INSECT 2011

International Symposium on Electrochemical Machining Technology

Thursday, November 3rd, 2011

8:30 Registration

9:00 Welcome: **C. Kleber**, CEST

Session 1 - Fundamentals of ECM

Chairperson: *B. Mollay*

9:10 – 9:35
M. Brussee: ECM – History and outlook

9:35 – 10:00
M. M. Lohrengel: On the fundamental interface kinetics during ECM

10:00 – 10:25
R. Schuster: Electrochemical microstructuring with ultrashort voltage pulses – limitations and prospective

10:25 – 10:50
M. Boxhammer: Simultaneous control of current density and frontal gap in precise electrochemical machining

10:50 – 11:15
M. Schneider: Choline chloride based ionic liquid – an alternative electrolyte for ECM

11:15 – 11:45 Coffee Break

Session 2 - Materials and Electrolytes

Chairperson: *H. P. Schulze*

11:45 – 12:10
N. Schubert: Investigation of anodic dissolution of cobalt in alkaline solution

12:10 – 12:35
M. Zybura: Electrochemical dissolution of titanium depending on various current used during electrochemical machining process

12:35 – 13:00
K. P. Rataj: Mechanism and product analysis during ECM of metals and carbides

13:00 – 14:10 Lunch

Session 3 - Techniques

Chairperson: *G. Fafilek*

14:10 – 14:35
O. Weber: Surface quality and process behavior during precise electro-chemical machining of cast iron

14:35 – 15:00
M. Hackert-Oschätzchen: Evaluation of the influence of the electric potential in jet electrochemical machining

15:00 – 15:25
P. La Maire: Industrial pulse ECM bipolar power supplies

15:25 – 15:50
R. Zemann: Some practical contributions of the technology of electrochemical micromachining with ultra short pulses

15:50 – 16:15
G. Meichsner: Pulsed electrochemical machining of powder metallurgy steels

from 16:15 Social events

Friday, November 4th, 2011

8:00 Bus transfer to CEST, Wiener Neustadt

Please consider that place of departure will be the conference hotel Regina, Rooseveltplatz 15, 1090 Wien.

Session 4 - Micro-ECM

Chairperson: *M. Brussee*

9:30 – 9:55
H. P. Schulze: Influence of the gas bubble by using of µPECMM

9:55 – 10:20
R. Sueptitz: Forming of bulk metallic glasses by electrochemical micromachining using a micro-tool electrode technique

10:20 – 10:45
S. Skoczypiec: Research on unconventional methods of cylindrical micro-tools manufacturing

10:45 – 11:10
M. Grabowski: Application of DPSS laser beam to improve condition of electrochemical processes

11:10 – 11:40 Coffee Break

Session 5 - Simulation and Modelling

Chairperson: *M. Schneider*

11:40 – 12:05
D. Deconinck: A temperature dependent multi-domain model for numerical simulation of the electrochemical machining process

12:05 – 12:30
E. L. Hotoiu: Simulation of electrochemical micromachining with nanosecond pulses

from 12:30 Lunch