

International Artificial Intelligence Summer School – IAISS 2026

A Residential Summer School in AI & Generative AI for Science and Engineering

Riva del Sole Resort & SPA – Castiglione della Pescaia (Grosseto) Tuscany, Italy

20 – 24 September 2026

<https://2026.iaiss.cc>

iaiss@icas.cc

Schedule Ver. 0.6 (5 pages) – September 6

	Sun, 20 Sept	Mon, 21 Sept	Tue, 22 Sept	Wed, 23 Sept	Thu, 24 Sept
09:00 – 09:50	S. V. Albrecht	G. De Giacomo	R. Bogacz	G. Paliouras	G. Paliouras
09:50 – 10:40	S. V. Albrecht	G. De Giacomo	R. Bogacz	R. Bogacz	Maria Eckstein
10:40 – 11:20	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break
11:20 – 12:10	S. V. Albrecht	G. De Giacomo	S. L. Risi	G. Paliouras	Maria Eckstein
12:10 – 13:00	P. Pardalos	J. Hayes	S. L. Risi	B. Lepri	Maria Eckstein
13:00 – 14:00	Lunch	Lunch	Lunch	Lunch	Lunch
14:00 – 15:00	Free Time	Free Time	Free Time	Free Time	Free Time
15:00 – 15:50	S. Giesselbach	J. Hayes	S. L. Risi	B. Lepri	Free Time
15:50 – 16:40	S. Giesselbach	C. Feichtenhofer	Sumi Helal	B. Lepri	
16:40 – 17:20	S. Giesselbach	Coffee break	Coffee break	M. Le Morvan	
17:20 – 18:10	Poster Session	C. Feichtenhofer	Oral Session	M. Le Morvan	
18:10 – 19:00	Short Talks	C. Feichtenhofer		M. Le Morvan	
19:00 – 20:00		Free Time		Oral Session	
20:00 – 21:00	Dinner	Dinner	Social Dinner*	Dinner	Dinner
21:00	Free Time	Free Time	Free Time	Free Time	Free Time

Useful Information

- Registration:** Sept 19 @ 16:30 – 20:00 (in the foyer of the conference centre near The Crown conference room). Inside the Riva del Sole it is mandatory to wear the badge.
- Conference Room: **The Crown** (in the conference centre of the Riva del Sole Resort & SPA, num 7 on the resort map).
- Very Important:** during lessons and Q&A sessions, absolute silence is recommended, you must not make noise, you must not disturb the Lecturer during the lesson or while she/he is answering questions posed by the audience.
- Group Photo:** Sept 21 @ 13:00 Meeting point: terrace adjacent to the restaurant.
- Resort Map** and **Castiglione della Pescaia Map**.
- In the program you will find the list of **accepted posters**. The **Poster Session** will be held on **Sept 20 @ 17:20**. The Poster Session will be held in the **Da Vinci Conference Room** (first floor of the Congress Centre, number 6 on the resort map). The Summer School Organisers will provide all necessary supplies for mounting the posters (tape, etc).
- Obviously, *we recommend bringing your work laptop*.
- Participants who need to take an **exam/project/oral to have the 8 ECTS** credited are asked to email iaiss@icas.cc and Prof. Nicosia giuseppe.nicosia.1@gmail.com **Please read the FAQ section “ETCS Credits Recognition”**
- Inside Riva del Sole Resort & SPA, **badges must be worn at all times**.
- *For social dinner on the Sept 22, we advise everyone to dress up (jacket and tie, suit, etc.).*
- Certificates** will be given out on the last day of the course. To receive the certificate you must have at least 85% of class attendance (we have CNNs/Transformers to compute and infer attendance ;-).
- Luncheon commences at 1:00 p.m. for all guests and concludes at approximately 2:00 p.m.; a period of leisure then follows from 2:00 p.m. until 3:00 p.m. Dinner, likewise, commences at 8:00 p.m. and concludes at approximately 9:00 p.m. Kindly note that both luncheon and dinner are served in a restaurant setting rather than a cafeteria, and all guests are requested to begin each meal together. Furthermore, once one has proceeded to the main course, it is not possible to return to the first course, as the dishes are served in strict sequence. Your cooperation in this matter is most sincerely appreciated. The restaurant staff extend their thanks to you. One last thing do not forget bathing suits, sunscreen, and stay hydrated.

IAISS Norbert Wiener Best Presentation Award in Artificial Intelligence

<https://2026.iaiss.cc/best-presentation-award/>

Previous Editions

<https://2026.iaiss.cc/previous-editions/>

Lectures

Stefano V. Albrecht, *Nanyang Technological University, Singapore*

Lecture 1/3 “Introduction to Multi-Agent Reinforcement Learning”

Lecture 2/3 “If Multi-Agent Foundation Models is the Answer, What is the Question?”

