

# FINAL PROGRAM

2<sup>ND</sup> MARCH  
EDITION 21-22  
2024



# amh

## WORKSHOP

**Additive  
Manufacturing  
for Health**  
Nantes - France

### CHAIRS

Catherine LE VISAGE - Luciano VIDAL

### SCIENTIFIC COMMITTEE

Jérôme CHEVALIER, INSA, Lyon, France  
Paco CHINESTA, ENSAM, Paris, France  
Elena JUAN PARDO, T3mPLATE, Australia  
David MARCHAT,  
École des Mines, S'-Etienne, France  
Lorenzo MORONI,  
Maastricht University, The Netherlands  
Sarah HEILSHORN, Stanford University, USA  
Maria PAU GINEBRA,  
Universitat Politècnica de Catalunya, Spain  
Giovanni VOZZI, University of Pisa, Italy  
Jinah YANG, Postech, Republic of Korea

### ORGANIZING COMMITTEE

Baptiste CHARBONNIER  
Vianney DELPLACE  
Franck HALARY  
Jean-Yves HASCOET  
Constantin ILASCA  
Eric LEROY  
Pierre WEISS

### INVITED SPEAKERS

Sandra CAMARERO-ESPINOSA,  
POLYMAT, San Sebastian, Spain  
Paco CHINESTA,  
ENSAM, Paris, France  
Christophe MARQUETTE,  
3d.Fab, Lyon, France  
Christophe MOSER,  
École Polytechnique Fédérale de Lausanne  
Malgorzata WLODARCZYK-BIEGUN,  
University of Groningen, The Netherlands

### SPEAKERS



**Aldo BOCCACCINI**

Friedrich-Alexander Universität,  
Erlangen, Germany



**Jürgen GROLL**

University of Würzburg,  
Germany



**Sandra VAN VLIERBERGHE**

Centre of Macromolecular Chemistry,  
Ghent University, Belgium



**Gordon WALLACE**

University of Wollongong,  
Australia



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# Thursday March 21<sup>st</sup>

08:30	<b>Registrations opening</b>		
09:00	<b>INDUSTRIAL SESSION 1</b> - Chair: <b>Luciano VIDAL</b>		<b>Auditorium</b>
09:00	Scale-up your biology for bio-printing applications, <b>Simon Tendil</b>		
09:10	X-Pure gelatin, your fast track to market >X-Pure gelMA, your fast track to market, <b>Sander Lybaert</b>		
09:20	Creating living tissues: innovative biofabrication technologies, <b>Sara Micó Insa</b>		
09:30	New possibilities through Puredyne printheads for bioprinting, <b>Felix Gruber</b>		
09:40	Dive into excellence in additive design and manufacturing- Siemens Xcelerator helps you boost R&D and bring medical devices to market more quickly. <b>Part 1 - Traceability, Certification and Scale-up,</b> <b>Christophe Lamboley-Depoire (Siemens)</b> <b>Alexis Capoen (JANUS Engineering)</b>		 
<b>INDUSTRIAL HANDS ON WORKSHOPS 1</b>			
10:00	<b>READILY 3D</b>		<b>Atlantique 1</b>
10:00	<b>REGEMAT</b>		<b>Atlantique 3-4</b>
10:00	<b>VISCOTEC</b>	 	<b>Pacifique 1</b>
<b>INDUSTRIAL HANDS ON WORKSHOPS 2</b>			
10:15	<b>READILY 3D</b>		<b>Atlantique 1</b>
10:15	<b>REGEMAT</b>		<b>Atlantique 3-4</b>
10:15	<b>VISCOTEC</b>	 	<b>Pacifique 1</b>
10:30	Registration / Coffee break & Visit of the booths		
11:00	<b>WELCOME SPEECH BY ORGANISERS AND OFFICIALS</b>		<b>Auditorium</b>
11:15	<b>Keynote lecture 1:</b> Chairs: Luciano VIDAL & Nicolas TOUYA <b>Gordon WALLACE, Australia</b> Driving deployment of bioengineered products. An arduous, sometimes tedious, challenging, rewarding, most times exciting journey that has to be made		<b>Auditorium</b>
12:00	Lunch break & Poster session		

