



ASIAN
Powder Metallurgy
Association

1st

ANNOUNCEMENT
& CALL FOR PAPER

APMA2019

5th INTERNATIONAL
CONFERENCE
ON POWDER METALLURGY
IN ASIA

+ EXHIBITION

Registration & pre-conference events Mon 18 Feb, 2019

Conference: Tue 19 to Thu 21 Feb, 2019

JW Marriott Hotel Pune

Senapati Bapat Road

Pune – 411053

India

Details & online registration
at

www.apma2019.com



running concurrently with
45th ANNUAL TECHNICAL MEETING OF PMAI

www.pmai.in

Awards for Students & Young Professionals

Several amazing awards are being offered during the conference including fully paid attendance at international PM conferences and/or exhibitions as well as several generous grants.

Details at www.apma2019.com

The **Asian Powder Metallurgy Association** an association of Asian PM industrial & scientific organisations from China, India, Japan, Korea, Taiwan and Thailand, is conducting APMA 2019, the biennial international conference of powder metallurgy in Asia for the year 2019 in Pune, India.

The City of Pune

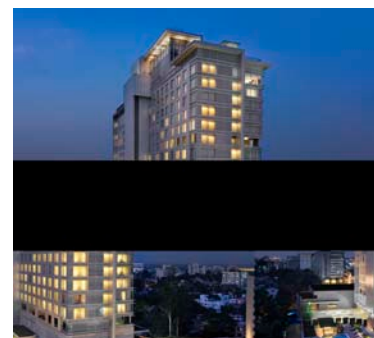
Located close to Mumbai & not far from Goa, the city of Pune has a population of 5 million and is one of the fastest growing cities in India. This city in existence from the 8th century AD, was a hotbed of rebellion and a focal point in India's fight for freedom from colonial rule. It is also home to many communities and almost every religious group in the world.

Several large automobile manufacturers are based here such as Tata Motors, Bajaj Auto, Audi, Fiat, Force Motors, General Motors, Jaguar-Land Rover, Kawaski, MAN Trucks, Mercedes-Benz, Piaggio, Vespa and Volkswagen.

Several automobile, defence & commercial research establishments like ARAI, DRDO, DIAT, ARDE, GE and others are located in Pune.

Climate in February

Pune enjoys very pleasant tropical weather. Temperatures in February usually range between a low of 12°C, high of 32°C & normally no rain.



Venue:

JW Marriott Hotel Pune, Senapati Bapat Road, Pune – 411053, India, www.jwpune.com

Conference Language: English

Why attend APMA 2019?

Powder Metallurgy includes the techniques of Pressing & Sintering, Powder Injection Moulding, Additive Manufacturing (3D Printing) & Isostatic Pressing. These techniques are used to manufacture components from steel, stainless steel, copper alloys, refractory metals, ceramic & composites. PM has been practiced for several years but is now getting a boost with increased energy and environment consciousness. The development of life style & health devices, VVT, hybrid vehicles, electric vehicles, fuel cells, catalytic converters, composite electrical contacts, advanced sensors, light weight components and thermoelectric devices have been made possible by the use of several technologies that comprise the science & practice of Powder Metallurgy and Particulate Materials. The conference addresses these and related developments by way of presentations made by experts in each field.

The concurrent 45th Annual Technical Meet of PMAI provides a platform for students & researchers from scientific establishments & academia to present their work.

Call for papers for oral presentation & posters

Extended abstracts (Max.3 pages (A4) MS Word, Verdana 9 font, single spacing) of papers for oral and poster presentation should be submitted electronically at www.apma2019.com/abstracts. This is the only method of submission, please do not send abstracts by email. All accepted abstracts from registered delegates will be published in the conference guide and distributed to all delegates.

Deadlines

Submission of abstracts for oral & poster presentations	30 Sep, 2018
Acceptance of abstracts	31 Oct, 2018
Submission of the complete paper*	30 Nov, 2018
Registration of speakers as delegates	31 Dec, 2018

*Only complete papers that are received by the deadline and presented at the conference will be published in the transactions of Powder Metallurgy Association of India (after peer-review) and become **eligible for awards**.

