Introduction to Study Groups

International Teacher Weeks Programme 2018
How and when?
How and when?

Morning programme

09:00 → 13:00

09:00
Particle physics 1/3
Speaker: Rolf Landua (CERN)
Matter_Mysteries_1
1h 30m

10:30
Coffee break
1h 30m

11:00
Study groups - concepts, offers & decisive phase
Speaker: Jeff Wiener (CERN)
1h 30m

13:00 → 14:30
Lunch break
1h 30m

14:30 → 16:30
Afternoon programme

14:30
Particle physics 2/3
Speaker: Rolf Landua (CERN)
1h 30m

16:00
Q&A
Speaker: Rolf Landua (CERN)
30m

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 29) at 17:45! www.bowling-vaud.com
4h 15m
How and when?
How and when?

**Morning programme**

09:00 → 13:00

**Particle physics 1/3**
Speaker: Rolf Landua (CERN)

Coffee break

10:30 → 11:00

**Study groups - concepts, offers & decisive phase**
Speaker: Jeff Wiener (CERN)

13:00 → 14:30

Lunch break

**Afternoon programme**

14:30 → 16:30

**Particle physics 2/3**
Speaker: Rolf Landua (CERN)

**Q&A**
Speaker: Rolf Landua (CERN)

17:45 → 22:00

**Social Event**

**Bowling & Pizza**
A bus will pick up the whole group in front of the CERN hotel (Building 39) at 17:45 to bowling.pizza.com
How and when?
# How and when?

<table>
<thead>
<tr>
<th>WEEK1</th>
<th>WEEK2</th>
<th>Last day of ITW2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SG Session 1</strong></td>
<td><strong>SG Session 3</strong></td>
<td><strong>SG Final Reports</strong></td>
</tr>
<tr>
<td>Wednesday, 8 August</td>
<td>Monday, 13 August</td>
<td>Friday, 17 August</td>
</tr>
<tr>
<td>16:45-17:30</td>
<td>16:00-17:30</td>
<td>9:00-12:30</td>
</tr>
<tr>
<td><strong>SG Session 2</strong></td>
<td><strong>SG Session 4</strong></td>
<td></td>
</tr>
<tr>
<td>Thursday, 9 August</td>
<td>Thursday, 16 August</td>
<td></td>
</tr>
<tr>
<td>16:00-17:30</td>
<td>14:00-17:00</td>
<td></td>
</tr>
</tbody>
</table>

- **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?

- **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 student 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
Which topics?
Which topics?

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?
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 working group through a detailed and extensive 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 working group through a detailed and extensive 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 working group through a detailed and extensive final report
Share the results with your students and your colleagues

Independently & self-organised! 5x2mins + 5mins
## Aims and goals?

<table>
<thead>
<tr>
<th>Be creative</th>
<th>Collaborate</th>
<th>Present the results and outcomes of your working group through a detailed and extensive final report</th>
<th>Share the results with your students and your colleagues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share your experiences</td>
<td>Learn from your colleagues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create and develop something</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Independently & self-organised!**  
**5x2mins + 5mins**  
**Send us feedback!**
Process
Process

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
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
Questions?

jeff.wiener@cern.ch