

yCAM 2022



9-11 November 2022
Universitat de Barcelona - Spain

PROGRAMME AT A GLANCE!

Organised by:



Sponsored by:



Wednesday, 9th November

08:15	Registration
OPENING - Chaired by: <i>Giorgia Franchin & Andrea Zocca</i>	
09:00	Introduction
09:10	YCN presentation
OPENING KEYNOTES - Chaired by: <i>Elena Xuriguera</i>	
09:20	Colloidal Approaches for Additive Manufacturing: from Granulation to Inks - <i>Begoña Ferrari</i>
09:50	Mass reduction with Mono and Bi Component extruders in 3DCP - <i>Louison Poudelet</i>
10:20	Ceramic Inkjet inks: from Lab to Fab - <i>Aaron Martinez</i>
10:50	Poster session I and Coffee break
37	Promoting the Bonding of Polyether-ether-ketone with Soft and Hard tissue by Additive Manufactured Scaffolds with Hydroxyapatite Filler - <i>Changning Sun</i>
105	Dimensional accuracy, surface finish and porosity of 3D Printed Calcium Carbonate-filled polypropylene parts for medical applications - <i>Irene Buj Corral</i>
65	Production of complex BCZY-GDC supports by 3D micro-extrusion - <i>Alex Sangiorgi</i>
139	Investigation of additive manufacturing for electrical isolator via Ultraviolet-assisted low viscous Mica/silicone paste extrusion - <i>Minkyu Kang</i>
59	Optimizing Direct Ink Writing Parameters for High-Density Monolithic Alumina Toughened Zirconia Parts - <i>Berfu Goeksel</i>
56	Development of Robocasting for Oxide/Non-Oxide Ceramics - <i>Elliot Douse</i>
133	Structured NH ₃ sorbents fabricated by Direct Ink Writing of SrCl ₂ -based composites - <i>Marco D'Agostini</i>
128	3D Printing of Alumina by Direct Ink Writing (DIW) from Inorganic Salt Precursors - <i>José Antonio Padilla Sánchez</i>
126	γ -alumina coating on α -alumina parts fabricated by Direct Ink Writing for catalytic applications - <i>Seyed Ali Razavi</i>
72	Thermal transfer and effective properties of pre-heated powder bed in laser additive manufacturing: a phase-field investigation - <i>Prasanth Bondi</i>
39	Towards a single-step ceramic additive manufacturing process by promoting liquid phase sintering at low temperature - <i>Nicolas Somers</i>
129	SLA-DLP of 3D ceramic packaging for high power electronics applications (GaN, SiC) - <i>Loïc Teisserenc</i>
99	Strategies for the fabrication of carbide components by coupling sol-gel chemistry and photopolymerization-based additive manufacturing - <i>Alice Zanini</i>
49	3D-printing of SiC by Digital Light Processing using submicron SiC-powder and HDDA (1,6-hexanediol diacrylate) - <i>Maria Mykland</i>
58	Design and fabrication of 3D-printed triply periodic minimal surface optically transparent/translucent scaffolds for sensing applications - <i>Arish Dasan</i>
140	Digital Light Processing of preceramic polymers for the preparation of bioactive modified SiOC ceramics - <i>Piotr Jeleń</i>
127	3D silicon oxycarbide structures prepared by Digital Light Processing - <i>Jakub Marchewka</i>
62	Design and manufacturing of self-supported electrolytes for solid oxide fuel cells application by Stereolithography - <i>Anastasiia Novokhatska</i>
111	Comparison of accuracy of additively manufactured zirconia four-unit fixed dental prostheses - <i>Jörg Luchtenborg</i>
A - MATERIAL JETTING - Chaired by: <i>Uwe Scheithauer</i>	
11:50	Introduction
11:55	Technology Assessment for Dentistry from an Industrial Perspective - <i>Zoe Koelbing</i>
12:25	Thermoplastic 3D printing of zirconia parts with varying infill strategies - <i>Ipeknaz Özden</i>
12:45	Lunch
B - VAT PHOTOPOLYMERIZATION - Chaired by: <i>Jan Hostasa & Johanna Saenger</i>	
14:00	Introduction
14:05	Colloid Chemistry – the key in DMD-DLP based Additive Manufacturing of Ceramics - <i>Thomas Graule</i>
14:35	Ceramic meta-material created via two-photon-polymerization for powder processing of yttria stabilized zirconia - <i>Johanna Saenger</i>

