



# POWDER METALLURGY ASSOCIATION OF INDIA

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## Editorial

Dear Friends, PMAI well wishers,

We are happy to report that our Golden Jubilee Year Celebrations culminated with the Hosting of a very successful PMAI Golden Jubilee Conference in February 2024.

In C.Y. 2024 we will continue with our initiatives for training students (GD&T), partnership with institutions for industrial and R&D institutional training, as well as our Specialised Courses.

Please do review the inputs hereunder, and visit our website [www.pmai.in](http://www.pmai.in) for more information on forthcoming courses.

Thank you for your warm support, and wish you all health and success for the coming days.

Warm regards,

**Aniket Gore**



## Forthcoming Events by PMAI 2024-25

- ❖ GD & T - July 2024
- ❖ PMAI - Malvern Panalytical Two-day Workshop on Particle Size and Shape in Particulate Materials and Advance Manufacturing – August 2024
- ❖ Powder Metallurgy Short Course-PMSC24 - September 2024
- ❖ Heat Treatment of PM Parts – October 2024
- ❖ Engineering Tool Design for PM Components – November 2024
- ❖ GD & T – January 2025

For details  
[www.pmai.in](http://www.pmai.in)

# NEWSLETTER

# PMAI Golden Jubilee Celebrations with International Conference on Powder Metallurgy and Particulate Materials + Exhibition 2024 - PM 24 held on 25<sup>th</sup> - 28<sup>th</sup> February 2024 at Hyatt Residency Pune, India. ([www.pmai.in](http://www.pmai.in))

The Powder Metallurgy Association of India (PMAI) had organized a Four-day International Conference on Powder Metallurgy and Particulate Materials + Exhibition 2024 (PMAI-PM24) along with golden jubilee celebration of PMAI on 25th - 28th February 2024 at Hotel Hyatt Residency, Pune, India.

The conference had following Esteemed Sponsors:

DORST, FLUIDTHERM, Höganäs, SLM (Title Sponsors), KRN alloys Pvt. Ltd (Diamond Sponsor), Haili, Pometon, RioTinto, SACMI, Singhal Sintered Pvt. Ltd., Speciality Sintered Pvt. Ltd., Xitiz Technologies LLP. (Gold Sponsors) Absstem, ALPHIE, ALTAIR, CODINA, DR.FRITSCH, KALYAMI TECHNO THERM, Makin Metal Powders, Malvern Panalytical, Nikam Sintered, OSTERWALDER, PP Patel & Co, PVA TePla, SARDA METAL POWDERS, TIME FUTURETECH (Silver Sponsors)

On 25th February evening, our event Anchor Ms. Mugdha Karandikar welcomed all the dignitaries present for the international conference PMAI PM24. Prof. N. B. Dhokey, the convener PM24, encapsulated the essence of the event comprehensively. He addressed the August gathering, highlighting the wide array of topics within the realm of powder metallurgy covered in PM24.

Topics covered in the conference were Press & Sinter, Powder Production, Additive Manufacturing, Hard Metals, and Diamond Cutting Tools, Emerging Materials, Technical Ceramics and Composites, Surface Engineering, Battery Materials, Waste management and Simulation and Modelling. Prof. N B Dhokey asserted the fact that our conference wasn't just limited to industry professionals but also included academia and research centres, ensuring a holistic exchange of knowledge and ideas between industry, academia and R&D Institutions.

A light lamping ceremony was held to symbolise knowledge sharing, and kicked off the Golden Jubilee Celebrations. The ceremony was attended by Prof NB Dhokey (Convenor), Mr. Aniket Gore (President of the Powder Metallurgy Association of India), Mr. K.S. Samant (Director PMAI), Prof. P R Ramakrishnan (Founder Member of PMAI), Mr. C L Chu (APMA President), Dr. Bharat Panigrahi (Co-Convenor), Mr. Deepak Grover (Co-Convenor), Dr. Malobika Karanjai (Co-Convenor).



*Lamp lighting Ceremony at inauguration of Golden Jubilee celebration of PMAI alongside International Conference PM24*

To commemorate the PMAI Golden Jubilee, PMAI launched a Film documenting its journey over the past 50 years. Aniket Gore, President - PMAI, gave the introductory keynote speech. He made an insightful representation of India's rise, presenting its Demographics and Income trends, state of the Indian Economy and its, and also presented a comprehensive status of Automotive Industry and Powder Metallurgy in India.



