

# CERN-ov PROGRAM PRAKSE UČENIKA SREDNJIH ŠKOLA IZ SRBIJE

**DODATNE INFORMACIJE. "HANDS-ON" PROJEKTI.**

**CERN, 25. april - 7. maj, 2022**

# **CERN-OV PROGRAM PRAKSE UČENIKA SREDNJIH ŠKOLA IZ SRBIJE**

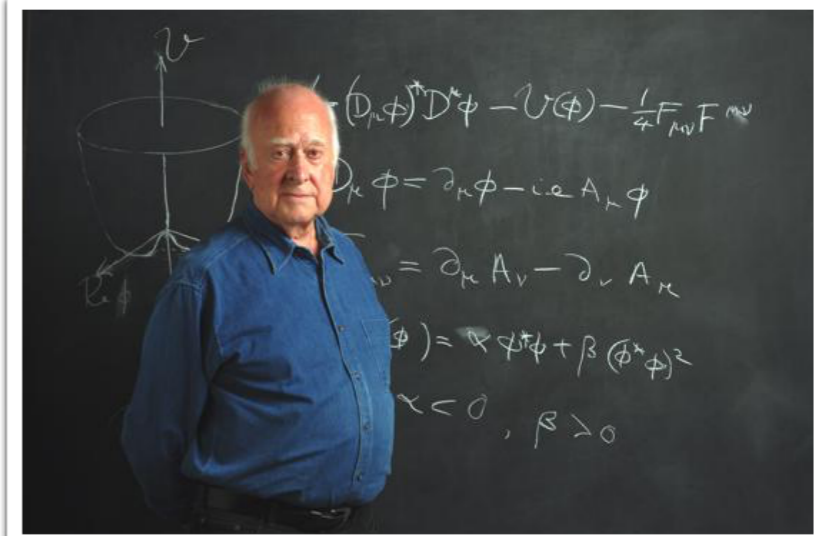
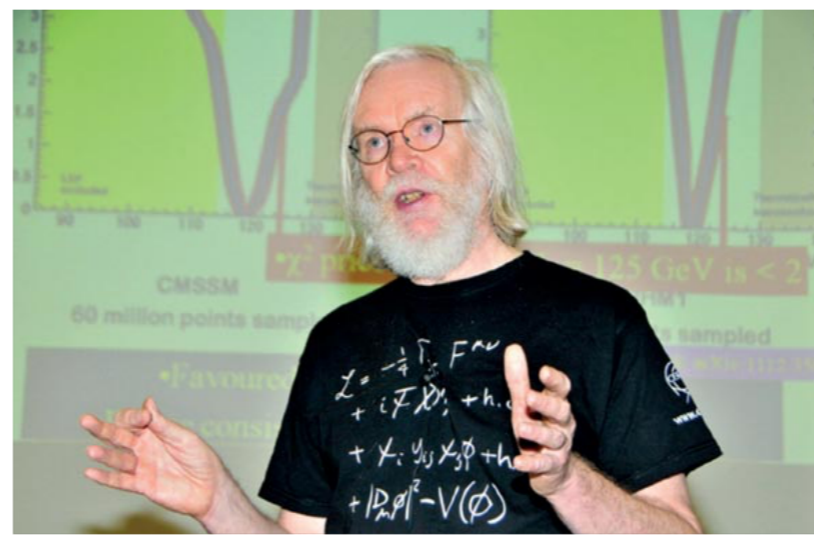
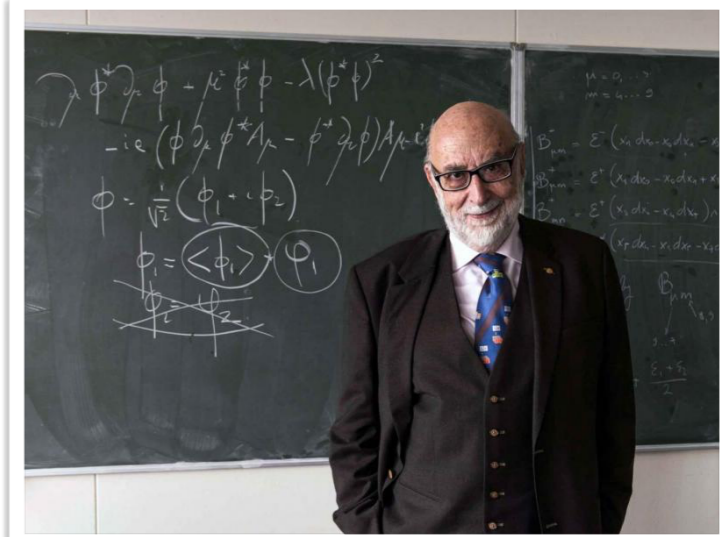
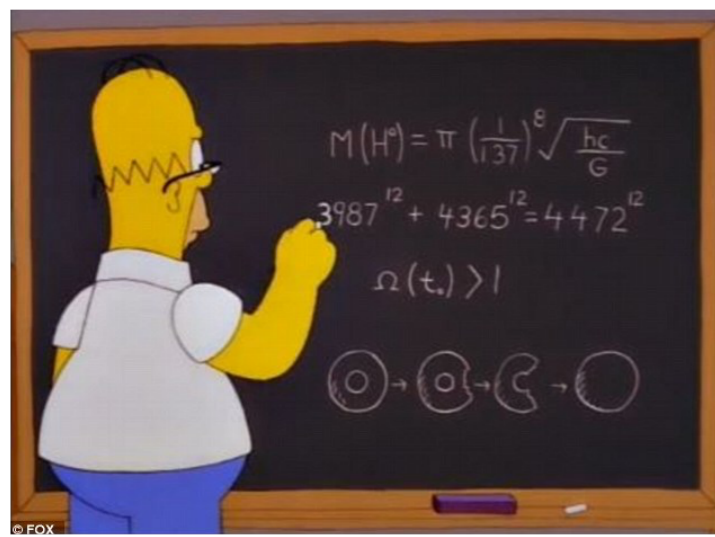
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**DOBRODOŠLI U CERN!**