14:55	Design and fabrication of 3D-printed triply periodic minimal surface optically transparent/translucent scaffolds for sensing applications - <i>Arish Dasan</i>
15:15	A multi-physics approach to rationalize the properties of 3Y-TZP-based stereolithography pastes - <i>Sylvain Fournier</i>
15:35	Coffee break
B - VAT PHOTOPOLYMERIZATION - Chaired by: <i>Jan Hostasa & Johanna Saenger</i>	
16:05	Innovative zirconia-based material shaped by SLA 3D printing - <i>Maxence Bourjol</i>
16:25	Additive manufacturing of zirconia-based high-performance ceramics with superior flexural strength and improved optical properties - <i>Anna Lebard</i>
16:45	Tailoring of 3D-printed ceramic microstructures through rapid sintering - <i>Anna-Katharina Hofer</i>
17:05	Lithography-based Additive Manufacturing of Alkaline Niobate-based Piezoelectric Ceramics - <i>Mahmoud Mobin</i>

Thursday, 10th November

C - MATERIAL EXTRUSION WITH CERAMIC FILAMENTS - Chaired by: <i>Oxel Urra & Irene Buj Corral</i>	
09:00	Introduction
09:05	Extrusion based Additive Manufacturing of ceramics: Current works about CerAM FFF at IKTS - <i>Johannes Abel</i>
09:25	Additive manufacturing and ultra-fast high-temperature sintering (UHS) of zirconia ceramics - <i>Subhadip Bhandari</i>
09:45	Preparation of Cu-based Colloidal Feedstocks for Material Extrusion with Filaments - <i>Elena Usala</i>
10:05	Colloidal feedstock with a high content of graphite particles for self-supporting 3D oriented conductive electrodes by FFF - <i>Oxel Urra</i>
10:25	TiO ₂ -based porous photocatalytic membranes by FFF from a colloidal feedstock - <i>Pablo Ortega Columbrans</i>
10:45	Poster session II and Coffee break
53	Ceramic-based 3D scaffolds for biomedical application by FFF using a colloidal feedstock - <i>Alvaro Eguiluz</i>
106	Fused Deposition Modelling of Fibre Reinforced Ceramic Matrix Composites - <i>Daorong Ye</i>
55	Characterization of 3D Printed Calcium Carbonate and Zirconia-filled Polylactic Acid parts - <i>Irene Buj Corral</i>
74	Prediction of mechanical behavior of 3D printed CNT-Zno based structures – <i>Maria - Eliza Puscasu</i>
70	Effect of geometry on mechanical properties of 3D printed dense zirconia ceramics parts produced by robocasting - <i>Junhui Zhang</i>
71	Additive manufacturing of ZnO-CNT structures with potential application in energy storage or wastewater treatment - <i>Stefania Chiriac</i>
79	Characterization of porous zirconia-based ceramics with complex geometries produced by robocasting – <i>Paula Pou</i>
110	Design and Fabrication of Calcium Phosphate Scaffolds with Concave Surfaces by Direct Ink Writing - <i>Irene Lodoso</i>
36	Direct ink writing of porous geopolymers for thermochemical energy storage - <i>Camille Zoude</i>
150	Printing microbatteries by Robocasting - <i>Samuel Simaga</i>
67	Study of the properties of ceramic parts printed by stereolithography on an open source machine - <i>Cristina Fabuel</i>
113	Basic characterization of aluminum oxide 3D structures printed using Digital Light Processing - <i>Izabela Rutkowska</i>
135	Sol-gel synthesis of novel photocurable preceramic polymers - <i>Patryk Bezkosty</i>
145	Preparation of ceramic suspensions for blue-light stereolithography - <i>Přemysl Šťastný</i>
144	Strategies to enhance properties of 3D-printed ceramics - <i>Anna-Katharina Hofer</i>
142	High-energy ball milling of bismuth telluride powder to prepare colloidal suspensions for the deposition of thermoelectric thin films by aerosol jet printing - <i>Matteo d'Angelo</i>
156	Additive manufacturing of calcium carbonate parts through photopolymerization - <i>Mateus Mota Morais</i>
154	Quality-by-design driven development and up-scaling of a medical device for the guided regeneration of Bone Defects - <i>Mathilde Maillard</i>
157	Linking rheology and mechanical properties of dense ceramic for extrusion-based additive manufacturing - <i>Mathilde Maillard</i>
114	Advanced photosensitive ceramic suspensions formulation and optimization through UV-rheology - <i>Pol Barcelona</i>

