

# Summer@CERN 2022



## Report of Contributions

Contribution ID: 1

Type: **not specified**

## Welcome, NorCC and CERN

Contribution ID: 2

Type: **not specified**

## Dinner at CALIA

*Monday, 27 June 2022 19:00 (2h 30m)*

Rue de Lyon 75, 1203 Genève

**Presenter:** WAAGE, Nina (University of Oslo (NO))

Contribution ID: 3

Type: **not specified**

# Introduction to Cosmology

*Wednesday, 29 June 2022 10:00 (45 minutes)*

**Presenters:** SOBOL, Oleksandr (EPFL); VILCHINSKII, Stanislav

Contribution ID: 4

Type: **not specified**

## Mest om CERN—og litt om Norge og CERN

*Tuesday, 28 June 2022 10:00 (45 minutes)*

**Presenter:** VIGEN, Jens (CERN)

Contribution ID: 5

Type: **not specified**

## "Quantum Sensing for Fundamental Physics"

*Tuesday, 28 June 2022 11:00 (45 minutes)*

<https://uio.zoom.us/j/65821141560?pwd=dFVSa1hKazY4WGRoSTBRQkFyM2V0UT09>

A revolution in the tools and techniques making use of quantum mechanics has produced new sensitive measurement techniques that can help the particle physics community to achieve its science objectives in a way highly complementary to traditional particle physics methods. New quantum sensors, for the first time, allow measurements to be made near the intrinsic noise limits imposed by the Heisenberg uncertainty principle, as well as enabling enhancements in sensitivity, resolution, and robustness, thereby accelerating searches for new physics; dark matter and dark sectors, searches for new interactions, probing fundamental symmetries and inflation, Related fields that will also be impacted are gravitational wave cosmology, astrophysics, and fundamental tests of quantum mechanics. This leverage works in the other direction also: bringing the unique resources and expertise of the particle physics community to bear on the development of quantum sensors will lead to rapid technology advances that will benefit the quantum information science community and other areas of science.