# Predavanja

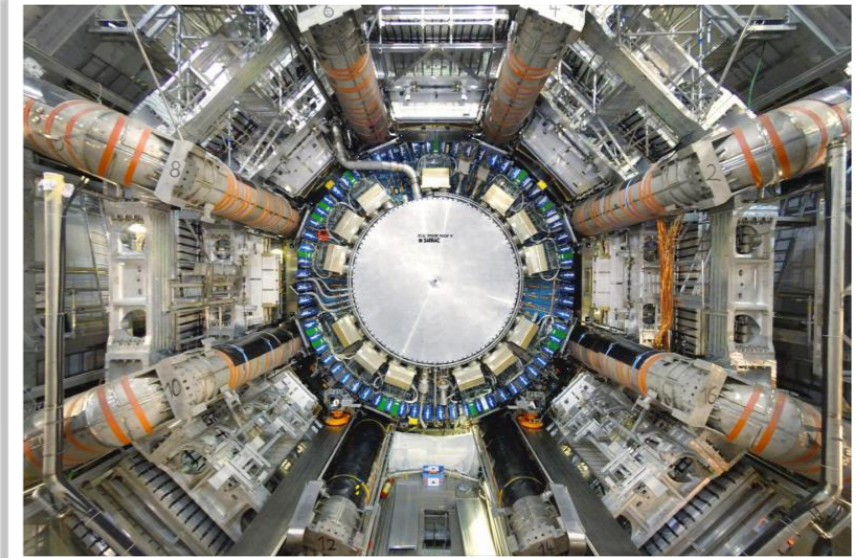
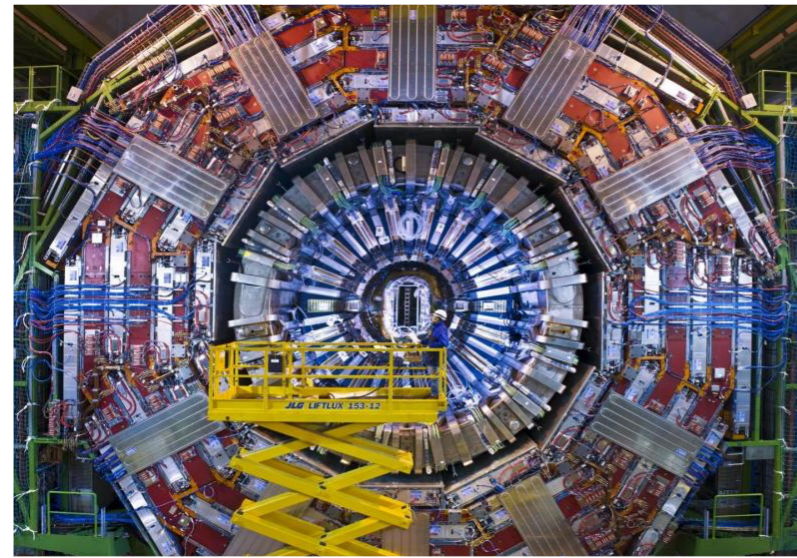
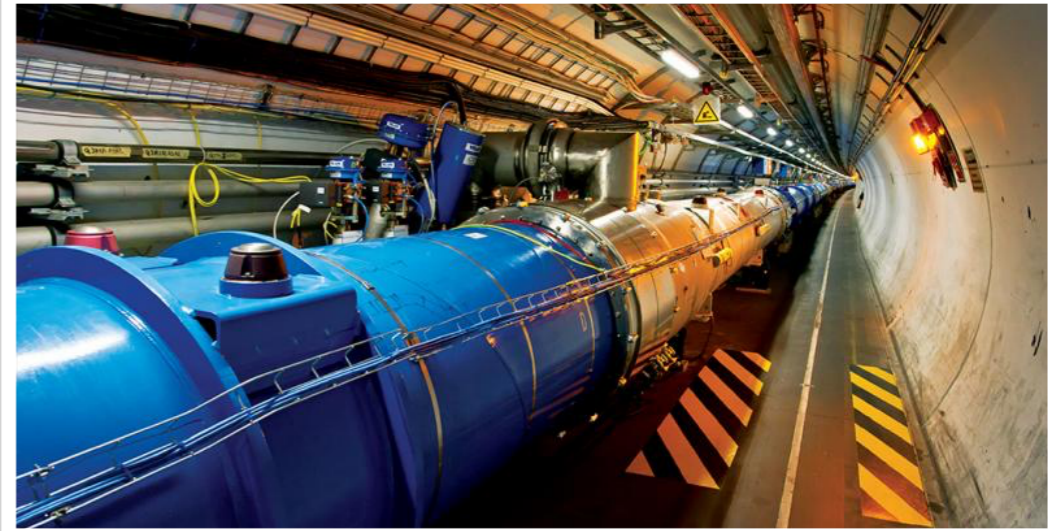