*Aniket Gore delivering Inaugural Keynote address*



*Mr. Chiu Lung Chu, President APMA briefing audience at Inauguration*

Mr. Aniket Gore, then presented the Prestigious Honorary Fellowship of Powder Metallurgy Association of India to Mr. Chiu Lung Chu (President of APMA and Director and CEO of Porite Taiwan), acknowledging his immense contribution to the global development of Powder Metallurgy.

Prof.N B Dhokey presented Sri B S Murthy (Director IITHyderabad), with the Prestigious Honorary Fellowship of Powder Metallurgy Association of India for his immense contribution to furthering Powder Metallurgy in India.



*President Aniket Gore presenting PMAI Fellow award to Mr. Chiu Lung Chu*



*Convener Prof N.B.Dhokey presenting PMAI fellow award to Prof B.S.Murthy*

PMAI had specially invited Past Fellows of PMAI, to thank them for their contributions.

Mr. Aniket Gore, the President of PMAI, offered memorabilia to Fellows Mr. Ashok Mohan, Mr. B S Thanekar, Mr. B S Murty, Mr. Cesar Molins, Mr. C L Chu, Mr. Dayasagar Mrig, Mr. Deepak Varshney, Mr. Edul Daver, Mr. Mohan Gore, Mr. Narsi Chandrachud, Mr. P Ramakrishnan, Mr. V Srinivasan, Mr. V K Sud.

Additionally, we felicitated 30 individuals, who over the years have contributed to the development of Powder Metallurgy and PMAI. The list is presented hereunder:

Mr. Akshay Patil, Mr. C Venkateswaran, Mr Deep Prakash, Mr. Deepak Grover, Mr. Deepak Nimbalkar, Mr. Deepak Pattanayak, Mr. ISR Sastry, Mr. Jayesh Patel, Mr. K. S. Samant, Mr Mahesh Nipanikar, Mr. Mahesh Kamble, Ms. Malobika Karanjai, Mr. Manpreet Sachdeva, Dr. Murli Gopal



*Past Fellows of PMAI at Golden Jubilee Celebrations*

Krishnamoorthy, Mr. Niranjan Narkhede, Mr. Piyush Agarwal, Mr. Prakash Dhoka, Mr. Prakash Khole, Mr. Rajendra Sethiya, Mr. Rajeev Sherry., Mr. Raju Kandoi, Mr. Rohit Garbade, Mr. Sandeep Fatangare, Mr. Sanjay Rastogi, Mr. Sidharth Singhal, Dr. Sandeep Butee, Mr. Swapnil Sable, Dr. Vaishali Poddar, Mr. V C Srivastava, Mr. Yogesh Fatangade.

Dr N B Dhokey presented memorabilia to Sponsors and Exhibitors. M/s DORST Technologies represented by Mr. Stephan Mest, Hoganas India represented by Mr. Sunil Muralidharan, Fluidtherm Technologies represented by Mr. C. Venkateswaran, SLM Metal represented by Mr. Piyush Agarwal, Ceramet Consultants Pvt. Ltd. represented by Mr. Aniket Gore, KRN Alloys represented by Mr. Ranjeet Sahu, Porite India represented by Mr. Sandeep Fatangare, Cermet and Xitiz represented by Mr. Jaydev Patel, Pometon India Represented by Mr. Deepak Nimbalkar, Rio Tinto represented by Prakash Khole, Sacmi Imola represented by Mr. Andrea Di Girolamo, Singhal Sintered represented by Mr. Sidharth Singhal, Speciality Sintered represented by Mr. Niranjan Narkhede, Yangzhou Haili represented by Mr. Ali, Absstem International represented by Mr. Amit Sahni, Altair Engineering represented by Prasad Avilala, Codina Metal represented by Mr. Ravichandran P., Fritsch represented by Mr. Ranveer Singh, Gopi Metal represented by Neeraj Sarda., Hexagon Product Development Pvt. Ltd. represented by Mr. Jigar Talati, Innomet Advanced Materials Represented by Mr. Vinay Choudhary, Kalyani Technotherm represented by Mr. Anant Andhale, Makin Metal Powders represented by Mr. Steve Ellis, Malvern Panalytical represented by Mr. Mohd.Saif, Newmet Ltd. represented by Mr. Manpreet Sachdeva, Nikam Sintered represented by Mr. Kunal Nikam, Osterwalder AG, represented by Mr. Ignace Zwygart, PVA Industrial Vacuum Systems GmbH represented by Mr S K Subramanian, P P Patel represented by Mr. Keyur Patel, Time Futuretech represented by Mr. Hardeep Kiyada.

