2024 Superconducting Electronics Summer school
Corsica, France – 29 Sept. – 04 Oct. 2024

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http://superconductingelectronics.org/superconductingsummerschool

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2024 Superconducting Electronics Summer school

schedule	Monday 30 September 2024	Tuesday 01 October 2024	Wednesday 02 October 2024	Thursday 03 October 2024	Friday 04 October 2024
9h00-9h45	8H45-9H00 : WELCOME 9:00: THEORY I – Basics of superconductivity Mikhail BELOGOLOVSKII	THEORY IV – Basic Materials for Superconducting Electronics Mikhail BELOGOLOVSKII	THEORY V Electromagnetic modelling Hannes TÖPFER	QUANTUM III – Circuit quantum electrodynamics Miroslav GRAJCAR	Check-out time: 10:00 am
9h45-10h30	THEORY II – Basic Components of Superconducting Electronics Mikhail BELOGOLOVSKII	SQUIDs IV – Scanning (nano-) SQUID Microscopy Hans HILGENKAMP	THEORY VI Microwave design for superconductor circuits Pascal FEBVRE	NEUROMORPHIC II Superconducting neuromorphic computing Ali BOZBEY	10:00am HTS II – High Temperature Superconductors Physics and Applications I Cheryl FEUILLET-PALMA
10h30-11h00	coffee break				
11h00-11h45	SQUIDs I – working principles and noise performance Carmine GRANATA	SQUIDs V – SQUID applications in neuroscience and fundamental physics investigation Carmine GRANATA	DETECTORS I – Superconducting Detectors: TES, STJ, MKID Sergio PAGANO	DETECTORS III – Advanced photon counting applications with SN/MSPD Loredana PARLATO	DIGITAL IV - Digital SFQ electronics: practical design on examples Pascal FEBVRE
11h45-12h30	TECHNOLOGY I - Thin-Film Technology for Superconductor Electronics and Quantum Devices Juergen KUNERT	SQUIDs IV - lab instr., particle detection, NDE, Biomagnetism, Geoscientific applications Ronny STOLZ	DIGITAL III SFQ Circuit Design Flow: Design, optimization, layout and verification Lieze SCHINDLER	HTS I – High Temperature Superconductors Physics and Applications I Cheryl FEUILLET-PALMA	SQUIDs VII – High temperature superconducting ultra-wideband RF sensing Salvatore MESORACA
13h00-16h00	lunch break Lunches start at 1:00pm				
16h00-16h45	SQUIDs II – DC SQUIDs: Design and Optimization, practicals Ronny STOLZ	DIGITAL I - Digital SFQ electronics: from the Josephson junction to the SFQ principle Pascal FEBVRE	NEUROMORPHIC I Superconducting neuromorphics Ali BOZBEY	QUANTUM IV Quantum detectors Miroslav GRAJCAR	End of school
16h45-17h30	SQUIDs III – NanoSQUIDs basics Hans HILGENKAMP	DIGITAL II - SFQ Digital Electronics: how to design basic RSFQ cells through circuit theory Lieze SCHINDLER	DETECTORS II – Superconducting Nano/Microstrip Single Photon Detectors: physics & state of the art Loredana PARLATO	DETECTORS IV – Superconducting Microwave Quantum Detectors Sergio PAGANO	All lectures are 40 mn + 5 mn of questions..
17h30-18h00	coffee break				
18h00-18h45	THEORY III Electromagnetic modelling Hannes TÖPFER	TECHNOLOGY II – Thin film technologies for superconductor quantum electronics Juergen KUNERT	QUANTUM I – Principles of Quantum Physics Mikhail BELOGOLOVSKII	DETECTORS V – Superconducting Parametric Amplifiers for Quantum circuits Sergio PAGANO	
18h45-19h30	METROLOGY I – Metrology and electrical quantum standards Johannes KOHLMANN	METROLOGY II – Metrology and electrical quantum standards Johannes KOHLMANN	QUANTUM II Superconducting qubits Miroslav GRAJCAR	TECHNOLOGY III – Micro-nanofab. by FIB. Self assembly techniques, nano-structuration. Giuseppe LEONETTI	
20h00-21h30	Dinners start at 8pm				
21h30-23h30	POSTER SESSION: group I	POSTER SESSION: group II	POSTER SESSION: group III		

Legend :				
fundamentals & theory	digital electronics	SQUIDs and applications	neuromorphic	HTS
quantum	POSTER SESSION	metrology	technology	Detectors