Technical Sessions

The program of plenary, keynote, oral and poster presentations will focus on all aspects of Powder Metallurgy:

Seminars & Special Interest Programs on

- Industrial PM (press & sinter) technology for auto, electrical and machine parts
- Powder Injection Moulding (PIM)
- Additive Manufacturing (AM)
- Hard metals & diamond tools
- Development of metals & alloys for emerging applications
- Technical ceramics & composites

covering

- Vehicle weight reduction
- Porous materials
- PM in Electric Vehicles (EVs)
- PM in bio-medical apps & devices
- Powder production & characterisation
- Compaction & other forming processes
- Binder & feedstock development
- Hot Isostatic Pressing (HIP)
- Laser sintering, cladding and coating
- Testing & data mining
- Sintering & post sintering processes
- Spark plasma & hot press sintering
- Dimensional control
- Heat treatment & surface engineering
- Aluminum sintering
- Refractory metals
- Magnetic materials
- Materials for aerospace, defence & nuclear apps
- Materials for energy generation & storage
- Functionally gradient materials
- Ceramics & composites
- Modeling & simulation

PMAI Best Product Awards

These awards are given for the best PM/PIM/AM parts developed after 31 Dec, 2017 and which are in commercial production. The format for submission (application form) is available in www.apma2019.com/awards

Deadline for receipt of the submission form as well as the parts at the PMAI office is 8 Jan, 2019.

Parts will be on display.

Exhibition (11:00Hr on 19 Feb to 16:30Hr on 21 Feb, 2019)

A limited number of pre-fabricated (shell scheme) stalls are available to PM part manufacturers and suppliers of materials, services and equipment to the PM industry. Each stall is equipped with one name fascia, carpeting, 3 spot lights, 1 power outlet 220 V AC single phase 6 Amps, 1 table, 2 chairs & 1 dustbin. Allotment of stalls & location will be at the discretion of the organisers. This is a small exhibition and all exhibitors are guaranteed sufficient visibility.

Exhibitors will be listed in the conference guide and are entitled to one complementary delegate registration plus food coupons for one more person per stall.

Exhibition rates (stall or raw space)

Per unit of 3mW x 2mD x 2.2mH	INR. 150,000/- Net	USD 2,300/- Net	Euro 1,890/- Net
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- 18% GST will be applicable.
- 50% payment must accompany the booking request.
- 50% balance payment is required before 30 Sep, 2018.
- Cancellation fee is 20% if canceled before 30 Sep, 2018, 50% if cancelled before 31 Dec, 2018, no refund thereafter.

For stall booking please email conadmin@apma2019.com

Legal: Visit www.apma2019.com for rules and regulations related to awards, paper submission and copyright. Rights of admission to the conference, the exhibition as well as acceptance of sponsorship & advertisement are reserved. Admission to the exhibition is allowed only to qualified PM part manufacturers, buyers and academia. Registration on entry is required. Visitors soliciting customers in the exhibition area is prohibited.

Sponsorship and Advertisement Opportunities

Conference Sponsor : INR. 150,000/- (USD 2,300/-, Euro 1,890/-).
Benefits: 2 free delegates, 1 full page advertisement in the conference guide, 50% discount on one exhibition stall, company name and logo on backdrops & banners, free inclusion in the PMAI website supplier directory. Recognition during the inaugural ceremony.

Display & distribution of leaflets (max. A4 size) : INR.25,000/- Net (USD 385/-, Euro 316/-). Not more than 300 - will be placed in an exhibition stand
copies should be delivered to the PMAI office before **15 Jan, 2019**.

Advertising in the Conference Guide (full colour)

Back cover : INR. 75,000/- Net (USD 1,153/-, Euro 947/-) Back inner cover: INR. 50,000/- Net (USD 770/-, Euro 632/-)
Front inner cover : INR. 50,000/- Net (USD 770/-, Euro 632/-) Full page : INR. 25,000/- Net (USD 385/-, Euro 316/-)

PMAI offers other sponsorship opportunities like delegate kit bags, stationery, lanyard, gala dinners and is willing to discuss other innovative ideas. Email conadmin@apma2019.com for any assistance.

