

Disciplinary Broadening Workshop on Sensing Sciences and Technologies

1 Workshop information

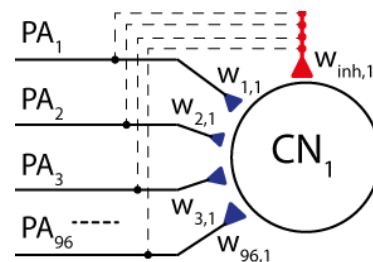
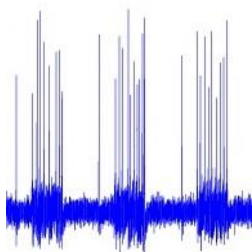
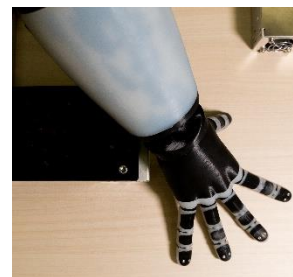
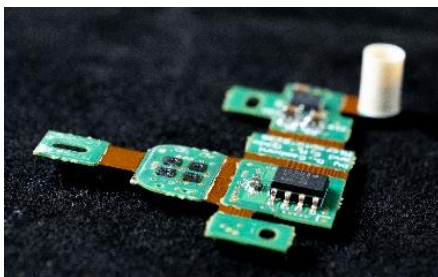
Sensing Sciences and Technologies

Date: December 21, 2021, h 9:00-17:00 CET

Online, MS Teams

Link: https://teams.microsoft.com/l/meetup-join/19%3ameeting_NmUwMDUxYTAtY2M0Yi00NzBmLWl0NzAtZDI0YTM0OTU3YjI%40thread.v2/0?context=%7b%22id%22%3a%22d97360e3-138d-4b5f-956f-a646c364a01e%22%2c%22oid%22%3a%221c5e35d5-2b7f-4dc6-8883-c879251a80db%22%7d

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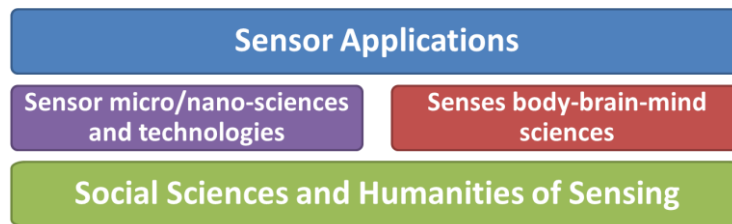
2 Organizers

Calogero Oddo, Scuola Superiore Sant’Anna (SSSA)

Lorenzo Bartalesi, Scuola Normale Superiore (SNS)

In cooperation with faculty members of Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Université PSL (PSL), Budapest University of Technology and Economics (BME) and Istanbul Technical University (ITU)

3 Topics



4 EELISA communities

- ☒ Community 1: Cities and Communities
- ☒ Community 2: Circular industries
- ☒ Community 3: Artificial intelligence and robotics
- ☒ Community 4: Culture, cultural heritage and creativity
- ☒ Community 5: Tools, technologies and digital solutions for health and care, including personalized medicine

5 Expected Outcomes

This workshop aims at bridging research and innovation and novel educational pathways in the area of Sensing Sciences and Technologies. The main objective of the workshop is to discuss possible educational initiatives to nurture scientists and professionals with solid disciplinary skills broadened by interdisciplinary competences so to address complex contemporary scientific, technological and societal challenges, either in academia and research centres or in start-up companies or industries. The workshop is structured via two vertical pillars in “Sensor Micro/Nano-Sciences and Technologies” and “Senses Body-Brain-Mind Sciences” and two horizontal domains in “Sensor Applications” and “Social Sciences and Humanities of Sensing”.

6 Speakers

Keynotes:

- Mark Cutkosky, Stanford University – *Bridging research and education in sensing sciences and technologies*
- Giovanni Cioni, University of Pisa and IRCCS Stella Maris Scientific Institute – *Use of technology in early intervention in neurodevelopmental disorders*
- Björn Eskofier, FAU – *AI for future healthcare*
- Nunzio Abbate, ST Microelectronics and ARTES 4.0 – *Enabling technologies and skill-needs for intelligent sensing*
- Giovanni Comandè, Scuola Superiore Sant’Anna – *Legal and ethical issues in the remote sensing society*
- Paolo Dario, Scuola Superiore Sant’Anna and ARTES 4.0 – *Bridging Science and Engineering from excellent fundamental research in sensing to innovation and societal impact of sensors*

Speakers introducing the state of the art at EELISA Universities on Sensing Sciences and Technologies:

- Andrea Büttner, Friedrich-Alexander-Universität Erlangen-Nürnberg
- Rolland Vida, Budapest University of Technology and Economics
- Peter Neri, CNRS and Université PSL
- Tommaso Pizzorusso, Scuola Normale Superiore
- Arianna Menciassi, Scuola Superiore Sant’Anna

Panelists of the Session on “Sensor Micro/Nano-Sciences and Technologies” and “Senses body-brain-mind sciences”

Panelists of the Session on “Sensor Applications” and “Social Sciences and Humanities of Sensing”

Work package 8: Disciplinary broadening.
 Disciplinary Broadening Workshop
 “Sensing Sciences and Technologies”



7 Chairs and Rapporteurs

Vertical topics “Sensor Micro/Nano-Sciences and Technologies” and “Senses Body-Brain-Mind Sciences”

Chairs: Tommaso Pizzorusso, SNS, Silvestro Micera, SSSA, and Andrea Büttner, FAU

Horizontal topics “Sensor Applications” and “Social Sciences and Humanities of Sensing”

Chairs: Calogero Oddo, SSSA, Lorenzo Bartalesi, SNS, and Danijela Gregurec, FAU

Rapporteurs: Rossella Raso, SSSA, Claudia Giua, SNS, Antonio Pradella, SNS

8 Intended audience

Academics, researchers, industrial stakeholders, students, policy makers.

