

## SUNDAY 5 APRIL 2009

16:00 Conference Registration (1st Period)  
18:00 *Foyer of Everbright Convention Centre and Hotel*

## MONDAY 6 APRIL 2009

Notes: All Conference Sessions will take place in **Guangyun Room 1**  
Numbers in [ ] indicate abstract book references

07:30 – Conference Registration (2nd Period)  
09:00 *Foyer of Guangyun Room 1*

09:00 **CONFERENCE OPENING AND WELCOME:**  
*R. Felton, Elsevier Ltd, United Kingdom*

### PLENARY SESSION:

Chair: *R. Felton, Elsevier Science, United Kingdom*

09:10 [PS1]  
**Development status and technology innovation in China cemented carbide industry**  
*J. Zhou<sup>1\*</sup>, Z. Zhang<sup>2</sup>; <sup>1</sup>President of China Tungsten Industry Association, Senior Consultant of CNIA, China; <sup>2</sup>Vice President of Zhuzhou Cemented Carbide Group Corporation; China*

09:40 [PS2]  
**Status of PIM business and R&D in Taiwan**  
*K-S. Hwang, National University, Taiwan*

10:10 [PS3]  
**PM market situation in Europe**  
*I. Cremer, President of European Powder Metallurgy Association*

10:30 **REFRESHMENT BREAK** (*Exhibition Hall*)

11:15 [PS4]  
**Powder metallurgy for automotive applications in the overall context of materials research and market forces**  
*R.M. German, San Diego State University, United States*

11:45 [PS5]  
**PM's contribution to the evolution of the automobile engine**  
*C. Molins, AMES SA, Spain*

12:15 – LUNCH *Guangyun 2 Room*  
14:30 Exhibition Viewing

## SESSION 1: HIGH PERFORMANCE PM APPLICATIONS IN THE AUTOMOTIVE SECTOR

Chair: D. Whittaker, *David Whittaker & Associates, United Kingdom*

14:30 KEYNOTE LECTURE  
[K1]  
**Trends in gear manufacturing**  
P. Kauffmann, *WZL-RWTH Aachen, Germany*

14:55 [O1.1]  
**High performance transmission applications**  
G. Stetina and G. Bin; *Miba Sinter, Austria*

15:15 [O1.2]  
**PM materials for gear applications**  
M. Wu, *Hoganas (China) Co Ltd*

15:35 – Discussion  
15:45

15:45 REFRESHMENT BREAK (*Exhibition Hall*)

## SESSION 2: DEVELOPMENTS IN MATERIALS FOR PM STRUCTURAL PARTS

Chair: K.S. Narasimhan, *Hoeganaes Corporation, United States*

16:10 [O2.1]  
**Cost-effective sinter-hardenable ferrous PM materials**  
W.B. James, *Hoeganaes Corporation, United States*

16:30 [O2.2]  
**Low-alloyed Mo-steel powders for high performance PM applications**  
R. Guo, *QMP Metal Powders Ltd., China*

16:50 [O2.3]  
**An introduction to aluminum powder metallurgy (PM) technology**  
J. Joys, *United States Metal Powders Inc, United States*

17:10 [O2.4]  
**New premixes with improved lubrication system**  
P. Skoglund, *Hoganas (China) Co Ltd*

17:30 – Discussion  
17:40

END OF DAY ONE

**TUESDAY 7 APRIL 2009**

### **SESSION 3: PRODUCTION TECHNOLOGY DEVELOPMENTS I**

Chair: **W.B. James**, *Hoeganaes Corporation, United States*

- 09:00**            **[O3.1]**  
**Single press high density processes for higher performance powder metal parts**  
*K.S. Narasimhan, Hoeganaes Corporation, United States*
- 09:20**            **[O3.2]**  
**High temperature sintering equipment**  
*I. Cremer, Cremer GmbH, Germany*
- 09:40**            **[O3.3]**  
**Uniform die filling**  
*M.C. Thomason, Gasbarre Products Inc., United States*
- 10:00**            **[O3.4]**  
**Market trends and cost of HIP processing**  
*T. Knutsson, Avure Technologies, Sweden*
- 10:20 –**            **Discussion**  
**10:30**
- 10:30**            **REFRESHMENT BREAK** (*Exhibition Hall*)

### **SESSION 4: PRODUCTION TECHNOLOGY DEVELOPMENTS II**

Chair: **D. Whittaker**, *David Whittaker & Associates, United Kingdom*

- 11:00**            **[O4.1]**  
**Die wall lubrication**  
*M.C. Thomason, Gasbarre Products Inc., United States*
- 11:20**            **[O4.2]**  
**An industry overview of sinter hardening solutions**  
*L. Chen, Hognas (China) Co Ltd*
- 11:40**            **[O4.3]**  
**Improving Overall Equipment Efficiency of powder compaction systems**  
*I. Zwygart, Osterwalder AG, Switzerland*
- 12:00 -**            **Discussion**  
**12:10**

12:10 – LUNCH *Guangyun 2 Room*  
13:40 Exhibition Viewing

## SESSION 5: METAL INJECTION MOULDING I

Chair: K.P. Mingard, *National Physical Laboratory, United Kingdom*

13:40 KEYNOTE LECTURE

[K2]

**The rapidly emerging market for microminiature MIM medical components and the required technology for participation**

R.M. German, *San Diego State University, United States*

14:05

[O5.1]

