

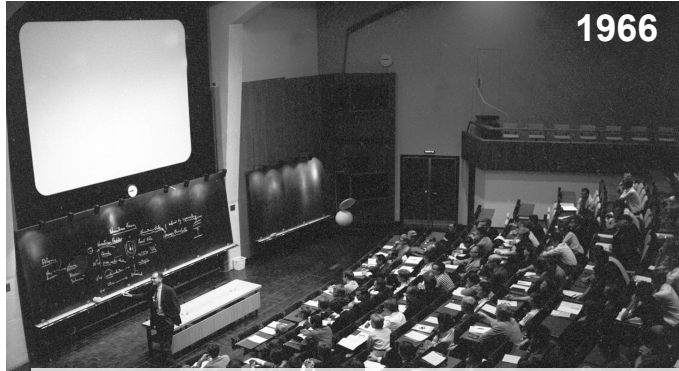
CERN Summer Student Lecture Programme 2024

Eva Sicking, Matthew McCullough
for the [SSLP committee](#)

CERN
July 2, 2024

Eva Sicking (EP), co-chair
Matthew McCullough (TH), co-chair
Christian Carli (BE)
Giovanni Petrucciani (EP)
Andrea Valassi (IT)
Chiara Bracco (SY)
Wilke Van Der Schee (TH)
Anastasija Preobrazenska (HR)
Kristin Erdal (HR)
Ernest Zakrzewski (IR)
Kristina Gunne (IT), open lab lectures

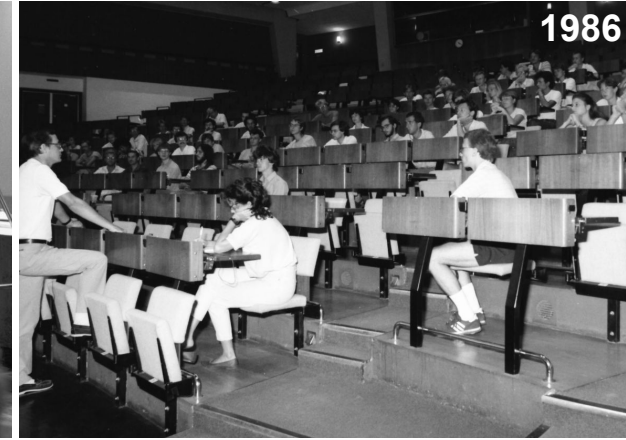
CERN summer student programme since 1962



1966

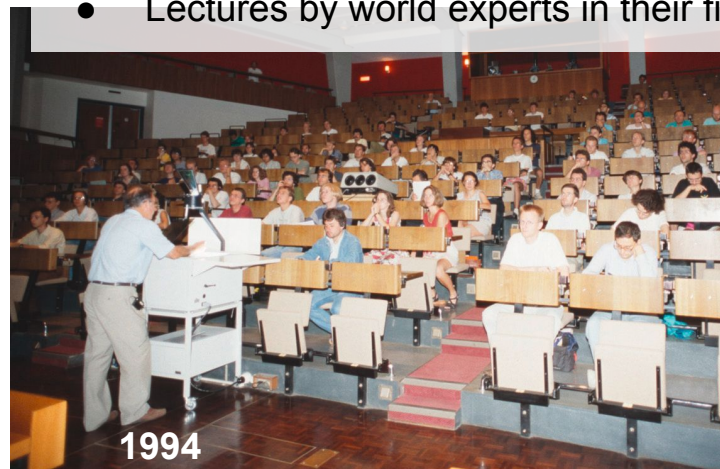


1968



1986

- Long tradition of CERN summer student lectures
- Lectures by world experts in their fields



1994



2019



2023

Lecture concept

- Introduction to all areas of CERN's research mission
- Targets students in Physics, Engineering, and Computer Science
- Prerequisite: basic background in Physics and Math
- Coverage: from basic foundations to highly specialised topics

Key data for 2024

- 500/1-001 - Main Auditorium
- 2 July - 2 August, 9h15 - 12h30
- 3 lectures per day
 - 45 min lecture
 - 10 min questions
 - 15 min coffee break between lectures



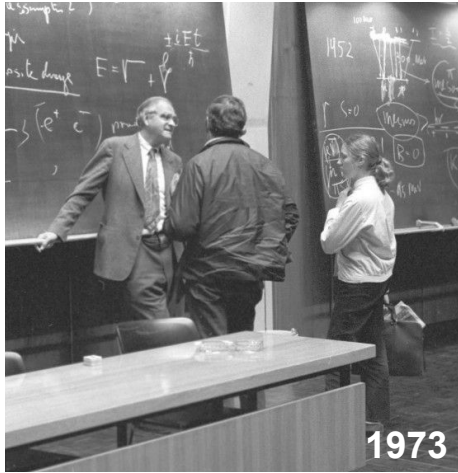
[Time table in indicio](#)