PMAI presented special commemoration to APMA President C L Chu, and Members of the JPMA Mr. Yoshio Uetsuki San, Mr. Hiroshi li San, Mr. Yano San who took special effort to visit and celebrate PMAI's Golden Jubilee.



*PMAI presenting special commemoration to APMA President C L Chu, and Member of the JPMA*

### Grand cultural Making music together “Symphony of 50 years” at PM 24

On all 3 evenings of the Conference, we had Commemorative Dinners.

One of the Unique highlights during the Social Event, was the Invited Event “Symphony of 50 years”, an event where participants created Music Together using Drums as well as other minor instruments. In a session that lasted 40 minutes, great synchronisation was achieved by the 250 participants, who created very memorable beats together.



*Grand cultural evening “Symphony of 50 years” at PM 24*



**Opening of Exhibition at International Conference Powder Metallurgy & Particulate Materials + Exhibition (PM24)**

In the presence of all the dignitaries, the International Conference PM24 Souvenir was released which comprised of extended abstracts of all the invited and contributory talks on plethora of topics related to PM. The inaugural program was ended with Vote of thanks from Mr. Bharat Panigrahi (Co-Convener PM24). Inaugural ceremony of the event Exhibition was opened to visit for participants and sponsors.



**Exhibition at glance - International Conference PM-24**

The event was created by M/s Ceramet Consultants Pvt. Ltd and M/s DORST Technologies – who also celebrated 50 years Partnership, selling Powder Metallurgy Presses in India, a happy confluence coinciding with The PMAI Golden Jubilee.

The PM24 conference boasted an exciting line-up of speakers, including global industry leaders, researchers, and academics. The event featured five plenary lectures, seven industrial talks, three memorial lectures, 15 invited talks, and over 110 contributory papers. Second day i.e., 26th February 2024 was started with a Unique success story of Startup Agnikul, the world's first single piece 3D printed rocket engine designed and engineered in India. All the plenary and industrial talks were conducted, and the speakers were presented with mementos from the PMAI Association.

On 27 February, PMAI- Höganäs Technology Day, which was a unique Joint Initiative, was conducted. The event, focussed on updating industry with the latest developments, was a great success, with OEMs, and TIER 1/2 suppliers and included a Total of 180 Participants.



**Opening Technical sessions -International Conference PM-24**

On day three, i.e., 27<sup>th</sup> February 2024, memorial lectures were conducted and the speakers were presented with mementos from the PMAI Association. Over two days, February 27<sup>th</sup> and 28<sup>th</sup>, 2024, the conference featured three parallel sessions (in four different rooms) catering to the wide spectrum of topics covered. On the afternoon of February 27<sup>th</sup>, the poster presentations were conducted. the invited speakers and Presenters were presented with the appreciation letter/Certificate and small gift from the PM24 organizing committee. The conference was assisted by a

team from the COEP Technological University Pune, led by Swapnil Sable as the Conference Secretariat, along with Rohit Garbade, Yogesh Fatangade, Tejas Patil, Harshal, Aditya, Aboli, Maruti, Rasika, Chinmay, Vivek, Rohit and Shivraj.

#### **Plenary speakers:**

Dr. César Molins, AMES S.A., Barcelona, Spain, Dr. PalaniBalaya, National University of Singapore, SINGAPORE, Dr. Debashish Bhattacharjee, Tata Steel, Kolkata, India, Dr. Supriya Sarkar, Alleima India, Mr. Mohan Nainegali, Altair Engineering, India

**Industrial speakers:** Dinesh Parthasarthy (Agnikul), Mr. Niranjan Narkhede (SSPL), Mr. Stephan Mest (DORST Technologies Mr. Sunil Muralidharan (Höganäs India), Dr. VivekSingal (Fluidtherm), IlariaRampin, Pmeton S.p.A. Italy, Dr. Serge Grenier, Canada (Rio Tinto)

#### **Memorial Speakers:**

R. V. Tamhankar Memorial lecture – Dr. Suman Kumari Mishra, CSIR- CGCRI, India,

P. R. Roy Memorial lecture – Dr. Raghvendra Tewari, BARC Mumbai, India,

Shri S. L. N. Acharyulu Memorial lecture – Dr. Bikramjit Basu, IISC Bangalore, India

