GENERATIVE ARTIFICIAL INTELLIGENCE FOR BIOENGINEERING

XLV GNB ANNUAL SCHOOL 2026

7-10 SEPTEMBER 2026
BRIXEN (ITALY)

INFO

The **GNB XLV Annual School 2026 – Generative Artificial Intelligence for Bioengineering** will be held in 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.

PRELIMINARY AGENDA

	Monday - 07/09/2026	Tuesday - 08/09/2026	Wednesday - 09/09/2026	Thursday - 10/09/2026
09:00 - 09:45	**Registration and opening of the GNB school**	Clinical data quality and issues when using generative AI in healthcare (Stephane Meystre - SUPSI Lugano)	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)	Cognitive bias and evidence generation in medicine - impact on generative AI (Leandro Pecchia - Campus Bio-Medico)	Automated signal analysis (Anna Bianchi - Polimi)	Toward reliable synthetic data: statistical distances for generative models evaluation (Giuseppe Jurman - FBK Trento)
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 pharmaceutics (Laura Paulowski - 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 - Campus Bio-Medico)	Generative AI and human brain function: the role of LLMs (Fabrizio Esposito - Napoli)	Large language models for clinical decision support (Enea Parimbelli - Pavia)	Privacy preserving methods for AI in Healthcare (Bogdan Kulinich - CHUV Lausanne)
14:45 - 15:30	Attention mechanisms and transformers (Alessandro Bria - Cassino)	Bioinformatics and genomics (Alberto Magi - Firenze)	**GNB Awards Ceremony**	**AI Regulation (Fishbowl Session)**
15:30 - 16:15	**Talks and Hands-on session**	**Talks and Hands-on session**	**Lectio Magistralis** AI for future healthcare: healing with health data **(Bjoern Eskofier - LMU Munich)**	**Students' pitch & Awards**
16:15 - 17:00			**Hands-on session**	
17:00 - 17:15				**Closing Ceremony**
17:15 - 17:30				
19:00 - 21:00	**Social Event**			

ORGANIZATION

CHAIRS

Riccardo Bellazzi (Università di Pavia)
Stefano Diciotti (Università di Bologna)
Ernesto Iadanza (Università di Siena)
Enea Parimbelli (Università di Pavia)

LOCAL ORGANIZERS

Gruppo Nazionale di Bioingegneria (GNB)

ORGANIZING SECRETARY

Pragma Congressi (Pavia)

GNB general assembly will take place on Friday 11 September 2026