

# **Romanian High-School Students Internship Programme 2024**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

## Visit at CERN: Synchrocyclotron

*Monday 3 June 2024 14:05 (50 minutes)*

**Presenters:** Ms PHAM, Joni (University of Melbourne (AU)); DANCU, Julia-Suzana (Imperial College (GB))

**Session Classification:** Visit at CERN

Contribution ID: 2

Type: **not specified**

## Visit at CERN: ATLAS visitor center

*Monday 3 June 2024 15:05 (50 minutes)*

**Presenters:** DANCU, Julia-Suzana (Imperial College (GB)); ZAMKOVSKA, Veronika

**Session Classification:** Visit at CERN

Contribution ID: 3

Type: **not specified**

## Science Gateway | Workshop: Cloud Chamber

*Tuesday 4 June 2024 15:45 (1h 30m)*

**Presenters:** DAHLKEMPER, Merten Nikolay (CERN); TRECZOKS, Tobias Patrick (Technische Universität Dresden (DE))

Contribution ID: 4

Type: **not specified**

## Science Gateway | Exhibitions

Contribution ID: 5

Type: **not specified**

## Science Gateway | Workshop: Superconductivity

*Friday 7 June 2024 09:00 (1h 30m)*

**Presenters:** BAUMGART, Charlotte; ZOECHLING, Sarah (CERN)

Contribution ID: 6

Type: **not specified**

## Visit at CERN: ALICE exhibition

*Monday 10 June 2024 09:10 (50 minutes)*

**Presenter:** KONOPKA, Piotr (CERN)

**Session Classification:** Visit at CERN

Contribution ID: 7

Type: **not specified**

## Visit at CERN: SM18

*Monday 10 June 2024 10:10 (50 minutes)*

**Presenters:** Ms PHAM, Joni (University of Melbourne (AU)); DANCU, Julia-Suzana (Imperial College (GB)); REN, Zhongliang (University of Science and Technology of China (CN))

**Session Classification:** Visit at CERN



Contribution ID: 8

Type: **not specified**

## Visit at CERN | CMS service cavern

*Wednesday 12 June 2024 13:30 (1h 30m)*

**Presenters:** DANCU, Julia-Suzana (Imperial College (GB)); POPESCU, Sorina (The University of Kansas (US)); NADER, Ziad (Lebanese American University (LB))

**Session Classification:** Visit at CERN

Contribution ID: 9

Type: **not specified**

## Visit at CERN: Bondlab

*Wednesday 5 June 2024 15:00 (2 hours)*

**Presenter:** MANOLESCU, Florentina (CERN)

Contribution ID: **10**

Type: **not specified**

## Meeting Point and Group Distribution

*Monday 3 June 2024 13:45 (20 minutes)*

in front of Synchrocyclotron (300)

Group 1 will visit SC and AVC

Group 2 will visit AVC and SC

**Session Classification:** Visit at CERN

Contribution ID: **11**

Type: **not specified**

## Meeting Point

*Monday 3 June 2024 15:55 (5 minutes)*

in front of building Synchrocyclotron (300)

**Session Classification:** Visit at CERN

Contribution ID: 12

Type: **not specified**

**Science Show | Journey through a detector**

*Tuesday 11 June 2024 15:30 (1 hour)*

Contribution ID: 13

Type: **not specified**

# Welcome to CERN

*Monday 3 June 2024 09:00 (1 hour)*

**Presenters:** CAPATINA, Ofelia (CERN); ZUS, Roxana (University of Bucharest (RO)); ZOECHLING, Sarah (CERN)

**Session Classification:** Lectures

Contribution ID: 14

Type: **not specified**

## Introduction to CERN

*Monday 3 June 2024 10:15 (1 hour)*

**Presenter:** WIENER, Jeff (CERN)

**Session Classification:** Lectures

Contribution ID: 15

Type: **not specified**

## **The scientific journey to the Higgs boson | Not all roads lead to Rome, some lead to Geneva**

*Tuesday 4 June 2024 09:00 (1h 15m)*

**Presenter:** DRAGOIU, Tiberiu

**Session Classification:** Lectures



Contribution ID: **16**

Type: **not specified**

# Introduction to Elementary Particle Physics

*Tuesday 4 June 2024 10:30 (1h 30m)*

**Presenter:** ZUS, Roxana (University of Bucharest (RO))

**Session Classification:** Lectures

Contribution ID: 17

Type: **not specified**

# **Luminosity measurement in CMS and high energy physics experiments**

*Wednesday 5 June 2024 09:00 (1h 30m)*

**Presenter:** DELANNOY SOTOMAYOR, Andres Guillermo (University of Tennessee (US))

**Session Classification:** Lectures

Contribution ID: **18**

Type: **not specified**

## **Planck length, mass and time with hands-on computation**

*Wednesday 5 June 2024 10:45 (1h 30m)*

**Presenter:** PRALAVORIO, Pascal (CPPM, Aix-Marseille Université, CNRS/IN2P3 (FR))

**Session Classification:** Lectures

Contribution ID: **19**

Type: **not specified**

**Need to decide**

Contribution ID: 20

Type: **not specified**

## Visit at CERN | Linear Accelerator and Low Energy Ion Ring

*Tuesday 4 June 2024 14:15 (1 hour)*

**Presenters:** DAHLKEMPER, Merten Nikolay (CERN); ZOECHLING, Sarah (CERN); TREZOKS, Tobias Patrick (Technische Universitaet Dresden (DE))