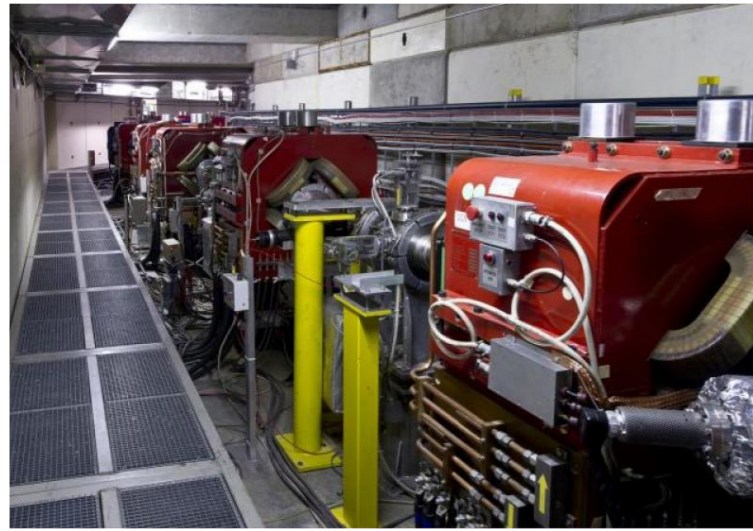
- Različite oblasti bliske eksperimentalnoj fizici visokih energija (određenim danima, **okvirno u periodu 9h - 10h**)**



