



PHD PROGRAMME IN BIOTECHNOLOGY
DEPARTMENT OF CHEMISTRY, BIOLOGY AND BIOTECHNOLOGY
UNIVERSITY OF PERUGIA

School on Biotechnology

1–4 September 2026

THEME

Applications of Artificial Intelligence in Biotechnology

Four days of keynote lectures, interdisciplinary discussion, PhD candidate presentations and poster sessions across the three doctoral curricula.

SCIENTIFIC COMMITTEE

Stefano Bruscoli, University of Perugia;
Gianluigi Cardinali, University of Perugia;
Silvia Caponi, CNR;
Benedetta Carlotti, University of Perugia;
Daniele Fioretto, University of Perugia;
Assunta Marrocchi, University of Perugia;
Sabata Martino, University of Perugia.

ORGANISING COMMITTEE

Silvia Caponi, CNR;
Benedetta Carlotti, University of Perugia;
Assunta Marrocchi, University of Perugia;
Sabata Martino, University of Perugia.

Doctoral Curricula

Medical Biotechnology	Molecular and Industrial Biotechnology	Biomaterials and Biodevices
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DATE

Tuesday, 1 September

PROGRAMME FOCUS

Opening day: keynote lectures and round table on biotechnology, artificial intelligence and society

DATE	PROGRAMME FOCUS
Wednesday, 2 September	Molecular and Industrial Biotechnology curriculum: PhD presentations and plenary lectures
Thursday, 3 September	AI in academia and ethics; Medical Biotechnology curriculum: PhD presentations and invited lectures
Friday, 4 September	Health data science and biophysics; Biomaterials and Biodevices curriculum: PhD presentations and invited lectures

DAY 1

Tuesday, 1 September 2026

Opening Day

LINK ALLA SCHOOL ON BIOTECHNOLOGY: [School on Biotechnology 2026 | Partecipazione alla riunione | Microsoft Teams](#)

Opening Session OPEN TO THE PUBLIC - Sala dei Notari, Piazza 4 Novembre, Perugia

TIME	FORMAT	PROGRAMME
15:00	Registration	
15:30	Welcome	Institutional Welcome and Opening Remarks
15:45	Keynote lecture	Prof. Livio Fanò — University of Perugia <i>Rector's Delegate - Artificial Intelligence; Research and Technological Infrastructures</i> “Dalla parola alla molecola: l'IA generativa nelle biotecnologie”
16:15	Keynote lecture	Prof. Giuseppe Jurman — Humanitas University, Milan, and Fondazione Bruno Kessler (FBK), Trento “Un nuovo paradigma per le Scienze della Vita: l'applicazione dell'Intelligenza Artificiale”

Round Table: Biotechnology and Society INTERDISCIPLINARY DISCUSSION

TIME	FORMAT	PROGRAMME
17:00	Panel	Prof. Livio Fanò — University of Perugia
	Panel	Prof. Giuseppe Jurman — Humanitas University, Milan, and Fondazione Bruno Kessler (FBK), Trento
	Panel	Dr. Jacopo Lucci — Chief Scientific Officer, Bios-Therapy
	Panel	Dr. Riccardo Fontanelli — CEO, NextTT S.r.l.
	Panel	Dr. Michele Sisani —CEO and R&D Director, Prolabin & Tefarm
	Discussion	Open discussion with participants
	Moderator	Dr. Massimiliano Trevisan

Evening Programme

TIME	FORMAT	PROGRAMME
18:30	Social event	Guided tour of Underground Perugia and Aperitif at the “Chiostro di San Lorenzo”, Piazza 4 Novembre, Perugia.

DAY 2

Wednesday, 2 September 2026

Aula 7, Palazzo Murena, Piazza Università 1, Perugia
Molecular and Industrial Biotechnology & Plenary Lectures

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Morning Session MOLECULAR AND INDUSTRIAL BIOTECHNOLOGY CURRICULUM