**Session Classification:** Visit at CERN

Contribution ID: **21**

Type: **not specified**

## Dark matter

*Thursday 6 June 2024 09:00 (1h 30m)*

**Presenter:** PRALAVORIO, Pascal (CPPM, Aix-Marseille Université, CNRS/IN2P3 (FR))

**Session Classification:** Lectures

Contribution ID: 22

Type: **not specified**

## Basics of radiation hard electronics

*Thursday 6 June 2024 10:45 (1 hour)*

**Presenter:** KULIS, Szymon (CERN)

**Session Classification:** Lectures

Contribution ID: 23

Type: **not specified**

## Visit at CERN | Antimatter Factory

*Friday 7 June 2024 13:00 (50 minutes)*

**Presenters:** VALSAN, Liviu (CERN); PATRASCOIU, Mihai; BATUSOV, Vitali (Joint Institute for Nuclear Research (RU))

**Session Classification:** Visit at CERN



Contribution ID: 24

Type: **not specified**

## Visit at CERN | Data Centre

*Friday 7 June 2024 14:00 (50 minutes)*

**Presenters:** VALSAN, Liviu (CERN); PATRASCOIU, Mihai (CERN)

**Session Classification:** Visit at CERN

Contribution ID: 25

Type: **not specified**

## Meeting Point and Group Distribution

*Friday 7 June 2024 12:50 (10 minutes)*

in front of building 600

Group 1 will visit AD and DC

Group 2 will visit DC and AD

**Session Classification:** Visit at CERN

Contribution ID: 26

Type: **not specified**

**Meeting Point**

*Friday 7 June 2024 14:50 (10 minutes)*

in front of building 600

**Session Classification:** Visit at CERN

Contribution ID: 27

Type: **not specified**

## Visit at CERN | LHCb surface

*Monday 10 June 2024 14:30 (1h 30m)*

**Presenters:** PIRGHIE, Ana-Camelia (Horia Hulubei National Institute of Physics and Nuclear Engineering (RO)); Dr PIRGHIE, Cristian (Horia Hulubei National Institute of Physics and Nuclear Engineering (RO))

