# PROGRAM AT A GLANCE – WEEK 1 at UAM-2021

### 23.08
**Opening day**

Opening Session (morning)
Presentation of UAM

Presentations of the Lab sessions prepared for this School (afternoon)

### 24.08
**A vision of the main frontier research fields**

Introductory Vision on Astrophysics: Dark Matter/ Energy and Gravity: the new challenges

Introductory Vision Talk on Particle Physics: Higgs & Beyond: the new challenges

**KEYNOTE THE NOVELNEURO TECHNOLOGIES: IMPACT ON SCIENCE MEDICINE & SOCIETY**

### 25.08
**Fundamental Research and High Tech Advances**

Future trends in Microelectronics
New Pixel technologies & embedded intelligence

On-Chip implementation of AI Machine Learning

**KEYNOTE : INTRODUCTION TO ACCELERATORS & APPLICATIONS**

### 26.08
**Intelligence on instruments: The Particle Physics case**

Real time Triggering at HL-LHC & future machines with::
 - New tracking
-New High Granualar calo.
New High performance timing detectors
LHCb; emphasis on Triggerless readout & impact onDAQ chain

**KEYNOTE ; THE FUTURE ACCELERATORS, THE ELECTRON-POSITRON OPTIONS**

### 27.08
**Intelligence on instruments: The A&A case**

EUCLID
From VLT to ELT:
ESO Telescopes

Keynote Future Accelerators part 1: From CepC to SppC

**KEYNOTE PART2 ; THE FUTURE ACCELERATORS: HADRON COLLIDERS & MUON OPTIONS**

### 28.08
**Medical Day**

The immune system: introduction & basic concepts
Technological Solutions for Spinal Cord injuries

Imaging and Neurological Diseases

**KEYNOTE: NANOTECHNOLOGY APPLIED TO NEW VACCINES**

### 29.08

Organized sightseeing Tour & Lunch Banquet in SEGOVIA

# PROGRAM AT A GLANCE – WEEK 2 at UAM-2021

| 30.08 | 31.08 | 01/09 | 02.09 | 03.09 |
|---|---|---|---|---|
| Introduction to artificial intelligence | Big Data & Large Data transmission: New trends | Introduction to the Quantic World | The Quantic World: the applications side | New Directions in HPC |
| Introduction to IA & the Internet of Things | Keynote part1: New Energies New Perovskyte solar cells: | Introduction to Quantum Systems & QC Computing Introduction to Advanced Quantum Computing | Introduction to Quantum Communication | Introduction on Photonics Integrated Circuits |
| Introduction to Machine Learning & Deep Learning | Intro. Big Data, Massive & High Performance Comp. | Keynote part 1: EXPLORE SPACE WITH EXLT AND HERD | Quantum Computers: the R&D Challenges | Advances in Quantum Photonics |

**KEYNOTE: PHYSICS AT THE INTERFACE OF NANOTECH & BIOLOGY WILL TRANSFORM MEDICINE AND WHAT WE THINK ABOUT LIFE**

**KEYNOTE PART2: CREATING A SUN IN THE LAB: THE ITER WORLDWIDE ENTERPRISE**

**KEYNOTE PART 2 ON FUTURE OF ASTRONOMY, ASTROPHYSICS & COSMO: SOME HIGHLIGHTS ; THE NANCY GRACE ROMAN SPACE TELESCOPE (NASA)**

**Keynote: Quantum Sensing for Fundamental Research**

**MENS SANA IN CORPORE SANO: RUNNING & SWIMMING RACES**

| 04.09 |
|---|
| Posters session |
| Final Keynote WHY Fundamental research is ESSENTIAL |
| School Awards Farewell Party |

*Hands-on Labs are prepared for each Lecture & keynote topics covered in this School. Details of the Lectures, Labs and Keynotes sessions are in the Timetable page.*