**AGENDA:** <https://indico.cern.ch/event/1114479/timetable/?view=standard>

# Posete

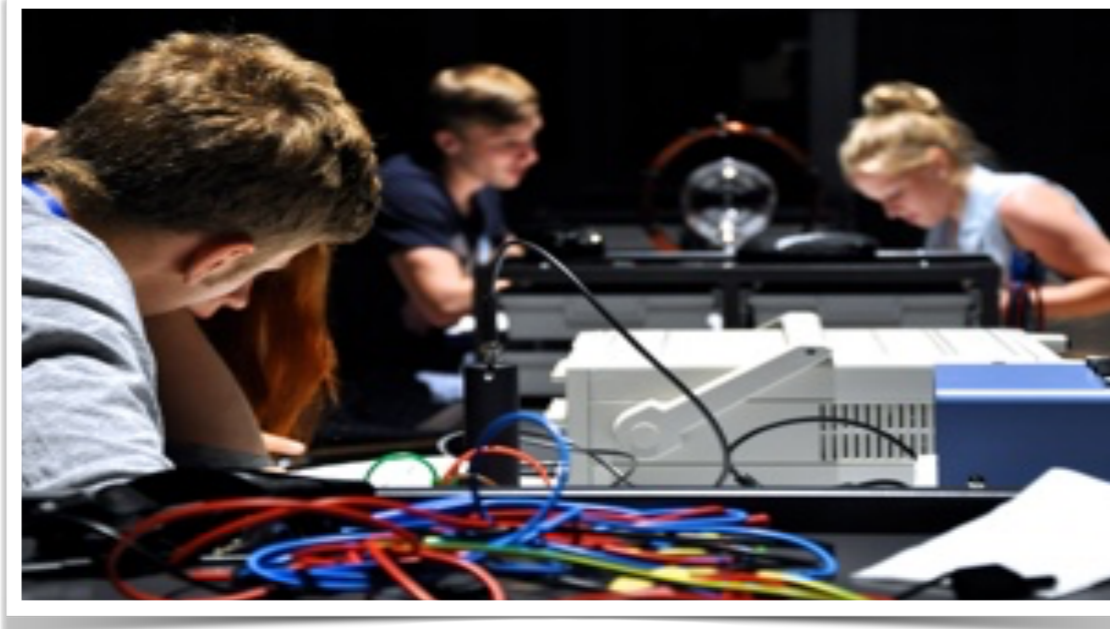
- **Akceleratorski, experimentalni i IT kompleksi u CERN-u**



**CERN: <https://home.cern/about>**

# Praktične vežbe: S'Cool Lab

- **Eksperimentalne vežbe: detekcija čestica maglenim komorama** (petak od 9h do 12h, S'Cool Lab)



**EKSPERIMENTI:** <http://scool.web.cern.ch/experiments>

# "Hands-on" projekti

- **Osnovni cilj "hands-on" projekata:** predstaviti učenicima kroz praktičan rad (sa mentorima) različite aktivnosti iz oblasti fizika, inženjerstva, i edukacije
- **Fizika**
  - P1: Discovering the Higgs boson in  $H\gamma\gamma$  decay channels
  - P2: Discovering the Higgs boson in  $HZZ$  decay channels
  - P3: Finding the Z peak in Drell Yan events
  - P4: CP symmetry in the interactions of the Higgs boson with top quark
- **Kompjutersko i elektro inženjerstvo**
  - E1: Electronics data-acquisition systems for the future High Granularity Calorimeter
  - E2: Dew Point sensor measurements for the ECAL Safety System
  - E3: Training and optimisation of ML algorithms for application in HEP
- **Edukacija**
  - O1: Organisation and reporting of the CERN's Summer Student Programmes
  - O2: Cosmic muon detection and data acquisition software

# "Hands-on" projekti

- **Osnovni cilj "hands-on" projekata:** predstaviti učenicima kroz praktičan rad (sa mentorima) različite aktivnosti iz oblasti fizika, inženjerstva, i edukacije

