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

THE SECOND INTERNATIONAL CONFERENCE ON “SUSTAINABLE MATERIALS PROCESSING AND MANUFACTURING”

North-West, Sun City Resort, South Africa | March 8 - 10, 2019

CONFERENCE ORGANISING COMMITTEE:

South Africa:  
- Tian-Chien Jen (Conference Chair), University of Johannesburg, South Africa  
- Daniel Madyina (Co-Chair), University of Johannesburg, South Africa  
- Esther Akinlabi (Co-Chair), University of Johannesburg, South Africa  
- Clinton Aigbavbo (Co-Chair), University of Johannesburg, South Africa  
- Khumbulani Mapho (Co-Chair), TUT, South Africa  
- Peter Olubambi (Co-Chair), University of Johannesburg, South Africa  
- Dimitar Dimitrov, Stellenbosch University, South Africa  
- Zenghi Wang, UNISA, South Africa  
- Brenda Shongwe, TUT, South Africa  
- Sipho Pinyana, CSIR, South Africa  
- API Popoola, TUT, South Africa  
- Sunir Hassall, Wits, South Africa  
- Monnannie Tlholang, CSIR, South Africa  
- Sunita Kruger, University of Johannesburg, South Africa  
- Neer Ahmed, University of Johannesburg, South Africa  
- Kapil Gupta, University of Johannesburg, South Africa  
- Bhanjee Musa, University of Johannesburg, South Africa  
- Nkosinathi Madyina, University of Johannesburg, South Africa  
- Mathope Toleka Lekwana, University of Johannesburg, South Africa  
- Madwenda Mashumini, University of Johannesburg, South Africa  
- Lagogwe Taribu, University of Johannesburg, South Africa  
- Michael Mhlanga, University of Johannesburg, South Africa  
- Michael Agarana, University of Johannesburg, South Africa  
- Peter Ovihon, University of Johannesburg, South Africa  
- Stephen Bebi, University of Johannesburg, South Africa  
- Malose Chaba, Resolution Circle, South Africa  
- Jianwei Ren, CSIR, South Africa  

International:
- Joyce Dutta Majumdar (Co-chair), IIT, Kharagpur India  
- Paul Matzenga (Co-Chair), University of Manchester, UK  
- Xiaoan Xu (Co-Chair), Purdue University, USA  
- Wilson Chu, University of Connecticut, USA  
- Pradeep Menezes, University of Nevada, Reno, USA  
- Chris Yuan, University of Wisconsin, Milwaukee, USA  
- Sathish V. Koilos, IIT, Bengalore, India  
- Nicholas Perry, AEMP, France  
- Junying Mn, Ruhr-Universität Bochum, Germany  
- Kwezile Mazembe, BRST, Botswana  
- Subha Kumpathy, MSDE, Milwaukee, USA  
- Lars Erik Lindgren, Luleå University of Technology, Sweden  
- Sylvanus Wossu, University of Pittsburgh, USA  
- Lin Zhu, Anhui Agriculture University, China  
- Peter Buti, University of Ljubljana, Slovenia  
- MOH Amuda, University of Lagos, Nigeria  
- Gbenga Johnson, University of Namibia, Namibia  
- Henry Wang, Fudan University, China  
- Jinting Liu, University of Science and Technology of China, China  
- Laetitia Deladet, University of La Reunion, France  
- Rashedat Mahmood, University of Ilorin, Nigeria  
- Oluseyi Ajayi, Covenant University, Nigeria  

CONFERENCE KEYNOTE SPEAKER LIST:
1. Professor H. Lu, Fudan University, China  
2. Professor P. Butula, University of Ljubljana, Slovenia  
3. Professor L. Ilon, Seoul National University, Korea  
4. Professor I. Dunmade, Mount Royal University, Canada

CONFERENCE ORGANISATION FEES:

<table>
<thead>
<tr>
<th>PARTICIPANT TYPE</th>
<th>COST</th>
<th>OPENING DATE</th>
<th>CLOSING DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant (Early bird)</td>
<td>R5000.00</td>
<td>20 June 2018</td>
<td>1 November 2018</td>
</tr>
<tr>
<td>Participant</td>
<td>R5500.00</td>
<td>2 November 2018</td>
<td>6 March 2019</td>
</tr>
<tr>
<td>On-Site</td>
<td>R6000.00</td>
<td>8 March 2019</td>
<td>N/A</td>
</tr>
<tr>
<td>Student (with paper)</td>
<td>R4500.00</td>
<td>20 June 2018</td>
<td>N/A</td>
</tr>
<tr>
<td>Student (without paper)*</td>
<td>R4500.00</td>
<td>20 June 2018</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Student workshop

IMPORTANT DEADLINES:

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call for Papers advert due</td>
<td>5 March 2018</td>
</tr>
<tr>
<td>Abstract closing date</td>
<td>8 June 2018</td>
</tr>
<tr>
<td>Acceptance of Abstracts (Not more than 300 word) Notification to Participants</td>
<td>18 June 2018</td>
</tr>
<tr>
<td>Early bird registration open</td>
<td>20 June 2018</td>
</tr>
<tr>
<td>Submission of Initial Full Draft of Papers</td>
<td>17 August 2018</td>
</tr>
<tr>
<td>Acceptance of Initial Full Draft of Papers Notification to Participants</td>
<td>17 September 2018</td>
</tr>
<tr>
<td>Submission of Final Papers</td>
<td>1 October 2018</td>
</tr>
<tr>
<td>Acceptance of Final Paper Notification to Participants</td>
<td>22 October 2018</td>
</tr>
<tr>
<td>Close of early bird registration</td>
<td>1 November 2018</td>
</tr>
</tbody>
</table>

MAIN CONFERENCE THEMES:

1. 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

2. 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

3. 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

4. Sustainable Materials and Processing  
- Sustainable material deposition and processing  
- Green material processing technologies  
- Sustainable use of materials  
- Sustainable polymer recycling and processing  
- Recycling of critical metals  
- Bioplastics  
- Powder metallurgy  
- Materials testing  
- Wear and corrosion of materials  
- Sustainable coolants  
- Identification and replacement for critical materials

5. 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 sustainable/re-use/re-manufacturing/recycling and servicing

6. 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

7. 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

8. Industry 4.0 and Internet of things  
- Sustainability of current trends in automation  
- Data mining in manufacturing technologies  
- Sustainability of cyber-physical systems  
- Sustainability of cloud and cognitive computing and manufacturing systems  
- Sustainability of futuristic and advanced technologies

9. Modelling and Simulation for Sustainable Manufacturing  
- Modelling and Simulation in Advanced Manufacturing  
- Modelling and Simulation for Sustainable Development  
- Sustainable Lean Manufacturing modelling  
- Modelling manufacturing systems  
- Optimizing Sustainable Manufacturing

10. Other Important aspects  
- Eco tribology  
- Ecological engineering  
- Technology and de-growth  
- 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 selected best papers from the conference will be published in two ISI Journals: Proceedings of the Institution of Mechanical Engineers (IMechE) - Part B: Journal of Engineering Manufacture and Part N: Journal of Nanoengineering and Nanosystems.