

**Krakow Applied
Physics and
Computer Science
Summer School '21**

ONLINE

July 1 - 28 2021

Welcome and introduction to the School

summer@fis.agh.edu.pl

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AGH UST Kraków

amucha@agh.edu.pl



Intelli-NET

MENU

Supervisors

Physics

Computer Science

Detectors



Group of scientists:

- we are passionate about physics, computer science, detectors, electronics,
- we work at AGH UST Kraków, Faculty of Physics and Applied Computer Science,
- members of ATLAS or LHCb Collaborations,
- we are seniors, juniors or PhD Students,
- we teach physics, particle physics, computing (C++, Python), Machine Learning, Statistics, Data Analysis, VR, electronics, etc...

MENU

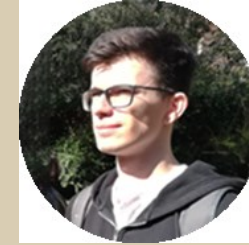
Supervisors



Bartek Rachwał



Tomasz Bołd



Paweł Kopciewicz



Bartosz Mindur



Iwona Grabowska-Bołd



Mateusz Dyndał



Tomasz Szumlak



Paweł Jurgielewicz



Mateusz Gala



Wojtek Krupa



Agnieszka
Obłąkowska-Mucha
School Coordinator



Maciek Kopeć



Agnieszka Ogrodnik



Saliha Bashir

Physics



MENU

Faculty

Department of Applied Informatics and Computational Physics

- Information Technology and Systems Research Group
- Complex Systems Group
- Theory of Nanomaterials and Nanodevices Group
- Computers Support Group

Department of Applied Nuclear Physics

- Environmental Physics Group
- Physics of Strongly Interacting Systems Group
- Molecular Biophysics and Bioenergetics Group

Department of Medical Physics and Biophysics

- Atomic and Molecular Biospectroscopy Group
- Biomedical and Environmental Research Group
- Biomedical Imaging and Modeling Group

Department of Condensed Matter Physics

Department of Particle Interactions and Detection Techniques

- Nuclear Electronics and Radiation Detection Group
- Elementary Particles Physics Group

Department of Solid State Physics

- Magnetic Bulk- and Nanomaterials Group
- Magnetic, Electrical and Structural Research Group
- Quantum Effects in Nanostructures Group
- Superconducting and Magnetic Materials Group
- Surface Nanostructures Group



MENU

Students

Physics

Computer Science

Detectors



22 students applied for the 2021 (second) edition of School:

Indonesia

Japan

India

Gdańsk University of Technology

Warsaw University

University of Rzeszów

Krakow University of Technology

AGH UST Kraków:

- Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering
- Faculty of Metals Engineering and Industrial Computer Science
- Faculty of Physics and Applied Computer Science

MENU

Projects

We prepared about 15 projects and matched them with students.

Not all students were accepted.

Supervisors will contact students today.

The main platform for communication is **MS Teams**.

Team „Applied Physics and Computer Summer School’21” is **open for school supervisors and participants**.

Each team has a dedicated **private Channel and Chat**.

Each team has its own **work environment** (see today after lunch).



Materials on [Indico \(agenda\)](#) are **public** .

Problems? Write to supervisor or to **summer@fis.agh.edu.pl**

MENU

Lectures

THURSDAY, 1 JULY

| | | | |
|-------|---------|--|--|
| 09:00 | → 09:15 | Welcome and Introduction to the School Speaker: Agnieszka Obląkowska-Mucha (AGH-UST Krakow) |  |
| 09:15 | → 09:30 | WHY ? | |
| 09:30 | → 10:30 | Lecture: Introduction to High Energy Physics Speaker: Agnieszka Obląkowska-Mucha (AGH-UST Krakow) |  |
| 10:30 | → 10:45 | | |
| 10:45 | → 12:15 | Hands-on: Work environment(s) and colab tools Speaker: Bartłomiej Rachwał (AGH-UST) |  |
| 12:15 | → 12:45 | | |
| 12:45 | → 14:15 | Hands-on: Analysis Techniques and Tools Speakers: Pawel Kopciewicz (AGH) , Wojciech Krupa (AGH University of Science and Technology) |  |



MENU

Lectures

What?

FRIDAY, 2 JULY

09:00 → 10:30

Lecture: Particles and Interactions

Speaker: Iwona Grabowska-Bold (AGH University of Science and Tech



10:30 → 10:45

10:45 → 12:15

Lecture: LHCb Physics

12:15 → 12:30

Discussion

12:30 → 13:40

Project discussions (with tutors)

Experiment

MENU

Lectures

Experiment

MONDAY, 5 JULY

09:00 → 10:30

Lecture: ATLAS Physics

10:30 → 11:00

Computer Science

11:00 → 12:30

Lecture: Advanced Programming Techniques

Speaker: Bartosz Mindur (AGH-UST)



MENU

Lectures

Computer Science

TUESDAY, 6 JULY

09:00 → 10:30 **Lecture: Introduction to Machine Learning**

Speaker: Tomasz Szumlak (AGH-UST)

10:30 → 11:00

11:00 → 12:30 **Lecture: Applications of Machine Learning**

Speaker: Tomasz Szumlak (AGH-UST)



MENU

NVIDIA Course

EXTRAS

MONDAY, 12 JULY

09:00 → 17:00 **NVIDIA course**

NVIDIA Deep Learning Institute event: Fundamentals of Accelerated Computing with CUDA/C++

Room: The main video conference on MS Teams

The hands-on work on NVIDIA cloud environment (each student will be logged-in individually)

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Seminar session

We will meet on Monday 26th of July on Seminar session
summer@fis.agh.edu.pl



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AGH-praktyka

Uczestnictwo w szkole może być zaliczone jako praktyka zawodowa, jeżeli uzyskane zostaną odpowiednie efekty kształcenia:

- praca zespołowa,
- poznanie przyszłych pracodawców,
- poznanie narzędzi pracy,
- nauka prezentacji wyników pracy.

Studenci powinni zapytać dziekanów, jakiego potwierdzenia praktyk oczekują.

Jesteśmy w stanie dopasować potwierdzenia uczestnictwa również do innych wymagań.

Thank you for your
attention!

Now a few lectures ...

... enjoy and let's start working!

