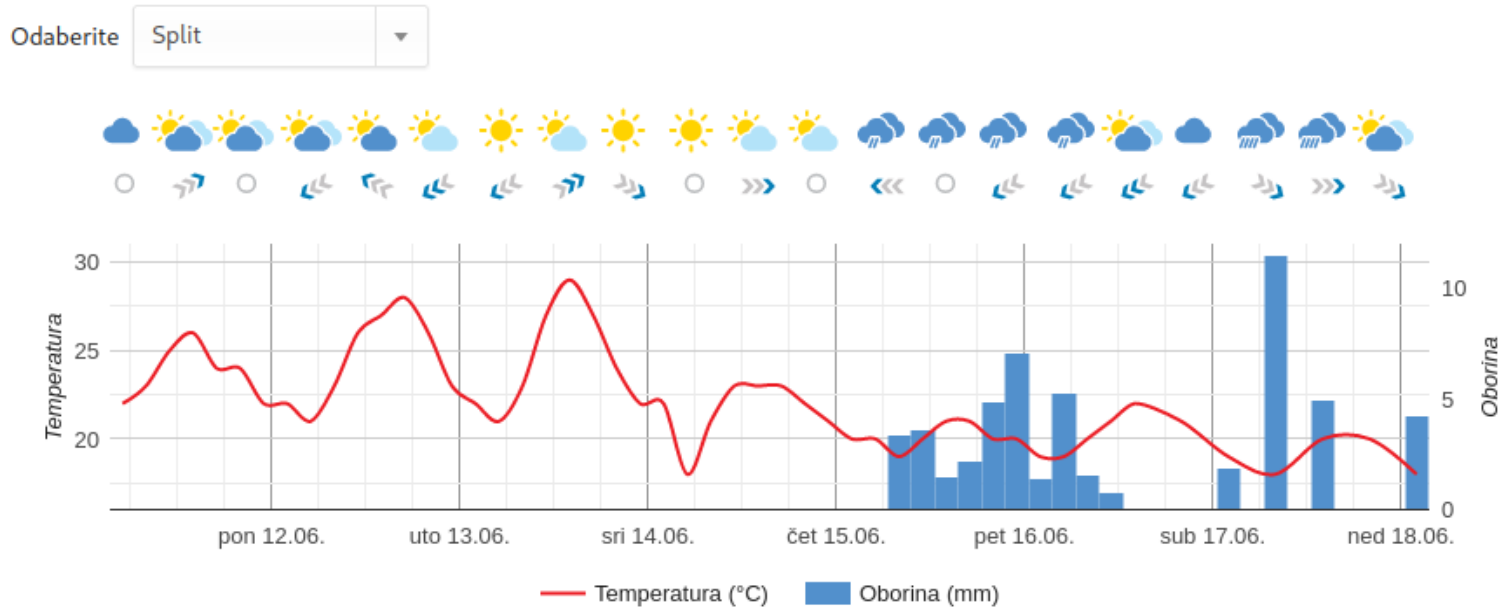


Welcome!

<https://indico.cern.ch/e/tCSC-2023>

Alberto Pace, Kristina Gunne, Jarek Polok
CERN School of Computing team

Not too bad!



School organization and logistics

School organizers



Alberto Pace
Director



Kristina Gunne
Administrator



Jarek Polok
Technical

Indico is your friend: <https://indico.cern.ch/e/tCSC-2023>

Overview

Academic programme

Timetable (weekly)

Timetable (daily)

Practical information

└ Fees & payment

└ Terms & Conditions

└ Laptop configuration

School guide

Lecturers

Participants

Organisers

School poster

CSC portal website

Privacy notice

CERN School of Computing

✉ Computing.School@cern.ch

The 12th **Thematic** CERN School of Computing (tCSC 2023) will take place on **June 11-17, 2023**. The theme of the school is **"Scientific Software for Heterogeneous Architectures"** - see the [academic programme](#) for more details.

This school is organized by [CERN](#) in collaboration with the [University of Split](#). The school will take place **in Split, Croatia**, and be hosted at the Mediterranean Institute For Life Sciences ([MEDILS](#)) Conference Centre. The Centre is a historical renovated building situated in a wooded and landscaped park located on the Adriatic Sea coast, a few kilometers from the centre of Split.

The School is aimed at postgraduate (i.e. minimum of Bachelor degree or equivalent) students, engineers and scientists with a few years' experience in particle physics, in computing, or in related fields. We welcome applications from all countries and nationalities.

Applications are closed.



CERN School of Computing

Overview

Academic programme

Laptop configuration

with [CERN Computing Rules](#) whenever using or accessing CERN's or School's computing

online platforms but additional software needs to be installed on your system.

Requirements

requirements for your system:

tool

Installations

installations (FAQ) will give you all the information you need.

with ssh client packages preinstalled on the system, for Microsoft Windows follow

QCachegrind?

very likely kcache (or qcachegrind) packages are available to be installed using (apt, yum, dnf ...).

for Windows or MacOS X:

installer for your system
additional tool packages.

Online school services?

weight/e-mail/EduGain/social account that you did use in order to register for this school.

