



Rapid Product Development
Association of South Africa



RAPDASA 2011 PROGRAMME

Wednesday: 2 Nov



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08:30	Opening and Welcome: Prof Alwyn Louw: DVC Academic Research, VUT Session Chair: DJ de Beer	
08:50	Keynote Address: New Trends in Additive Manufacturing Dr T. Wohlers – President: Wohlers Associates, USA	
09:40	Keynote Address: From Idea to Profit Mr W. Van Straaten: CEO, Inventec, SA	
10:25 – 10:45	Tea – Exhibition Area	
	Parallel Session 1: Materials and Applications Chair: Dr RI Campbell	Parallel Session 2: Medical Product Development Chair: Prof M Truscott
10:50	Invited paper: SA Ti AM Roadmap: Dr WB du Preez: CSIR, SA	Invited paper: AM in the medical field - Highlights of the last seven years: Dr Russ Harris: Loughborough University, UK
11:25	Geometric Complexity Analysis in an Integrative Technology Evaluation Model (ITEM) for Selective Laser Melting (SLM): Merk S., Hinke C., Schleifenbaum H., and Voswinckel H.	Advancements in the Implant Fabrication using Additive Manufacturing: Agrawal, S., Pande, S. and Sharma, R.K.
11:50	Case Study on the Laser Metal Deposition of Ti6Al4V to TiC/Ti6Al4V functionally graded Material: Meacock, C., Pityana, S., Mongalo, L. and Rambau, T.	Low-Cost 3D Bio-Printing of Cellularized Vascular Graft Prototypes: Carroll, D., Lee, J., Onorato, M., Spink, K., Popat, K.C. and Prawel, D.A.
12:15	Innovative Workholding for Titanium Based Thin Walled Components for Aerospace Applications: Pindela, N. and Dimitrov, D.	Patient-Specific Spinal Implants using Rapid Manufacturing Technology: De Beer, N.
12:40	Residual stress measurements and structural integrity implications for Selective Laser Melted Ti-6Al-4V: Knowles, C.R., Becker, T.H. and Tait, R.B.	Penetrating Osteointegrative Coatings for EBM Titanium Lattice Implants : Hudson, H.K., Christensen, A., James, S.P. and Prawel, D.A.
13:10	Lunch	
	Parallel Session 1: Materials and Applications c'td. Chair: Dr WB du Preez	Parallel Session 2: Medical Product Development c'td. Chair: Mr GJ Booysen
14:00	Laser Powder Welding of a Ti52Al46:8Cr1Si0:2 Titanium Aluminide Alloy at Elevated Temperature: Smal, CA, Meacock, CG, Rossouw, HJ	Innovations in medical image processing for the design of custom medical devices and implants: Lopes, P.
14:25	The concept of Hybrid Manufacturing for high performance parts: Boivie, K., Karlsen, R. and Ystgaard, P.	Computer Aided Design and Manufacturing of Implants: Almeida, H.
14:50	The Potential Hazards of Metal Powders: Benson, J.M.	Porous ceramic filters through 3D Printing: Withell, A., Diegel, O., Grupp, L., De Beer, D.J. and Potgieter, J.
15:15 – 16:15	RAPDASA AGM	
16:00	Tea – Exhibition Area	
16:15	AM Optomec LENS Workshop – Including lecture by Dr. Martin Hedges: Neotech Services MTP, Nuremberg, Germany. <ul style="list-style-type: none"> ○ 1st presentation – <i>Technical aspects of the LENS and its capabilities</i> ○ 2nd presentation – <i>NLC ideas an inputs for potential LENS projects</i> ○ <i>Open discussion on accessibility of LENS System to industry and Academia</i> ○ <i>The NLC will present the various ways both industry and academia can access the LENS system followed by a Q&A session</i> ○ <i>Open discussion on the collaborative research programme that NLC would like to establish with Industry & Academia</i> <p><i>Members participating in this mini-workshop will put forth ideas and suggestions for the research programme that the NLC will want to focus on in certain areas</i></p>	
18:15	Open Time – Exhibition area	
19:00	Dinner in Exhibition Area	