# Thursday March 21<sup>st</sup>

13:30	Chairs: Catherine LE VISAGE & Piotr Stanislaw ZIELILSKI <b>SESSION 1 : Biofabrication &amp; Regenerative Medicine</b> Invited speaker: <b>Sandra CAMARERO-ESPINOSA, Spain</b> <b>Form Follow Function vs Function Follows form: a shift in tissue regeneration</b>	
	<b>SHORT TALKS</b>	<b>Auditorium</b>
14:00	Emergence of additive manufactured porous hydroxyapatite PSIs: " A first case series in maxillofacial reconstruction» - <b>Elisabeth COBRAVILLE</b>	
14:10	Evaluation of the cytocompatibility and bioactivity of new bioinks for 3D bioprinting of a multilayered osteochondral tissue substitute - <b>Mahdieh HEYDARIGOOJANI</b>	
14:20	Combination of biomaterial and stem cell-based strategies to improve cortical repair - <b>Annousha GOVINDAN</b>	
14:30	Development of a versatile silk based electroconductive bioink - <b>Rajiv BORAH</b>	
14:40	Clinical translation of a skin substitute manufactured with multimodal bioprinting technologies - <b>Fabien GUILLEMOT</b>	
14:50	Creating Native-like 3D Skin: Combining Melt Electrowriting of Polycaprolactone (PCL) with Gelatin Methacryloyl (GelMA) - <b>Xixi WU</b>	
15:00	Coffee break & Visit of the booths	
15:15	<b>Keynote lecture 2:</b> Chairs: Catherine Le VISAGE & Giacomo CORTELLA <b>Sandra VAN VLIERBERGHE, Belgium</b> Progressing from Nanoscale Precision to Light-Speed Polymer Processing in Support of Healthcare	<b>Auditorium</b>

# Thursday March 21<sup>st</sup>

16:00

Chairs: Baptiste CHARBONNIER & Himanshi TEWARI

## **SESSION 2: Advanced technologies for biofabrication**

Invited speaker: **Christophe MOSER, Switzerland**

**Volumetric Bioprinting: a new tool for producing artificial tissue models**

### **SHORT TALKS**

**Auditorium**

16:30

Design of 3D-Photoprintable, Bio- and Hemocompatible Non-Isocyanate Polyurethane Elastomers for Biomedical Implants - **Anna PIERRARD**

16:40

A 3D-Printed Bone Metastasis Resection Model for Local Therapeutic Implant Screening  
**Ateeque SIDDIQUE**

16:50

Cold Plasma-Based Redox Therapy for Bone Tumor Growth Control and Bacteria Inactivation  
**Laura BOURET**

17:00

Conception and evaluation of a thermoplastic polyurethane vascular stentgraft produced by 3D printing - **Kim VANDEN BROECK**

17:10

Better together: Dynamic covalent cross-linked granular hydrogels as 3D printing responsive bioinks - **Micaela FERNANDES**

