

Thematic
CERN
School of Computing



High Throughput Distributed Processing of Future HEP Data

3-9 June 2018
Split, Croatia



Sveučilište u Splitu
University of Split



Daily updates and announcements

Announcements

Wednesday, June 6th

Student presentations

Student presentations

Luca Ambroz (University of Oxford, UK)

“Importance sampling for Monte Carlo Simulation in High Energy Physics”

Fabrizio Alfonsi (University of Bologna, Italy)

“A PCI Express based board proposed for the upgrade of the ATLAS TDAQ read-out system”

Andreas Alexopoulos (University of Thessaly, Greece)

“Beam Gas Vertex: Beam profile measurements for the HL-LHC era”

Marcel Schneider (CERN)

“A different approach: Just-in-time compilation”

Jan-Paul Hucka (Technische Universität Darmstadt, Germany)

“LSA for FAIR”

Francesco Antoniazzi (INFN CNAF, Bologna, Italy)

“Internet to Web of Things evolution. Semantic-driven agent programming”





Detector Design

Hardware Trigger

Several measurement options

- Rate \rightarrow beam-gas interaction
- Rate / Bunch slot \rightarrow Intensity
- Measuring with/without
• Ghost charges in e

tCSC18 – Beam Gas Vertex: Beam



Sports



Reminders

Keep informed: check **CSC Live!** regularly

- All communication between the school organizers and the participants will be made using the CSC Live
- **You must read this page at least once a day**, in case you missed an announcement or a programme change



Photo Gallery



View school photos and upload your own, from any device!

Surveys

Photo Gallery

tCSC 2018 Live!

Chat & Forum

Photo Contest



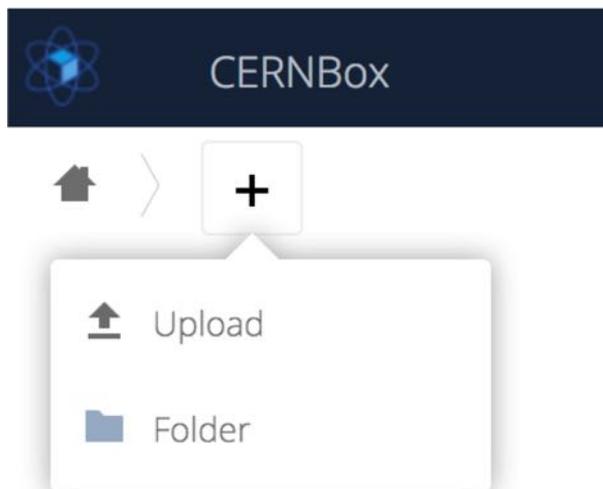
An international jury of volunteer photography appreciators will award 4 prize groups: **Surprising and humorous, Sports and Social, Artistic, School Spirit.**

(More details later.)

Do you have nice videos?

