3rd JSTP International Seminar on Precision Forging

Organized by Japan Society for Technology of Plasticity

PROGRAM (1/2)

March 14, 2004:

17:00 - Registration at (Aichi-)Koseinenkin-Kaikan(Nagoya)

March 15, 2004: Lecture in (Aichi-)Koseinenkin-Kaikan

8:30- 8:45 Opening Ceremony

8:45- 9:30 Key Points for the Development of New Manufacturing Processes
K.Kondo (Toyota Inst. Tech.;Japan)

9:30 -10:15 Micro Production - Chances and Challenges
M. Geiger(University Erlangen-Nuremberg;Germany)

10:15 -10:30 Break

10:30 -11:00 The Role of Hard Tool Coating in Hot and Warm Forging
H.Saiki (Kumamoto University;Japan)

11:00 -11:30 CAE in Forging *.T. Altan (Ohio State Univ.;USA)*

11:30 -12:00 Tribology in Cold Forging *T. Nakamura(Shizuoka Univ.;Japan)*

12:00 -13:30 Lunch

13:30 -14:00 Digital Manufacturing of Die & Mould Technology
X-Y. Ruan(Shanghai J-T. Univ.;China)

14:00 -14:30 Optimization of Tool Life through Advanced Material and Prestress Design of Cold Forging Dies *J. Groenbeak (STRECON A/S;Denmark)*

14:30 -15:00 An Experimental Study of New Redrawing Method Utilizing Axial Compressive Force and Frictional Force *T. Suzumura, S. Ishihara(Toyota;Japan)*

15:00 -15:30 Break

15:30 -16:00 Technical View of Precision Forging and the Die Manufacturing in Japan
S. Hamaya (Nichidai;Japan)

16:00 -16:30 Nano Titanium Steel -Ti-B-added Grain Size Controlled Carburizing Steel -
I. Takasu (Sanyo Special Steel;Japan)

16:30 -17:00 Current Trends in Free Motion Presses *K. Miyoshi (Komatsu;Japan)*

17:00 -18:00 Free

18:00 -20:00 Welcome party & self- introduction of the invited attendants

March 16, 2004

Presentation in (Aichi-)Koseinenkin-Kaikan(Nagoya)

8:30 -17:40 Presentation by the Invited Attendants and discussion(see next page)

18:00 -19:00 Dinner

19:00 -21:00 Panel discussion –Is CAE useful in forging scene?-
Chairperson: *T. Altan (Ohio State Univ.;USA) & K. Osakada(Osaka Univ.;Japan)*

March 17, 2004

Visit to Denso Corp.(Cold Forging) & Toyota Motor Corp.(Hot Forging)

March 18, 2004

Check out if you will leave Nagoya.

Visit to Toyota Commemorative Museum of Industry and Technology and Nichidai Corp.(Die Making and Precision Forging)

Farewell Party at Nichidai

Disperse at Kyoto station or
Go back to (Aichi-)Koseinenkin-Kaikan(Nagoya)

March 19, 2004

Check out

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PROGRAM (2/2) [March 16, 2004]

8:30 – 9:50

1. Review of the Hydroforming, Precision Forging and Extrusion Industries in Denmark
   Aalborg University *Lihui Lang (Denmark)*
2. Importance of Cold/Warm Forging to Automobile Industry and Recent Trends in India
   National Physical Laboratory *Anil Kumar Gupta(India)*
3. Cold Forged High Precision Parts for Automotive Starter
   Iskra Avtoelektrika d.d. *Vid Krusic (Slovenia)*
4. Progress in Precision Forging of Connecting Rods in China
   Jinan University *Qian Wang(China)*

9:50 – 10:10 Break

10:10 – 11:50

5. Simulation on the Hot Precision Forming of Double Wall Cup
   Huazhong University *Xin-yun Wang(China)*
6. 3D FEM Numerical Simulation of the Connecting Rod Hot Forging Process
   Shanghai Jiao University *Jun Chen(China)*
7. Ultrasonic Measurement of the Real Contact Area between Die and Ring in Prestressed Cold Forging Tools *University of Erlangen-Nuremberg* *Alexander Putz(Germany)*
8. New Physical Pattern for Better Study of Surface Extension in Aluminium Forming
   IMM-NTNU *Rama Uyyuru(Norway)*
9. Precision Extruding of Spur Gear with Tall Gear Tooth and Great Module and Diameter
   North China Institute of Technology *Baohong Zhang(China)*

11:50 – 13:00 Lunch

13:00 – 15:00

10. Combined Forward-Backward Extrusion of Gear with Reverse Extrusion
    Kumamoto University *Masaaki Otsu(Japan)*
11. Finite Element Simulation of Precision Rotary Forging of a Cartridge Bottom
    Harbin Institute of Technology *Gang Liu(China)*
12. A Rigid-Plastic/Rigid-Viscoplastic FE Simulation using Shifted ICCG Method for Metal Forming
    University of Wollongong *Zhengyi Jiang(Australia)*
13. Simulation of Orbital Forming Process using 3D FEM and Inverse Analysis for Determination of Reliable Flow Stress *Ohio State University* *Hyunjoog Cho(USA)*
14. Three-Dimensional FE Analysis of Forming Processes Based on Thermo-Rigid-Viscoplastic Approach *Yamanaka Eng.Co., Ltd.* *Soo-Young Kim(Japan)*
15. Process Simulation Based Design Optimization of Precision Forging Process
    ProSIM R&D *Shama Shamasunder(India)*

15:00 – 15:20 Break

15:20 – 17:40

16. Application of Finite Element Analysis to the Progressive Die Design Processes for Precision Electronics Parts
    Seoul National University of Technology *Keun Park(Korea)*
17. Tool Life Prediction of Cold Forging Tools by FEM
    KRUPP PRESTA AG *Markus Meidert(Liechtenstein)*
18. Single Process Lubricants for Cold Forging
    Nihon Parkerizing Co., Ltd. *Jun-ichi Minami (Japan)*
19. Ductile Fracture Prediction in Open Die Forging
    Indian Institute of Technology *Venkata Nallagundla(India)*

20. The Effect of Forging Conditions and Heat Treatment on the Hot-forged Aluminum Automotive Components *Korea Institute of Machinery and Materials* *Yong-Nam Kwon(Korea)*
21. Warm Forging Method of Magnesium Alloys Using Material Properties
Osaka University *Ryo Matsumoto(Japan)*
22. Inner Crack Healing of Die Steel 5CrMnMo
Univ. of Science and Technology Beijing *Yongjun Zhang(China)*