#### **Invited Speakers:**

Prof. Tapas Laha (IIT Kharagpur), Prof. Abhik Banerjee (TCG Crest RISE Kolkata), Dr. Mayur Vaidya (IITH), Prof. Manoj Gupta (NUS Singapore), DR. Sarika Phadke (KPIT Pune), Mr. Onkar Bhise (EIIIC Pune), Dr. Ujjawal Prakash (IIT Roorkee), Dr. Malobika Karanjai (ARCI Hyderabad), Dr. A S Prakash (CSIR- CECRI Karaikudi), Dr. S Rajeshkumar (CMET), Dr. N Ramesh (TaeguTec India Pvt Ltd Bangalore), Mr. Umesh Ghotikar (PR & SR Carbides), Dr. Amit Sinha (BARC), Dr. Gururaj Telasang (ARCI Hyderabad), Dr. Mohan Dongre (NCL Pune)

#### **Chairperson and Co-Chairperson for various sessions:**

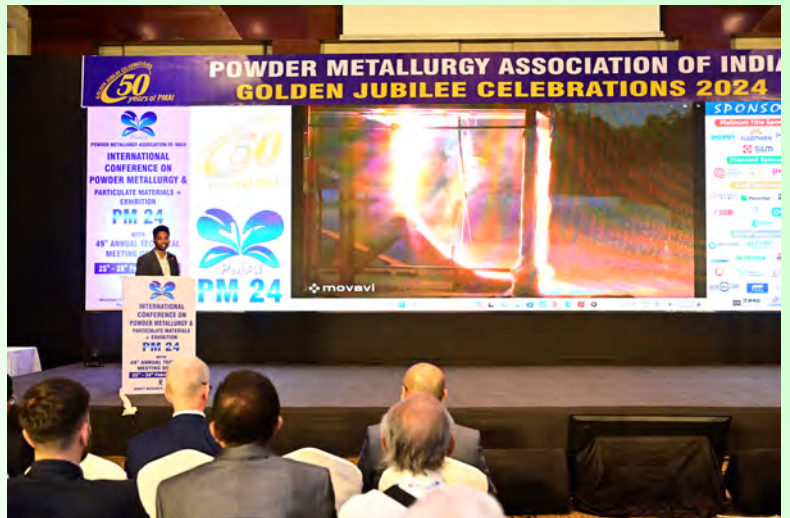
Press and Sinter: Session Chairperson: Maobika Karanjai (ARCI, Hyderabad) Dr. Joydip Doardar (ARCI Hyderabad); Powder Production: Session Chairperson: Dr V C Srivastava (NML Jamshedpur) Mahesh Nipanikar (Höganäs India); Additive Manufacturing: Session Chairperson: Deepak K. Pattanayak (CSIR-CECRI), Dr. Hard Metals: Session Chairperson: Vivek Singal (Consultant); Development of Materials and Alloys for Emerging Applications: Session Chairperson: Bharat B. Panigrahi (IIT Hyderabad), Dr. Vikram Dabhade (IIT Roorkee), Dr. Murli Gopal (Consultant), Dr. Pradip, Dr. Ajit Panigrahi. Technical Ceramics and Composites: Session Chairperson: Sandeep Butee (College of Engineering Pune), Amit Sinha (BARC Mumbai), Battery & Energy Materials: Session Chairperson: Dr. Amartya Mukhopadhyaya (IIT Bombay), Prof. Abhik Banerjee (TCG Crest RISE Kolkata) Waste Management: Session Chairperson: Dr. Arbindkumar (CMET), Modelling & Simulation: Session Chairperson: Dr. Goutam Mohapatra (John Deere India), Surface Engineering: Session Chairperson: Dr. D.A. Karandikar (Kinetic Surface).

On 28<sup>th</sup> February 2024, Industrial Awards were presented to Porite India and Speciality Sintered Products Pvt. Ltd, as well as M/s Fluidtherm.

At the end of day four on 28th February 2024, Best paper awards were declared from each session and prizes were distributed to following awardees:

Press & Sinter- Vaishnav Hutton (Nuclear Fuel Complex, Dept. of Atomic Energy, Hyderabad), Materials for Emer Appl- Dhiman Mahata (IIT Bhubaneswar), Powder Production- Pardhasaradhi R (NIT ANDHRA PRADESH), Ceramics & Composites- Priyal Kharwadkar (COEP Tech Uni Pune), Surface Engineering- Ann Mary Mathew (CSIR-CECRI, Karaikudi), Waste Management - Sanjay Prasad (CSIR-NML), Additive Mfg- Bonagiri Sai Charan (CSIR-CECRI, Karaikudi), Hard Metals & Cutting Tool- Anvitha Ks (Kennametal India limited).