Upload them to

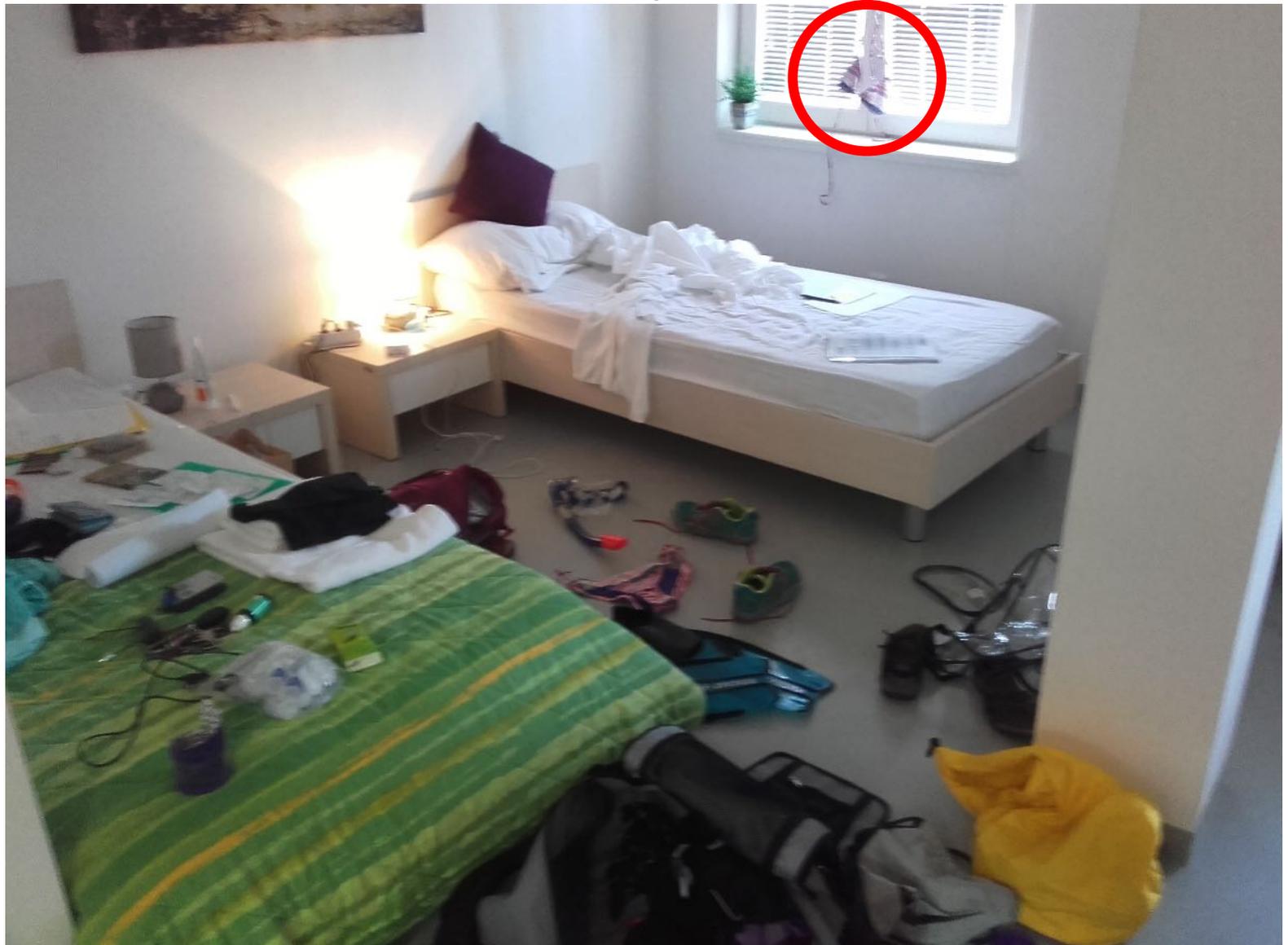
<https://cernbox.cern.ch/index.php/s/bwslQip2cxemElu>



Please put
your name
in the filename

Room cleaning tomorrow

(floor vacuumed, bins emptied and new towels)



