

Summer@CERN 2022 Report

NorCC - Norwegian Centre for CERN-related Research

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Summer@CERN 2022 - What is it?

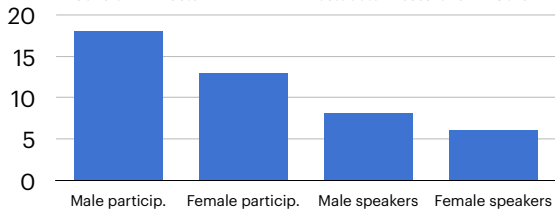
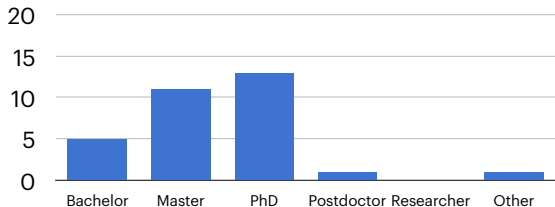
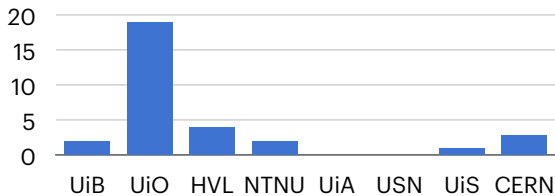
- Two-week summer program at CERN
- Open for all master, PhD, postdoc, summer students, technical students and generally young researchers involved with CERN activities
- A great opportunity to meet other young researchers in the Norwegian CERN community while taking part in:
 - Lectures & seminars
 - Guided tours to experiments
 - Hands-on computing tutorial
 - Excursions
 - Social activities
- The first school was held this year in the period 27th of June – 8th of July

Summer@CERN 2022 - Registration

- 31 participants
- No students from UiA and USN registered
- Special summer studentship - UiS, accepted

42 % female participants

43% female speakers



Summer@CERN 2022 - tentative program - 27.6 - 8.7.2022

• First week: Academic training & Visits

	27.6	28.6	29.6	30.6	1.7	2.7	3.7
9-10	Travel	Registration and intro	NorCC and CERN - Heidi Sandaker	Software and computing challenges - Anna Zaborowska	Visit CLIC	Free time	Excursion
10-11		Mest om CERN—og litt om Norge og CERN - Jens Vigen	Introduction to Cosmology - Oleksandr Sobol	Current and future detector technologies - Susanne Kuehn	Low Energy Physics, Antimatter and relations to astrophysics - M. Doser		Anney
11-12		Quantum Sensing for Fundamental Physics - Ian Shipsey	Addressing the Green Innovation Challenge - Mar Capeans Garrido	Current and future accelerators at CERN - Bernhard Holzer	Technology Transfer - Giovanni Anelli		
Lunch							
13-14		Visit Service	Excursion	ISOLDE	Hands-on computing		
14-15		CMS (ALICE fully booked)	Rafting / Grill and Chill	AEGIS	Marcin Wolter		
15-16				ATLAS			
16-17							
Evening	Dinner in town	CineGlobe	Rafting / Grill and Chill	CineGlobe			

- Learn about latest development in research at CERN
- Visit experiments at CERN after two years (we will have to see what is available at the time)
- Hands-on computing training

• Second week: Ideasquare - Hands on

	4.7	5.7	6.7	7.7	8.7
9-10	Higgs Celebration	Introduction to Ideasquare and the way of working - Laura Wirtavuori	Exploration of selected tech	Teamwork on impact	
10-11		Intro to prototyping and Egg drop challenge - Laura Wirtavuori	ideation on tech usage	How to pitch	
11-12		+++	+++	+++	
Lunch					
13-14	Surprise lecture Higgs day - John Ellis	Discover the tech	Further research on ideas	Teamwork: create your pitch	
14-15		The UN Sustainable Development Goals	Prototyping	Student presentations - Pitch your ideas	
15-16		Mapping of technology	Prototyping	Student presentations - Pitch your ideas	
16-17		Making an impact through research (Gunn Berit Neergård)	Student Start-up (Dag Hákon)	Wrap up: I learned	
Evening					

- Have a go at design and entrepreneurial thinking
- Learn about technologies at CERN available and interesting for Technology Transfer
- Learn about TT, Start-up, Entrepreneurship
- Training in presentation skills