TIME	FORMAT	PROGRAMME
	Chairs	XXXIX-cycle PhD candidates Dr. Rosaria Gentile Dr. Simone Giuliano
9:00		Ph.D. students registration
9:30	PhD presentations	Presentations by PhD candidates of the Molecular and Industrial Biotechnology curriculum
		XXXIX cycle PhD candidates Petronela Munteanu “Comparative and Molecular Profiling of Canine and Human Osteosarcoma: from miRNA Regulation to Extracellular Vesicle-Mediated Therapeutic Perspective” Katarina Stojkov “Harnessing Effective Microorganisms Technology to Counteract Climate Change Effects in Saline-Affected Agroecosystems and Bloom-Impacted Aquatic Environments” Giulia Talevi “Bdellovibrio and Like Organisms Against Antibiotic-resistant and/or Toxigenic Bacteria of Foodborne, Environmental, and Clinical Origin: Preliminary Laboratory-scale Studies to Evaluate Their Potential as Natural Biocides and Probiotics for Animal and/or Human Use” XL cycle PhD candidates Caterina Licciardi “Whole-Genome Sequencing for the Epidemiological Surveillance of Foodborne Salmonella spp.: A Genomic Investigation of Outbreaks in Umbria” Genny Scacci “Development and Validation of Fusion-specific Antisense Oligonucleotides Targeting NUP98 Rearrangements in Acute Myeloid Leukemias” Beatrice Strinati “Biofilm-driven Rezafungin Tolerance in Clinical and Environmental Isolates of Candida parapsilosis: a One Health Concern”
11:30	Break	Coffee break
12:00	Poster session	Poster presentations by XLI cycle PhD candidates
		XLI cycle PhD candidates Alex Giannoni “Crop Species and Distance from the Stem Shape Soil Chemical Profiles and Microbial Communities” Gianmarco Reali “A MIL-100-based Platform for Cellular Targeting” Jasmine Covarelli “RNA-Based Mechanisms and Therapeutic Strategies in Rare Genetic Disorders”

TIME	FORMAT	PROGRAMME
		Maria Cristina Bitonte “Development of an <i>in vitro</i> model of DNase I-resistant MRSA biofilm on titanium discs” Eman Elsaid “Piezo1 Expression and Function in Red Blood Cells (RBCs) from patients with hemoglobinopathies: a study of mechanobiological characteristics of healthy and diseased RBCs” Dorotea Frongia Mancini “Lipidomics of Adipose-Derived Stem Cells across Alzheimer’s Disease Stages Using Functional Lipid Analysis” Laura Tronci “From Brewers’ Spent Grain to bio-based building blocks: addressing challenges in selective Conversion” Sergiyovych D. Nikita Governance della dual use research: analisi, impatti e modelli applicativi per la tutela della sicurezza e dell’integrità della ricerca sanitaria
13:00	Break	Lunch + Poster Exhibition Visit

Afternoon Plenary Session

TIME	FORMAT	PROGRAMME
	Chairs	Prof. Gianluigi Cardinali — University of Perugia Prof. Daniele Fioretto — University of Perugia
14:30		Ph.D. students’ registration
14:45	Keynote lecture	Prof. Enrico Ronca — Associate Professor, Department of Chemistry, Biology and Biotechnology, University of Perugia “Manipulating Chemistry by Quantum Light”
	Break	Coffee break
16:00	Keynote lecture	Prof. Wieland Meyer — Director, Westerdijk Fungal Biodiversity Institute (KNAW), The Netherlands “The Importance of biodiversity understanding and preservation for the diagnosis and treatment of fungal infections.”

DAY 3

Thursday, 3 September 2026

Aula 7, Palazzo Murena, Piazza Università 1, Perugia
Artificial Intelligence, Ethics & Medical Biotechnology

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Morning Plenary Session

TIME	FORMAT	PROGRAMME
	Chairs	Prof. Stefano Bruscoli — University of Perugia Prof. Benedetta Carlotti — University of Perugia
9:00		Ph.D. students' registration
9:30	Keynote lecture	Dr. Alberto Franzin — Technology Specialist, AI Safety Unit, European AI Office, European Commission "AI Models and Biotechnologies: The EU AI Office Perspective"
10:30	Thematic lecture	Prof. Gianluigi Cardinali — Presidente del Comitato Universitario di Bioetica, delegato dal Rettore, University of Perugia "Ethical Dimensions of Artificial Intelligence in Biotechnology"
11:00	Break	Coffee break
11:30	Keynote lecture	Prof. Pier Luigi Gentili —Department of Chemistry, Biology and Biotechnology, University of Perugia "Beyond Silicon: Developing Artificial Intelligence through Chemistry in Wetware Systems. The Chemical AI (CAI) Paradigm"
12:15	Discussion	Prof. Gianluigi Cardinali — Dr. Alberto Franzin — Prof. Pier Luigi Gentili Open discussion
13:00	Break	Lunch + Poster Exhibition Visit

Afternoon Session MEDICAL BIOTECHNOLOGY CURRICULUM

TIME	FORMAT	PROGRAMME
	Chairs	XXXIX-cycle PhD candidates Dr. Cecilia Zaniboni Dr. Valeria Pessei
14:30		Ph.D. students' registration
14:45	PhD presentations	Presentations by PhD candidates of the Medical Biotechnology curriculum XXXIX cycle PhD candidates Diletta del Bianco "Isolation and characterization of extracellular vesicles from follicular fluid of patients undergoing in vitro fertilization (IVF)" Rosaria Gentile "Study of endothelial physiology in cardioprotection" Simone Giuliano "Clinically Relevant Phenotypic Divergence Between Closely Related <i>Clavispora lusitaniae</i> Isolates: A Two-Case Comparative Study"