26 main topics in 5 weeks



		Monday	Tuesday	Wednesday	Thursday	Friday
		1/7	2/7	3/7	4/7	5/7
Week 1	09h15-10h10		Introduction	Particle World	Raw Data to Physics Results	Detectors
	10h25-11h20		Particle World	Detectors	Particle World	Raw Data to Physics Results
	11h35-12h30		Detectors	Raw Data to Physics Results	Detectors	Particle World Q&A
		8/7	9/7	10/7	11/7	12/7
Week 2	09h15-10h10	Detectors	Accelerators & Beam Dynamics	Statistics	Nuclear Physics	Theoretical Particle Physics
	10h25-11h20	Accelerators & Beam Dynamics	Magnet superconductivity	Accelerators & Beam Dynamics	Theoretical Particle Physics	Statistics
	11h35-12h30	Magnet superconductivity	Statistics	Theoretical Particle Physics	Statistics	Nuclear Physics
		15/7	16/7	17/7	18/7	19/7
Week 3	09h15-10h10	Theoretical Particle Physics	Theoretical Particle Physics	Future High Energy Colliders	Astroparticle Physics	Cosmology
	10h25-11h20	Standard Model	Physics & Medical Applications	Standard Model	Cosmology	Future High Energy Colliders
	11h35-12h30	Physics & Medical Applications	Standard Model	Astroparticle Physics	Standard Model	Cosmology
		22/7	23/7	24/7	25/7	26/7
Week 4	09h15-10h10	RF superconductivity	Electronics, DAQ and Triggers	Heavy Ions	Neutrino Physics	Physics at Hadron Colliders
	10h25-11h20	Predictions at Hadron Colliders	RF superconductivity	Electronics, DAQ and Triggers	Physics at Hadron Colliders	Heavy Ions
	11h35-12h30	Electronics, DAQ and Triggers	Predictions at Hadron Colliders	Physics at Hadron Colliders	Heavy Ions	Physics at Hadron Colliders
		29/7	30/7	31/7	1/8	2/8
Week 5	09h15-10h10	Quantum Gravity	Beyond the Standard Model	Antimatter in the Lab	Beyond the Standard Model	Flavour Physics
	10h25-11h20	Physics at Lepton Colliders	Accelerator Operation & Design	Flavour Physics	Antimatter in the Lab	Beyond the Standard Model
	11h35-12h30	Accelerator Operation & Design	Physics at Lepton Colliders	Beyond the Standard Model	Flavour Physics	Close out

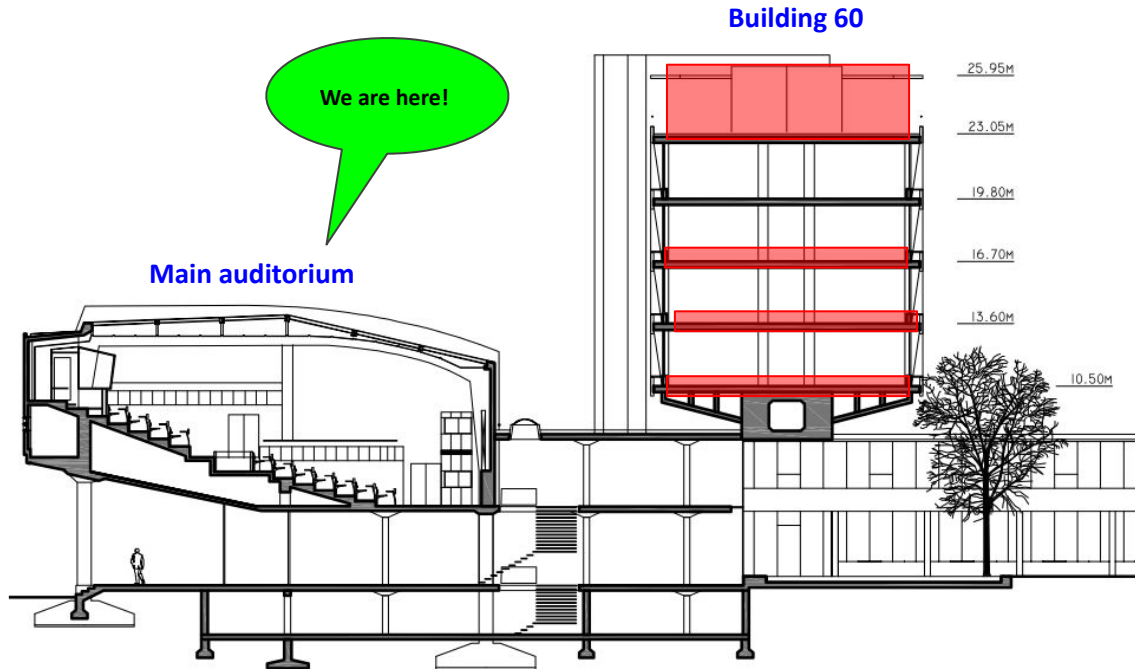
Invitation to actively participate



- Follow the lectures actively
 - Take notes
 - Think of one question to ask in each lecture
 - Discuss with lecturers and fellow students
- Explore full scope of topics
 - Attend also lectures far from your main field of interest
- Remark:
 - Lectures also accessible to the public: Live Webcast, recordings



Ongoing renovation of building 60



- Construction of scaffolding
 - 1st July week
- Demolition work (red zones)
 - From 2nd July week

- Noise propagation into main auditorium difficult to estimate
- SSLP team in contact with responsables for renovation in case noise starts impacting lectures

Lecture survey



- You will be asked to fill one (anonymous) questionnaire for each course
- Evaluation will be reviewed by the lecture programme committee
- Used as input to improve the programme


Example evaluation of lecture in 2022



CERN organisers behind the SSLP



- Lecture programme coordinated by representatives from several CERN departments:
 - Eva Sicking (Experimental Physics): co-chair (eva.sicking@cern.ch)
 - Matthew McCullough (Theoretical Physics): co-chair (matthew.mccullough@cern.ch)
 - Chiara Bracco (Accelerator Systems)
 - Christian Carli (Beams)
 - Giovanni Petrucciani (Experimental Physics)
 - Andrea Valassi (Information Technology)
 - Wilke Van Der Schee (Theoretical Physics)
 - Anastasija Preobrazenska (Human Resources)
 - Kristin Erdal (Human Resources)
 - Ernest Zakrzewski (International Relations)
 - Kristina Gunne (Information Technology), for the open lab lecture programme
- For administrative questions: summer.student.info@cern.ch



**We wish you a great
summer student programme!**