under dry sliding friction
Tetsuhide Shimizu, Gaito Sugiyama, Hironori Kan, Hamza Messaoudi, Frank Vollertsen, Ming Yang

TP039 Data Fusion and Uncertainty Analysis of Heterogeneous-network Coordinate Measuring System
Zhang Li, Pan Xin, Che Wencheng

MF026 Plastic deformation size effects in micro tension of Cu/Ni clad foils
Chuanjie Wang, Haiyang Wang, Gang Chen, Peng Zhang

MF038 Influence of strain-induced martensitic transformation of austenitic stainless steel sheet in precision blanking on cut-surface quality
Yohei Suzuki, Tomomi Shiratori, Ming Yang, Masao Murakawa

TP040 Defects analysis and quality improvement on multi-position progressive stamping forming of aluminum foil
Teng Xu, Qinxiang Xia, Yabing Chen, Xiaoyu Wu

MF027 Study on Ultra-High Temperature Fracture Mechanism of NiAl Intermetallic after Hot Forging Compounds by In-situ Micro-tensile
Kaifeng Zhang, Zheng Lu, Shaosong Jiang, Dekai Liu

TP041 Effect of Powder Mold Release Agent Amount on Heat Transfer Characteristics for Gravity Casting of Aluminum Alloy
Kuiyuan Mu, Kunio Hayakawa, Hidetaka Shima, Aimu Hujihara

---

14:30-15:50

MF024 Damage and fracture in multi-scaled deformation-manufacturing
Mingwang Fu

MF035 Photolithography fine patterning on mold surface for the metal scale of rotary encoder
Yuta Yamada, Jiwang Yan, Minoru Sasaki

TP037 Automatic Rib Height Measurement and Burr Detection for Large Hollow Shaft of Sheet Metal Forming Parts
Jhan-Hong Ye, Zi-Rong Ye, Quang-Cherng Hsu

15:50-16:10 Break

16:10-16:40 Closing ceremony

Day 4: Saturday, August 3, 2019

★ Conference Tower 1F

Technological tour

9:30-12:00 Visiting the exhibition booths of major exhibition companies in MF-Tokyo 2019

★ Tokyo Bigsight West Exhibition