



UNIVERSITÀ DI PISA



2018 | UBORA design school

Convention Centre "Le Benedettine"
September 3-7, 2018 | Pisa, Italy

UBORA Open Biomedical Engineering e-infrastructure

UBORA (“excellence” in Swahili) is a new approach for co-design of innovative solutions to face current and future global healthcare challenges. Through the UBORA e-Infrastructure, the biomedical community can generate, exchange, improve and implement creative ideas in Biomedical Engineering underpinned by a solid safety assessment framework. Users can share open data and blueprints of biomedical devices, accompanied by the required procedures for respecting quality assurance, and evaluating performance and safety. In a nutshell, UBORA couples the open design philosophy with Europe’s leadership in quality control and safety assurance, guaranteeing better health and new opportunities for growth and innovation throughout the planet.



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UBORA: Euro-African Open Biomedical Engineering e-platform for Innovation through Education

The EU funded project aims at creating an e-platform – UBORA – for open-source co-design of new solutions to face the current and future healthcare challenges of Europe and Africa; by exploiting networking, knowledge on rapid prototyping of new ideas and sharing of safety criteria and performance data.

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UBORA Open Biomedical Engineering e-infrastructure

UBORA Design Competition and School

Cornerstones of UBORA's implementation are Design Competitions and Design Schools. The 2018 UBORA Design Competition, held in Pisa, is focused on finding affordable solution to problems related to our ageing society. Students with the best ranked projects are invited to attend the Design School at the University of Pisa (Pisa, Italy) from 3rd to 7th September 2018.

Design school format

Students will go through the process of designing medical devices compliant to relevant standards, by attending specific classes, workshops and lectures from outstanding speakers. Grouped in teams under the guidance of expert mentors, they will prototype a medical device assigned as a challenge at the beginning of the school. Three ECTS will be assigned to participants.



UBORA Design School, Pisa 2018

Programme at a glance

September 3-7, 2018

Time	Day 1	Day 2	Day 3	Day 4	Day 5
8:30 – 9:30	Registration	Class on project development	Class on project development	Hands on	Hands on
9:30–10:30	Opening ceremony		Hands on		Keynote
10:30 – 11:00	Poster Session	Health Break			
11:00–13:00	Keynote	Workshop	Hands on	Hands on	Hands on
	E-infrastructure presentation				
	Students' pitch and group assignments	Keynote	Keynote	Keynote	
13:00–14:00	Lunch				
14:00 –16:30	Class on project development	Hands on	Hands on	Hands on	Projects presentation
16:30 – 17:00	Health Break				
17:00–19:00	Workshop	Workshop	Workshop	Tour of Pisa	Closing ceremony
19:00–20:30	Dinner				Gala Dinner
20:30 – 23:00	Hands on	Hands on	Hands on	Hands on	

Check for specific **AWARDS** and details on
<http://ubora-biomedical.org/second-ubora-design-school/>

Classes, Workshops and Keynote Presentations

Classes

Classes will present the various steps for design of medical devices compliant to relevant standards to ensure patient safety.

Date	Topic	Responsible
Day 1	CDIO methodologies in Biomedical Engineering	Andrés Díaz Lantada
Day 1	Standards and regulations on Medical Devices	Alice Ravizza
Day 2	Mass personalization of medical devices	Carmelo De Maria, Andrés Díaz Lantada
Day 3	Usability of medical devices	Alice Ravizza

Workshops

Practical examples on specific topics that can be used by participants for their projects.

Day	Topic	Responsible
1	Creativity promotion in medical device projects	Andrés Díaz Landata, Juan Manuel Muñoz Guijosa
1	Promotion of personal skills for project and team management	Luis Ignacio Ballesteros Sánchez
2 morning	3D scanning and 3D printing	Adrián Martínez Cendrero, Rodrigo Zapata Martínez
2 morning	Tracking movements	June Madete
2 morning	Image processing	Chiara Magliaro
2 afternoon	Physiological signal acquisition using open source tools	Ashwin Whitchurch
3	IoT tools for healthcare	Alleantia group
3	Software tools for testing usability	Cinzia Bernardeschi
3 evening	A brief (practical) story of the pacemaker	Mannan Mridha

Keynote presentations

Highlighting the role of biomedical engineering in the context of global health, and identify future research directions.

