

Introduction to Focus Groups

International Teacher Weeks Programme 2019

How and when?

How and when?

09:00	→ 10:30	Lectures	40/S2-C01 - Salle Curie	
09:00		Elementary Particle Physics in Early Physics Education Speaker: Jeff Wiener (CERN)	1h 30m	
11:00	→ 12:30	Workshops	143/R-003 - S'Cool LAB	
The whole group meets in front of S'Cool LAB at 11:00!				
11:00		A Hands-on Tour Through Particle Physics on a Small Budget Speakers: Julia Wolthe (CERN), Alexandra Jansky (University of Vienna (AT)), Ingvald Garmo Nilsson, Oliver Michael Keller (Universite de Geneve (CH)), Fabian Bernstein (CERN, Johann-Wolfgang-Goethe Univ. (DE)), Matthew Graham, Anja Kranjc Horvat (University of Potsdam (DE))	1h 30m	
12:30	→ 13:30	Lunch Break	1h	
13:30	→ 17:00	Lectures	503/I-001 - Council Chamber	
13:30		Introduction to Focus Groups Speaker: Jeff Wiener (CERN)	30m	
14:00		Errors and Uncertainty in Particle Physics Speaker: André David (CERN) A Capella Science ... The Daily Show - L...	1h 30m	
15:30		Coffee Break	30m	
16:00		First Questions & First Answers Speaker: Kristof Schmieden (CERN)	1h	
17:45	→ 22:00	Social Event		
17:45		Bowling & Pizza A bus will pick up the whole group in front of the CERN hotel (Building 39) at 17:45! bowlingland.ch	4h 15m	

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WEEK1

FG Session 1

Wednesday, 7 August
15:30-17:00

FG Session 2

Thursday, 8 August
16:30-17:30

WEEK2

FG Session 3

Monday, 12 August
16:00-17:30

FG Session 4

Thursday, 15 August
14:00-17:00

Last day of ITW2019

FG Final Reports

Friday, 16 August
9:00-12:30

Which topics?

Which topics?

- 1 Particle Physics & Errors and Uncertainty
- 2 Particle Accelerators
- 3 Particle Detectors
- 4 Data Analysis in Particle Physics
- 5 Computing in Particle Physics
- 6 Medical Applications of Particle Physics
- 7 Higgs Physics
- 8 Antimatter Research
- 9 Future Accelerators

Process

Process

Guiding research questions about the FG 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?

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*

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Collaborate
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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 focus group through a
detailed and extensive final report

Independently & self-organised!

Aims and goals?

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Learn from your colleagues
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5x2mins + 5mins

Aims and goals?

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Create and develop **something**

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Share the results with your
students and your colleagues

Independently & self-organised!

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5x2mins + 5mins

Send us feedback!

FG assignment

09:00 → 13:15 Lectures		40/S2-C01 - Salle Curie
09:00	AWAKE Speaker: Marlene Turner (CERN)	1h 15m
10:15	Coffee Break	15m
10:30	Future Accelerators Speaker: Hector Garcia Morales (University of Oxford)	1h 15m
11:45	Coffee Break	15m
12:00	Focus Group Topics Assignment Speaker: Jeff Wiener (CERN)	15m
12:15	Final Questions & Final Answers Speaker: Hector Garcia Morales (University of Oxford)	45m
13:15 → 14:00	Lunch Break	45m
14:00 → 17:00 Focus Groups		
14:00	FG Session 4	3h
17:00 → 17:30	ITW2019 GROUP PICTURE!!!!!!!!!!!!!!!!!!!!	30m

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		Speaker: Jeff Wiener (CERN)	
12:15		Final Questions & Final Answers	
		Speaker: Hector Garcia Morales (University of Oxford)	
13:15	→ 14:00	Lunch Break	🕒 45m
14:00	→ 17:00	Focus Groups	📄
14:00		FG Session 4	🕒 3h 📄
17:00	→ 17:30	ITW2019 GROUP PICTURE!!!!!!!!!!!!!!!	🕒 30m