**Session Classification:** Visit at CERN

Contribution ID: **28**

Type: **not specified**

## Lecture | Particle Physics

*Tuesday 11 June 2024 09:00 (1 hour)*

**Presenter:** ALEXA, Calin (IFIN-HH (RO))

Contribution ID: 29

Type: **not specified**

## Lecture | Particle Detectors

*Wednesday 12 June 2024 09:00 (1 hour)*

**Presenter:** ALEXA, Calin (IFIN-HH (RO))

Contribution ID: **30**

Type: **not specified**

## Introduction to presentations

*Monday 3 June 2024 11:30 (30 minutes)*

**Session Classification:** Lectures

Contribution ID: **31**

Type: **not specified**

## Registrations 2nd group

*Monday 3 June 2024 16:00 (45 minutes)*

**Presenter:** ZOECHLING, Sarah (CERN)



Contribution ID: **32**

Type: **not specified**

## Registrations 1st group

*Monday 3 June 2024 13:00 (45 minutes)*

**Presenter:** ZOECHLING, Sarah (CERN)

Contribution ID: 33

Type: **not specified**

# Arrival in Geneva

*Sunday 2 June 2024 12:00 (1 hour)*

Contribution ID: 34

Type: **not specified**

## Drop luggage at the hotel and lunch

*Sunday 2 June 2024 13:00 (1h 30m)*

Contribution ID: 35

Type: **not specified**

# CERN treasure hunt

*Sunday 2 June 2024 17:00 (1h 30m)*

Contribution ID: 36

Type: **not specified**

## Online safety courses

*Tuesday 4 June 2024 19:15 (1 hour)*

Contribution ID: 37

Type: **not specified**

## Online safety courses

*Wednesday 5 June 2024 19:15 (1 hour)*

Contribution ID: **38**

Type: **not specified**

## Time to work on presentations

*Wednesday 5 June 2024 13:30 (1h 15m)*

Contribution ID: 39

Type: **not specified**

## Visit at CERN | Control Centre

*Monday 10 June 2024 16:15 (1h 10m)*

**Presenter:** ZOECHLING, Sarah (CERN)

**Session Classification:** Visit at CERN



Contribution ID: **40**

Type: **not specified**

## Meeting point

in front of building 39

**Session Classification:** Visit at CERN

Contribution ID: 41

Type: **not specified**

## Meeting point

in front of building 39

**Session Classification:** Visit at CERN

Contribution ID: 42

Type: **not specified**

## Q&A session

*Thursday 6 June 2024 16:00 (1 hour)*

**Presenter:** PRALAVORIO, Pascal (CPPM, Aix-Marseille Université, CNRS/IN2P3 (FR))

Contribution ID: 43

Type: **not specified**

## Public Event | The case of the (still) mysterious Universe

<https://indico.cern.ch/event/1419083/>

Doors open at 7.00 p.m. - Event starts at 7.30 p.m. - Duration: 2h15

Contribution ID: 44

Type: **not specified**

## Time to work on presentations

Contribution ID: 45

Type: **not specified**

# Science Gateway | Exhibitions

*Friday 7 June 2024 10:30 (1 hour)*

Contribution ID: 46

Type: **not specified**

## Time to work on presentations

*Friday 7 June 2024 15:15 (2h 15m)*

Contribution ID: 47

Type: **not specified**

## Meeting point and transport

*Monday 10 June 2024 08:50 (20 minutes)*

in front of building 39

**Session Classification:** Visit at CERN



Contribution ID: 48

Type: **not specified**

## Meeting point and transport

*Monday 10 June 2024 11:00 (20 minutes)*

in front of building 39

**Session Classification:** Visit at CERN

Contribution ID: 49

Type: **not specified**

## Meeting point and transport

*Monday 10 June 2024 14:05 (25 minutes)*

in front of building 39

**Session Classification:** Visit at CERN

Contribution ID: 50

Type: **not specified**

# Transport

*Monday 10 June 2024 16:00 (15 minutes)*

**Session Classification:** Visit at CERN

Contribution ID: 51

Type: **not specified**

# Science Gateway | Exhibitions

*Tuesday 11 June 2024 14:00 (1h 30m)*

Meeting point at 14:00 is the “Tulip Tree”

Contribution ID: 52

Type: **not specified**

## Visit at CERN | ATLAS Tilecal

*Thursday 13 June 2024 14:00 (1h 30m)*

**Presenters:** ALEXA, Calin (IFIN-HH (RO)); POPENECIU, Gabriel (Nat.Inst.for Research & Development of Isotopic and Molecular Tech (RO))

Contribution ID: 53

Type: **not specified**

## Final presentations

Contribution ID: 54

Type: **not specified**

## Final presentations

Contribution ID: 55

Type: **not specified**

## Meeting Point and walk to LEIR

*Tuesday 4 June 2024 13:50 (25 minutes)*

in front of building 39

**Session Classification:** Visit at CERN



Contribution ID: 56

Type: **not specified**

## CERN people bingo

*Wednesday 12 June 2024 16:30 (45 minutes)*

Contribution ID: 57

Type: **not specified**

## Movie night: Particle Fever

Contribution ID: 58

Type: **not specified**

## Time to work on presentations

*Monday 10 June 2024 11:30 (1h 30m)*

Contribution ID: 59

Type: **not specified**

## "Mindful Hands"-on Session

*Tuesday 11 June 2024 10:15 (2 hours)*

Try out different hands-on experiments, control a mechanical arm with your mind, and observe the sun (or clouds) with a telescope! :)