Date	Topic	Speaker	Home institution
Day 1	Open source innovation and entrepreneurship	Ashwin Whitchurch	ProtoCentral Electronics
Day 2	Bioprinting human organs, the next frontier of bioengineering	Giovanni Vozzi	University of Pisa
Day 3	Technology and surgery: current challenges and future perspectives	Paolo De Simone	University of Pisa
Day 4	Advances in medical imaging	Luigi Landini	Fondazione Gabriele Monasterio and University of Pisa
Day 5	Nanomaterials for breakthrough innovations	Gianluca Fiori	University of Pisa

Mentors

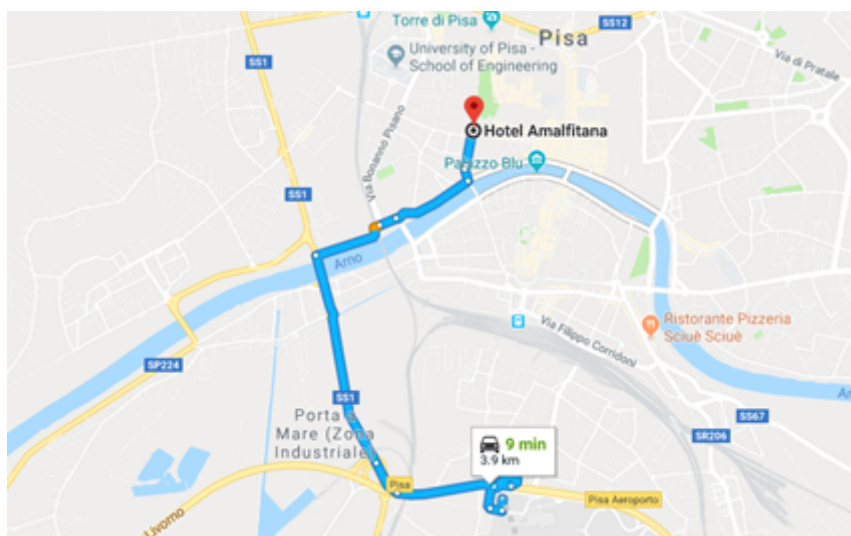
Mentors have the role of guiding groups in the design of medical devices assigned as a challenge during the school.

Name	Institution
Dawit Assefa Haile	Addis Ababa University
Muhammad Rushdi	Cairo University
Duncan Kamau	Kenyatta University
June Madele	Kenyatta University
Daniel Atwine	Mbarara University of Science and Technology
Edwin Khundi	Malawi University of Science and Technology
Heikki Terio	Royal Institute of Technology
Mannan Mridha	Royal Institute of Technology
Philippa Makobore	Uganda Industrial Research Institute
Mathew Ocheng	Uganda Industrial Research Institute
Paul Niyitanga	Uganda Industrial Research Institute
Hudson Kagoda	Uganda Industrial Research Institute
Martha Mulerwa	Uganda Industrial Research Institute
Juan Manuel Muñoz Guijosa	Universidad Politécnica de Madrid
Andrés Díaz Lantada	Universidad Politécnica de Madrid
Luis Ignacio Ballestros Sánchez	Universidad Politécnica de Madrid
Adrian Martinez Cendrero	Universidad Politécnica de Madrid
Rodrigo Zapata Martínez	Universidad Politécnica de Madrid
Akinniyi Adediran Osuntoki	University of Lagos
Licia Di Pietro	University of Pisa
Roberta Nossa	University of Pisa
Joana Costa	University of Pisa
Anna Lapomarda	University of Pisa
Alice Ravizza	University of Pisa
Janno Torop	University of Tartu

Accommodation and Venue

Travel information

VISA: it is possible to get an e-visa at the following link:
<http://vistoperitalia.esteri.it/home/en>



Registration fees

The UBORA Design School is reserved for students who participated in the UBORA Design School Competition with priority to students with the best ranked projects.