**Presenter:** SHIPSEY, Ian (University of Oxford (GB))

Contribution ID: 6

Type: **not specified**

## Welcome and registration

*Tuesday, 28 June 2022 09:00 (45 minutes)*

Introduction to Particle and Nuclear Physics at CERN - for all

**Presenter:** SANDAKER, Heidi (University of Oslo (NO))

Contribution ID: 7

Type: **not specified**

## NorCC and CERN

*Wednesday, 29 June 2022 09:00 (45 minutes)*

**Presenter:** SANDAKER, Heidi (University of Oslo (NO))



Contribution ID: 8

Type: **not specified**

## Addressing the Green Innovation Challenge

*Wednesday, 29 June 2022 11:00 (45 minutes)*

**Presenter:** CAPEANS GARRIDO, Mar (CERN)

Contribution ID: 9

Type: **not specified**

## CLIC/CLEAR visit

*Friday, 1 July 2022 08:45 (1h 15m)*

**Presenter:** ADLI, Erik (University of Oslo (NO))

Contribution ID: **10**

Type: **not specified**

## **Software and computing challenges, with focus on simulation of particle passage through matter**

*Thursday, 30 June 2022 09:00 (45 minutes)*

**Presenter:** ZABOROWSKA, Anna (CERN)

Contribution ID: **11**

Type: **not specified**

## Technology Transfer

*Friday, 1 July 2022 11:00 (45 minutes)*

<https://uio.zoom.us/j/7140305513>

**Presenter:** ANELLI, Giovanni (CERN)

Contribution ID: **12**

Type: **not specified**

**Lunch**

*Monday, 4 July 2022 12:00 (1 hour)*

Contribution ID: **13**

Type: **not specified**

## Excursion

Contribution ID: 14

Type: **not specified**

## **Current and future detector technologies with a focus on silicon detectors**

*Thursday, 30 June 2022 10:00 (45 minutes)*

**Presenter:** KUEHN, Susanne (CERN)

Contribution ID: 15

Type: **not specified**

## **Low Energy Physics, Antimatter and relations to astrophysics**

*Friday, 1 July 2022 10:00 (45 minutes)*

<https://uio.zoom.us/j/7140305513>

**Presenter:** DOSER, Michael (CERN)



Contribution ID: **16**

Type: **not specified**

## **Current and future accelerators at CERN**

*Thursday, 30 June 2022 11:00 (45 minutes)*

**Presenter:** HOLZER, Bernhard (CERN)

Contribution ID: 17

Type: **not specified**

## Lunch

*Monday, 27 June 2022 10:00 (1 hour)*

Contribution ID: **18**

Type: **not specified**

## **Master Class - Entrepreneur**

Contribution ID: **19**

Type: **not specified**

## **Master Class - Green Village**

Contribution ID: **20**

Type: **not specified**

## **Master Class - Startup**

Contribution ID: 21

Type: **not specified**

## Emerging technologies - Quantum sensing & computing

*Friday, 8 July 2022 09:00 (45 minutes)*

**Presenter:** GRABOWSKA, Dorota Maria (CERN)

Contribution ID: 22

Type: **not specified**

## End of school event

*Friday, 8 July 2022 09:45 (30 minutes)*

Contribution ID: 23

Type: **not specified**

# Higgs Celebration

*Monday, 4 July 2022 09:00 (3 hours)*



Contribution ID: 24

Type: **not specified**

## Media Training

Contribution ID: 25

Type: **not specified**

## Master Class - Technology Transfer

Contribution ID: 26

Type: **not specified**

**ATLAS**

**Session Classification:** Visits

Contribution ID: 27

Type: **not specified**

## ISOLDE

**Presenter:** FAVIER, Zoe (CERN)

**Session Classification:** Visits

Contribution ID: 28

Type: **not specified**

## CLIC/AWAKE - move before lunch?

**Session Classification:** Visits

Contribution ID: 29

Type: **not specified**

## AEGIS / AD/ ELENA

**Presenter:** WOLZ, Tim Hilmar (CERN)

**Session Classification:** Visits

Contribution ID: **30**

Type: **not specified**

## Information

*Tuesday, 28 June 2022 12:00 (15 minutes)*

**Presenter:** SANDAKER, Heidi (University of Oslo (NO))

Contribution ID: **31**

Type: **not specified**

## Surprise lecture + drink!

*Monday, 4 July 2022 13:00 (1 hour)*



Contribution ID: **32**

Type: **not specified**

## Higgs Celebration

Contribution ID: 33

Type: **not specified**

## Introduction to Ideasquare

**Session Classification:** Entrepreneur training

Contribution ID: 34

Type: **not specified**

## Egg drop challenge

**Session Classification:** Entrepreneur training

Contribution ID: 35

Type: **not specified**

## Introduction to Ideasquare and the way of working

*Tuesday, 5 July 2022 09:00 (30 minutes)*

<https://cernbox.cern.ch/index.php/s/JB0uVRha7INF6cO>

**Presenter:** WIRTAVUORI, Laura (Helsinki University of Technology (FI))

Contribution ID: **36**

Type: **not specified**

## CMS Visit

*Tuesday, 28 June 2022 13:45 (2h 15m)*

Meet up in the reception at building 33 to start the visit.

Contribution ID: 37

Type: **not specified**

## Intro to prototyping and Egg drop challenge

*Tuesday, 5 July 2022 09:30 (2 hours)*

<https://cernbox.cern.ch/index.php/s/JB0uVRha7INF6cO>

**Presenter:** WIRTAVUORI, Laura (Helsinki University of Technology (FI))

Contribution ID: 38

Type: **not specified**

## Making an impact through research

*Tuesday, 5 July 2022 15:00 (1h 30m)*

**Presenter:** NEERGÅRD, Gunn-Berit

Contribution ID: **39**

Type: **not specified**

## Visit to Annecy

*Sunday, 3 July 2022 10:00 (7 hours)*



Contribution ID: **40**

Type: **not specified**

## Discover the tech

*Tuesday, 5 July 2022 12:30 (1 hour)*

<https://cernbox.cern.ch/index.php/s/JB0uVRha7INF6cO>

Contribution ID: 41

Type: **not specified**

## The UN Sustainable Development Goals

*Tuesday, 5 July 2022 13:30 (30 minutes)*

Contribution ID: 42

Type: **not specified**

# Exploration of selected tech

*Wednesday, 6 July 2022 09:00 (1h 30m)*

IdeaSquare

Contribution ID: 43

Type: **not specified**

## Further research on ideas

*Wednesday, 6 July 2022 13:00 (2h 30m)*

IdeaSquare

Contribution ID: 44

Type: **not specified**

# Teamwork on impact

*Thursday, 7 July 2022 09:00 (2 hours)*

IdeaSquare

Contribution ID: 45

Type: **not specified**

## Student presentations - pitch your ideas

*Thursday, 7 July 2022 14:00 (2h 30m)*

IdeaSquare

Contribution ID: 46

Type: **not specified**

## Teamwork: create your pitch

*Thursday, 7 July 2022 12:30 (1h 30m)*

IdeaSquare

Contribution ID: 47

Type: **not specified**

## Barbecue and Chill

*Wednesday, 29 June 2022 14:30 (2h 30m)*

Buy something you want to eat and meet us in the parc de la perle



Contribution ID: **48**

Type: **not specified**

## Rafting

*Wednesday, 29 June 2022 17:00 (2h 30m)*

Contribution ID: 49

Type: **not specified**

# ISOLDE

*Thursday, 30 June 2022 13:00 (1 hour)*

Contribution ID: **50**

Type: **not specified**

**AD**

*Thursday, 30 June 2022 15:00 (1 hour)*

Contribution ID: 51

Type: **not specified**

**ATLAS**

*Thursday, 30 June 2022 16:00 (1 hour)*

Contribution ID: 52

Type: **not specified**

## Hands-On computing tutorial

*Friday, 1 July 2022 13:00 (4 hours)*

<https://uio.zoom.us/j/7140305513>

[https://github.com/marcinwolter/NORCC-SUMMER\\_2022/blob/main/NORCC\\_SUMMER\\_deepnn\\_2022.ipynb](https://github.com/marcinwolter/NORCC-SUMMER_2022/blob/main/NORCC_SUMMER_deepnn_2022.ipynb)

**Presenter:** WOLTER, Marcin (Polish Academy of Sciences (PL))

Contribution ID: 53

Type: **not specified**

## Mapping of technology

*Tuesday, 5 July 2022 14:00 (1 hour)*

Contribution ID: 54

Type: **not specified**

## Ideation on tech usage

*Wednesday, 6 July 2022 10:30 (1h 30m)*

IdeaSquare

Contribution ID: 55

Type: **not specified**

# Prototyping

*Wednesday, 6 July 2022 15:30 (1h 30m)*

IdeaSquare



Contribution ID: **56**

Type: **not specified**

## How to pitch

*Thursday, 7 July 2022 11:00 (30 minutes)*

IdeaSquare

Contribution ID: 57

Type: **not specified**

## Wrap up: I learned

*Thursday, 7 July 2022 16:30 (30 minutes)*

IdeaSquare