Lecture 3/3 “Becoming an AI Researcher: Practical Advice for Graduate Students”

Rafal Bogacz, *University of Oxford, UK*

Lecture 1/3 “Predictive coding: training neural networks with local rules”

Lecture 2/3 “Predictive coding: advantages over backpropagation”

Lecture 3/3 “Predictive coding: implementation”

Giuseppe De Giacomo, *University of Oxford, UK*

Lecture 1/3 “Foundations of Guardrailing Agentic AI via Temporal Synthesis”

Lecture 2/3 “Foundations of Guardrailing Agentic AI via Temporal Synthesis”

Lecture 3/3 “Foundations of Guardrailing Agentic AI via Temporal Synthesis”

Maria K. Eckstein, *Google DeepMind, London, UK*

Lecture 1/3 “Computational Cognitive Modeling Using Reinforcement Learning”

Lecture 2/3 “Advancing Cognitive Modeling by Combining Hand-Crafted and Neural-Network Models”

Lecture 3/3 “Advancing Cognitive Modeling using Procedurally-Generated Task Spaces”

Christoph Feichtenhofer, *Meta Superintelligence Labs, USA*

Lectures 1 and 2 “On the impact of data for vision-language learning”

Lecture 3/3 “Building frontier visual segmentation models”

Sven Giesselbach, *T-Systems International, Germany*

Lecture 1/3 “Agentic AI part 1”

Lecture 2/3 “Agentic AI part 2”

Lecture 3/3 “Agentic AI part 3”

Jamie Hayes, *Google DeepMind, UK*

Lectures 1 and 2 “Agentic Security (how to attack and defend against prompt injection)”

Sumi Helal, *University of Bologna and University of Florida, USA*

Lecture “Generative Smart Spaces – A Novel Physical-AI Approach to Programming Future Internet-of-Things”

Marine Le Morvan, *INRIA Saclay, France*

Lecture 1/3 “The rise of Tabular Foundation Models”

Lecture 2/3 “TabICL: on open Tabular Foundation Model”

Lecture 3/3 “Next frontiers for TFMs”

Bruno Lepri, *FBK, Italy*

Lecture 1/3 “The rise of generative AI agents: reasoning, memory and planning capabilities”

Lecture 2/3 “The social intelligence of generative AI agents: social norms, social reasoning and Theory of Mind”

Lecture 3/3 “A society of generative AI agents: emergence of collective behaviors, safety and implications for human societies”

Sebastian Lins Risi, *Sakana AI, Japan & IT University of Copenhagen, Denmark*

Lecture 1/3 “Neuroevolution: The basics”

Lecture 2/3 “Neuroevolution: Diversity, Novelty, and Open-Ended Discovery”

Lecture 3/3 “Neuroevolution: Synergies with Generative AI”

George Paliouras, *National Center for Scientific Research "Demokritos", Athens, Greece*

Lecture 1/3 “Complex Event Recognition/Forecasting and Applications”

Lecture 2/3 “Large-Scale Probabilistic Complex Event Recognition/Forecasting”

Lecture 3/3 “Neuro-Symbolic Reasoning and Learning for Complex Event Recognition/Forecasting”

Panos Pardalos, *University of Florida, USA*

Lecture

Poster Session

Sunday, 20 September 2026, 17:20 – 18:10, Da Vinci Conference Room

"Efficient Inference in Elastic LLMs via Confidence-Based Adaptive Computation"

Naina Said

"From Augmentation to Substitution: Delegation Habits, Skill Atrophy, and the Limits of Trust Calibration in Human-AI Collaboration"

Samuele Dell'Oca

"Graph-Based Detection of Malicious Windows Scheduled Tasks for Advanced Persistent Threats"

Khaled Rahal

"ICS Sim2Emu: A Simulation-Emulation Framework for RL-Based Automated ICS Penetration Testing"

Elli Makdis Antoun

"Orchestrating Multiple AI Models for Human Behaviour Analysis: Engineering, Challenges, and Generative AI Opportunities"

Adrien Coppens

"When Local Approximation Changes Global Decisions: Gaussian Mixture Reduction in Hybrid State Estimation"

Mathes Beier

"When Should a Language Model Think Again? Instability-Guided Routing for Adaptive Test-Time Compute"

Krzysztof Tylka-Suleja

"Robust Unmanned Aerial Vehicle Classification from Radar Signals using Gated Recurrent Unit and Multi Head Attention with Open-Set Rejection Capability"

Ala Agrebi

"Federated Learning for Grid State Estimation in Megawatt Charging Stations"