**Presenters:** MANOLESCU, Florentina (CERN); POBLOCKI, Marcin Tadeusz (CERN)

Contribution ID: **60**

Type: **not specified**

## Time to work on presentations

*Wednesday 12 June 2024 10:15 (1h 15m)*

Contribution ID: **61**

Type: **not specified**

## Time to work on presentations

*Wednesday 12 June 2024 15:40 (45 minutes)*

Contribution ID: **62**

Type: **not specified**

## Time to work on presentations

*Thursday 13 June 2024 09:00 (3h 15m)*

Contribution ID: **63**

Type: **not specified**

## Time to finish presentations

*Thursday 13 June 2024 16:00 (1h 45m)*



Contribution ID: 64

Type: **not specified**

## Time to work on presentations

*Thursday 6 June 2024 13:30 (2h 30m)*

Contribution ID: 65

Type: **not specified**

## Meeting point and transport

*Monday 10 June 2024 17:25 (25 minutes)*

in front of building 39

**Session Classification:** Visit at CERN

Contribution ID: 66

Type: **not specified**

## **Romanian Teacher and Student Programme Lunch**

Contribution ID: 67

Type: **not specified**

## Meeting point and transport

*Wednesday 12 June 2024 12:50 (40 minutes)*

in front of building 39

**Session Classification:** Visit at CERN

Contribution ID: **68**

Type: **not specified**

## Meeting point and transport

*Wednesday 12 June 2024 15:00 (40 minutes)*

in front of building 39

**Session Classification:** Visit at CERN

Contribution ID: 69

Type: **not specified**

## Nothing standard about the Standard Model

*Friday 14 June 2024 09:50 (20 minutes)*

**Presenters:** BOBELEAC, Maria-Anastasia; IOSIFESCU, Sasha Mihail

**Session Classification:** Final presentations

Contribution ID: 70

Type: **not specified**

## What's that? Did you see that??

*Friday 14 June 2024 10:10 (20 minutes)*

Introduction to particle detection

**Presenters:** DANCIU, Eduard-Florin; MATEI, Stefan

**Session Classification:** Final presentations

Contribution ID: 71

Type: **not specified**

# How Does an Onion-like Topology Aid in Particle Identification?

*Friday 14 June 2024 10:50 (20 minutes)*

Case study: ATLAS detector

**Presenters:** CHITU, Darius ('Andrei Şaguna' National College); CHITA, George-Dan

**Session Classification:** Final presentations



Contribution ID: 72

Type: **not specified**

## A not so future collider: HL-LHC

*Friday 14 June 2024 11:10 (20 minutes)*

High-luminosity Large Hadron Collider

**Presenters:** ZGURA, Andra Irina; RUSU, Andrei Alexandru

**Session Classification:** Final presentations

Contribution ID: 73

Type: **not specified**

# Applications of fundamental particles in medical imaging

*Friday 14 June 2024 09:30 (20 minutes)*

**Presenters:** ANA, Andrei; GEORGESCU, Daria-Ioana

**Session Classification:** Final presentations

Contribution ID: 74

Type: **not specified**

# The unseen hero - The worldwide LHC computing grid

*Friday 14 June 2024 11:30 (20 minutes)*

**Presenters:** RADU, Andrei Stefan; BICHIR, Teodor

**Session Classification:** Final presentations

Contribution ID: 75

Type: **not specified**

## What's the matter with antimatter?

*Friday 14 June 2024 14:05 (20 minutes)*

**Presenters:** MUNTEANU, David-Ioan; VASIU, Luca-Mihai

**Session Classification:** Final presentations

Contribution ID: 76

Type: **not specified**

## The role of machine learning at CERN

*Friday 14 June 2024 13:45 (20 minutes)*

**Presenters:** TEODORESCU-DRUC, Alexandru; PUSCALAU, Calin-Andrei

**Session Classification:** Final presentations

Contribution ID: 77

Type: **not specified**

## Dark matter

*Friday 14 June 2024 14:25 (20 minutes)*

**Presenters:** FURDUI, Darius Cristian; VARZARU, Gheorghe-Nelu

**Session Classification:** Final presentations

Contribution ID: 78

Type: **not specified**

## **Cosmology: We don't really know**

*Friday 14 June 2024 14:45 (20 minutes)*

**Presenters:** BOLDUREANU, Andreea; BRATAN, Simona-Maia

**Session Classification:** Final presentations

Contribution ID: 79

Type: **not specified**

## Beyond the Standard Model

*Friday 14 June 2024 15:20 (20 minutes)*

One equation, too many variables

**Presenters:** BILASCHI, Simina-Gabriela; CARUTA, Sorina

**Session Classification:** Final presentations



Contribution ID: **80**

Type: **not specified**

## The Future of Particle Accelerators

*Friday 14 June 2024 15:40 (20 minutes)*

**Presenters:** VIZITIU, Andrei; RADNEANTU, Maria Elena

**Session Classification:** Final presentations

Contribution ID: **81**

Type: **not specified**

## Conclusions and "au revoir"! :)

*Friday 14 June 2024 16:15 (45 minutes)*

**Presenters:** ZUS, Roxana (University of Bucharest (RO)); ZOECHLING, Sarah (CERN)

**Session Classification:** Final presentations

Contribution ID: 82

Type: **not specified**

## Programme Summary

*Friday 14 June 2024 09:00 (30 minutes)*

**Presenters:** TUDORACHE, Alexandra (Horia Hulubei National Institute of Physics and Nuclear Engineering (RO)); ALEXA, Calin (IFIN-HH (RO)); DUMINICA, Ioana (University of Bucharest (RO)); ROTARU, Marina (Horia Hulubei National Institute of Physics and Nuclear Engineering (RO)); ZUS, Roxana (University of Bucharest (RO)); TUDORACHE, Valentina (Horia Hulubei National Institute of Physics and Nuclear Engineering (RO))

**Session Classification:** Final presentations