17:20

4D printed hydrogel for biomedical applications - **Sébastien BLANQUER**

17:30

3D bioprinting of a human respiratory epithelial tissue model - **Albane CARRÉ**

17h40

Invited speaker: **Paco CHINESTA, France**

**Hybrid Artificial Intelligence empowering digital twins for modelling, optimizing and controlling complex processes**

18h10

End of the day

20:00



### **GALA DINNER**

**LE LIEU UNIQUE** - 2 rue de la Biscuiterie, Quai Ferdinand Favre, Nantes

# Friday March 22<sup>nd</sup>

09:00	<b>INDUSTRIAL SESSION 2</b> - Chair: <b>Baptiste CHARBONNIER</b>		<b>Auditorium</b>
09:00	Scale-up your biology for bio-printing applications, <b>Simon Tendil</b>		
09:10	X-Pure gelatin, your fast track to market >X-Pure gelMA, your fast track to market, <b>Sander Lybaert</b>		
09:20	Creating living tissues: innovative biofabrication technologies, <b>Sara Micó Insa</b>		
09:30	New possibilities through Puredyne printheads for bioprinting, <b>Felix Gruber</b>		
09:40	Dive into excellence in additive design and manufacturing- Siemens Xcelerator helps you boost R&D and bring medical devices to market more quickly. <b>Part 2 - Case Study : Cutting-Edge Design &amp; Additive Manufacturing,</b> <b>Christophe Lamboley-Depoire (Siemens)</b> <b>Alexis Capoen (JANUS Engineering)</b>		 
<b>INDUSTRIAL HANDS ON WORKSHOPS 1</b>			
10:00	<b>READILY 3D</b>		<b>Atlantique 1</b>
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10:00	<b>VISCOTEC</b>	 	<b>Pacifique 1</b>
<b>INDUSTRIAL HANDS ON WORKSHOPS 2</b>			
10:15	<b>READILY 3D</b>		<b>Atlantique 1</b>
10:15	<b>REGEMAT</b>		<b>Atlantique 3-4</b>
10:15	<b>VISCOTEC</b>	 	<b>Pacifique 1</b>
10:30	Coffee break & Visit of the booths		
11:00	<b>Keynote lecture 3:</b> Chairs: Vianney DELPLACE & Priscilla QUENUM <b>Jürgen GROLL, Germany</b> Unraveling the potential of Melt-Electrowriting for biomedical applications: towards biomimetic microvasculature and ultrastructural matrix-mimicry		<b>Auditorium</b>
11:45	Lunch break & Poster session		
13:00	<b>Keynote lecture 4:</b> Chairs: Pierre WEISS & Albane CARRE <b>Aldo BOCCACCINI, Germany</b> Composite hydrogels containing bioactive glass for 3D bioprinting		<b>Auditorium</b>

# Friday March 22<sup>nd</sup>

13:45 Chairs: Vianney DELPLACE & Laura BOURET

## **SESSION 3: In vitro models & tissue reconstruction**

Invited speaker: **Malgorzata WLODARCZYK-BIEGUN**, *The Netherlands*

**Extrusion-based printing for reconstruction of gradient tissues**

### **SHORT TALKS**

**Auditorium**

14:15 Patient specific reconstruction of cleft palate deformities in dog with flexible 3D-printed organo-mineral cements - **Nicolas TOUYA**

14:25 Biofabrication of a 3D in vitro model recapitulating the ovine IVD structure for evaluating the efficiency of novel therapies IVD degeneration - **Emmaëlle CARROT**

14:35 Regenerative Protein-Dialoguing Graphene: Personalized material for bone grafting  
**Federica TIBERIO**

14:45 Methacrylated Collagen Functionalized with GDF-5 Nanocarriers can Promote Tenogenic Event in Bioploted Tendon Stem Cells - **Giacomo CORTELLA**

14:55 Tailoring Meltelectrowritten Scaffolds for Enhanced Tendon Tissue Engineering through Mechanical Stimulation - **Pavan Kumar Reddy GUDETI**

15:05 3D printable scaffolds loaded with PLGA microparticles for drug-releasing studies  
**Joanna ZUR-PINSKA**

15:15 Coffee break & Visit of the booths

15:35 Chairs: Franck HALARY & Emmaëlle CARROT

## **SESSION 4: Process and materials in 3D printing**

Invited speaker - **Christophe MARQUETTE**, *France*

**Bioinspired hydrogels and how to bioprint them in a confined environment for clinical applications**

### **SHORT TALKS**

**Auditorium**

16:05 Designing criteria for optimization of a well-printable bio-ink - **Rency GEEVARGHESE**

16:15 Evaluation of the angiogenic potential of a fibrinogen/GelMA-based bioink for 3D bio-printing of a bone substitute - **Shervin ILANLOU**

16:25 Melt Electrowriting of Biodegradable Polyhydroxyalkanoates for Skin Tissue Engineering -  
**Magdalena GLADYSZ**

16:35  **AWARDS CEREMONY**

# Acknowledgements



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## CONGRESS VENUE

### Les Salons d'Affaires - Centre des Salorges

16, quai Ernest Renaud - 44105 Nantes Cedex 4

Tél. : 02 40 44 63 70 - [www.nantesstnazaire.fr](http://www.nantesstnazaire.fr)