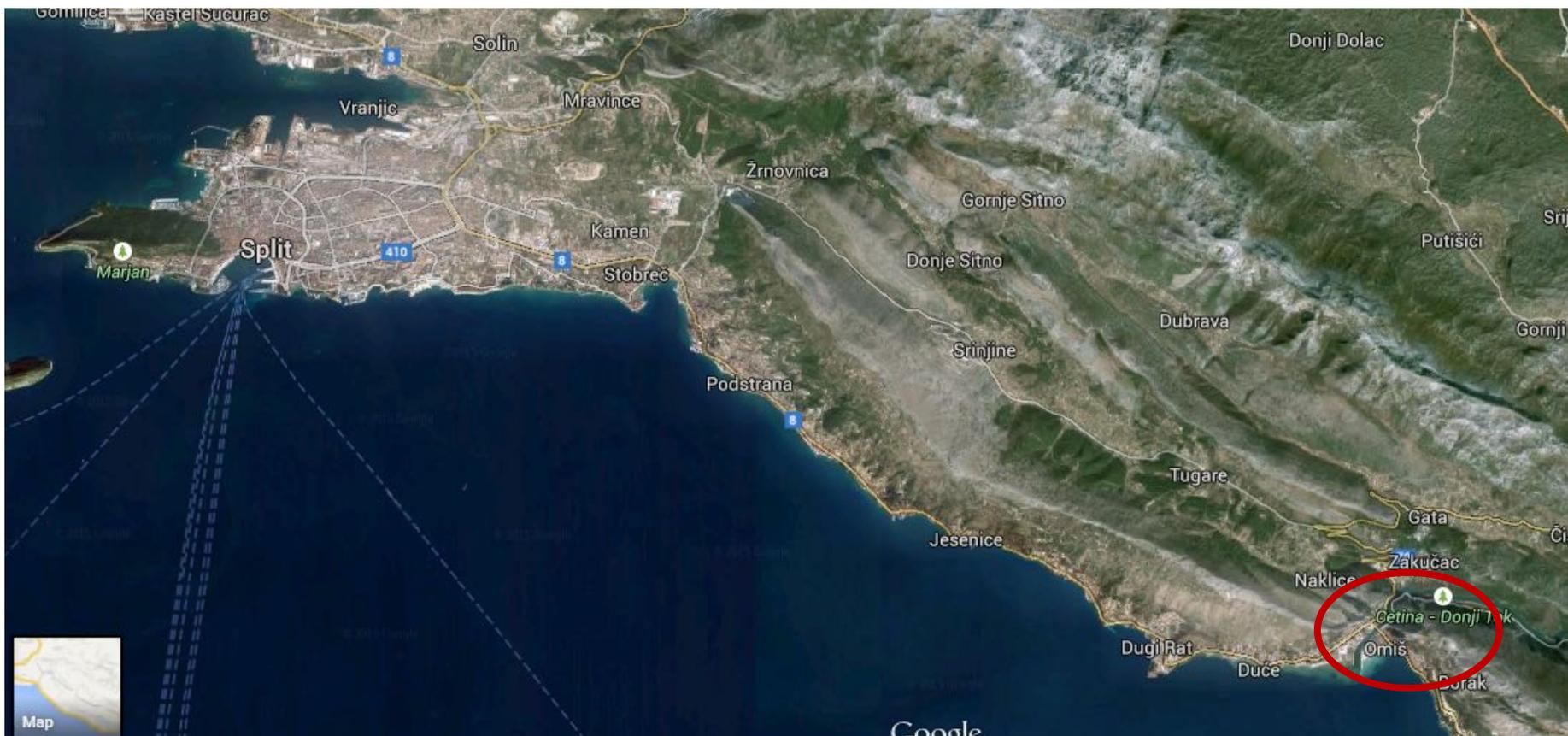
**Wednesday sport afternoon -
rafting**

Special sports afternoon

Sunday, 3 June 2018	Monday, 4 June 2018	Tuesday, 5 June 2018	Wednesday, 6 June 2018	Thursday, 7 June 2018	Friday, 8 June 2018
	09:00 The challenges of LHC run III and HL-LHC - Danilo Piparo	09:00 Technologies and Platforms - exercise 3 - Andrzej Nowak	09:00 Protection of resources and thread safety - Danilo Piparo	09:00 Scientific software development - exercise 3 - Danilo Piparo	09:00 Effective I/O for scientific applications - exercise 1 - Sebastien Ponce
	10:00 Intermediate concepts in efficient computing - Andrzej Nowak	10:00 Technologies and Platforms - exercise 4 - Andrzej Nowak	10:00 Optimisation of a large codebase - Sebastien Ponce	10:00 Scientific software development - exercise 4 - Danilo Piparo	10:00 Effective I/O for scientific applications - exercise 2 - Sebastien Ponce
11:00 Registration	11:00 Announcements	11:00 Coffee	11:00 Announcements	11:00 Coffee	11:00 Coffee
	11:15 Coffee	11:30 Announcements	11:15 Coffee	11:30 Announcements	11:30 Announcements
	11:45 Scientific software programming: a modern approach - Danilo Piparo	11:45 Expressing parallelism pragmatically - Danilo Piparo	11:45 Many ways to store data - Sebastien Ponce	11:45 Preserving data - Sebastien Ponce	11:45 Summary and future technologies overview - Andrzej Nowak
13:00 Lunch	13:00 Lunch	13:00 Lunch	13:00 Lunch	13:00 Lunch	13:00 Lunch
14:00 Registration	14:00 Study time and/or daily sports	14:00 Study time and/or daily sports	13:45 Special sports afternoon	14:00 Study time and/or daily sports	14:00 Exam
15:30 Opening Ceremony				15:45 Coffee	15:15 Guest lecture
16:30				16:00 Official School Photo	16:00 Coffee
				16:15 Key ingredients to achieve effective I/O - Sebastien Ponce	16:30 Closing Session
18:00 Outside Welcome Dinner	18:30 Technologies and Platforms - exercise 2 - Andrzej Nowak	18:30 Scientific software development - exercise 2 - Danilo Piparo	19:00 Outside dinner	17:30 Optimisation of a large codebase - exercise 1 - Sebastien Ponce	
	20:00 Dinner at MEDILS	20:00 Dinner at MEDILS		18:30 Optimisation of a large codebase - exercise 2 - Sebastien Ponce	
	21:00 Special evening talk: Future of the Univers...			20:00 Dinner at MEDILS	20:00 Outside Closing Dinner

