

# Introduction to Study Groups

International Teacher Weeks Programme 2018



# How and when?

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<b>09:00</b> → 13:00	<b>Morning programme</b>	<b>40-S2-D01 - Salle Dirac</b>
<b>09:00</b>	<b>Particle physics 1/3</b> Speaker: Rolf Landua (CERN) Matter_Mysteries_1...	⌚ 1h 30m
<b>10:30</b>	<b>Coffee break</b>	⌚ 30m
<b>11:00</b>	<b>Study groups - concepts, offers &amp; decisive phase</b> Speaker: Jeff Wiener (CERN)	⌚ 1h 30m
<b>13:00</b> → 14:30	<b>Lunch break</b>	⌚ 1h 30m
<b>14:30</b> → 16:30	<b>Afternoon programme</b>	<b>503-1-001 - Council Chamber</b>
<b>14:30</b>	<b>Particle physics 2/3</b> Speaker: Rolf Landua (CERN)	⌚ 1h 30m
<b>16:00</b>	<b>Q&amp;A</b> Speaker: Rolf Landua (CERN)	⌚ 30m
<b>17:45</b> → 22:00	<b>Social Event</b>	
<b>17:45</b>	<b>Bowling &amp; Pizza</b>  A bus will pick up the whole group in front of the CERN hotel (Building 39) at 17:45! <a href="http://www.bowling-vaud.com">www.bowling-vaud.com</a>	⌚ 4h 15m

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## WEEK1

### **SG Session 1**

Wednesday, 8 August  
16:45-17:30

### **SG Session 2**

Thursday, 9 August  
16:00-17:30

## WEEK2

### **SG Session 3**

Monday, 13 August  
16:00-17:30

### **SG Session 4**

Thursday, 16 August  
14:00-17:00

## Last day of ITW2018

### **SG Final Reports**

Friday, 17 August  
9:00-12:30

# Which topics?



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- SG1 Medical applications of particle physics
- SG2 Particle accelerators
- SG3 Particle detectors
- SG4 Computing in particle physics
- SG5 Data analysis in particle physics
- SG6 Antimatter research
- SG7 Engineering in particle physics
- SG8 Astroparticle physics
- SG9 Exotic physics

# Aims and goals?



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Be creative



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Be creative  
Collaborate



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Be creative  
Collaborate  
Share your experiences



# Aims and goals?

Be creative  
Collaborate  
Share your experiences  
Learn from your colleagues



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Be creative  
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Share your experiences  
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Create and develop *something*

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Independently & self-organised!



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

Present the results and outcomes  
of your working group through a  
detailed and extensive final report

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Independently & self-organised!

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Independently & self-organised!

5x2mins + 5mins

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Present the results and outcomes  
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Share the results with your  
students and your colleagues

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5x2mins + 5mins

Send us feedback!

# Process

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## **Guiding research questions about the SG topic**

- 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?

# Output

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## **Guidelines for the final report & summary paper**

### **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 One<sup>1</sup>, Author Two<sup>2</sup>, Author Three<sup>3</sup>, Author Four<sup>4</sup>, Author Five<sup>5</sup>(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)

**Curriculum & classroom connections**(Heading, Arial 10pt, bold, left aligned)  
(leave one 10pt blank line here)  
Highlight potential connections to the various curriculums and your individual teaching practises(Body text, Arial 10pt, justified)  
(leave two 10pt blank lines here)

**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 to be key for a meaningful instruction(Body text, Arial 10pt, justified)  
(leave two 10pt blank lines here)

**Potential student conceptions & challenges**(Heading, Arial 10pt, bold, left aligned)  
(leave one 10pt blank line here)  
Illustrate elements of the topic that might obstruct a successful introduction in the classroom(Body text, Arial 10pt, justified)  
(leave two 10pt blank lines here)

**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)

**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(Body text, Arial 10pt, justified)  
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# Questions?

[jeff.wiener@cern.ch](mailto:jeff.wiener@cern.ch)