



4th JSTP International Seminar on Precision Forging

Organized by the Japan Society for Technology of Plasticity
--- *Future Challenges in Precision Forging Technology* ---



Program of Lectures and Oral Presentations

March 21, 2006:

Lecture by 2005 JSTP International Prize Winner

Chairman: *M. Shiomi (Osaka University, Japan)*

10:00-10:30 *Recent Developments of Precision Forging in Japan*

K. Osakada (Osaka University, Japan)

Keynote Lectures

Chairman: *M. Shiomi (Osaka University, Japan)*

10:30-10:55 *Some Contributions to the Stability of Cold Forming Processes*

K. Kuzman (University of Ljubljana, Slovenia)

10:55-11:20 *Metal Forming Striking New Paths*

R. Kopp (RWTH Aachen, Germany)

11:20-11:45 *Digital Innovation for Forging Processes*

S. Fujikawa (Nissan Motor Co., Ltd., Japan)

Keynote Lectures

Chairman: *S. Hamaya (Nichidai Corporation, Japan)*

13:25-13:50 *Net Shape Forging of an External Helical Gear with Boss and Internal Spline*

K. Kondo (Toyota Technological Institute, Japan)

13:50-14:15 *Forging Process Simulation and Casting Tool Design Rules for Rheology Forming*

C.G. Kang (Pusan National University, Korea)

14:15-14:40 *Technology and Application of Servo Press*

S. Enomae (Komatsu Industries Corp., Japan)

Oral Presentations

Chairman: *N. Bay (Technical University of Denmark, Denmark)*

15:00-15:15 *Analysis of the Double Cup Extrusion Test for Evaluation of Lubricants*

M. Shirgaokar (The Ohio State University, USA)

15:15-15:30 *Industrial Ceramics in Cold Forging: Increasing Surface Quality and Dimensional Accuracy*

A. Putz (University of Erlangen-Nuremberg, Germany)

15:30-15:45 *Recent Developments and Trends in Manufacturing of Precision Forging Dies by High-Speed Cutting*

R. Schramme (Hirschvogel Umformtechnik GmbH, Germany)

15:45-15:55 Discussion

Chairman: *T. Altan (The Ohio State University, USA)*

15:55-16:10 *Method to Estimate Workpiece-Die Heat Transfer Coefficient on Precision Warm Forging Process*

A.L. Jr. Lenhard (Universidade Federal do Rio Grande do Sul, Brazil)

16:10-16:25	<i>Stiffness and Contact-Time of Presses in Forging Operations</i> A. Ghiotti (University of Padova, Italy)
16:25-16:40	<i>Hot-Die Forging Press with Adaptive CNC for Hot-Die Precision Forging</i> Y. Gladkov (Bauman Moscow State Technical University, Russia)
16:40-16:50	Discussion

March 22, 2006:

Lecture by 2005 JSTP International Prize Winner

Chairman: S. Fujikawa (Nissan Motor Co., Ltd., Japan)

9:00-9:30	<i>Modelling and Testing of Friction and Lubrication in Metal Forming</i> N. Bay (Technical University of Denmark, Denmark)
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Keynote Lectures

Chairman: S. Fujikawa (Nissan Motor Co., Ltd., Japan)

9:30-9:55	<i>Evaluation of Tribological Characteristics by Forging Type Friction Tests</i> T. Nakamura (Shizuoka University, Japan)
9:55-10:20	<i>Method and Application of Hard Coatings</i> M. Yasuoka (Nachi-Fujikoshi Corp., Japan)

Keynote Lectures

Chairman: R. Matsumoto (Osaka University, Japan)

10:30-10:55	<i>Application of Technology to Compete Successfully in Precision Forging</i> T. Altan (The Ohio State University, USA)
10:55-11:20	<i>Effect of Carbide Morphology on Material Property of Forging Die Steels</i> T. Shimizu (Daido Steel Co., Ltd., Japan)
11:20-11:45	<i>Prediction of Dimensional Difference of Product from Tool in Cold Forging</i> T. Ishikawa (Nagoya University, Japan)

Oral Presentations

Chairman: R. Kopp (RWTH Aachen, Germany)

13:30-13:45	<i>Process Improvements of Hot Forging with Hub Bearing Parts by Applying 3-D CAE Analysis</i> M. Nakasaki (Sanyo Special Steel Co., Ltd., Japan)
13:45-14:00	<i>Flashless Precision Forging of Flat Long Pieces</i> A. Specker (Institute for Integrated Production Hannover, Germany)
14:00-14:15	<i>Analysis of Cold Forging Parameters with Taguchi Methods</i> S. Masera (Iskra Avtoelektrika d.d., Slovenia)
14:15-14:25	Discussion

Chairman: K. Kuzman (University of Ljubljana, Slovenia)

14:25-14:40	<i>Prediction of Ductile Fracture in Cold Forming Processes with the Finite Element Method and Artificial Neural Networks</i> D. Breuer (RWTH Aachen, Germany)
14:40-14:55	<i>Applications of Hole Flanging with Counter-Pressure: Gear-Shape Forming and Edge Sizing</i> H-S. Lin (National Formosa University, Taiwan)

14:55-15:10	<i>Numerical Analysis and Design of Pinion with Inner Helical Gear by FEM</i> <i>T-W. Ku (Pusan National University, Korea)</i>
15:10-15:20	Discussion