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## Editorial

We are pleased to present the new blossom PMAI logo, courtesy great efforts of Mr. N. Gopinath, Managing Director of Fluidtherm Technology (P) Ltd. This logo will be in use for PMAI in future. Mr. N. Gopinath has taken over as the President from Mr. P. N. S. Sivan. Dr. Murli Gopal Krishnamurty has given his charge to Dr. Deep Prakash of Babha Atomic Research Centre, as the new Honorary General Secretary. Our acknowledgment for the outstanding work done by Mr. Sivan, Dr. Murli and the team for the progress of PMAI. This issue include a comprehensive report on Intl. PM-13, PMAI Product Award & proposed PMAI Activities on P/M industrial workshop at New Delhi, Ceramics, carbides and Diamonds workshop at Nashik, P/M short course at Hyderabad. The Intl. Conference P/M 14 will be in Chennai during Jan. 2014. Trans. PMAI, Vol.38, Dec.2012 is published and is also available in the PMAI web. We thank Fluidtherm Technology (P) Ltd. for sponsoring this issue of the Newsletter.

P. Ramakrishnan

FIRST ANNOUNCEMENT AND CALL FOR PAPERS

## MATERIALS AND TECHNOLOGIES FOR A NEW GENERATION OF AUTOMOBILES, MACHINERY & APPLIANCES



an  
INTERNATIONAL CONFERENCE WITH TRADE EXHIBITION

and  
**40<sup>th</sup> ANNUAL TECHNICAL MEETING OF PMAI**

Thurs. 23<sup>rd</sup> to Sat. 25<sup>th</sup>, January 2014

Hotel Le Royal Meridien, Chennai, India

### Topics

- Modeling of PM parts & processes
- Materials & alloy development
- Powder production & characterisation
- Compaction & other forming processes
- Sintering & sintering equipment
- Hard metals & diamond tools
- Refractory metals
- Ceramics & composites
- Materials for aerospace, defence and energy applications
- Testing & evaluation of PM parts
- Application of PM parts in current and new generation Automotives; electrical, magnetic, and domestic appliances and engineering industries.
- Health, safety & environment
- Energy conservation and materials for alternate energy generation.
- Advances in equipment design
- Medical applications
- PIM (MIM & CIM) technology
- Additive manufacturing

All correspondence may be sent to

**Convener, International Conference PM12**

C/o. PMAI, 1002 B, Kingston, High Street,  
Near D Mart, Hiranandani Complex, Powai, Mumbai - 400 076.  
Tel.: +91-022-2570 4588 E-mail : pmai\_pm@yahoo.com



### Deadline Dates

Submission of abstracts for oral & poster presentations	31 Oct. 2013
Preliminary acceptance of abstracts	15 Nov. 2013
PM parts for award	01 Jan. 2014
*Submission of final manuscript	22 Jan. 2014

\* Only complete papers that are received by the deadline will be published in either the Transactions of PMAI (after peer review) or the Proceedings of the Conference or both and be eligible for awards

### Editorial Board:

View Details & Register online with [www.pmai.in](http://www.pmai.in)

PMAI

Editor : P. Ramakrishnan | Members : T.R. Rama Mohan, D.K. Varshney, Dr. Murli Gopal, PNS Sivan, K.S. Samant

PMAI Office: 1002, B Wing, Kingston, High Street, Hiranandani Complex, Near D-Mart, Powai, Mumbai 400 076  
Tel. : 91-22-25704588 / E-mail : pmai\_pm@yahoo.com / Website : [www.pmai.in](http://www.pmai.in)

## PM-13 International Conference & Exhibition on PM for Automotive and Engineering Industries



From Left to right: Mr. Greg Lavallée, Prof. P. Ramakrishnan, Prof. T. R. Rama Mohan, Mr. Hans Söderhjelm, Mr. Ajit Kumar Jindal, Dr. Murli Gopal Krishnamoorthy, and P. N. S. Sivan

The International Conference & Exhibition on PM for Automotive and Engineering Industries was held from 7<sup>th</sup> to 9<sup>th</sup> February, 2013 at Hyatt Regency Pune, India, organised by PMAI. This is the 7<sup>th</sup> in the Series of International Conferences focussing on PM for Automotive and allied engineering industries. The first was The International Conference PM-97 (New Delhi), the second, PM-02 (New Delhi), the third, PM-05 (Mumbai), the fourth, PM-07 (Noida), the fifth, PM-09 (Goa) and the sixth, PM-11 (Pune). The theme of PM-13 was Additive and Precision Manufacturing, which was discussed as a special session on 8<sup>th</sup> February. The 39<sup>th</sup> Annual Technical Meeting of PMAI was concurrently held, in which the latest research work and new technology developments in PM were discussed.

Dr. Ajit Kumar Jindal, Tata Motors, Head of Engineering and Commercial Vehicles, Tata Motors graced the occasion as the Chief Guest and Inaugurated PM-13 and the Trade Exhibition. The Inaugural Address was given by the Honourable Chief Guest. The other Key Note Speakers were Mr. Hans Söderhjelm of Höganäs AB, Sweden and Mr. Greg Lavallée of Rio Tinto Metal Powders, Canada.

