

Fascinating Electronics for a Cool World

. 2023 Summer School Edition .

20 - 25 August 2023

University Residential Centre
Bertinoro, Italy



PRELIMINARY PROGRAMME

DAY 1 - 20 August

- Student arrival
- Dinner

DAY 2 - 21 August

Morning session

- **Setting the scene** - ubiquitous applications of microelectronics and of the electronic device
- **Moore's law** - Rationale and history of the Moore's law through the equipment point of view - Arco Krijgsman, ASML
- **Manufacturing Process** - From the sand to your smartphone: Manufacturing process of a digital device

Lunch

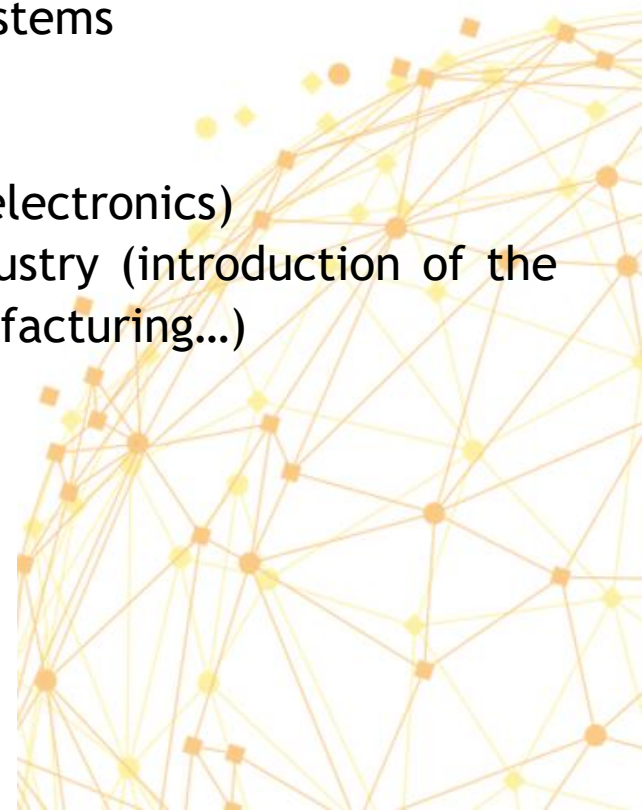
Afternoon session

- **Sensors and Health**
 - sensors/actuators, imagers, RF connectivity, (flexible) displays, power management...
 - AI (data management)
 - Improving spatial resolution and accuracy of health systems
 - Remote and in-vivo monitoring...
- **Greener world**
 - The move from thermal to electrical vehicles (Power electronics)
 - Reducing the carbon footprint of the electronics industry (introduction of the power consumption of cloud computing, AI, chip manufacturing...)
- **Demonstrators**

Evening

- Social activity / Exchange with young professionals

Dinner



DAY 3 - 22 August

Morning session

- Future of electronics - quantum sensing, communications and computing
- Sensor design
- Power IC design

Lunch

Afternoon session

- Digital IC design
- RF IC design
- Demonstrators

Evening

- Social activity / Exchange with young professionals

Dinner

DAY 4 - 23 August

Morning session

- Embedded Computing and real-time embedded software
- Edge/Cloud communication 5G/6G
- Embedded AI
- Safety and cybersecurity

Lunch

Afternoon session

- Industrial control applications/Flexible automation (Industry 5.0)
- Automotive technologies
- Agrifood and smart agriculture
- Demonstrators

Evening

- Social activity / Exchange with young professionals

Dinner



DAY 5 - 24 August

Morning session

- **From Village Huts to Cities of Skyscrapers - Revolution in Electronics Packaging**
 - Architectures : Bosch / Bosch Sortec (name tbc) and Photonics (Jaka Pribošek, SAL)
 - Technologies : Marc Dreissigacker (Fraunhofer IZM) and Anna Krzyzanowska (Technologisk)
- **Demonstrators**

Lunch

Afternoon session

- **The Heat of Daily Life - Thermal challenges and solutions in high-performance electronics** - Jussi Myllyluoma (smartareelektroniksystem) and Jon Summers (RISE) or Jonas Gurstafsson (RISE)
- **Electronics in Europa - Made for Grown-up Applications** - It never fails when needed... Speaker from SAL
- **Electronics for space**
- **Demonstrators**

Evening

- **Visit and wine tasting**

Gala Dinner

DAY 6 - 25 August

Morning session

- **Careers testimonies**

Lunch

Student departure