D - BINDER JETTING - Chaired by: *Marco Mariani*

11:45	Introduction
11:50	Binder Jetting of Advanced Ceramics - <i>Jens Günster</i>
12:20	Additive Manufacturing using the Layerwise Slurry Deposition in combination with binder jetting (LSD-Print) - <i>Nils Hendrik Schubert</i>
12:40	Lunch

D - BINDER JETTING - Chaired by: *Marco Mariani*

13:55	3D printing of lead-free KNN by binder jetting - <i>Marco Mariani</i>
14:15	Synergy of powder bed 3D printing and RBSiC - <i>Clara Minas-Payamyar</i>
14:35	Large Scale Additive Manufacturing of Inorganic Components Using Binder Jetting - <i>Filippo Gobbin</i>
14:55	Mechanical response from room temperature up to 600 °C at the submicrometric length scale of WC-Co produced by an AM route based on an inkjet printhead - <i>Guiomar Riu</i>
15:15	Coffee Break

E - POWDER BED FUSION - Chaired by: *Marco Pelanconi*

15:45	Introduction
15:50	Powder bed selective laser processing (sintering, melting) from powder to final complex part - <i>David Grossin</i>
16:20	Influence of humidity thermal and ageing on the flow and packing behaviour of powders for additive manufacturing - <i>Rafael Kleba-Ehrhardt</i>
16:40	Fabrication of dense SiC ceramics by a novel hybrid additive manufacturing process - <i>Marco Pelanconi</i>
17:00	Property Tailoring using Powder Bed Fusion Studied by Multiphysics and Multiscale Phase-field Modeling - <i>Yangyiwei Yang</i>

CLOSING OF THE DAY - Chaired by: *Giorgia Franchin & Andrea Zocca*

17:20	Two decades of Ceramic Additive Manufacturing: a bibliometric analysis - <i>Esther Galindo Batanero</i>
-------	---

Friday, 11th November**F - MATERIAL EXTRUSION WITH INKS AND PASTES** - Chaired by: *Arish Dasan & Mona Yarahmadi*

09:00	Introduction
09:05	Microstructural and Mechanical Properties of Translucent Zirconia Parts Produced by Direct Ink Writing - <i>Mona Yarahmadi</i>
09:25	Robocasting of bioceramic scaffolds with different hollow strut geometries - <i>Shumin Pang</i>
09:45	Additive Manufacturing of Porous Ceramic Bodies by Extrusion of Capillary Suspensions - <i>Felipe Mello Rigon</i>
10:05	3D-printed biomimetic hydroxyapatite scaffolds with triply periodic minimal surface geometries: mechanical and biological properties - <i>Laura del Mazo Barbara</i>
10:25	Modelling the influence of the rod conductivity and the printing parameters on the effective thermal conductivity of 3D printed macro-porous structures - <i>Luis Moreno-Sanabria</i>
10:45	Coffee break

G - EMERGING, HYBRID AND MULTIMATERIAL - Chaired by: *Nicolas Somers*

11:15	Introduction
11:20	Hybridization of materials and shaping technologies for the manufacturing of ceramic components with unprecedented combinations of properties - <i>Uwe Scheithauer</i>
11:40	Manufacturing Mixed Proton-Electron Conducting Ceramic Electrodes: 3D-Printing and Laser Post-processing - <i>Joanna Pośpiech</i>
12:00	Hybrid additive manufacturing for the fabrication of freeform transparent silica glass components - <i>Anna De Marzi</i>
12:20	Powder modifications and formulations for additive ceramic manufacturing via photonic sintering - <i>Alejandro Monton</i>

CLOSING - Chaired by: *Giorgia Franchin & Andrea Zocca*