Thursday: 3 Nov			
08:00	Opening and Welcome – Day 2 Announcements: Deon de Beer Chair: Prof D Dimitrov		
08:10	Keynote Address: AeroSwift – Local development of a high speed, large volume Additive Manufacturing system: Vermeulen, M. and Greyling, H.		
08:55	Keynote Address: MEDICAL R& D Overview from the CDRSP – Leiria. Prof Paulo Bartolo: IP Leiria		
09:40	Keynote Address: A way towards Direct Manufacturing at DMRC with international partners and local funding, as well as running projects at DMRC. Dr E Klemp: University of Paderborn		
10:25 – 10:45	Tea – Exhibition Area		
	Parallel Session 1: Design and Direct Manufacturing Chair: Mr E Erfort	Parallel Session 2: Tooling Chair: Mr J Jooste	Parallel Session 3: Tissue Engineering: Chair: Prof P Bartolo
10:50	Invited paper: Rapid Manufacturing of Components for the Automation – Chances and Limitations of Stereolithography: Prof U Berger, Aalen University	Invited paper: AM and DMLS - Impact on the feasibility and economics of the industry: Mr HL van der Merwe: Kopanong Converters	Invited paper: Tissue Engineering of Bone: Prof I Gibson: NUS
11:25	Automated variation in product design: Using visual basics.net programming language to generate product variation: Smith P.C. and Rennie A.E.W.	Application of Advanced Manufacturing Technologies in the South African Tooling Industry – Advantages and Impact: Moammer, A. and Dimitrov, D.	Tissue Engineering Workshop: Dr KC Popat & Dr D Prawel Colorado State University
11:50	Advanced Manufacturing in the Antipodes: From Design to Reality: O’ Dwyer M. and Anastassiou, M.	Limited Run Production Utilising Alumide® Tooling for the Plastic Injection Moulding Process: Combrinck, J., Booysen, G.J., Van der Walt, J.G. and De Beer, D.J.	
12:15	Idea 2 Product Lab De Beer, D.J.	Application of FE-simulation into the Multi-stage Forming process for Economical Press Tool Design: Goniwe, N.	
12:40	21 Years of Rapid Prototyping in South Africa: The Pioneering Years – Bond, R.J.	Impact of Selective Laser Sintering/Melting on Tooling: Kumar, S.	
13:10	Lunch		
	Parallel Session 1: Design and Direct Manufacturing: Chair: Mr P Bezuidenhout	Parallel Session 2: Tooling c’td. Chair: Dr S Kumar	Continuation Tissue Engineering Workshop Chair: Dr R Harris
14:00	AM-enabled Consumer Design: Sinclair, M, Campbell, R.I., Ariadi, Y and Evans, M.A.	Application of Laser Additive Manufacturing to produce dies for Aluminium High Pressure Die Casting: Pereira, M.F.V.T., Williams, M. and Du Preez, W.B.	
14:25	Beating the Economic Curve with Direct Manufacturing: Laing, J.	High Speed 5 Axis Machining for Tooling Applications: Saxer, M.	
14:50	Direct Digital Manufacturing: Staying ahead of the curve : Van der Merwe, D.S.	Assessment of Surface Finish and Dimensional Accuracy of Tool Manufactured by Metal Casting in Rapid Prototyping Sand Moulds: Nyembwe, K., De Beer, D., Van Der Walt, K. and Bhero, S.	
15:15	Tea – Exhibition area		
15:35	Direct Part Production with FDM – Cumulative user feedback: Oosterlaak, P.R.	Direct Manufacturing Applications with DMLS: Booysen, G.J., and De Beer, D.J.	
16:00	Day 2 Closing Keynote and Evening Announcements: Additive Manufacturing: A discussion on sustainability Prof Ian Gibson Chair: D.J. de Beer.		
16:30 – 17:30	Cocktails and networking – Exhibition Area		
18:00	Gala Event – Vaal River & African Experience		

Friday: 4 Nov

08:00	Opening and Welcome – Day 3 Announcements: Deon de Beer Chair: Dr T Wohlers			
08:10	Keynote Address: Mr T Heller – Stratasys, Europe			
08:55	Keynote Address: Innovation and Additive Manufacturing: Can the <i>Engineers</i> do it all? Prof Olaf Diegel: Auckland University of Technology			
09:40	Keynote Address: New Business Models in the Creative Industries Dr L Dean, Future Factories, UK			
10:25 – 10:45	Tea – Exhibition Area			
	Parallel Session 1: Applications Chair: Dr JG van der Walt	Parallel Session 2: Design for Direct Digital Manufacturing (DDM) Workshop	Parallel Session 3: Exhibitor presentations Chairs: Mr M Vermeulen & Ms R Moodley	Open Exhibition
10:50	Invited Paper: Additive Manufacturing technoglies applied in different area of Science: Dr Jorge Lopes, Laboratório de Modelos Tridimensionais Divisão de Desenho Industrial, Brasil	Opening Presentation Invited paper: Dr M Janse Van Vuuren: “The Art of Nomili”	10: 50 Cad House: 3D Systems & BFB 11: 05 Demaplastech RP: Objet	Open Exhibition
11:25	Physical modelling of terrain directly from Surfer grid, ARC/INFO ASCII and DEM ASCII XYZ data formats: Agrawal, S., De Beer, D.J., and Modi, Y.K.	Presenters: P van der Walt; DA Mauchline; Dr M Janse van Vuuren; C Kuhn, L Becker, E van Engelhoven and Prof O Diegel Moderators: Dr Lionel Dean & Dr Ian Campbell	11: 20 3D Solids: Stratasys 11: 35 Perform Set Technologies: MCor	Open Exhibition
11:50	Trends and Best Practices in Collaboration & Interoperability: Results from the Sixth Annual Survey: Prawel, D.		11: 50 Kopanang Converters 12: 05 CSIR, National Laser Centre	
12:15	The Idea 2 Product Lab Process Jooste, J.H.		12: 20 CUT CRPM 12: 35 CUT PDTS	
12:40	Jewellery Design and Manufacture – AM applications Wilkes, N.		12: 50 VUT MPTS & Design Centre	
13:10	Lunch		Lunch	
14:10	Chair: Deon de Beer Day 3 Closing Keynote: Rapid Product Development: Not Forgetting the importance of Excellent Design Mr B Steinhobel - Founder and CEO: Steinhobel Design		14:10 Rapid 3D 14:25 Voxeljet	Open Exhibition
14:50	Conference Closing – Tea and Exhibition			