



5th JSTP International Seminar on Precision Forging

Organized by the Japan Society for Technology of Plasticity



Program of Lectures and Oral Presentations

March 16, 2009:

Lecture by 2008 JSTP International Prize Winner

Chairman: *S. Hamaya (Nichidai Corporation, Japan), N. Yukawa (Nagoya University, Japan)*

10:15-11:00 *What are the Global Challenges for the Future and Which Developments in Metal Forming are Necessary?*

R. Kopp (RWTH Aachen, Germany)

Keynote Lectures

Chairman: *S. Hamaya (Nichidai Corporation, Japan), N. Yukawa (Nagoya University, Japan)*

11:00-11:30 *Points for the Research and Development of Manufacturing Technology*

K. Kondo (Toyota Technological Institute, Japan)

11:30-12:00 *Development of Forging Technology in TOYOTA*

H. Morishita (Toyota Motor Corp., Japan)

Keynote Lectures

Chairman: *M. Shiomi (Kogakuin University, Japan), I. Takasu (Sanyo Special Steel Co., Ltd., Japan)*

13:00-13:30 *History and Future of Cold Forging in Japan*

K. Osakada (Osaka University, Japan)

13:30-14:00 *Introduction of Flow Control Forming (FCF) for Sheet Forging and New Presses*

T. Nakano (Aida Engineering, Ltd., Japan)

14:00-14:30 *Incremental Forging using Servo-Press and Robot*

T. Ishikawa (Nagoya University, Japan)

14:30-15:00 *Theoretical Prediction and Experimental Methods for Forgeability Evaluation and its Applications to Precision Forging*

R-S. Lee (National Cheng Kung University, Taiwan)

15:00-15:30 *Chevron Cracks in Extrusion: Modeling and Prevention*

A.E. Tekkaya (Dortmund University, Germany)

Oral Presentations

Chairman: *T.A. Dean (The University of Birmingham, UK)*

16:00-16:20 *Fully Finished Splines and Semi Finished Gears by Forging*

T. Hofmann (Hirschvogel Umformtechnik GmbH, Germany)

16:20-16:40 *Numerical Simulation and Optimization Analysis on Hot Die Forging Process of Titanium Alloy Compressor Disc*

M. Cheng (Chinese Academy of Sciences, China)

16:40-17:00 *Analysis of Cropping Operation in Cold Forging through Numerical and Experimental Techniques*

M. Simionato (University of Padova, Italy)

17:00-17:20 *FE Analysis of Shearing Process using Ductile Fracture Parameters Determined by Density Measurement Method*

T. Ishiguro (Nagoya University, Japan)

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Chairman: *K. Hayakawa (Shizuoka University, Japan), S. Enomae (Komatsu Industries Corp., Japan)*

9:15-10:00 *Added Value through Thermo-mechanical Processing*

T.A. Dean (The University of Birmingham, UK)

Keynote Lectures

Chairman: *K. Hayakawa (Shizuoka University, Japan), S. Enomae (Komatsu Industries Corp., Japan)*

10:00-10:30 *Tool Failure in Cold Forging - A Brief Survey*

M. Haensel (Thyssenkrupp Presta AG, Liechtenstein)

10:30-11:00 *The Single Process Lubricant for Cold Forming*

M. Yoshida (Nihon Parkerizing Co.,Ltd., Japan)

11:00-11:30 *Some Comments on Friction Evaluation at Combined Backward Can-Forward Rod Cold Extrusion*

K. Kuzman (University of Ljubljana, Slovenia)

11:30-12:00 *Current Status and Future Trend of Controlled Forging Technology*

S. Isogawa (Daido Steel Co.,Ltd., Japan)

Oral Presentations

Chairman: *A.E. Tekkaya (Dortmund University, Germany)*

14:20-14:40 *Reduction of Friction in Forging of Plates by Load Oscillation*

T. Maeno (Toyohashi University of Technology, Japan)

14:40-15:00 *Factors Affecting Calibration Curves for the Ring Test*

Y-P. Lin (University of Birmingham, UK)

15:00-15:20 *Bulk Deformation in Cube-and Ring-compression for Materials with Anisotropy*

M. Terano (Nagoya Institute of Technology, Japan)

15:20-15:40 *Physical Modeling of Surface Asperities for Basic Investigations on Tribology in Cold Forging*

S. Weidel (University of Erlangen-Nuremberg, Germany)

Chairman: *R. Kopp (RWTH Aachen, Germany)*

16:00-16:20 *Some Comments on Cold Finishing Operations of Hot Forging*

J. Ravnican (Unior, d.d., Slovenia)

16:20-16:40 *Defect Analysis and Preform Optimization in Precision Forging of Compressor Blade of TC11 Titanium Alloy*

W. Xu (Harbin Institute of Technology, China)

16:40-17:00 *Forgeability Analysis of Magnesium Alloy AZ31B and Hot Forging Experiments*

J. Liu (Shanghai Jiao Tong University, China)

17:00-17:20 *Prediction of Forming Limit by Cylinder Side Pressing and Energy Fracture Criterion in Cold Forging*

Y-J. Chen (National Cheng Kung University, Taiwan)