Summer@CERN 2022 - Week 1: Lectures & Visits

- The first week was filled with lectures and guided tours to the experiments at CERN
- Incredibly talented lecturers explaining various aspects of contemporary research carried out at CERN
- Visits to:
 - CMS
 - ISOLDE
 - AEGIS
 - ATLAS
 - CLIC
- Surprise greeting from Fabiola Gianotti
- Hands-on machine learning tutorial
- More details in my blog post over at [Shameless promotion](#)

Summer@CERN 2022 - Week 1: Lectures & Visits

- Michael Doser explaining how to trap antimatter



Summer@CERN 2022 - Week 1: Lectures & Visits

- From our visit to CMS



Summer@CERN 2022 - Week 1: Lectures & Visits

- From our visit to ISOLDE



Summer@CERN 2022: Higgs Celebration

- Surprise visit from John Ellis

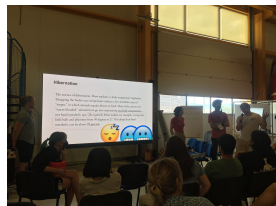


Summer@CERN 2022 - Week 2: IdeaSquare

- The second week took place at IdeaSquare - The Innovation space at CERN
- Working with technology transfer and innovation of new technology
- Working in groups to apply existing technology to solve existing problems
- IdeaSquare provides experience with:
 - Collaboration
 - Performing outreach
 - Presenting/communicating your ideas
 - Taking constructive feedback
- We were tasked with inventing a prototype to solve a problem of our own choosing

Summer@CERN 2022 - Week 2: IdeaSquare

- Final presentations of the proposed ideas



- Minimizing water usage when building data centers
 - Saving the rhino population using artificial intelligence
 - Using cryogenics to save humanity from extinction
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- [IdeaSquare](#)
 - [IdeaSquare Flickr](#)

Summer@CERN 2022 - Week 2: IdeaSquare

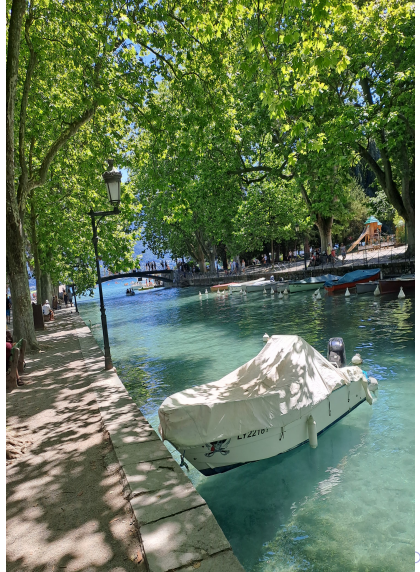
- Wrap up discussion at IdeaSquare



Summer@CERN 2022 - Social Events

- Wednesday grill & chill with rafting

- Excursion to Annecy



Summer@CERN 2022 - Social Events

- Traditional Swiss dinner at Edelweiss



Summer@CERN 2022 - Feedback: Talks

- Overall very positive response
- Most talks were rated "Excellent" or "Very good"
- Quantum sensing was a bit advanced for some, but others rated it excellent
- Antimatter at AEGIS was extremely well received
- Not much to improve upon!

Summer@CERN 2022 - Feedback: Guided tours

- Varied response
- Some loved it, some thought it was too packed
- Idea to go more in-depth on fewer experiments (quality over quantity)
- Sometimes hard to hear the speakers due to noise

Summer@CERN 2022 - Feedback: Hands-on computing

- Not so good response
- Overall consensus that the tutorial was too hard for beginners and too easy for people familiar with ML
- Good intent, but missed the mark a bit
- Would be nice with the lecturer in person

Summer@CERN 2022 - Feedback: IdeaSquare

- Mixed feedback
- Main critique was lack of relationship to physics
- Good feedback for egg drop challenge, pitching & discovering the tech
- Worse feedback for "entrepreneurial" subjects
- More information about the IdeaSquare program
- Suited more towards bch/msc students

Summer@CERN 2022 - Feedback: Visits & Excursions

- Excellent response for rafting
- Excellent response to the excursion to Annecy
- Too tight time slot for grilling

Summer@CERN 2022 - Feedback: Organization & Overall experience

- Very well organized
- No conflicts with exams & dates were good
- All in favour of organizing this event again
- All participants would recommend this event!

Summer@CERN 2022 - Outro

- Massive thanks to Heidi, Nina and all the others who made the event happen!