- **Fizika**

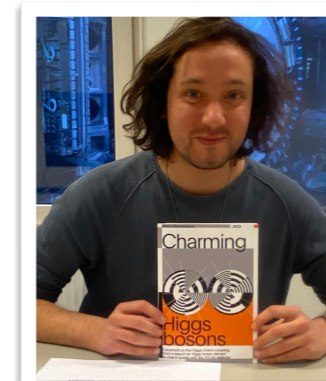
**P1: Discovering the Higgs boson in  $H\gamma\gamma$  decay channels**

Students:

- Gorana Rudan
- Luka Carevic
- Natalija Nikolić

Supervisors:

- Marko Stamenkovic
- Jelena Jovicevic



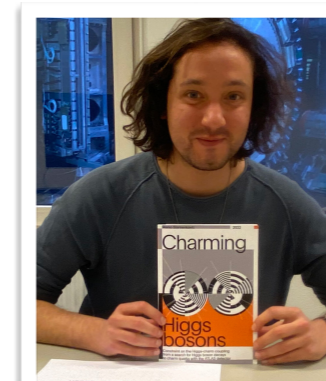
**P2: Discovering the Higgs boson in  $HZZ$  decay channels**

Students:

- Marija Petrović
- Petar Rusov
- Rastko Kalaver

Supervisors:

- Marko Stamenkovic
- Predrag Milenovic



# "Hands-on" projekti

- **Osnovni cilj "hands-on" projekata:** predstaviti učenicima kroz praktičan rad (sa mentorima) različite aktivnosti iz oblasti fizika, inženjerstva, i edukacije

- **Fizika**

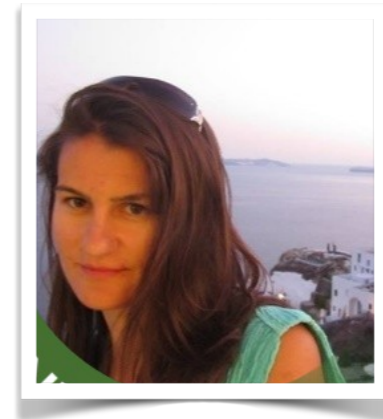
## P3: Finding the Z peak in Drell Yan events

### Students:

- Filip Pantić
- Vladimir Ignjatijevic

### Supervisors:

- Nikolina Ilic



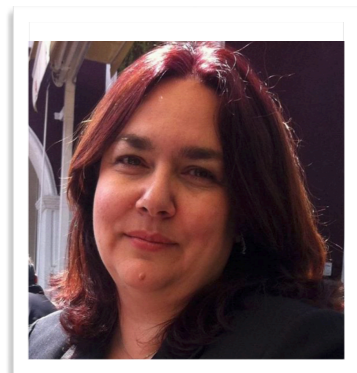
## P4: CP symmetry in the interactions of Higgs boson with top quark

### Students:

- Marko Matovic
- Natalija Randelović
- Ana Manojlovic

### Supervisors:

- Jelena Jovicevic
- Lidija Zivkovic





# "Hands-on" projekti

- **Osnovni cilj "hands-on" projekata:** predstaviti učenicima kroz praktičan rad (sa mentorima) različite aktivnosti iz oblasti fizika, inženjerstva, i edukacije
- **IT i elektro inženjerstvo**

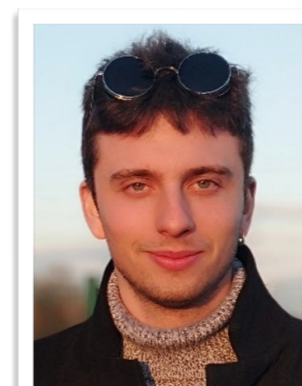
E1: Electronics DAQ systems for the future High Granularity Calorimeter

Students:

- **Andreja Maksimović**
- **Arsen Mikovic**
- **Marija Žukovski**

Supervisors:

- **Milos Vojinovic**



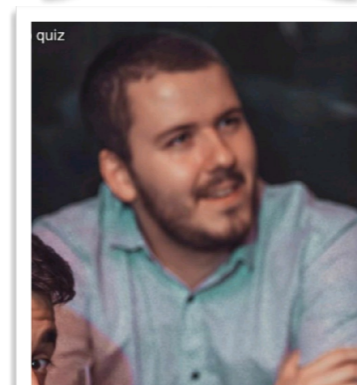
E2: Dew Point sensor measurements for ECAL Safety System

