

[www.rapdasa.org](http://www.rapdasa.org)

# RAPDASA

RAPID PRODUCT DEVELOPMENT ASSOCIATION OF SOUTH AFRICA

## ANNOUNCEMENT AND FIRST CALL FOR PAPERS

The Rapid Product Development Association of South Africa  
(RAPDASA)  
proudly announces its

### 20th Annual International Conference

hosted by the  
Central University of Technology, Free State (CUT)  
from

**06 - 08 November 2019**

at

**Emoya Estate, Bloemfontein,  
South Africa**



Following the success of the 19th Annual International Rapid Product Development Association of South Africa (RAPDASA) conference hosted by UJ and Resolution Circle in November 2018, we are pleased to announce the first call for papers for the 2019 conference hosted by the CUT, on behalf of RAPDASA.

Additive Manufacturing (AM), better known as "3D Printing", has matured from a prototyping technology (in the 1990's) into the fully-fledged manufacturing technology which it is today. AM products are used as final products in aerospace, automotive, medical and the consumer product industries, and the technology has proved itself in aiding designers and engineers to achieve complexity in design and manufacturing.

The 20th Annual Conference theme:

## **"Creating the Future of Manufacturing - Layer by Layer"**

with its sub-theme: **Establishing the 3D Printing Process Chain**, will offer many opportunities for participants from industry, R&D institutions, academia and government to gain insights from world experts in this field and for the South African AM community to showcase the cutting-edge work carried out in this country.

The conference will cover sectors such as:

Aerospace  
Medical and Bio-medical  
Automotive  
Sport & Leisure  
Architecture

Apart from these, papers can also be presented on topics covering all aspects of the rapid product development chain, such as:

- Computer-aided Design
- Product Engineering
- Reverse Engineering
- Simulation & Modelling
- Process Modelling
- Structural Analysis
- Materials Selection for Design
- Materials Engineering
- Materials Processing
- Tooling Design and Development

For the first time, RAPDASA 2019 will have a special track focusing on "Biomimetic engineering for AM", led by prominent invited speakers in this field. Full information on this track is included below. Papers can also be proposed for selection and inclusion in this session (please include this in your abstract).

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## **Creating the Future of Manufacturing - Layer by Layer**

Establishing the 3D process chain



## Who should attend?

The Organising Committee, on behalf of RAPDASA, invites product designers, toolmakers, production staff, technical directors and managers from industry involved in design, development and manufacturing of products and components to participate or simply attend the conference. In addition, participants from international product development communities, academia, national R&D and educational institutions are also invited to attend and participate in the conference. Furthermore, AM is becoming important for general managers and CEOs and the world of finance and investment. Ample opportunities will be available to meet with and have discussions with experts in the field.

## Important dates deadlines:

Deadline for submission of abstracts	:	10 May 2019
Notification of acceptance of abstracts	:	10 June 2019
Deadline for early bird registration	:	14 June 2019
Deadline for submission of full papers	:	12 July 2019
Feedback on paper reviews	:	31 July 2019
Deadline for final papers after rework	:	6 September 2019

**Please submit a 400 word abstract including the title, authors and their affiliations as well as three to five keywords.**

## Conference Package

The conference will be hosted at Emoya Estate in Bloemfontein, South Africa. On-site accommodation is limited, but arrangements with nearby hotels and guest-houses have been made. The conference fee of R 5300 (ZAR) per delegate excludes accommodation, which will have to be booked and paid by delegates. The conference package includes:

- Full conference participation
- Lunch & dinner
- Refreshments (tea/coffee breaks)
- Welcome Function
- Gala Event

The conference attendance fee for bona fide full-time postgraduate students is ZAR 3750 (maximum of 5 students per institution and proof of registration must be provided).

Online registration will open on the RAPDASA website at [www.rapdasa.org](http://www.rapdasa.org) in mid-April. Early bird registrations up to 14 June 2019 will receive R500 discount, i.e. the total registration fee for such will be ZAR 4800 per delegate, and ZAR 3250 for students.

For further information please contact Mrs Jenny van Rensburg at [info@rapdasa.org](mailto:info@rapdasa.org)

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## Publication of papers

All papers accepted for the conference will be subjected to a blind peer review process. The peer review process will be led by the Technical Committee. Selected papers will be submitted for publication in an ISI accredited technical journal.

## Industry presentations

As an alternative to the above peer-reviewed papers, industry partners have the opportunity to present their applied research in a non-peer reviewed format. The initial abstract submission is the same as for full papers, but instead of the full paper, an extended abstract may be submitted. Industry presentations will be marked as such in the program. Industry presentations are not included in the conference proceedings. Industry who wish to sponsor pages in the conference proceedings may contact Jenny van Rensburg at [info@rapdasa.org](mailto:info@rapdasa.org)

## Exhibition

Emoya Estate offers excellent exhibition facilities which will ensure maximum exposure throughout the conference.

Reservations for the limited exhibition area will be on a first-come first-served basis. A floor plan of the exhibition space and relevant rates will be available on the web site soon. Exhibition fees will include a full conference package (excluding accommodation) for one person, as well as tables/electricity outlets.

## Pre-conference workshop

A pre-conference workshop on "DESIGN AND ADDITIVE MANUFACTURING OF TITANIUM PARTS" will be presented on 5 November 2019. This workshop will be jointly hosted by the Central University of Technology will cover research areas in the exciting new field of titanium additive manufacturing, as well as design for the AM process, supported by applicable sub-themes as accommodated in the CPAM programme, and based on the needs identified in the South African Additive Manufacturing Strategy.

A separate call for abstracts for the pre-conference workshop is available on the RAPDASA web-site.

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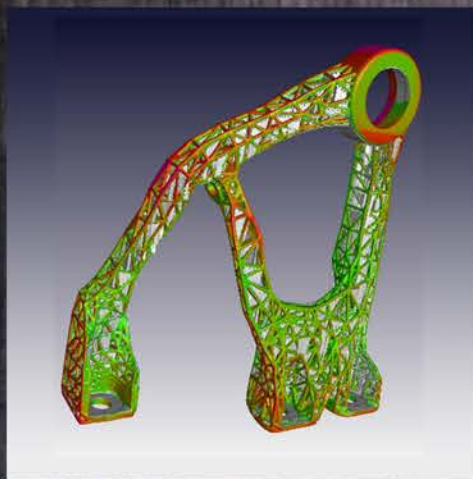
## RAPDASA Specialist Track:

### Biomimetic Engineering for Additive Manufacturing

This specialist track is all about realizing the full potential of additive manufacturing through biomimetic engineering. We invite all scientists and engineers with an interest in the latest advances in biomimicry for additive manufacturing, both from industry and academia, to join us in this special track in the conference.

Topics of relevance include:

- Biomimicry and learning from nature on various levels
- Simulation, design and production of complex parts using any AM method
- Practical aspects of incorporating complexity into AM
- Organic and freeform design
- Simulation-driven design (topology optimization)
- Lattices and cellular structures
- Build simulation and residual stress for complex geometries
- X-ray computed tomography and characterization methods
- Microstructure, porosity and surface roughness implications
- Structural mechanics simulation (finite element methods)
- And more.....



Invited international guests and local experts will provide lectures on the above topics, while researchers and students will be given the opportunity to present their work.

Industry sessions will contribute to this specialist track, highlighting the capabilities of present-day hardware and software tools supporting biomimetic engineering for AM.

A journal special issue is planned for technical papers in this track, so please mark your submission as "Biomimetic engineering". For any questions please contact the track chair, Prof Anton du Plessis – [anton2@sun.ac.za](mailto:anton2@sun.ac.za).

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