All the above prices are Net & do not include GST (18%). All bank charges to be borne by the sponsor. Payment can be made via cheque/demand draft or online wire transfer. For more information email conadmin@apma2019.com

Accommodation & Travel

There are many budget, economy & luxury hotels around the venue, visit at www.punehotels.org or www.yatra.com

Airport:

Pune Lohegaon Airport (12.5 km from the venue) has direct flights to & from Dubai, Frankfurt as well as most Indian cities. Mumbai Sahar International Airport is 160 KM from the venue. Driving time is approx. 3 hours. Prepaid taxi fare from Mumbai airport to Pune city is approx. INR. 4,000/- (USD 62/-, Euro 50/-).

HELPLINE: (10.00 to 20.00 Hours - Indian Standard Time)

+ 91 98209 51180

+ 91 99401 18524

Email: conadmin@apma2019.com

Hospitality Desk (available to all overseas registered delegates and invitees)

We will meet you at Mumbai airport and facilitate your travel to your destination in Pune & also your return to Mumbai airport after the conference. Contact conadmin@apma2019.com if you want this free service (transportation cost is not included).

Delegate Registration

DELEGATE TYPE	AMOUNT PAYABLE PER DELEGATE (*)					
	BEFORE 15 JAN, 2019			AFTER 15 JAN, 2019		
	INR	USD	Euro	INR	USD	Euro
Delegate from industry	15,000	230	189	17,250	265	218
Delegate from academia	12,000	185	152	12,700	200	164
Student	3,500	55	45	4,025	65	53
Spouse	3,500	55	45	4,025	65	53

(*) 18% GS Tax will be charged wherever applicable.

- The delegate fee includes: Entry to Technical Sessions, Lunch & Tea, Conference kit bag, Conference guide, Exhibition access and invitation to the Conference Gala Dinners & other sponsored events.
- Extra lunch coupons for guests of delegates and exhibitors are available @ INR.1,700/- each at the registration desk.
- Speakers are required to register as delegates before 31 Dec, 2018.
- Certificates of participation will be issued on request only to those who attend the full conference.
- Visit www.apma2019.com/registration to complete your registration & payment.

PMAI Office address:

POWDER METALLURGY ASSOCIATION OF INDIA

B 1002 Kingston, High Street

Hiranandani Complex, Powai

Mumbai - 400076. INDIA



Asian Powder
Metallurgy Association

Members: PM Associations
from China, India, Japan,
RO Korea, Taiwan & Thailand

2ND CALL FOR PAPERS

Deadline: 30 Nov, 2018

www.apma2019.com

Pre-conference Events: Mon 18 Feb, 2019

Conference: Tue 19 Feb- Thur 21 Feb, 2019

5TH INTERNATIONAL CONFERENCE ON POWDER METALLURGY IN ASIA + EXHIBITION

Venue: JW Marriott, Pune, India

APMA 2019 SEMINARS



**INDUSTRIAL PM
(PRESS &
SINTER)
TECHNOLOGIES
FOR AUTO,
ELECTRICAL &
MACHINE PARTS**



**POWDER
INJECTION
MOULDING
(MIM + CIM)**



**ADDITIVE
MANUFACTURING
(3D PRINTING)**



**TECHNICAL
CERAMICS &
COMPOSITES**



**DEVELOPMENT
OF MATERIALS
& ALLOYS FOR
EMERGING
APPLICATIONS**



**HARD METALS &
DIAMOND
TOOLS**

- Largest conference on Powder Metallurgy & Particulate Materials to be held in India
- Speakers & delegates from all over the world (with large delegations from all APMA member countries)
- Great platform to learn from and collaborate with members of the global PM community
- Accompanying exhibition showcases innovative products, technologies & organizations
- Several generous awards for students, academia & young professionals

Hosted by **POWDER METALLURGY ASSOCIATION OF INDIA**

APMA 2019 runs concurrently with the 45th Annual Technical Meeting of PMAI

www.pmai.in



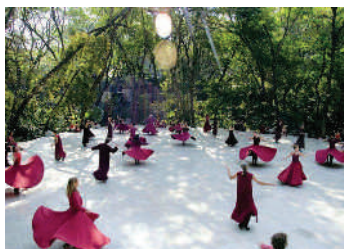
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THE CITY OF PUNE