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Output

09:00	→ 12:30	Focus Groups - Final Reports	📍 40/S2-A01 - Salle Anderson	👤 Join	📺 40/S2-A01	📄
09:00		Introduction & Overview Speaker: Jeff Wiener (CERN)			🕒 15m	📄
09:15		Focus Group // Particle Physics & Errors and Uncertainty			🕒 15m	📄
09:30		Focus Group // Particle Accelerators			🕒 15m	📄
09:45		Focus Group // Particle Detectors			🕒 15m	📄
10:00		Coffee Break			🕒 30m	
10:30		Focus Group // Data Analysis in Particle Physics			🕒 15m	📄
10:45		Focus Group // Computing in Particle Physics			🕒 15m	📄
11:00		Focus Group // Medical Applications of Particle Physics			🕒 15m	📄
11:15		Coffee Break			🕒 30m	
11:45		Focus Group // Higgs Physics			🕒 15m	📄
12:00		Focus Group // Antimatter Research			🕒 15m	📄
12:15		Focus Group // Future Accelerators			🕒 15m	📄

Output

Output

Guidelines for the final report

1) Curriculum & classroom connections (Presentation)

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

2) Key ideas (Presentation & Paper)

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

3) Potential students' conceptions & challenges (Presentation)

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

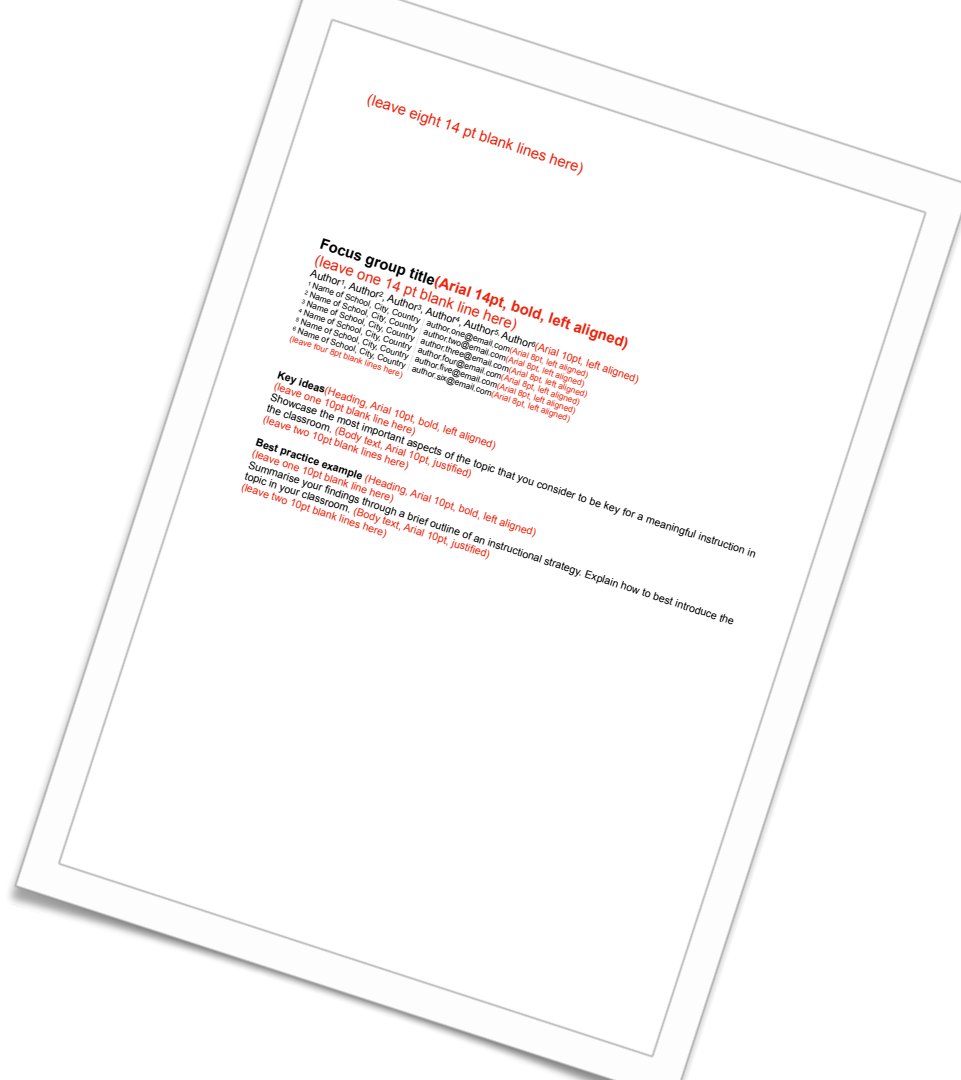
4) Helpful material and resources (Presentation)

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

5) Best practice example (Presentation & Paper)

Summarise your findings through a brief outline of an instructional strategy

Output



Questions?

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