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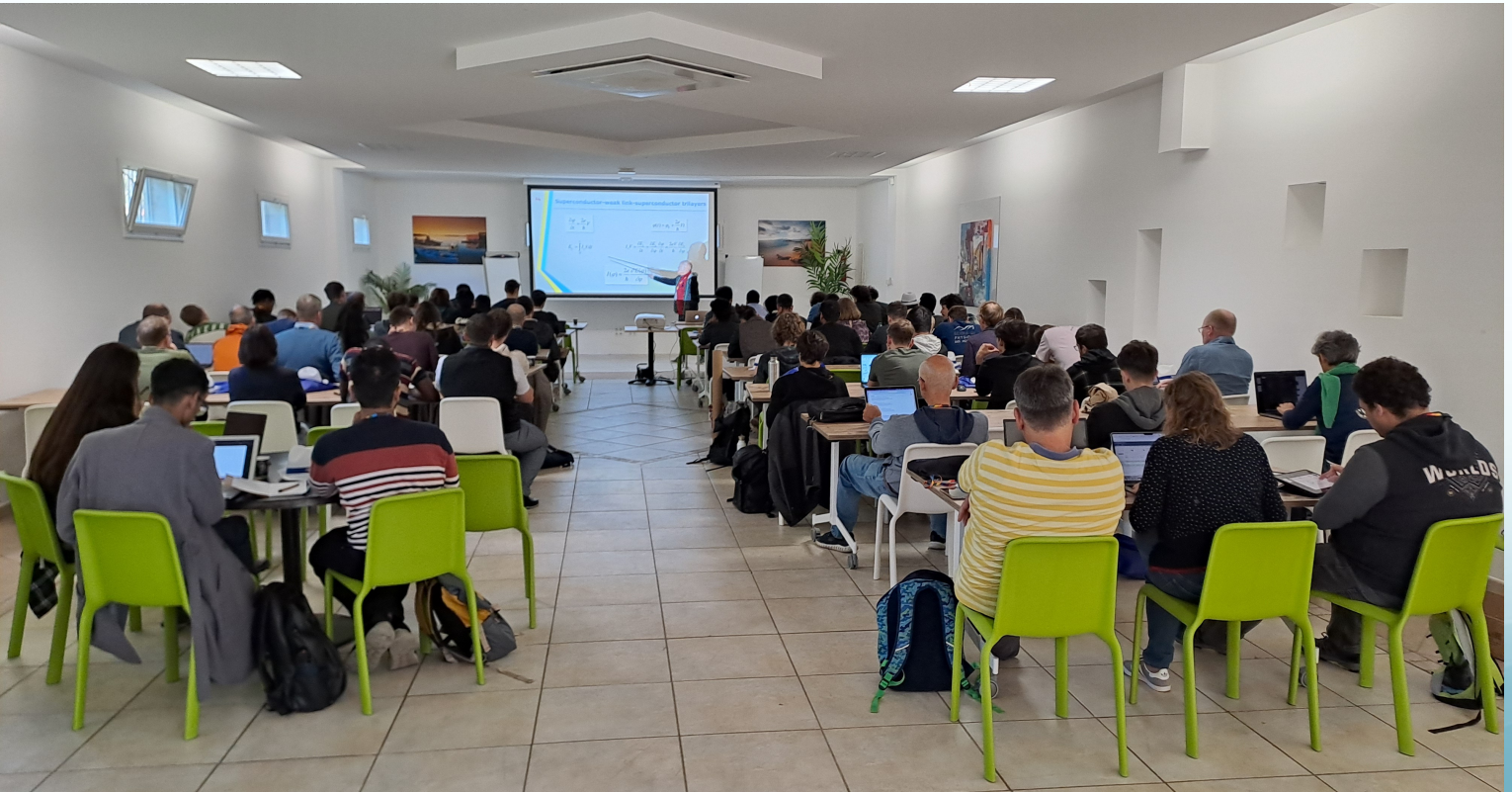
Figures & facts

- School in presence only
- 35 lectures of 45 mn – 60% of lectures by FLUXONICS members
- 3 poster sessions of 2 hours each, with 46 posters in total
- 74 participants including:
  - 16 lecturers (3 females, 13 males)
  - 58 attendees from 17 countries (10 females, 48 males)
- 32 certificates for ECTS recognition for doctoral schools of EU PhD students. All lectures distributed in PDF format for all participants.



IEEE CSC Council on Superconductivity

SEFIRA

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country of participants	number of participants
Germany	14
Italy	12
France	6
Turkey	4
South Africa	3
USA	3
Belgium	2
Finland	2
India	2
Saudi Arabia	2
Slovakia	2

country of participants	number of participants
Austria	1
Chile	1
Denmark	1
Netherlands	1
Russia	1
Switzerland	1
Total	**58**

Support from ESAS

- Provisional detailed budget was 38400€ with 14 lecturers and 32 attendees

- Final budget is ≈ 58000€ with 16 lecturers and 58 attendees. Positive provisional balance of ≈1000€.

FUNDING REQUEST FROM ESAS (please outline the funding requested from ESAS & what specifically the funds will be used for)	The funding of ESAS is requested to allow attendees from low-income countries, or people with obvious and justified difficulties for funding, to attend at a moderate cost (150€ corresponding to the cost of food only). The waived fees correspond to 700€ for registration + 400€ for transportation, i.e. 5500€ for 5 people. The funding requested contribution of ESAS to these fee waivers is 4600€.

- 8 demands of support from lower income countries students: 6 of them accepted.
  - 2 waivers of 1100€ (700€ registration fee + 400€ transportation) for two students from India and Chile
  - 3 waivers of 850€ (700€ registration fee + 150€ transportation) for two students from South Africa and one student from India
  - 1 waiver of 400€ (for transportation) for one student from Slovakia
- Total: 6 students supported for a total of 5150€, with a contribution of ESAS of 4500€.

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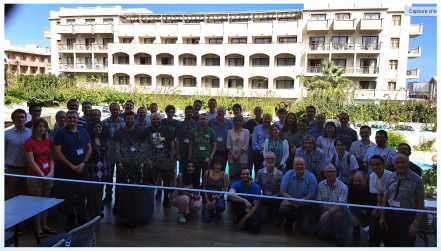
Evolution of Summer Schools over years

Superconducting Electronics « summer » school
Pula, Sardinia – Sept 25-30, 2016

Superconducting Electronics « summer » school
Cala'n Bosch, Menorca, Spain – Sept 24-28, 2018

Superconducting Electronics Summer school
Rethymno, Crete, Greece – Sept 25-30, 2022



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Participants	Sardinia 2016	Menorca 2018	Crete 2022	Corsica 2024
Lecturers	17	19	16	16
Attendees	31	23	39	58
Total	**48**	**42**	**55**	**74**