PMAI felicitated Mr. Uddharan Basak, Mr. Ashok Palwankar and Prof. Henning Zoz by the award of the Fellow of PMAI for their contributions to powder metallurgy in India and PMAI. Other

highlights-The Tamhankar Memorial Lecture was delivered by Prof. Priyavrat Thareja, The P. R. Roy Memorial Lecture was delivered by Dr. Srikumar Banerjee and The Acharyulu Memorial Award Lecture was delivered by Prof. Viplava Kumar Jandhyala.

This Conference, by far, has been the biggest with 15 Sponsors- Dorst Technologies, GmbH, Fluidtherm Technology Pvt. Ltd., GKN Sinter Metals Ltd., Höganäs India Pvt. Ltd.; Makin Metal Powders (UK) Ltd.; Nanjing East Precision Machinery Co. Ltd.; Rio Tinto Metal Powders-QMP; Shivanshu Sintered Products Pvt. Ltd., Sintbush (India) Pvt. Ltd.; SLM Metal (P) Ltd.; SMS Meer GmbH; Speciality Sintered Products Pvt. Ltd.; Star Sintered Products Ltd.; Swastik Tungsten Pvt. Ltd. and Timcal Graphite & Carbon; Three Co-Sponsors-Kandori Metal Powders Mfg. Co. Pvt. Ltd.; Newmet Pvt. Ltd. and P. P. Patel & Co.

There were thirty exhibition stalls engaged by twenty four exhibitors- Adsorbtech Engineers Pvt. Ltd., Alvier AG PM Technology, Bandas Metalicas Codina, PMAI, Dorst Technologies GmbH, Electronica Tough Carb, Fluidtherm Technology Pvt. Ltd., Höganäs India Pvt. Ltd., Innomet Powders, Makin Metal Powders (UK) Ltd., Nanjing East Precision Machinery Co. Ltd., Osterwalder AG, Kamran Engineers, Pometon, Rio Tinto Metal Powders-QMP, Sacmi Imola, Shivanshu Sintered Products Pvt. Ltd., Simo Corporation, SMS Meer GmbH, Speciality Sintered Products Pvt. Ltd., Swastik Tungsten Pvt. Ltd., Teewave Powertech Pvt. Ltd., Timcal Graphite & Carbon and Yangzhou Haili Eastern Precision machinery Co. Pvt. Ltd.

There were about 300 delegates and 100 technical presentation spread over three days. There were six plenary sessions covering the latest developments in speciality powders and manufacturing processes, compaction machinery, dies and tooling, issues and case studies on complex PM components, sintering furnaces, world market scenario, application and future prospects. The special session on additive and precision manufacturing focussed on the digitization and intelligent manufacturing systems for rapid prototyping, concept part development and even ready to use components. Apart from that there were twelve parallel sessions covering recent research work on PM, particulate materials, ceramics and composites. There were a lot of young speakers who presented very enthusiastically, their academic work much to the appreciation of the audience.

As a tradition PMAI conferences are not just technical and business discussions. On 7<sup>th</sup> there was a live Rock Concert which not only shook the floor, but also made many people shake-a-leg. On 8<sup>th</sup> the highlight of the evening was the Karaoke Sing-along program, which made a bard of most of the delegates. There were plenty of interaction and time together for the delegates to maximize business and pleasure. There were spouse programs too, where accompanying people had some fun outings and sight-seeing, as well.

The new Governing Council for the Year 2013-15 was elected during the Annual General Meeting of PMAI on 8<sup>th</sup> February, 2013. Mr. Mohan Gore presided over the elections as the Returning Officer. The new Governing Council took over the activities of the Association. The future activities and important issues of the organizations were decided during the AGM.

PMAI acknowledges the benevolent support of Rio Tinto Metal Powders, Sintbush (India) and Höganäs for sponsoring the lunches and Dinners

Since 2011, several PM companies and organizations are having invited pre-conference workshops and deliberations, which are, not only augmenting the theme of PMAI conferences, but also of use to the international companies and Indian entrepreneurs. There were participation from the conference delegates and invited top honchos from Indian PM, automotive and engineering industries. This time also there were three pre-conference events, two organized by Höganäs-PM Gear Day on 5<sup>th</sup> February, where 70 people participated and Power of Powders-2 on 7<sup>th</sup> February, where 150 people participated. Details can be had from <http://ipmd.net/news/002126.html>. Battelle India, Pune, hosted a CEOs meet and a panel discussion on Innovation, PM Product Development and Corporate R&D in PM. Dr. Abhay Firodia, Chairman, Force Motors, was the Chief Guest. About 50 people participated in the event.



From Left to right: Dr. Murli Gopal Krishnamoorthy, Mr. Greg Lavallée, Mr. Hans Söderhjelm, Prof. T. R. Rama Mohan, Mr. Ajit Kumar Jindal, P. N. S. Sivan, Prof. P. Ramakrishnan and Mr. Narsi Chandrachud.