TIME	FORMAT	PROGRAMME
		Miriam Paci “Extracellular Vesicles and Glucocorticoids: the effects of GC on EV production and immune modulation” Martina Procaccini “Investigating the immunomodulatory effects of an anti-GITR monoclonal antibody in Addison’s disease: an <i>in vitro</i> study on human cells” Vjola Tusha “<i>IL21–STAT3-Driven Metabolic Reprogramming Controls the Pentose Phosphate Pathway and Tumor Progression in Chronic Lymphocytic Leukemia</i>” Mezzanotte Manola Decoding cDC1 States: AhR at the Crossroads of Transcriptional Identity, Metabolism, and Antitumor Immunity XL cycle PhD candidates Paolo Cogliati “Evaluating the effects of GILZ overexpression on the red blood cells” Luigi Tordelli Ruda “In vitro antifungal and antibiofilm activity of a novel azole-like compound against <i>Candidozyma auris</i> reference strains representing different clades”

16:30	Break	Coffee break
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17:00	Keynote lecture	Dr. Vincenzo Perriello, Hematology Unit, Santa Maria della Misericordia Hospital, Perugia, Italy “Harnessing Artificial Intelligence to Advance CAR-T Cell Therapy”
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Evening Programme

TIME	FORMAT	PROGRAMME
20:00	Social event	Pizza Gourmet

DAY 4

Friday, 4 September 2026

Aula 7, Palazzo Murena, Piazza Università 1, Perugia
Health Data Science, Biophysics & Biomaterials and
Biodevices

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Morning Plenary Session

TIME	FORMAT	PROGRAMME
	Chairs	Prof. Assunta Marrocchi — University of Perugia Dr. Silvia Caponi —CNR-IOM, Perugia
9:30		Ph.D. students registration
9:45	Keynote lecture	Prof. Graziela Figueredo — Associate Professor in Health Data Science, University of Nottingham From Data to Intelligent Design: Materials for Medical Devices
10:45	Break	Coffee break
11:15	Keynote lecture	Prof. Claudio Canale — Associate Professor, Department of Physics, University of Genoa “Do Fluorophores Recognize Amyloid Polymorphs? A Correlative AFM–STED Perspective”
12:30	Break	Lunch + Poster Exhibition Visit

Afternoon Session **BIOMATERIALS AND BIODEVICES CURRICULUM**

TIME	FORMAT	PROGRAMME
	Chairs	XXXIX-cycle PhD candidates Dr. Katarina Stojkov Dr. Giulia Talevi
14:30		Ph.D. students registration
14:45	Industry perspective	Eng. Andrea Cruciani — CEO of TeamDev Ecosystem, Perugia “AI in an SME: Changing Internal Processes and Market Products with AI”
15:30	Break	Coffee break
16:00	PhD presentations	Presentations by PhD candidates of the Biomaterials and Biodevices curriculum
		XXXIX cycle PhD candidates Valeria Pessei “Implementation of a new technology for the regeneration of the peripheral nervous system” Cecilia Zaniboni “Fabrication of a biomimetic scaffold for bone regeneration: from granular form to 3D structures” XL cycle PhD candidates Samuele Giannoni “Adipose-derived stem cells from Alzheimer’s patients exhibit altered mechanotransduction and uncoupled proteostasis driven by protein accumulation” Pietro Mancini “Highly Efficient and Ultrafast Energy Transfer in All-Organic Nanoparticles: Hints of Quantum Wavelike Exciton Migration?”

TIME	FORMAT	PROGRAMME
		XLI cycle PhD candidates Dorotea Frongia Mancini " Functional Lipid Analysis: Translating Lipidomic Complexity into Biologically Structured Readouts " Orr Rozov "Forecasting the risk of African Swine Fever outbreaks using multidimensional predictive models based on global surveillance data, socio-economic indicators, environmental data, and weather data" Nathalie Totaro "Transcriptomic Response to a Sustainable Antibacterial Nanocoating: Early Gene Expression Insights Laura Tronci "Valorization of brewers' spent grain into six- and eight-membered cyclic esters"
17:30	Awards	Best Oral Presentation Award <i>Open to all presentations across the three PhD curricula</i> Sponsored by <i>Nanomaterials</i> (MDPI)
18:00	Concluding Remarks	

The final programme will include confirmed lecture titles, timings, venues and speaker affiliations.