

Introduction to Study Groups

International High School Teacher Programme 2022



How and when?

09:00 → 12:30	Lectures	📍 13/2-005
09:00	Particle Accelerators 1/2 Speaker: Simone Gilardoni (CERN)	🕒 1h 30m
10:30	Coffee break	🕒 30m
11:00	Particle Accelerators 2/2 Speaker: Simone Gilardoni (CERN)	🕒 1h 30m
12:30	Lunch break	🕒 1h 30m
14:00 → 17:00	Lectures	📍 500/1-001 - Main Auditorium
14:00	Introduction to Study Groups Speaker: Jeff Wiener (CERN)	🕒 30m
14:30	Introduction to Particle Physics Speaker: Claire Lee (Fermi National Accelerator Lab. (US))	🕒 1h 30m
16:00	LIVE: LHC Restart! First collisions for physics at 13.6 TeV! livestream	🕒 1h
18:00 → 22:00	Social Event	
18:00	Bowling & Pizza Meet at the tram stop outside of CERN at 18:00! thebowlingbalaxer.ch	🕒 4h

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How and when?

WEEK1

SG Session 1

Wednesday, 6 July
16:00-17:30

SG Session 2

Thursday, 7 July
16:30-17:30

WEEK2

SG Session 3

Monday, 11 July
16:00-17:30

SG Session 4

Thursday, 14 July
14:00-17:00

Last day of HST2022

SG Final Reports

Friday, 15 July
9:00-12:30

Which topics?

- 1 Particle Accelerators
- 2 Engineering at CERN
- 3 Medical Applications of Particle Physics
- 4 Particle Detectors
- 5 Theoretical Physics & Higgs Physics
- 6 Computing in Particle Physics
- 7 Neutrino Physics
- 8 Antimatter Research
- 9 Future Accelerators

Aims and goals?



Aims and goals?

Be creative



Aims and goals?

Be creative
Collaborate



Aims and goals?

Be creative
Collaborate
Share your experiences



Aims and goals?

Be creative
Collaborate
Share your experiences
Learn from your colleagues



Aims and goals?

Be creative
Collaborate
Share your experiences
Learn from your colleagues
Create and develop *something*

Aims and goals?

Be creative
Collaborate
Share your experiences
Learn from your colleagues
Create and develop something

Independently & self-organised!

Aims and goals?

Be creative
Collaborate
Share your experiences
Learn from your colleagues
Create and develop **something**

Present the results and outcomes
of your study group through a
detailed and entertaining final report

Independently & self-organised!

Aims and goals?

Be creative
Collaborate
Share your experiences
Learn from your colleagues
Create and develop something

Present the results and outcomes
of your study group through a
detailed and entertaining final report

Independently & self-organised!

5x2mins + 5mins

Aims and goals?

Be creative
Collaborate
Share your experiences
Learn from your colleagues
Create and develop **something**

Present the results and outcomes
of your study group through a
detailed and entertaining final report

Share the results with your
students and your colleagues

Independently & self-organised!

5x2mins + 5mins

Aims and goals?

Be creative
Collaborate
Share your experiences
Learn from your colleagues
Create and develop **something**

Present the results and outcomes
of your study group through a
detailed and entertaining final report

Share the results with your
students and your colleagues

Independently & self-organised!

5x2mins + 5mins

Send us feedback!

Process

Guiding research questions about the SG topics

- A) To what extent is the topic featured in your curriculum?
- B) Which students' conceptions about the topic do you know?
- C) What is your experience with teaching the topic in your classroom?
- D) Which words and phrases can cause difficulties and misunderstandings?
- E) Which aspects of the topic do you consider challenging to teach to students?
- F) Which aspects of the topic do you think can be appropriately introduced in the classroom?

Deadline

09:00	→ 12:30	Lectures	500/1-001 - Main Auditorium
09:00		Future Accelerators	1h 30m
10:30		Coffee break	30m
11:00		Final Questions & Final Answers	1h 30m
12:30	→ 14:00	Lunch break	1h 30m
14:00	→ 17:00	Study Groups	
14:00		SG Session 4	3h
17:00	→ 17:30	HST2022 Group Picture!!!!!!!!!!!!!!	30m

Deadline

Start Time	End Time	Activity	Duration
09:00	12:30	Lectures	
09:00	10:00	Future Accelerators	1h 30m
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11:00	11:30	Final Questions & Final Answers	1h 30m
12:30	14:00	Lunch break	1h 30m
14:00	17:00	Study Groups	
14:00	17:00	SG Session 4	3h
17:00	17:30	HST2022 Group Picture!!!!!!!!!!!!!!	30m

Output

Output

Guidelines for the final report

1) Curriculum & classroom connections

Highlight potential connections to the various curriculums and your individual teaching practises

2) Key ideas

Showcase the most important aspects of the topic that you consider to be key for a meaningful instruction

3) Potential students' conceptions & challenges

Illustrate elements of the topic that might obstruct a successful introduction in the classroom

4) Helpful material and resources

Reference any material that you find useful for your students and/or your colleagues

5) Best practice example

Summarise your findings through a brief outline of an instructional strategy

Output

(leave eight 14 pt blank lines here)

Study group title (Arial 14pt, bold, left-aligned)
(leave one 14 pt blank line here)

Author One¹, Author Two², Author Three³, Author Four⁴, Author Five⁵ (Arial 10pt, left-aligned)
¹ Name of School, City, Country author.one@email.com (Arial 8pt, left-aligned)
² Name of School, City, Country author.two@email.com (Arial 8pt, left-aligned)
³ Name of School, City, Country author.three@email.com (Arial 8pt, left-aligned)
⁴ Name of School, City, Country author.four@email.com (Arial 8pt, left-aligned)
⁵ Name of School, City, Country author.five@email.com (Arial 8pt, left-aligned)
(leave four 8pt blank lines here)

1) Key ideas (Heading, Arial 10pt, bold, left-aligned)
(leave one 10pt blank line here)
Showcase the most important aspects of the topic that you consider key for meaningful classroom instruction. (Body text, Arial 10pt, justified)
(leave two 10pt blank lines here)

2) Best practice example (Heading, Arial 10pt, bold, left-aligned)
(leave one 10pt blank line here)
Summarise your findings through a brief outline of an instructional strategy. Explain how to best introduce the topic in your classroom. (Body text, Arial 10pt, justified)
(leave two 10pt blank lines here)

3) Helpful material and resources (Heading, Arial 10pt, bold, left-aligned)
(leave one 10pt blank line here)
Reference any material that you find useful for your students and/or your colleagues. (Body text, Arial 10pt, justified)
(leave two 10pt blank lines here)

Questions?

jeff.wiener@cern.ch