Leaving MEDILS at 13:45

Omiš town and Cetina river



Rafting vs. Omiš town

Activities

Answered: 34

A. Rafting on the Cetina river (including group dinner): 32 (94.12%)

B. Beach/free time in Omiš and then group dinner: 0 (0.00%)

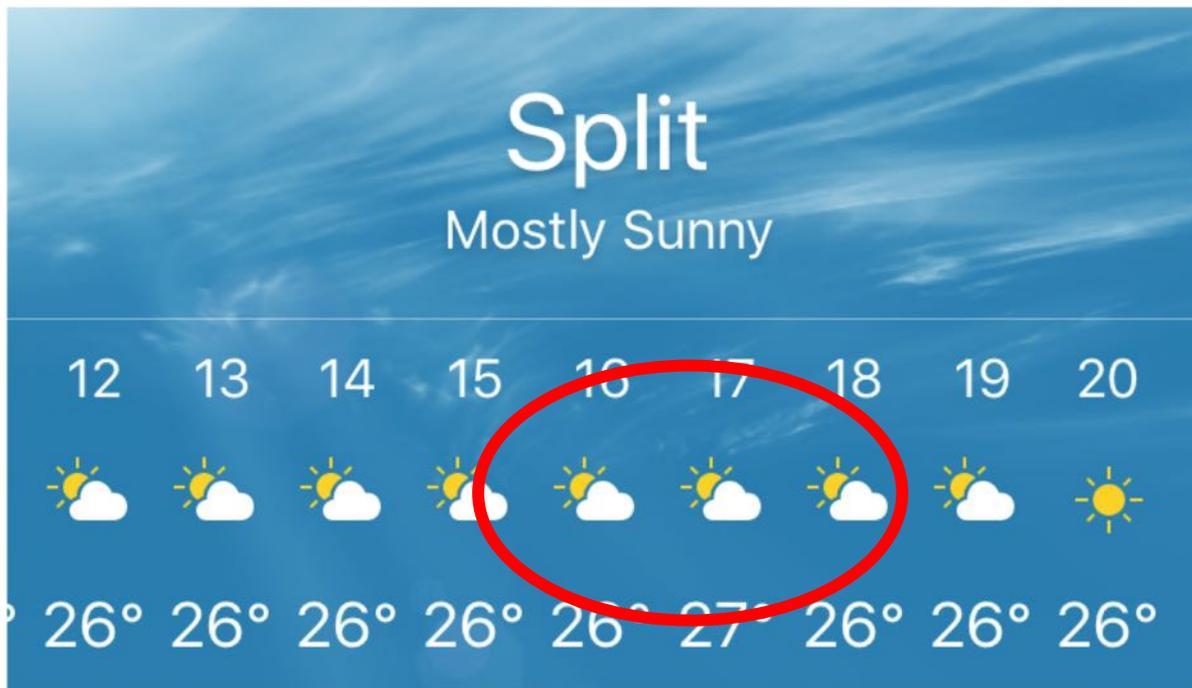
C. Free time at MEDILS and be picked up for group dinner: 2 (5.88%)





Weather this afternoon..?

Wednesday		29	20
Wednesday		27	20
Wednesday		27	20
Wednesday		27	19



Will it rain?



Can weather prevent us
from enjoying any activities??

No!