Zef Wolffs

"MEDSYN: Benchmarking Multi-Evidence Synthesis in Complex Clinical Cases for Multimodal Large Language Models"

Boqi Chen

"Adaptive Slicing of LLMs for Elastic Inference in LVLMS"

Oscar Kemme

"Mathematical Formulation and Game-Theoretic Foundation of the 6-Layer Integrated Transactive Architecture for Community Energy Systems"

Sergio Raul Rivera Rodriguez

"Automated Injury Surveillance in Multilingual Emergency Department Data: Comparing XGBoost and Parameter-Efficient Transformers"

Svetlana Simova

Short Talks

Sunday, 20 September 2026, 18:10 – 19:30, The Crown Conference Room

18:10 – 18:20 "Towards Trustworthy Training via Backdoor Absorption"

Issam Seddik

18:20 – 18:30 "Graph Neural Network Simulation Trace Discovery for Digital Twin Services"

Sadaf SHAMS-SHEMIRANI

18:30 – 18:40 "Human Genius in the Age of Agentic AI: The Case for Original Human Agency"

Mykola Latansky

18:40 – 18:50 "Toward an Autonomous Code Quality Agent: Coupling LLM Agents with Static Smell Detectors for Detect–Refactor–Verify Loops in Python and ML Codebases"

Karthik Shivashankar

18:50 – 19:00 "Harnessing the Powers of AI for Functional Characterization of Prokaryotic Viromes"

Praneet Prabhanjan

19:00 – 19:10 "Comparing Vision Foundation Models for Monitoring nAMD Progression in Longitudinal Eye Exams"

Ivana Matovinovic

19:10 – 19:20 "Validated Recovery Supervision from Ambiguous Failures via Counterfactual Re-Execution"

Loan Bernat

Oral Session, September 22, 17:20 – 19:50, The Crown Conference Room

- 17:20 – 17:35 Xiao Jin, Conner Parker and Rui Feng, "Structure-Informed Multi-Head Attention for Correlated Predictors"
- 17:35 – 17:50 Evann Rabeau, Jérôme Iste, Ismael Freire and Mehdi Khamassi, "Model-free multi-agent reinforcement learning simulation of the influence of empathy on the sustainability of agents' consumption in a common-pool resource dilemma"
- 17:50 – 18:05 Tian Li, Huizhi Liang, Lucy Robinson and Varun Ojha, "Predicting Cognitive Behavioural Therapy Outcomes based on Clinical Assessments and Referral Letters"
- 18:05 – 18:20 Valerio Bellandi and Stefano Siccardi, "Predicting Energy Consumption in Buildings and Mobility with ML and Graphs"
- 18:20 – 18:35 Ilinca Tiriblecea and Gabriel Turinici, "Inferring Missing Trajectory Data with Temporal Convolutional Networks"
- 18:35 – 18:50 Qingliang Meng, Luogeng Xiong, Wei Liang, Huizhi Liang and Tian Li, "Unified Timbre-Style Representation Learning for Controllable Speech Synthesis"
- 18:50 – 19:05 Simon Hakenes and Tobias Glasmachers, "Macro-Action Topological Navigation under Noisy Localization using Reinforcement Learning"
- 19:05 – 19:20 Jianfei Xu, Huizhi Liang, Judith Harrison, John-Paul Taylor, Jaume Bacardit and Varun Ojha, "HypTI: Hyperbolic Geometry-Aware Multimodal Fusion Framework for Dementia Diagnosis Based on Tabular-Image Data"
- 19:20 – 19:35 Tõnn Talpsepp, Kristjan Liivamägi and Tarvo Vaarmets, "What Does a Transformer Learn from an Investor's Trade Sequence and Educational Profile?"
- 19:35 – 19:50 Mark Callan and Meghana Kshirsagar, "Grounded Multi-Agent Reasoning for Financial Due Diligence: A Deterministic-First Architecture with Claim- Level Verification"

Oral Session, September 23, 19:00 – 20:00, The Crown Conference Room

- 19:00 – 19:15 Andrea de Ruvo, Pierluigi Castelli, Nicolas Radomski and Adriano Di Pasquale, "PhenoCal: Natural-Control Label Calibration for Cross-Cohort Machine Learning"
- 19:15 – 19:30 Stacey Truex and Margaret Malan, "Miles: A System for Parameter Analysis in Practical, Private Federated Learning"
- 19:30 – 19:45 Yannick Kees, Elena Hoemann, Frank Köster and Sven Hallerbach, "Holistic Risk Assessment for AI Systems"
- 19:45 – 20:00 Francesco Morano and Giovanni Denaro, "Phishing4training: an approach to train users on highly personalised phishing"