

# The Department of Mechanical Engineering Science, Faculty of Engineering and the Built Environment is pleased to host

## THE FIRST INTERNATIONAL CONFERENCE ON "SUSTAINABLE MATERIALS PROCESSING AND MANUFACTURING"

Skukuza, Kruger National Park, South Africa | January 23-25, 2017

### CONFERENCE ORGANISING COMMITTEE:

#### South Africa:

- Tien-Chien Jen (Conference Chair), University of Johannesburg, South Africa
- Rudolf Laubscher (Co-Chair), University of Johannesburg, South Africa
- Dimitar Dimitrov (Co-Chair), Stellenbosch University, South Africa
- André Nel, University of Johannesburg, South Africa
- Esther Akinlabi, University of Johannesburg, South Africa
- Bola Ikotun, UNISA, South Africa
- Brendon Shongwe, TUT, South Africa
- Sisa Pityana, CSIR, South Africa
- API Popoola, TUT, South Africa
- Sunir Hassan, WSU, South Africa
- Claudia Polese, Wits, South Africa
- Monnamme Tlotleng, CSIR, South Africa
- Peter Olubambi, University of Johannesburg, South Africa
- Johan de Koker, University of Johannesburg, South Africa
- Kapil Gupta, University of Johannesburg, South Africa
- Daniel Madyira, University of Johannesburg, South Africa
- Sunita Kruger, University of Johannesburg, South Africa
- Barend Botha, University of Johannesburg, South Africa
- Bhamjee Muaz, University of Johannesburg, South Africa
- Francois Pieterse, University of Johannesburg, South Africa
- Stephen Ekolu, University of Johannesburg, South Africa
- Nkosinathi Madushele, University of Johannesburg, South Africa
- Mikateko Shuma, University of Johannesburg, South Africa
- Vic Lawrence, Eskom, South Africa
- David Taylor, Epsilon, South Africa
- Charles Anderson, Product One, South Africa
- Malose Chaba, Resolution Circle, South Africa

#### International:

- Wilson Chiu (Co-Chair), University of Connecticut, USA
- Jyotsna Dutta Majumdar (Co-chair), IIT, Kharagpur India
- Paul Mativenga (Co-Chair), University of Manchester, UK
- Kamlakar Rajurkar, University of Nebraska, Lincoln, USA
- Pradeep Menezes, University of Nevada, Reno, USA
- Chris Yuan, University of Wisconsin, Milwaukee, USA
- Satish V. Kailas, IISc, Bangalore
- Nicholas Perry, AEMP, France
- Junying Min, Ruhr-Universität Bochum, Germany
- Steven Liang, Georgia Tech, USA
- Edison Muzenda, BIUST, Botswana
- Subha Kumpaty, MSOE Milwaukee, USA
- Lars-Erik Lindgren, Luleå University of Technology, Sweden
- N. Murugan, CIT, Coimbatore India
- Sylvanus Wosu, University of Pittsburg, USA
- Lin Zhu, Anhui Agriculture University, China
- Qinghua Chen, Chong-Qing University, China
- MOH Amuda, University of Lagos, Nigeria
- Gbenga Johnson, University of Namibia, Namibia
- Rasheedat Mahamood, University of Ilorin, Nigeria

### CONFERENCE KEYNOTE SPEAKER LIST:

- Professor Lars-Erik Lindgren (Sweden)
- Professor J. Dutta Majumdar (India)
- Professor K. P. Rajurkar (USA)

### CONFERENCE REGISTRATION FEES:

PARTICIPANT TYPE	COST	OPENING DATE	CLOSING DATE
Participant (Early bird)	R7,500.00	23 May 2016	19 September 2016
Participant	R8,500.00	20 September 2016	NA
Student	R7,000.00	23 May 2016	NA

### IMPORTANT DEADLINES:

ACTIVITY	DATE
Call for Papers advert date	15 February 2016
Abstract closing date	15 May 2016
Acceptance of Abstracts (Not more than 300 words) Notification to Participants	22 May 2016
Early bird registration open	23 May 2016
Submission of Initial Full Draft of Papers	17 July 2016
Acceptance of Initial Full Draft of Papers Notification to Participants	31 July 2016
Submission of Final Papers	2 September 2016
Acceptance of Final Paper Notification to Participants	18 September 2016
Close of early bird registration	19 September 2016

### MAIN CONFERENCE THEMES:

#### I. Environmental Policies, Standards and Education for Sustainable Engineering

- Environmental management and ISO standards
- Legislation, education and corporate-social factors
- Awareness for sustainability in public and government
- Role of academia in sustainable engineering and development
- Engineering education for sustainable development

#### II. Life Cycle Engineering

- Product life cycle and various life phases in sustainable product developments
- Life cycle activities, life phases and life cycle decision making
- Life cycle thinking and assessment
- Life cycle assessment tools and techniques
- Case studies in life cycle engineering

#### III. Sustainable Manufacturing Systems and Techniques

- Sustainable production systems
- Process automation for sustainable manufacturing
- Advanced and hybrid manufacturing for sustainability
- Additive manufacturing
- Laser-assisted machining
- Ultrasonic-assisted machining
- Green Machining: sustainability in conventional and advanced machining
- Environment-friendly lubricants and lubrication techniques
- Minimum quantity lubrication (MQL)
- Cryogenic cooling
- Dry cutting
- Low impact manufacturing
- Energy and resource-efficient manufacturing
- Role of digital and intelligent manufacturing in sustainability
- Optimization strategies for sustainability
- Sustainability in precision engineering and micro-machining

#### IV. Sustainable Materials and Processing

- Sustainability in material deposition and processing
- Green material processing technologies
- Sustainable use of materials
- Sustainable polymer recycling and processing
- Recycling of critical metals

- Bioplastics
- Sustainable coatings
- Identification and replacement for critical materials

#### V. Sustainable Product Design and Development

- Sustainable design, innovation and services
- Sustainable product design services
- Design for the environment
- Zero- and near-zero landfill designs for manufacture
- Design for disassembly/re-use/re-manufacturing/recycling and serviceability

#### VI. Sustainable Supply Chain and Business Models

- Green supply chain and logistics
- Sustainable supply chain management
- Sustainable materials management
- Maintenance strategies for sustainable manufacturing
- Strategies and business models for sustainable development
- Business strategy and climate change
- Investment options in sustainable manufacturing

#### VII. Renewable Energy and Sustainability

- Bio gas production and processing
- Solar energy
- Wind energy
- Fuel cell technology
- Hydrogen generation and storage
- Energy storage technology
- Sustainable materials management

#### VIII. Other Important aspects

- Eco tribology
- Ecological engineering
- Technology and degrowth
- Waste treatment and management
- Lean manufacturing
- Recycling and reuse
- Disassembly and remanufacturing
- Cleaner production
- Industrial case studies

### OTHER IMPORTANT INFORMATION:

- All the manuscripts submitted to the conference will go through double blind peer review process.
- The conference proceeding will have an ISBN number.
- The Proceeding will be published by Elsevier in Procedia Manufacturing.
- The conference will be EI index and will appear on Scopus.
- Two ISI-listed journals will be accepting the best papers from this conference

#### For enquiries, please contact

**Tien-Chien Jen** (Conference Chair)  
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#### Conference website:

<https://www.etouches.com/smpm>

#### Abstract Submission:

<https://www.eiseverywhere.com/eSites/165114/Homepage>



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