Students:

- **Luka Djurica**
- **Milena Stanicic**
- **Tamara Topalov**

Supervisors:

- **Lazar Cokic**
- **Irena Veljanovic**



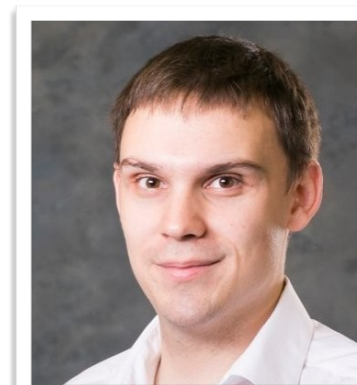
E3: Training & optimisation of ML algorithms for HEP application

Students:

- **Filip Bajraktari**
- **Milos Puric**
- **Una Ignjatović**

Supervisors:

- **Dejan Golubovic**
- **Irena Veljanovic**



# "Hands-on" projekti

- **Osnovni cilj "hands-on" projekata:** predstaviti učenicima kroz praktičan rad (sa mentorima) različite aktivnosti iz oblasti fizika, inženjerstva, i edukacije
- **Edukacija**

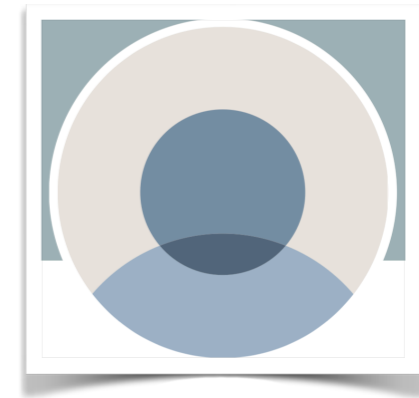
## O1: Organisation of the CERN's Summer Student Programmes

### Students:

- **Anisia Savic**
- **Emilija Nikolić**

### Supervisors:

- **Ana Djordjevic**



## O2: Cosmic muon detection and data acquisition software

### Students:

- **Mihajlo Petkovic**
- **Miloš Herceg**

### Supervisors:

- **Markus Joos**



# Druženje i događaji

- **Zvanično druženje u toku programa**
  - **Zajednička večera - nedelja od 19h do 21h, restoran Cave Valaisanne**



**RESTORAN: <https://cavevalaisanne.ch>**

# Neki od ljudi bez kojih ovo ne bi bilo moguće...





# Prostorije za rad

- **Prostorije za rad:** Rezervisano je nekoliko prostorija opšte namene u CERN-u. Porde ovih prostorija, učenici mogu da koriste i druge otvorene prostore u CERN-u (kafeterije, restorani, open-space zone, itd.)

Thursday April 28	
Morning	Afternoon
124/R-012 (5 px)	4/s-056 (10 px)
301/R-007 (8 px)	53/R-044 (6px)
	72/1-044 (7 px)

Friday April 29	
Morning	Afternoon
124/R-012 (5 px)	124/R-012 (5 px)
301/R-007 (8 px)	4/3-004 (5 px)
	4/3-001 (5 px)

Monday May 2	
Morning	Afternoon
4/3-004 (5 px)	4/3-004 (5 px)
4/R-050 (3 px)	4/R-050 (3 px)
53/R-044 (6 px)	53/R-044 (6 px)
124/R-012 (5 px)	
301/R-007 (8 px)	

Tuesday May 3	
Morning	Afternoon
124/R-012 (5 px)	
301/R-007 (8 px)	
4/3-004 (5 px)	4/3-004 (5 px)
4/3-001 (5 px)	4/3-001 (5 px)

Wednesday May 4	
Morning	Afternoon
4/3-004 (5 px)	4/3-004 (5 px)
4/3-001 (5 px)	4/3-001 (5 px)
124/R-012 (5 px)	
301/R-007 (8 px)	

Thursday May 5	
Morning	Afternoon
4/R-050 (3 px)	4/R-050 (3 px)
53/R-044 (6 px)	53/R-044 (6 px)
124/R-012 (5 px)	
301/R-007 (8 px)	