From Left to Right: Mr. Ashok Palwankar, Mr. Vijay Vaidya (on behalf of Mr. U. Basak) and Prof. Henning Zoz Receiving The Fellow of PMAI Award at the hands of the Chief Guest, Dr. Ajit Kumar Jindal.

## Best PM Product Award



FLANGE NUT

- FLANGE NUT THROUGH PM HAS BEEN DEVELOPED FOR PNEUMATIC HAND TOOLS.
- CUSTOMER WAS EARLIER PROCURING FLANGE NUT THROUGH THE MACHINING PROCESS.
- SSPPL HAS DEVELOPED THE PART THROUGH PM PROCESS IN DENSITY 7.0 gm/cc (min) SUCCESSFULLY.
- SSPPL BENEFITED THE CUSTOMER WITH THE COST SAVINGS OF MORE THAN 30% BY DEVELOPING IT IN PM.

**Best PM Product Award  
2013 was given to M/s.**



## Forthcoming PMAI Events

### • Delhi, August - 2013, Industrial Workshop

A three – day P/M industrial workshop is planned to be conducted in Delhi during August 2013. The workshop will be very useful for P/M part producers, manufacturers and technical personnel alike.

### • Nashik, September 27-29, 2013, CCD-13

A three – day workshop on 'Ceramics, Carbides and Diamonds: Hard and Wear Resistant Materials' is planned to be conducted in Nashik, during September 27-29, 2013. The workshop will provide an update on the current state of technology as well as advances made in the field. Faculty for the workshop will comprise of renowned experts from industry, research labs and academia.

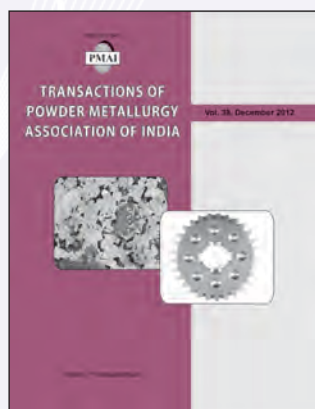
### • Hyderabad, November, 2013, PM Short Course

Like every year, this year also PMAI will be conducting a short course on P/M. This year the course will be conducted at ARCI, Hyderabad in the month of November. Well known experts in the field will cover the topics and share their knowledge and experiences.

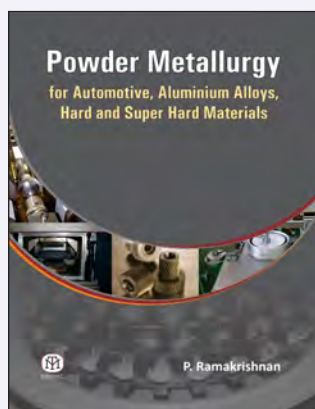
### • Chennai, January, 2014, International Conference

An International Conference on Powder Metallurgy and Particulate Materials will be organized by PMAI, at Hotel Le Royal Meridien, Chennai, from 23 – 25 January 2014. The conference will focus on materials and technologies for a new generation of automobiles, machinery and appliances, and will concurrently hold 40<sup>th</sup> ATM of PMAI.

## PMAI Publications



*Trans. PMAI, Vol.38, Dec.2012 is published and is available against payment*



*Proceedings for Intl. Conference PM-11 will be available within months time*

1. "PM-13 India: Pre-Conference Events Reveal Potential of Powder Metallurgy in India", 19 March, 2013. <http://ipmd.net/articles/articles/002154.html>
2. "PM-13 India: An international audience welcomed in Pune", 13 March, 2013. <http://ipmd.net/articles/articles/002143.html>
3. "PM-13 India: Special Session focuses on Additive Manufacturing", 27 March, 2013. <http://ipmd.net/articles/articles/002169.html>
4. "PM-13 India: Developments in powders and processing", 01 May, 2013, <http://ipmd.net/articles/articles/002198.html>
5. "PM-13 India: Developments in Powder Metallurgy processes and products". <http://ipmd.net/articles/002221.html>

*Prof. Rama Mohan Tallapragada has written detailed articles with rich technical content covering all the important deliberations on PM-13 exclusively for [www.ipmd.net](http://www.ipmd.net)*

## New Logo of PMAI

The very first logo of PMAI from Trans.PMAI, Vol.1, No.1, Sept. 1974; has undergone many changes and colour combinations over the years but the basic structure remains the same. While we are celebrating the 40<sup>th</sup> year of PMAI, we are presenting a new logo blossom of PMAI which you will appreciate and enjoy.



# FURNACES FOR POWDER METALLURGY



MESH BELT  
PUSHER  
WALKING BEAM

SINTERING  
STEAM TREATMENT  
POWDER ANNEALING



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[www.fluidtherm.com](http://www.fluidtherm.com)

[info@fluidtherm.com](mailto:info@fluidtherm.com)