It will be held in Split (Croatia), from Monday 12 June until Friday 16 June during the day (see details in the "Travel" section below) and leave on

with the [University of Split](#). The school will be hosted at the Mediterranean Centre. The Centre is a historical, renovated building situated in a wooded coast, a few kilometers from the centre of Split.

stimulating environment at our schools, and we encourage all qualified regardless of nationality, gender, age, ethnic origin, individual differences of

of Bachelor degree or equivalent) students, engineers and scientists with putting, or in related fields. We welcome applications from all countries and

CERN Schools of Computing, and who are interested in deepening their knowledge on the state of the thematic CSC, are also welcome to apply.

The School guide

<https://indico.cern.ch/event/1244566/page/28312-school-guide>

please read

School booklet

Printed version for those who asked for it

Electronic version (PDF) - linked from school main page on Indico (at the bottom)

Contains pictures and short biographies
of all participants



**12th Thematic
CERN School of Computing**

11 to 17 June 2023 – Split, Croatia

Scientific Software for Heterogeneous Architectures

Technologies and Platforms
Parallel and Optimised Scientific Software
Programming for Heterogeneous Architectures

<https://indico.cern.ch/e/tCSC-2023>



Sveučilište u Splitu
University of Split



Thematic CERN School of Computing 2023

Timetable

<https://indico.cern.ch/event/1244566/timetable/>

Sunday, 11 June 2023	Monday, 12 June 2023	Tuesday, 13 June 2023	Wednesday, 14 June 2023	Thursday, 15 June 2023	Friday, 16 June 2023	Saturday, 17 June 2023
	08:00 Breakfast	08:00 Breakfast	08:00 Breakfast	08:00 Breakfast	08:00 Breakfast	08:00 Breakfast
	08:45 Opening Session	08:45 Writing parallel software - Sebastian Ponce (CERN)	08:45 Scientific computing on heterogeneous architectures	08:45 Performant programming for GPUs - Daniel Campora (University of Maastricht)	08:45 Programming for heterogeneous architectures - exercise	
	09:45 Coffee break	09:45 Announcements	09:45 Announcements	09:45 Announcements	10:00 Coffee break	
	10:15 Preparing for the HL-LHC computational challenge - Danilo Piparo (CERN)	10:00 Coffee break	10:00 Coffee break	10:00 Coffee break	10:15 Programming for heterogeneous architectures - exercise	
	11:15 Introduction to efficient computing - Andrzej Nowak	10:15 Modern programming languages for HEP - Sebastian Ponce (CERN)	10:15 Practical vectorization - Sebastian Ponce (CERN)	10:15 Practical vectorization - exercise - Sebastian Ponce (CERN)	11:30 Announcements	
		11:15 Technologies and Platforms - exercise - Andrzej Nowak	11:15 Programming for GPUs - Dorothea Vom Bruch (Aix Marseille Univ, CNRS/IN2P3, CPPM, Marseille, France)	11:15 Design patterns and best practices - Daniel Campora (University of Maastricht)	11:45 Programming for heterogeneous architectures - exercise	
12:20 Lunch	12:15 Lunch	12:15 Lunch	12:15 Lunch	12:15 Lunch	12:15 Lunch	
13:30	13:00 Study time or sports	13:00 Study time or sports	13:00 School photo	13:00 Study time or sports	13:15 Exam	
		14:00 Technologies and Platforms - exercise d...	13:30 Outdoor excursion	14:00 Optimisation + vectorization - exercise d...		
	14:15 Hardware evolution and heterogeneity - Andrzej Nowak	14:20 Optimizing existing large codebase - Sebastian Ponce (CERN)		14:20 Programming for heterogeneous architectures - exercise	14:15 Summary and future technologies overview - Andrzej Nowak	
	15:15 Coffee break	15:20 Coffee break		15:40 Coffee break	15:15 Coffee break	
16:00 Welcome and introduction	15:45 Technologies and Platforms - exercise - Andrzej Nowak	15:45 Optimizing existing large codebase - exercise - Sebastian Ponce (CERN)		16:10 Programming for heterogeneous architectures - exercise	15:40 Student lightning talks	
16:20 Self presentations				17:30 Study time or sports	16:30 Free time	
17:15 Visit of Split old town	17:45 Data-oriented design - Andrzej Nowak				18:00 Closing Session	
19:30 Outside Welcome Dinner	19:15 Dinner at MEDILS	19:15 Dinner at MEDILS	19:00 Excursion dinner	19:15 Dinner at MEDILS	19:30 Closing dinner	

WhatsApp group

Unofficial communication channel:
we recommend you to join the group



CSC Rule #1: Participate!

- Attendance at all lectures and exercises is **mandatory**
- You should attend all meals and coffee breaks
- Taking part in social and sports events is **optional**
 - You must let us know whether you participate or not

CSC Rule #2: Be on time!