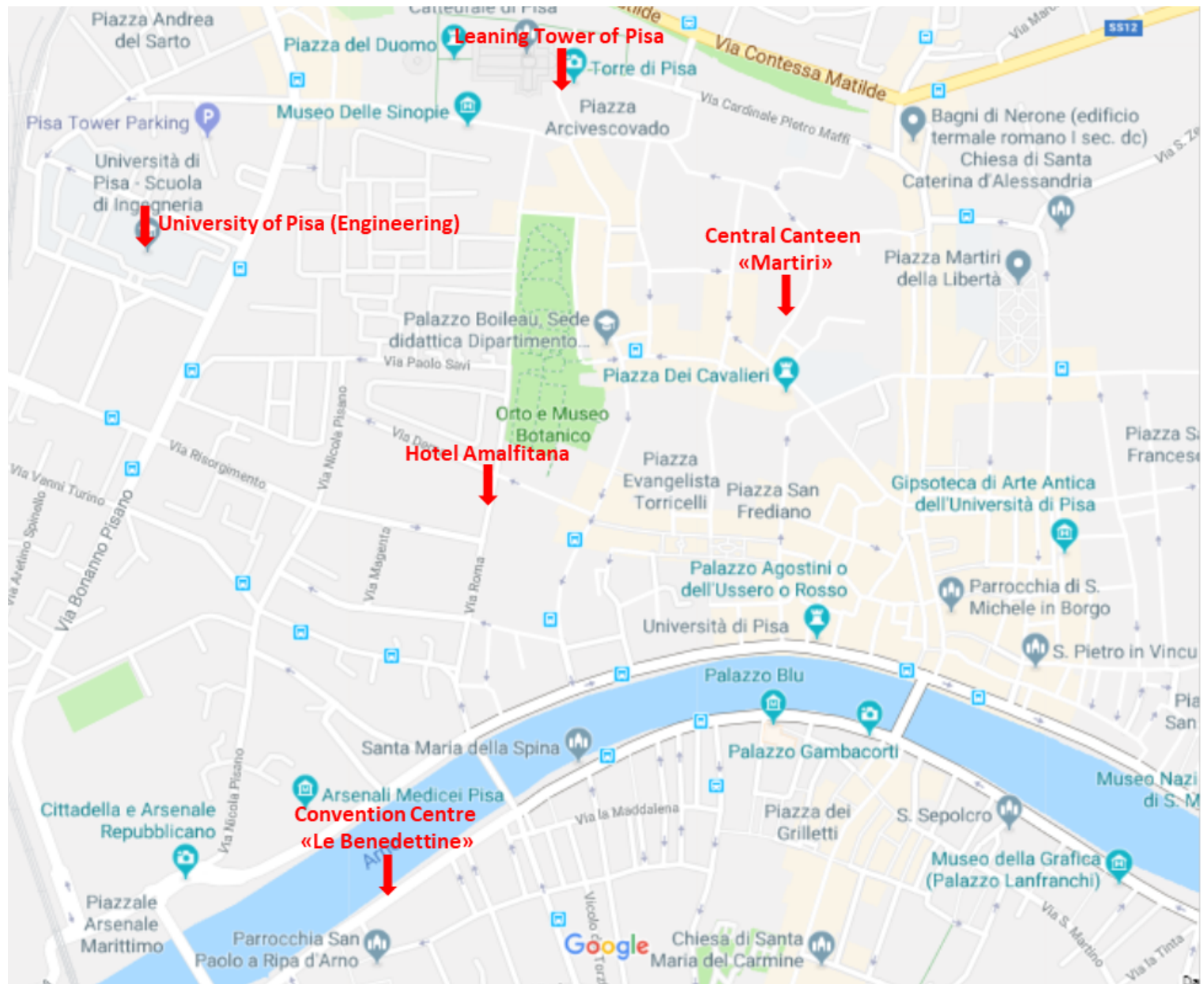
Features	Total cost
Full board accommodation	€ 500
Access to school facilities	
Tour nearby Pisa	
Gala dinner	

Payment method: Bank transfer.

For the 28 best-ranked projects in the UBORA Design Competition, travel and full-board accommodation will be provided for one team member.

Other 3 scholarships will be provided by Bercella and Protocentral.