9 Program and agenda

09:00 – 09:10	Introduction and objectives of the Workshop Calogero Oddo, SSSA, and Lorenzo Bartalesi, SNS
09:10 – 09:30	Mark Cutkosky, Stanford University <i>Bridging research and education in sensing sciences and technologies</i>
09:30 – 10:00	State of the art at EELISA Universities on Sensing Sciences and Technologies <ul style="list-style-type: none"> • Andrea Büttner, Friedrich-Alexander-Universität Erlangen-Nürnberg • Peter Neri, CNRS and Université PSL • Rolland Vida, Budapest University of Technology and Economics
10:00 – 10:20	Giovanni Cioni, University of Pisa and IRCCS Stella Maris Scientific Institute <i>Use of technology in early intervention in neurodevelopmental disorders</i>
10:20 – 10:40	State of the art at EELISA Universities on Sensing Sciences and Technologies <ul style="list-style-type: none"> • Tommaso Pizzorusso, Scuola Normale Superiore • Arianna Menciassi, Scuola Superiore Sant’Anna
10:40 – 11:00	Björn Eskofier, Friedrich-Alexander-Universität Erlangen-Nürnberg <i>AI for future healthcare</i>
11:00 – 11:15	<i>Break</i>
11:15 – 13:00	Round tables on vertical topics Chairs: Tommaso Pizzorusso, SNS, Silvestro Micera, SSSA, and Andrea Büttner, FAU Sensor Micro/Nano-Sciences and Technologies Senses Body-Brain-Mind Sciences <u>Panelists</u> <u>Open Discussion</u>
13:00 - 14:00	<i>Break</i>
14:00 - 14:20	Nunzio Abbate, STMicroelectronics and ARTES 4.0 <i>Enabling technologies and skill-needs for intelligent sensing</i>
14:20 – 14:40	Giovanni Comandè, Scuola Superiore Sant’Anna <i>Legal and ethical issues in the remote sensing society</i>

14:40 – 15:00	Paolo Dario, Scuola Superiore Sant’Anna and ARTES 4.0 <i>Bridging Science and Engineering from excellent fundamental research in sensing to innovation and societal impact of sensors</i>
15:00 – 16:45	Round tables on horizontal topics Chairs: Calogero Oddo, SSSA, Lorenzo Bartalesi, SNS, and Danijela Gregurec, FAU Sensor Applications Social Sciences and Humanities of Sensing <u>Panelists</u> <u>Open Discussion</u>
16:45 – 17:00	Wrap-up and conclusion

Panelists of the Session on “Sensor Micro/Nano-Sciences and Technologies” and “Senses Body-Brain-Mind Sciences”

Tommaso Pizzorusso, SNS (Chair)

Silvestro Micera, SSSA (Chair)

Andrea Büttner, FAU (Chair)

- Pasqualantonio Pingue, SNS
- Antonio De Simone, SSSA
- Francesco Greco, SSSA
- Claudio Oton, SSSA
- Stefano Palagi, SSSA
- Antonella Bogoni, SSSA
- Marco Cecchini, CNR NANO
- Patrik Gádoros, BME
- Calogero Maria Oddo, SSSA
- Antonino Cattaneo, SNS
- Alessandro Cellerino, SNS
- Michela Tosetti, IRCCS Stella Maris Scientific Institute and IMAGO7 Research Foundation
- Tim Rohe, FAU
- Peter Neri, PSL
- Alberto Mazzoni, SSSA
- Fabio Recchia, SSSA
- Debora Angeloni, SSSA
- Claudio Passino, SSSA

Panelists of the Session on “Sensor Applications” and “Social Sciences and Humanities of Sensing”

Calogero Maria Oddo, SSSA (Chair)

Lorenzo Bartalesi, SNS (Chair)

Danijela Gregurec, FAU (Chair)

- Emiliano Schena, UCBM and ARTES 4.0, chair of the Italian Chapter of the IEEE Sensors Council
- Michele Emdin, SSSA
- Luca Valcarenghi, SSSA
- Sara Moccia, SSSA
- Gastone Ciuti, SSSA
- Matteo Agostini, Intasystems
- Nunzio Abbate, ST Microelectronics and ARTES4.0
- Levent Trabzon, ITU
- Behcet Ugur Toreyin, ITU
- Antonio Frisoli, SSSA
- Paolo Dario, SSSA
- Barbara Henry, SSSA
- Alberto Pirni, SSSA
- Andrea Mina, SSSA
- Giovanni Comandé, SSSA