**Debinding and sintering problems and solutions for MIM components**

K-S. Hwang, *National University, Taiwan*

14:25

[O5.2]

**PIM technology in 3C applications - flexibility in a fast changing market**

W. Heinke, *BASF Ltd, Hong Kong*

14:45

[O5.3]

**Influence of powder type on processing and properties of components manufactured by MIM**

K. Murray, *Sandvik Osprey Ltd., United Kingdom*

15:05

[O5.4]

**Laminar gas flow and plasma reduces cycle time for powder metal injection moulded parts**

C.J. Joens\*<sup>1</sup>, S. Banerjee<sup>2</sup>; <sup>1</sup>*Elnik Systems, United States*;

<sup>2</sup>*DSH Technologies LLC, United States*

15.25 –

Discussion

15.35

15:35

REFRESHMENT BREAK (*Exhibition Hall*)

## SESSION 6: METAL INJECTION MOULDING II

Chair: R.M. German, *San Diego State University, United States*

16:05

[O6.1]

**Moulding equipment for micro PIM**

U. Haupt, *Arburg GmbH, Germany*

- 16:25** [O6.2]  
**MIM: How to match the required production capacity in a continuous furnace**  
I. Cremer, *Cremer GmbH, Germany*
- 16:45** [O6.3]  
**Biopsy forceps for minimally invasive surgery by metal injection moulding**  
Y. Li\*, H. He; *Central South University, China*
- 17:05** [O6.4]  
**Characterisation of injection mouldability of HDH titanium powder**  
Y. Wu<sup>1\*</sup>, S-J. Park<sup>2</sup>, D.F. Heaney<sup>3</sup>, G. Gai<sup>1</sup>, R.M. German<sup>4</sup>; *Tsinghua University, China<sup>1</sup>; Mississippi State University, United States<sup>2</sup>; Pennsylvania State University, United States<sup>3</sup>; San Diego State University, United States<sup>4</sup>*
- 17:25 – 17:35** **Discussion**
- END OF DAY TWO**
- 19:15** Meet in Everbright Hotel Reception for short walk to Golden Harvest Restaurant – Conference Dinner
- 19:15** Meet in Reception of Everbright Hotel to depart on foot to Restaurant
- 19:30** **CONFERENCE DINNER**  
Golden Harvest Restaurant

# WEDNESDAY 8 APRIL 2009

## SESSION 7: PM HIGH ALLOY STEEL AND SUPERALLOY DEVELOPMENTS

Chair: L. Prakash, *Unimerco A/S, Denmark*

- 09:00            **KEYNOTE LECTURE**  
                  **[K3]**  
                  **Recent developments of high-performance PM HSS and tool steels**  
                  O. Grinder, *PM Technology AB, Sweden*
- 09:25            **[O7.1]**  
                  **Application of new PM tool steels for powder compaction tooling**  
                  H. Hallén\*, R. Jervis, P. Larsson, O. Sandberg; *Uddeholm Tooling AB, Sweden*
- 09:45            **[O7.2]**  
                  **New developments in gas atomized powders**  
                  J. Zhou, *Erasteel, China*
- 10:05 –         **Discussion**  
10:15
- 10:15            **REFRESHMENT BREAK**

## SESSION 8: HARD MATERIALS

Chair: O. Grinder, *PM Technology AB, Sweden*

- 10:45            **KEYNOTE LECTURE**  
                  **[K4]**  
                  **Cutting tool applications of hardmetals**  
                  L. Prakash, *Unimerco A/S, Denmark*
- 11:10            **[O8.1]**  
                  **Novel characterisation methods for new hardmetal products**  
                  K.P.Mingard\*, B.Roebuck; *National Physical Laboratory, United Kingdom*
- 11:30            **[O8.2]**  
                  **Tungsten carbide (WC) spheroidization by induction plasma technology**  
                  R. Dolbec, M. Bolduc, X. Fan, J. Guo, J. Jurewicz, T. Labrot, E. Bouchard\*; M. Boulos; *Tekna Plasma Systems Inc., Canada*
- 11:50            **[O8.3]**  
                  **Sinter-HIP: design codes, fatigue, safety and maintenance**  
                  S. Levesque, *AVS Incorporated, United States*

12:10 – Discussion  
12:20

12:20 – LUNCH *Guangyun 2 Room*  
14:00 Exhibition Viewing

## **SESSION 9: MAGNETIC APPLICATIONS**

Chair: R. Felton, *Elsevier Science, United Kingdom*

14:00 **KEYNOTE LECTURE**  
[K5]  
**Challenges in the further development of powder processed rare earth-iron-boron magnets**  
*H. Davies, University of Sheffield, United Kingdom*

14:25 [O9.1]  
**Application of sintered NdFeB magnets in both Japan and China**  
*Y. Luo, IEEE TC-15 Voting Member, China*

14:45 [O9.2]  
**The recent developments with melt spun rare-earth iron boride powder and its permanent magnets**  
*D. Brown, Magneqen Technology Centre, Singapore*

15:05 [O9.3]  
**AncorLam®, a soft magnetic material to replace lamination steels**  
*K.S. Narasimhan, Hoeganaes Corporation, United States*

15:25 – Discussion  
15:35

15:35 – CONFERENCE SUMMARY & CLOSING REMARKS  
16:00

**CLOSE OF CONFERENCE**