Check what the schedule says:

“Lecture starts at 08:45” => You must be in the room **before** 08:45

“The bus leaves at 17:15” => It **will** leave at 17:15

If you're late, we won't wait

CSC Rule #3: Wear your badge

Jyoti Prakash Biswal

Rutherford Appleton Laboratory, United Kingdom

Thematic CERN School of Computing
Split, Croatia - 11-17 June

Anna Kravchenko

ETH Zurich, Switzerland

Thematic CERN School of Computing 2023
Split, Croatia - 11-17 June

Davide Nicotra

Utrecht University, Netherlands

Thematic CERN School of Computing 2023
Split, Croatia - 11-17 June

Marta Vila Fernandes

CERN

Thematic CERN School of Computing 2023
Split, Croatia - 11-17 June

Xola Mapekula

University of Johannesburg, South Africa

Thematic CERN School of Computing 2023
Split, Croatia - 11-17 June

CSC Rule #4:

**ENJOY AND PROFIT
FROM THE SCHOOL!**

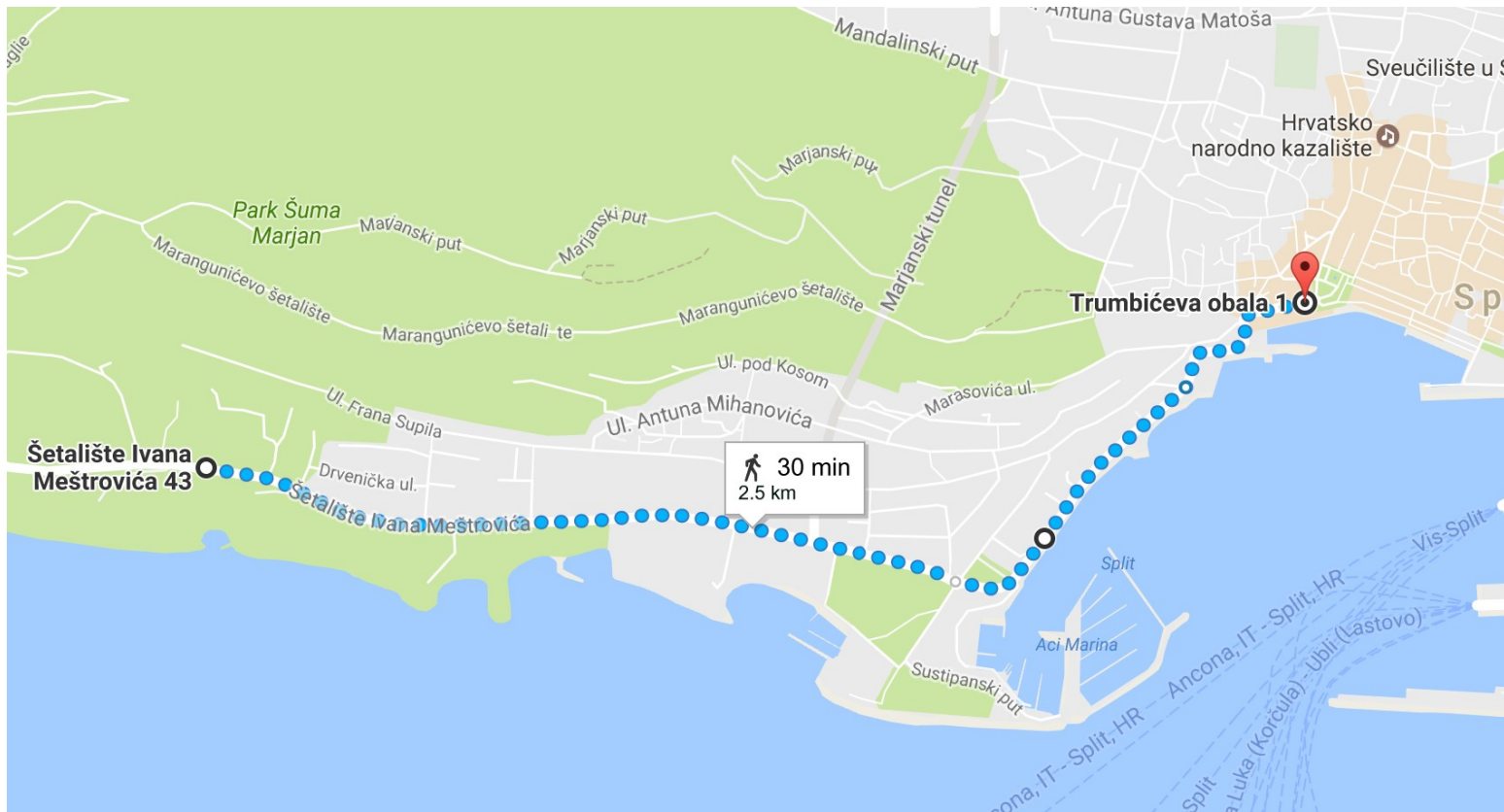
Tonight (Sunday)

- 17:15 buses from MedILS to the city centre
- 17:30-19:00 guided walking tour of the city
- 19:30 dinner at **Konoba Varoš**
- 21:00 ... ?



To the old town:

- ~ 30 mins walk
- 3-5 EUR Uber/taxi



And now ...

Self presentations