



A.D. 1308  
**unipg**  
UNIVERSITÀ DEGLI STUDI  
DI PERUGIA



**SPRING SCHOOL  
BIOTECHNOLOGY**  
PERUGIA

**Ph.D. in Biotechnology**

# Spring School on Biotechnology

**26-29 May 2025 - 11<sup>th</sup> Edition**

**Hotel Sacro Cuore – Perugia**

(Str. del Brozzo, 12, 06126 Perugia PG)

## «Biomaterials and Artificial Intelligence in Biotechnologies»



# 26-29 May 2025 – Hotel Sacro Cuore

Strada del Brozzo, 12, 06126 Perugia, PG

Contact: [info@wsbperugia.com](mailto:info@wsbperugia.com)

info: <https://wsbperugia.com/>

registration: <https://forms.gle/pVKNndPJjBib4KCW7>



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## Monday, May 26, 2025

09:00-09:15

Opening...

|               |                     |                                                    |
|---------------|---------------------|----------------------------------------------------|
| 09:15 – 10:45 | Silvio Aime         | MRI: nanosized agents and theranostic applications |
| 10:45 – 11:15 |                     | COFFEE BREAK                                       |
| 11:15 – 12:45 | Riccardo Fontanelli | Project Preparation and Management                 |
| 12:45-14:00   |                     | LUNCH                                              |
| 15:00 – 16:30 | Flavia Marcacci     | Basi Epistemologiche del Pensare la Ricerca        |
| 16:30 – 17:00 |                     | COFFEE BREAK                                       |
| 17:00 – 18:30 | Flavia Marcacci     | Laboratorio Epistemologico                         |

Chairs: Gianluigi Cardinali, Bernard Fioretti

## Tuesday, May 27, 2025

|               |                                      |                                                                                             |
|---------------|--------------------------------------|---------------------------------------------------------------------------------------------|
| 09:15 – 10:45 | Nadia Lotti                          | Chemical Structure and Processing of Polymers: Key Parameters Affecting Biological Response |
| 10:45 – 11:15 |                                      | COFFEE BREAK                                                                                |
| 11:15 – 12:45 | Graziano Ceccarelli & Fabio Rondelli | Dalla Chirurgia Robotica all'Intelligenza Artificiale, Prospettive Presenti e Future        |
| 12:45 – 14:00 |                                      | LUNCH                                                                                       |
| 15:00 – 16:30 | Marco Zullich                        | Building Trust in AI: A Critical Analysis of Modern AI Limitations and Opportunities        |
| 16:30 – 17:00 |                                      | COFFEE BREAK                                                                                |
| 17:00 – 18:30 | Damiano Perri                        | Foundations of Artificial Intelligence and Classical Classifiers                            |

Chairs: Sabata Martino, Stefano Bruscoli

## Wednesday, May 28, 2024

|               |                  |                                                                                                                                                   |
|---------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 09:15 – 10:45 | Michael Monaghan | Macrophages in Tissue Engineering: The Role of Electrical Stimulation and Electroconductive Biomaterials in Macrophage Function and Therapeutics. |
| 10:45 – 11:15 |                  | COFFEE BREAK                                                                                                                                      |
| 11:15 – 12:45 |                  | Annual meeting of PhD students and meeting with advisory board                                                                                    |
| 12:45 – 14:30 |                  | LUNCH                                                                                                                                             |
| 15:00 – 16:30 | Damiano Perri    | Neural Network-Based Classifiers: Theory and Practice                                                                                             |
| 16:30 – 17:00 |                  | COFFEE BREAK                                                                                                                                      |
| 17:00 – 18:30 | Damiano Perri    | Large Language Models and Prompt Engineering                                                                                                      |

Chairs: Silvia Caponi, Daniele Fioretto

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### Thursday, May 29, 2024

|               |                   |                                                                                      |
|---------------|-------------------|--------------------------------------------------------------------------------------|
| 09:15 – 10:45 | Antonio Facchetti | Mixed Ionic-Electronic Conductors and Electrochemical Transistors for Bioelectronics |
| 10:45 – 11:15 |                   | COFFEE BREAK                                                                         |
| 11:15 – 12:45 | Damiano Perri     | Local Deployment of LLMs and Final Exercises                                         |
| 12:45 – 14:00 |                   | LUNCH                                                                                |
| 16.30         |                   | Open Day – Biotecnologie e Società: La sfida delle Biotecnologie e dell'IA           |
|               |                   | Sala dei Notari - Piazza IV Novembre                                                 |

Chairs: Assunta Marrocchi, Laura Corte

## May 29<sup>th</sup> - Round Table

### 16:30 - Sala dei Notari

Piazza IV Novembre – 06123, Perugia (PG)

## «Biotecnologie e Società: la sfida delle Biotecnologie e della IA»



BIOMATERIALI

#### Intervengono:

Dott. Alberto Franzin – Technology Specialist, EU AI Office  
Prof. Andrea Capaccioni – Università di Perugia  
Dott. Filippo Molinari – Responsabile Istituto di Scienze Biomediche della Difesa  
Prof. Francesco Ciampi – Università di Firenze  
Dott.ssa Valentina Poggioni – Università di Perugia



INTELLIGENZA  
ARTIFICIALE

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**11<sup>th</sup> Edition**

**«Biomaterials and Artificial  
Intelligence in Biotechnologies»**

*Invited speakers:*

**Antonio Facchetti** – Georgia Tech (USA)

**Damiano Perri** – University of Perugia (I)

**Fabio Rondelli** – University of Perugia (I)

**Flavia Marcacci** – University of Urbino- Carlo Bò (I)

**Graziano Ceccarelli** – ASU FC (I)

**Marco Zullich** – University of Groningen (NL)

**Michael Monaghan** – Trinity College Dublin (IE)

**Nadia Lotti** – University of Bologna (I)

**Riccardo Fontanelli** – Consulente creazione poli di innovazione Vitality (I)

**Silvio Aime** – University of Torino (I)

**26-29 May 2025**  
**Hotel Casa Sacro Cuore - Perugia**

**Scientific Committee:**

Gianluigi Cardinali  
Stefano Bruscoli  
Fausto Elisei  
Carla Emiliani  
Daniele Fioretto  
Sabata Martino

**Organizing Committee**

|                     |                          |
|---------------------|--------------------------|
| Gianluigi Cardinali | Elisa Cerza              |
| Stefano Bruscoli    | Roberto Scarponi         |
| Silvia Caponi       | Beatrice Strinati        |
| Laura Corte         | Pietro Mancini           |
| Bernard Fioretti    | Martina Alunni Cardinali |
| Daniele Fioretto    |                          |
| Assunta Marrocchi   |                          |
| Sabata Martino      |                          |