Located close to Mumbai & not far from Goa, the city of Pune has been in existence from the 8th century AD. It was a hotbed of rebellion and a focal point in India's fight for freedom from colonial rule. It is also home to many communities and almost every religious group in the world. Several large automobile manufacturers are based here such as Tata Motors, Bajaj Auto, Audi, Fiat, Force Motors, General Motors, Jaguar- Land Rover, Kawasaki, MAN Trucks, Mercedes-Benz, Piaggio, Vespa and Volkswagen. Several automobile, defence & industrial research establishments are located in Pune.

CLIMATE IN FEBRUARY

Pune enjoys very pleasant tropical weather. Temperatures in February usually range between a low of 12°C and a high of 32°C. It normally does not rain at this time.



CALL FOR PAPERS FOR ORAL PRESENTATIONS & POSTERS

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DEADLINES

- | | |
|---|--------------|
| ○ Submission of abstracts for oral & poster presentations | 30 Nov, 2018 |
| ○ Acceptance of abstracts | 10 Dec, 2018 |
| ○ Submission of the complete paper* | 31 Dec, 2018 |
| ○ Registration of speakers as delegates | 31 Dec, 2018 |

**Submission of the complete paper is not mandatory for presentation. It is however mandatory if the author wishes the paper to be published in the transactions of Powder Metallurgy Association of India (after peer- review) and become eligible for awards. In this case, only complete papers that are received by the deadline and presented at the conference will be considered.*

PMAI BEST PRODUCT AWARDS

These awards are given for the best Pressed/ PIM/ AM parts developed after 31 Dec, 2017 and which are in commercial production. The format for submission (application form) is available at www.apma2019.com/awards. Deadline for receipt of the application form as well as the parts at the PMAI office is 8 Jan, 2019. Parts will be on display.

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Exhibitors will be listed in the conference guide and are entitled to one complimentary delegate registration plus food coupons for one more person per stall. Exhibition rates (stall or raw space) are:

Per unit of 3mW x 2mD x 2.2 mH	INR 150,000/-*	USD 2,300/-*	Euro 1,890/-*
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* prices do not include 18% GSTax

For stall booking please email conadmin@apma2019.com. Visit www.apma2019.com for rules and regulations related to delegates, exhibitors, sponsors, awards, paper submission and copyright. Visitors soliciting customers in the exhibition area will be evicted.

TECHNICAL SESSIONS

The program of plenary, keynote, oral and poster presentations will focus on all aspects of Powder Metallurgy:



Industrial PM (Press & Sinter) Technologies

- Powder alloy development & characterisation
- Innovations in compacting technologies
- Hot and cold isostatic pressing (HIP & CIP)
- Control of physical properties during compaction and sintering
- Debinding and sintering
- Densification of parts
- Machining of PM parts
- Hardening of PM components
- Sinterhardening & other hybrid processes
- Surface treatment
- Simulation, modelling & automation

Powder Injection Moulding (PIM)

- Metal Injection Moulding (MIM)
- Ceramic Injection Moulding (CIM)
- Feedstock engineering
- Rheology of feedstocks
- Reliability of PM
- Effect of metal powder characterisation in MIM
- Microstructural evolution during MIM
- MIM for stainless steel
- Atomization technologies relevant to MIM
- Application of PIM parts

Development of Materials & Alloys for Emerging Applications

- Emerging materials for biomedical applications
- Nano-structured metals and alloys
- Novel manufacturing process for metal & alloy powders
- Bulk amorphous alloys
- Refractory metals
- Light metals & alloys
- Energy generation & storage technologies
- Non-equilibrium alloys
- Quasi-crystalline alloys

Hard Metals & Diamond Tools

- Manufacturing processes and equipment
- Effect of sintering temperature, pressure & atmosphere
- Environment and energy management
- Surface engineering, coating & wear protection
- Microstructure engineering for improved performance
- Advances in powders and mixes
- Improving fatigue & fracture toughness
- Cermet reinforced carbides
- Functionally graded tools
- Design & 3D printing of hard metals & cermet parts
- Improving diamond stability
- Quality control systems & instruments