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Information UBORA Design School

UBORA organizing committee

Name	Institution
Arti Ahluwalia	University of Pisa, UBORA Coordinator
Carmelo De Maria	University of Pisa
Carla Papa	University of Pisa
Licia Di Pietro	University of Pisa
Alice Ravizza	University of Pisa/PGG Scientific
Andrés Diaz Lantada	Universidad Politécnica de Madrid
Enrique Chacón Tanarro	Universidad Politécnica de Madrid
June Madete	Kenyatta University
Philippa Makobore	Uganda Industrial Research Institute
Arni Leibovits	AgileWorks
Kaspar Kallas	AgileWorks
Kädi Avik	AgileWorks
Karel Golberg	AgileWorks
Mannan Mridha	Royal Institute of Technology in Stockholm
Alvo Aabloo	University of Tartu
Janno Torop	University of Tartu

Local committee

Name	Contact
Arti Ahluwalia	arti.ahluwalia@unipi.it
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Joana Costa	jcosta3740@gmail.com
Carla Papa	carla.papa@unipi.it
Arianna Biancani	arianna.biancani@unipi.it

Reviewers Panel

The projects for the UBORA design competition were reviewed by:

Name	Institution
Dawit Assefa Haile	Addis Ababa University
Muhammad Rushdi	Cairo University
Wasihun Alemayehu	Jimma University
Duncan Kamau	Kenyatta University
June Madete	Kenyatta University
Daniel Atwine	Mbarara University of Science and Technology
Edwin Khundi	Misr University for Science and Technology
Mainen Mashi	Muhimbili University of Health and Allied Sciences
Ashwin Whitchurch	ProtoCentral
Mannan Mridha	Royal Institute of Technology
David Malombe	Technical University of Mombasa
Philippa Makobore	Uganda Industrial Research Institute
Mathew Ocheng	Uganda Industrial Research Institute
Paul Niyitanga	Uganda Industrial Research Institute
Hudson Kagoda	Uganda Industrial Research Institute
Miriam Wegoyer	Uganda Industrial Research Institute
Juan Manuel Muñoz Guijosa	Universidad Politécnica de Madrid
Enrique Chacón Tanarro	Universidad Politécnica de Madrid
Andrés Díaz Lantada	Universidad Politécnica de Madrid
Tania Douglas	University of Cape Town
Philip Talam	University of Eldoret
Licia Di Pietro	University of Pisa
Roberta Nossa	University of Pisa
Joana Costa	University of Pisa
Anna Lapomarda	University of Pisa
Chiara Magliaro	University of Pisa
Daniele Poli	University of Pisa
Janno Torop	University of Tartu
Alvo Aabloo	University of Tartu

Partners, Supporters and Acknowledgements

Partners



Thanks to

Alleantia

Bercella

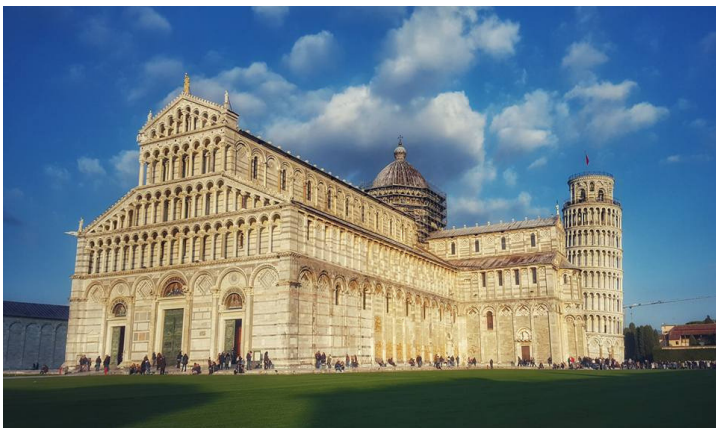
EOS Electro Optical Systems

Moleskine Foundation

Open Source Hardware

ProtoCentral

Supporters





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A University of Pisa Summer School organized by:



Centro E. Piaggio
bioengineering and robotics research center



**DIPARTIMENTO DI
INGEGNERIA
DELL'INFORMAZIONE**



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