

## ASTRA 2026: Applied Science & Tech for Real-World Apps

### Program's Highlights

AI is rapidly moving beyond “assistive” copilots toward agents that can plan, coordinate, and execute end-to-end work. This summer school offers an intensive, hands-on introduction to agentic workflows and the emerging design space of autonomous organisations, combining rigorous MIS thinking with practical labs and real-world case discussions.

### Objectives and Description

This intensive, hands-on summer school introduces the emerging design space of agentic workflows and autonomous organisations—systems in which AI agents can plan, coordinate, and execute complex work across enterprise tools and teams.

The program combines:

- Rigorous MIS and BPM perspectives on governance, accountability, value creation, and organisational control, and
- Practical labs and real-world case discussions focused on orchestration, tool access, observability, evaluation, and risk management.

Participants will explore the shift from “assistive copilots” to workflow-completing agents, learning how to design agentic systems that are useful in practice and defensible under real organisational constraints.

### Core Topics Covered

- A. Enterprise agentic workflows: From chat interfaces to agents that complete workflows across enterprise systems, and what this shift means for MIS, BPM, governance, and value creation.
- B. Agent orchestration: Practical orchestration patterns and what “agent runtime” design looks like in practice.
- C. Standardising tool access for agents: How agents connect securely to organisational tools and data using standard connectors, reducing bespoke integration and improving governance.
- D. Observability, evaluation, and audit trails: Tracing what agents did, building evaluation harnesses, and designing “agent ops” dashboards for reliability and accountability.
- E. Interdisciplinary talks: Regulation, cyber security & cybercrime. A reality check on risk, responsibility, and compliance, plus how organisations can build guardrails without losing innovation speed.

### Virtual Component Description

The virtual component will take place **between the 15<sup>th</sup> and 19<sup>th</sup> of June 2026** and it's designed to prepare participants with shared foundations and enable deeper engagement during the hands-on parts of the program.

## Format

### *One live online meeting (synchronous)*

- Orientation to the summer school structure, goals, and expectations
- Overview of agentic workflows and the course's conceptual framework (MIS/BPM + engineering patterns)
- Walkthrough of key terms: agent, orchestration, runtime, tools/connectors, traces, evaluation harnesses, guardrails
- Q&A to align participant backgrounds and learning goals

### *Self-study sessions (asynchronous)*

- E-learning materials and a curated sequence of recorded video lectures
- Guided learning path mapped to modules A–E
- Short reflection prompts and checklists to consolidate learning and prepare for labs/case discussions

What participants will gain from the virtual component

- A consistent baseline in the technical and managerial vocabulary of agentic systems
- Familiarity with common orchestration and governance patterns before hands-on work
- Initial exposure to risk/compliance considerations to frame later discussions and design choices

## Methods and outcomes

The summer school is designed as a combination of conceptual mini-lectures (MIS + BPM + agent design) where participants will learn how agentic workflows can be framed as socio-technical systems. Moreover, they will explore how autonomy, governance, control, accountability, and value creation are connected. Hands-on labs (practical build-and-test) will allow participants to prototype orchestration patterns (planning loops, supervisors, multi-agent coordination), design tool access with standard connectors and permission models, and implement traces/logs and building simple evaluation harnesses. Through case discussions, the participants will analyse enterprise adoption scenarios: where agents help, where they fail, and why and discuss automation trade-offs such as speed vs control, autonomy vs accountability, innovation vs compliance.

## Expected Outcomes

Participants will leave with:

- A practical blueprint for enterprise agentic workflows
- A structured approach to identifying candidate processes and designing agent-driven execution
- Clear criteria for when to use agents vs traditional automation vs human workflows
- A toolkit of orchestration patterns
- Pattern library and decision guidance for selecting architectures
- Understanding of agent runtime design: state, tool routing, memory, escalation, and checkpoints
- A connector-first approach to tool access and governance
- Principles for secure, standardised tool connectivity
- Concrete artefacts participants can reuse
- Workflow and orchestration design templates

### Event Structure and Program

- **Monday (15<sup>th</sup> of June) to Friday (19<sup>th</sup> of June):** *Virtual* component consisting of one online meeting followed by self-study sessions (e-learning materials and a series of recorded video lectures)
- **Sunday (5 of July):** Participant arrivals
- **Monday (6th of July) to Friday (10th of July):** Lectures, labs, and social events. Lectures will start at 9.30am and will finish at 16.30 every day.
- **Saturday (11th of July):** Day trip (optional), NOT included in the mobility.

### *Social events & Day trips*

The summer school does not cover some social events, and they are completely voluntary; you're welcome to join as much (or as little) as you like.

### Target Group:

Advanced Undergraduates and Master Students

### Field of Education:

- Computer Science for Business Management
- Information Systems
- Business Informatics
- Industrial Engineering
- Systems Engineering
- Management Science and Engineering
- Business Analytics

- Econometrics
- Applied Mathematics and Operations Research

**Level of Study:** Bachelor (Advanced undergraduates) **(Level 6)**, Master **(Level 7)**

**Duration:** 5 days (on campus)

**Physical mobility:** between the 6<sup>th</sup> and 10<sup>th</sup> of July 2026

**Virtual component:** between the 15<sup>th</sup> and 19<sup>th</sup> of June 2026

**Fee:** Not Applicable