It only adds to the legend of the School

Hiking (Uxbridge, 2010)



Biking (Uxbridge 2010)





Brunel
UNIVERSITY
WEST LONDON
School of Computing
29 September 2013







Rafting (Split, 2014)



Rafting (Split, 2014)



Logistic

- During coffee break, or before lunch:
prepare your clothes!
- **13:00 Quick lunch at MEDILS** (as usual)
- **13:45 Buses leave MEDILS**
 - all “*rafting*” people expected on the bus

Rafting - logistics

- The bus will bring you to the rafting start location
- You can leave stuff for the evening in the bus
 - dry clothes, valuables, non-waterproof cameras etc.
- We will arrive with the raft directly at the restaurant (the bus will be there also)



Rafting – what to bring with you

- **Clothes for the rafting (will get wet!)**
 - shoes/sandals
 - t-shirt + short (or long) pants
 - swimming costume
 - *optional: light wind-proof jacket*
- Sun cream, sunglasses, mosquito spray
- *Provided equipment: life jacket, helmet, paddle*
- **Warmer clothes for the dinner**
 - bring a complete change of clothes + towel (it will be left on the bus)
 - the dinner is outside – bring something warm to wear



Dinner at Radmanove Mlinice

- Starting from 19:00
- The dinner will end at a reasonable time
- **On the way back to MEDILS, the bus can stop in Split to drop off those who want to go into town**



Feedback form

Feedback questionnaire

Please tell us what you think - help us get (even) better!

tCSC 2018 Feedback Questionnaire

6 Jun 2018, 10:00

11 Jun 2018, 23:59

Fill out

- Anonymous feedback about the School, lectures, exercises, social activities, organisation etc.
- The feedback form is open, **allows saving partial results**



- **you must complete this feedback questionnaire**
- **really, please do** – we need your input, so that we can evolve, and get even better!

**Friday 14:00
(optional) exam**

Exam

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15:30 Opening Ceremony	15:45 Coffee	15:30 Coffee		15:45 Coffee	15:15 Guest lecture
16:30 Introduction to efficient computing - Andrzej Nowak	16:15 Data oriented design - Andrzej Nowak	16:00 Student presentations		16:00 Official School Photo	16:00 Coffee
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18:00 Visit to Split	18:30 Technologies and Platforms - exercise 2 - Andrzej Nowak	18:30 Scientific software development - exercise 2 - Danilo Piparo	19:00 Outside dinner	17:30 Optimisation of a large codebase - exercise 1 - Sebastien Ponce	
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Studying hard...



The exam (not mandatory)

- Around 24 questions, 50 minutes (TBC)
- Multiple choice questions: 4 possible answers
 - only one answer is correct
 - no penalty is given in case of incorrect answers
 - multiple ticks make the answer invalid
- Pass/no pass: 60% of the points (may be adjusted)
- No materials and communication allowed
 - no notes, booklets, any other papers than provided by us
 - no smartphones, earphones, laptops, internet etc.
 - no contact between persons
 - bring just a pen (paper will be provided)

A good exam question?

How many continents are there on planet Earth?

a) 3

b) 5

c) 7

d) 9

Bad question:
you knew it before the School
(hopefully...)

What is the distance between Earth and Moon?

a) 65536 km

b) 384400 km

c) 11350 km

d) 792900 km

Bad question:
this knowledge is not relevant
to the programme of the School

Example of a question

What is one of the most desirable property of a cryptographic hash function?

- A. it does not have collisions (a collision is a situation that occurs when two distinct inputs produce identical hash outputs)
- B. it has only finite number of collisions
- C. the hash length is variable in size
- D. only brute force attacks can be used to find collisions and these attacks should be computationally infeasible

Example of a question

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Decide if you take the exam or not -> Indico survey

Exam

The exam will take place on Friday 2pm

Will you take the exam? *

I will take the exam

I will not take the exam

If you are successful in the exam, you will get the Diploma

Submit **Back**

Your answers will be associated with your account.

**Deadline:
Thursday
8pm**

**Everyone
please answer
(even if the
answer is no)**

Anything else?

Table tennis tournament

Surveys

Photo Gallery

tCSC 2018 Live!

↳ Chat & Forum



**Register by
tomorrow morning**

