ORGANIZING COMMITTEE

Michele Conti (*Pavia*)

Franca Scocozza (*Pavia*)

Sonia Padovan (*Pavia*)

SCIENTIFIC COMMITTEE

Cristina Cereda *(Pavia)*

Gabriella Cusella (*Pavia*)

Francesco Pasqualini (*Boston)*

Enrico Lucarelli (*Bologna*)

Gianluca Cidonio (*Southampton*)

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Alvaro Mata (*London*)

GISM - Gruppo Italiano Staminali Mesenchimali

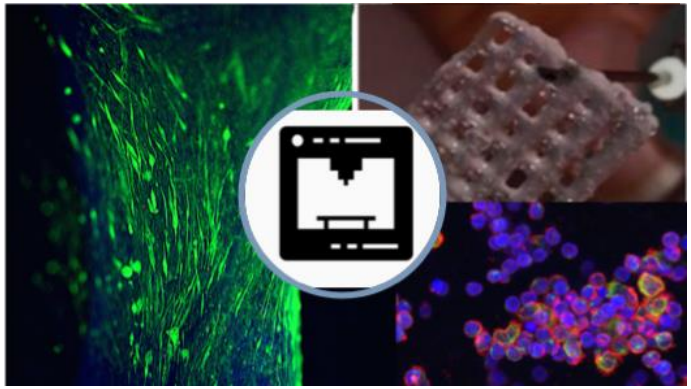
Italian Chapter of the European Society of Biomechanics

NADIR
Plasma & Polymers

UNIVERSITÀ DI PAVIA
Dipartimento di Ingegneria Civile e Architettura

BIOPRINTING WINTER SCHOOL

Pavia - February 11-13, 2020



From printing set-up to laboratory analysis

3D@UniPV
Virtual Modeling and Additive Manufacturing for Advanced Materials

CHT
Centre for Health Technologies
University of Pavia

REGISTRATION

To register to the course participants should:

- **contact** by email the **course Secretariat** to receive the **registration form** to be filled in;
- **only after confirmation** from the Secretariat, **proceed with payment** and send via email the **bank transfer receipt**.

Registration is completed only after receiving the bank transfer receipt.
Registration & Payment Deadline: **14.01.2020**
Available seats: 25

FEES

Regular fee	**350 €**
Reduced fee for members of IDBN, GISM, GNB, ESB-ITA	**300 €**

Fixed-menu lunches, coffee breaks, and course material are included.

Cancellations: 70% of the registration fee refund for cancellations before **01.02.2020**. No refund will be made for cancellations after that date.

PAYMENT METHODS (bank transfer only)

Private registration:
Bank Name: BANCA POPOLARE DI SONDRIO
Office: Succursale di Pavia
Address: Piazzale Ponte Coperto Ticino, 11, 27100 Pavia
IBAN: IT05R0569611300000007008X55
SWIFT: POSOIT2107P
Reason for payment: *Bioprinting Winter School 2020, participant's name*

Italian Public Institutions:
Dipartimento di Ingegneria Civile e Architettura
Banca D'Italia
Institution Code: 81001
Current account: 0037198
Reason for payment: *Bioprinting Winter School 2020, participant's name*

SECRETARIAT

Via Ferrata, 3 - 27100 Pavia, Italy
Phone: +39.0382.985453
E-mail: sonia.padovan@unipv.it

COURSE AIMS

Bioprinting Winter School provides the **basic principles related to 3D (bio)printing** both from theoretical and practical point of view.

Starting from main 3D printing techniques overview, we move on to the design of **"on-demand" biomaterials**, suitable for incorporating biological components, up to the development of a cellular model.

The **practical sessions** (CAD design, stl export, slicing, bioprinting, and characterization of the printed constructions) will help students to solve problems encountered during daily laboratory and research activities.

PROGRAM

Day 1: Introduction and 3D printing

- Introduction to the course, presentation of the program, students' pitch about their projects, pros and cons of bioprinting
- General overview on 3D bioprinting
- Fundamentals of 3D printing starting from the CAD model to the G-code (theoretical and practical session)

Day 2: Bio-ink & biology

- Development phases of bio-ink to be used in the bioprinting field starting from the availability of materials, up to the choice of materials based on the target application
- Material characterization and evaluation of the possibility of being processed by 3D bio-plotter
- Design and development of a cellular disease model in vitro using mainly bioprinting techniques, starting from the generation of a cellular environment as close as possible to the physiological one (printing different types of cells) to laboratory measurements during cell cultures
- Imaging techniques of biological structures within the bio-ink

Day 3: Hands-on. Practical section in laboratory on the use of bio-plotter and biological analysis tools

IV BIOPRINTING WORKSHOP. On Friday 14 February, the IV workshop will take place in Pavia. According to the school aims, this meeting aims at sharing the experiences gained in the field of bioprinting by highlighting experimental protocols and practical aspects related to the preparation and analysis of 3D printed biological constructs.

For more information see our website:

www.unipv.it/compmech/bioprinting_winter_school_2020.html

LECTURERS

Cristina Scielzo. Group Leader, Unit Lymphoid Malignancies, Division of Experimental Oncology, IRCCS San Raffaele Hospital, Milan, Italy. *Expertise*: cell model, 3D in-vitro co-colture system, leukemia microenviroment.

Giovanni Vozzi. Professor in Bioengineering, Interdepartmental Research Center "E. Piaggio", University of Pisa, Italy. *Expertise*: tissue engineering, microfabrication, bioreactors for tissue colture, microactuators fabrication.

Jürgen Groll. Professor, Department for functional materials in medicine and dentistry, University of Würzburg. *Expertise*: applied polymer chemistry, self-assembly behavior of multifunctional polymer systems, biomimetic scaffolds, biofabrication, immunomodulatory materials and scaffolds, multivalency, nanobiotechnology.

Laura Russo. Researcher, Department of Biotechnology and Bioscience, University of Milano Bicocca, Italy. *Expertise*: nano- and biomaterials functionalization for 3D cell colture, 3D printed biomaterials for biomedical application.

Stefania Marconi. Researcher, Department of Civil Engineering and Architecture, University of Pavia, Italy. *Expertise*: biomedical devices, medical image analysis, image segmentation, 3D reconstruction, 3D printing, model post-processing.

COURSE LOCATION

The course will be held at the **University of Pavia**, **Department of Civil Engineering and Architecture**, in via Ferrata, 3 – Pavia, IT.

ORGANIZING COMMITTEE

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