At the conclusion of the event, Participants shared their experience, inputs and deep appreciation. The program ended with vote of thanks by Convener, Dr N B Dhokey.



*Lecture in progress at PM-24*

## PM 24 Student Awards

Sr. No.	Session Name	Author	Affiliation	Title of the Paper
1	Press & Sinter	Vaishnav Hutton	Nuclear Fuel Complex, Dept. of Atomic Energy, Hyderabad	Optimization of parameters for high-speed compaction of UO <sub>2</sub> fuel pellets
2	Materials for Emer Appl	Dhiman Mahata	IIT Bhubaneswar	Microstructural influence on Mechanical and Corrosion property of a AA5086 Matrix Composite Reinforced with AlCuFeMn Medium Entropy Alloy
3	Powder Production	Pardhasaradhi R	NIT ANDHRA PRADESH	Mechanical alloying of CoCrFeCuNi high entropy alloy
4	Ceramics & Composites	Priyal Kharwadkar	COEP Tech Uni Pune	Wear resistance of Al-6061-B4C composites
5	Surface Engineering	Ann Mary Mathew	CSIR-CECRI, Karaikudi	Thermal regulation of Ce 3+ /Ce 4+ ratio over titania nanostructure layered Titanium surface with enhanced biological properties for biomedical applications.
6	Waste Management	Sanjay Prasad	CSIR-NML	Zinc nano powder from zinc dross waste
7	Additive Mfg	Bonagiri Sai Charan	CSIR-CECRI, Karaikudi	Melt pool analysis of selective laser melted aluminium alloy AlSi10Mg
8	Hard Metals & Cutting Tool	Anvitha KS	Kennametal India limited	Investigating Delay Effects in Green Cemented Carbide: Magnetic Saturation Control through Oxidation Inhibitors in Cemented Carbide Processing - A Comprehensive Study

## PM Product Awards at PM 24

Powder Metallurgy Association of India invited nominations for Best PM Product award during the International Conference PM 24 held on 25<sup>th</sup>-28<sup>th</sup> February 2024 at Hotel Hyatt Residency Pune. Purpose of the award is to recognize the innovation / expertise in the field of PM materials, design and manufacturing technology.

A three member committee was constituted to assess the nominations received. After peer review committee is pleased to declare awards as under.

### PMIA conferred PM PART and PM EQUIPMENT AWARDS.

#### PM Part Awards - Three Winners

**Porite India: Intermediate Pulley for EV**



**SSPL: Wheel Sprocket**

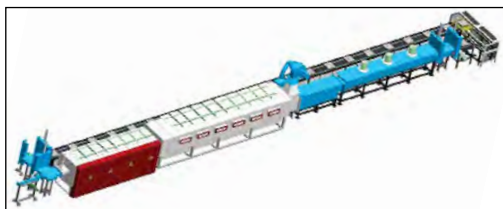


**Porite India: Clutch Hub**



#### PM Equipment Award

**Fluidtherm Technology Pvt. Ltd.  
Walking Beam Sintering Furnaces**



Best Product Award Certificate and trophy for winners in each of the categories was presented during the conference.



“Make a better world with PM”

WORLD PM2024 in YOKOHAMA Japan



# WORLD PM2024

International Powder Metallurgy  
Congress & Exhibition

13-17 October 2024 YOKOHAMA, JAPAN

WORLD PM2024 is excellent opportunity to exchange the latest information and deepen friendships in Yokohama Japan.  
Advanced technologies and information for "Carbon Neutral", "Electrification" and "Energy Saving"

## Important Dates

*Deadline for Abstract Submission:* **15 January 2024**

*Deadline for Exhibition Application:* **29 February 2024**

*Deadline for First Sponsors Application:* **29 March 2024**

*Registration Start:* **April 2024**

*Deadline for Early Bird Registration:* **2 September 2024**

**Organized by** Japan Powder Metallurgy Association (JPMA) Japan Society of Powder and Powder Metallurgy (JSPM)  
**Supported by** European Powder Metallurgy Association (EPMA) Metal Powder Industries Federation (MPIF)  
Asian Powder Metallurgy Association (APMA)

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