



GENERATIVE ARTIFICIAL INTELLIGENCE FOR BIOENGINEERING

XLV GNB ANNUAL SCHOOL 2026

**7-10 SEPTEMBER 2026
BRIXEN (ITALY)**

The **GNB XLV Annual School 2026 – Generative Artificial Intelligence for Bioengineering** will be held at Casa della Gioventù Universitaria, Via Rio Bianco 12, Brixen (Italy) from 7th to 10th September 2026.

The school focuses on the impact of Generative Artificial Intelligence on Bioengineering research and education. Generative AI is increasingly influencing **data analysis, biological modeling, experimental design, and scientific communication**, offering new opportunities while also posing methodological, ethical, and responsibility-related challenges.

The main objective of the school is to **explore the use of Generative AI in Bioengineering through a critical and rigorous methodological perspective**. The program is not intended to teach the development of new AI models, but rather to promote awareness of the potential, limitations, and implications of these technologies when applied to Bioengineering research.

The school is primarily addressed to **PhD students and early-career researchers**, and aims to provide a 360-degree overview of Generative AI in Bioengineering, supporting responsible and informed integration of these tools into scientific practice.

PROGRAMME

	Monday - 7 September	Tuesday - 8 September	Wednesday - 9 September	Thursday - 10 September
09:00 - 09:45	Registration and opening of the GNB school	Clinical data quality and issues when using generative AI in healthcare (Stéphane Meystre — SUPSI)	Generative AI in clinics (Mario Mascalchi — Firenze)	Advancing AI adoption: human skills, resource integration, and responsible innovation (Arnaud Céol — ICSC)
09:45 - 10:30	The AI trajectory in Bioengineering (Riccardo Bellazzi — Pavia)	Bioinformatics and genomics (Alberto Magi — Firenze)	Automated signal analysis (Anna Maria Bianchi — Polimi)	Toward reliable synthetic data: statistical distances for generative models evaluation (Giuseppe Jurman — FBK)
10:30 - 11:00	Coffee break	Coffee break	Coffee break	Coffee break
11:00 - 11:45	Introduction to generative AI (Nicola Toschi — Tor Vergata)	Reproducibility in the age of generative AI: crisis or opportunity? (Stefano Diciotti — Bologna)	The promising role of synthetic data for responsible innovation with AI (Shalini Kurapati — ClearBox AI)	Generative AI in pharmaceuticals (Laura Paulowski & Kasia Stoltmann — AstraZeneca)
11:45 - 12:30	Basics of CNNs (Simone Palazzo — Catania)	From data to decisions: XAI and LLMs for data-intensive healthcare (Carlo Combi — Verona)	Generative AI for clinical engineering (Ernesto Iadanza — Siena)	Responsible AI (Barbara Di Camillo — Padova)
12:30 - 14:00	Lunch break	Lunch break	Lunch break	Lunch break
14:00 - 14:45	Deep generative models in medical imaging: VAE, GAN & diffusion models (Paolo Soda — UCBM)	Generative AI and human brain function: the role of LLMs (Fabrizio Esposito — Vanvitelli)	Large language models for clinical decision support (Enea Parimbelli — Pavia)	Generative AI for population health surveillance (John H. Holmes — Penn)
14:45 - 15:30	Attention mechanisms and transformers (Alessandro Bria — Cassino)	Cognitive bias and evidence generation in medicine - impact on generative AI (Leandro Pecchia — UCBM)	Lectio Magistralis AI for future healthcare: healing with health data (Björn Eskofier — LMU Munich)	AI regulation (Fishbowl Session)
15:30 - 17:00	Introduction and hands-on challenge	Hands-on challenge	Hands-on challenge	Hands-on challenge: pitches & awards
17:00 - 17:15				Closing ceremony
17:15 - 17:30				GNB Awards ceremony
17:30 - 19:00				followed by a farewell drink
19:00 -	Welcome cocktail			

ORGANIZATION

CHAIRS

Riccardo Bellazzi (University of Pavia)
Stefano Diciotti (University of Bologna)
Ernesto Iadanza (University of Siena)
Enea Parimbelli (University of Pavia)

FACULTY

Anna Maria Bianchi – Politecnico di Milano
Riccardo Bellazzi – University of Pavia
Alessandro Bria – University of Cassino and Southern Latium
Arnaud Céol – Italian Research Center on HPC, Big Data and Quantum Computing (ICSC)
Carlo Combi – University of Verona
Barbara Di Camillo – University of Padova
Stefano Diciotti – University of Bologna
Björn Eskofier – LMU Munich
Fabrizio Esposito – University of Campania “Luigi Vanvitelli”
John H. Holmes – University of Pennsylvania (Penn)
Ernesto Iadanza – University of Siena
Giuseppe Jurman – Fondazione Bruno Kessler (FBK)

Shalini Kurapati – ClearBox AI
Alberto Magi – University of Florence
Mario Mascaldi – University of Florence
Stéphane Meystre – Scuola universitaria professionale della Svizzera italiana (SUPSI), Lugano
Simone Palazzo – University of Catania
Enea Parimbelli – University of Pavia
Laura Paulowski – AstraZeneca
Leandro Pecchia – Università Campus Bio-Medico di Roma (UCBM)
Paolo Soda – Università Campus Bio-Medico di Roma (UCBM)
Kasia Stoltmann – AstraZeneca
Nicola Toschi – University of Rome Tor Vergata

LOCAL ORGANIZERS

Gruppo Nazionale di Bioingegneria (GNB)

ORGANIZING SECRETARIAT

Pragma Congressi (Pavia)

The GNB General Assembly will take place on
Friday 11 September 2026 | 9:30 a.m.