Additive Manufacturing

- Selective laser sintering
- Laser engineered net shaping
- Electron beam melting
- Rapid tooling
- Selective inhibition sintering
- Heat treatment processes
- Debinding and sintering for non-beam based AM parts
- Surface modification
- AM materials
- Additive manufacturing of ceramics & composites
- Pre-processing and post-processing
- Mass customisation
- Design freedom
- Hybrid technologies
- Powder recycling
- AM for Industry 4.0

Technical Ceramics & Composites

- Bioceramics and medical applications
- Ceramics and glasses for automobile industry
- Ceramic coatings
- Ceramic-metal joinings
- Failure in ceramics
- Ceramics for energy harvesting and conversion
- Ceramics for space and defence applications
- Emerging technologies in ceramics and glasses
- Industrial applications for ceramics and composite materials
- New machinable ceramics
- Novel synthesis and processing of ceramics, glass and composites
- Role of ceramics & composites in Industry 4.0
- Sensor materials and device ceramics
- Structural ceramics



SPONSORSHIP OPPORTUNITIES

	PATRON SPONSOR #* (INR 700,000/-, USD 10,770/-, Euro 8,860/-)	CONFERENCE SPONSOR* (INR 150,000/-, USD 2,310/ Euro 1,900/-)
Delegate Registrations	5 complimentary registrations + 3 complimentary registrations for customers (<i>conditions apply</i>)	2 complimentary registrations
Advertisement in Conference Guide	Yes	Yes
Logo on Backdrops, Banners	Yes	Yes
Banner Ad on Website	Yes	No
Exhibition Stall	1 complimentary stall + 50% discount on second stall	50% discount on one stall
Inclusion in PMAI's Suppliers Directory	Yes	Yes
Recognition During Inaugural Session	Yes	Yes
Corporate Presentation During Plenary Session	Yes	No
VIP Dinner	2 Invitations	1 Invitation

* prices do not include 18% GSTax

Patron sponsors will have preferential visibility throughout the conference.

PMAI offers other sponsorship opportunities like the APMA 2019 Mobile App, delegate kit bags, pens & notepad, lanyard, gala dinners and other innovative ideas.

Companies and individuals may also advertise in the conference guide. For more information please visit www.apma2019.com/exhibitors. For payment information please contact conadmin@apma2019.com.

ACCOMMODATION & TRAVEL

There are many budget, economy & luxury hotels around the venue. There are a limited number of rooms available at the conference hotel (JW Marriott) at group booking rates (discounted rates). Please email conadmin@apma2019.com for the group booking code.

AIRPORT

The conference venue, JW Marriott, is 12.7 kms from the Pune Lohegaon airport and will take approx. 40 minutes by taxi (~ INR 400/-, USD 6/-, Euro 5/-). Mumbai Sahar International Airport is 160 kms from the conference venue and will take approx. 3 hours by taxi (~INR 4,000/-, USD 62/-, Euro 50/-).

Pune Lohegaon Airport has direct flights to & from Dubai, Frankfurt as well as other Indian cities including New Delhi, Mumbai, Chennai, Hyderabad and Bangalore.

HOSPITALITY DESK (Available to all overseas registered delegates and invitees)

We will meet you at Mumbai airport and facilitate your travel to your destination in Pune & also your return to Mumbai airport after the conference. Contact conadmin@apma2019.com for more information. Transportation costs are to be paid by delegates.

DELEGATE REGISTRATION (Visit www.apma2019.com/registration to register)

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Delegate from academia	12,000/-	185/-	152/-	12,700/-	200/-	164/-
Student	3,500/-	55/-	45/-	4,025/-	65/-	53/-
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CONFERENCE ORGANISER:

POWDER METALLURGY ASSOCIATION OF INDIA
B 1002 Kingston, High Street Hiranandani Complex,
Powai, Mumbai 400076. INDIA

HELPLINE: (10.00 TO 20.00 hrs) GMT+5.5HRS

+ 91 99401 18524
+ 91 99401 18539

conadmin@apma2019.com