FASEM – Advanced School on Neutron & Synchrotron Techniques, driven by French–Swedish synergies

- **Biennial advanced school** training the next generation of users of large-scale facilities (neutron & synchrotron), supporting **European scientific sovereignty**.

- **Strengthens French–Swedish collaboration** with the support of the **Ambassade de France en Suède**, while engaging the wider **European photon & neutron community**.

- **Complements the HERCULES School** with a **short, thematic format and online access**, reaching a broader international audience.

- **Fosters collaboration** across **academia, research infrastructures, and industry**, including engagement with emerging scientific communities.

FASEM - Advanced school !

French-Swedish Academy for Scattering Experiments and Modeling

June 2019: Materials & Environment (see Indico)

FASEM

January 2024: Life Science

Evolution since 2019

- **From experiments to data analysis**
- **Hybrid format** enabling wider participation
- **Broader ecosystem:** academia, research infrastructures & industry

March 16 to 20, 2026 @ ILL (FR):

Energy Applications / Energy Materials

Triangle of knowledge

INDUSTRIAL economy

INFORMATION economy

MOLECULAR (NBIC) economy

ORGANIZATION (society)

BUSINESS (maturity)

TECHNOLOGY (growth)

SCIENCE (gestation)

Economic value added

The Adaptive Enterprise

New media
IT services
Portals

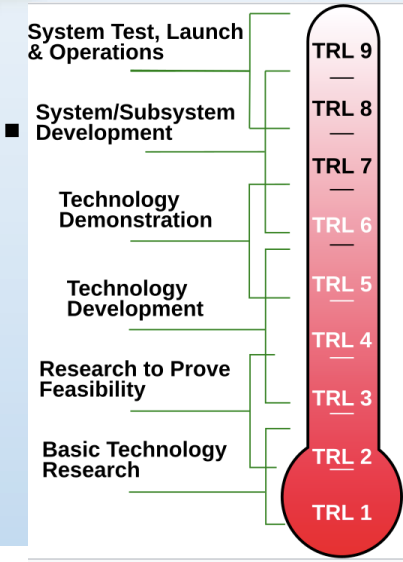
Chips
Operating systems
WWW

Solid state physics
Information theory

- Nanotechnology
- Biotechnology
- Information technology
- Cognitive science
- Materials

1750s 1850s 1950s 2050s *Year*

It's Alive - The Coming Convergence of Information, Biology, and Business Christopher Meyer 2003



NASA technology readiness levels

Agenda – FASEM2026

	16/3/2026 MONDAY	17/3/2026 TUESDAY	18/3/2026 WEDNESDAY	19/3/2026 THURSDAY	20/3/2026 FRIDAY
09:00	Registration	Neutron and X-ray Diffraction (for Energy Materials) - *Ove Korjus*	X-ray spectroscopy - *Valérie Briois*	DFT Modelling - Elisa Rebolini	Societal impact of energy research - *Héloïse Goutte*
09:30					
10:00	Welcome address and presentation of ILL		Coffee break	Coffee break	Coffee break
10:30					
11:00	Coffee break	Coffee break	Neutron & X-ray Reflectometry - *Max Wolff*	Artificial Intelligence in Data Analysis - *Vincent Favre-Nicolin*	Round table: Energy research with an impact
11:30	Introduction to X-rays and Neutrons for Materials Science and Energy - *Aleksandar Matic*	Small Angle Neutron and X-ray Scattering - *Xaver Brems*			
12:00			Hydrogen storage materials - *Max Wolff*	Neutron spectroscopy studies of perovskites for energy applications - Maths Karlsson	
12:30					Closing remarks & Clip Awards
13:00	Lunch break	Lunch break	Lunch break	Lunch break	
13:30					
14:00					
14:30	An Introduction to Neutron and X-ray Imaging - *Alessandro Tengattini*	Neutron spectroscopy - *Michael Marek Koza*	ILL visit	Preparation of Beamtime Proposals *Peter Fouquet and the Lecturers*	
15:00				Radioactive Sources and Long Term Storage *Frank Cocina Jr.*	
15:30	Coffee break	Operando characterizations of batteries - *Sandrine Lyonnard*			
16:00				Coffee break	
16:30	ESRF welcome (Visitor Center) and visit	Coffee break	Coffee break	Imaging for (nuclear) energy *Markus Strobl*	
17:00		Materials for nuclear reactor and fusion plants - *Pär Olsson*	Energy research in industry - *Jonas Okkels Birk and Markus Strobl*		
17:30	Poster Session & reception (mezzanine ESRF)			Student Clips	
18:00			School dinner		
18:30					
19:00