

International PhD Excellence School" Italo Gorini "



VII° Cycle:

- Settembre 2018 → **Ginevra - CERN**
- Settembre 2019 → Napoli
- Settembre 2020 → Reggio Calabria



Triennial Organizing Committee

Arpaia Pasquale
Claudio De Capua
Luca De Vito
Stephan Russenschuck

International PhD Excellence School " Italo Gorini " CERN Special Edition 2018



Special Thematic Edition on Particle Accelerators Metrology

- Sensors and transducers for measurement
- ***Measuring systems and instrumentation***
- Measurements for characterization of components and systems
- ***Measurement for quality and innovation management***
- Measurement signals and data
- Fundamentals of measurement and metrology

Partecipated to the School 54 students:

48 from Italian Universities

6 from CERN



Siti web realizzati:
<https://www.gmee.org/gorini2018/>
<https://indico.cern.ch/event/717796/>

Ph.D School
«I. Gorini»
Geneva, Switzerland
September 10-14

Program and Timetable

	Monday September 10	Tuesday September 11	Wednesday September 12	Thursday September 13	Friday September 14
8.00 - 10.30	REGISTRATION	G. Rumolo Beam dynamics, instrumentation and measurement techniques for LHC and its High Luminosity Upgrade	M. Bastos M. Martino Measurement and Acquisition for High Precision Power Converter Current Regulation for Particles Accelerators	L. Bottura Measurement of Normal and Superconducting Magnets - A Tool for Engineering Design and Qualification	L. De Vito Monitoring the magnetic axis misalignment in particle accelerator solenoids
10.30 - 11.00		Break	Break	Break	Break
11.00 - 12.30	Tutorial by ST Microelectronics F. Iacocarino LSMDSR: accuracy in remote, low power sensing by using embedded hard-wired pre-processing	S. Russenschuck Mathematical foundations of field computation and magnetic measurements for accelerator magnets	F. Roncarolo State of the art of research on beam instrumentation	M. Di Castro Real-time Monitoring Systems for Augmented Reality and Robotics in Particle Accelerators	Final Examination
12.30 - 13.00					
13.00 - 14.00	Lunch	Lunch	Lunch	Lunch	
14.00 - 15.00	L. Rossi Perspectives of Instrumentation and Measurements in New CERN Accelerators	Visits to the magnet facility and to the mechanical and magnetic measurement laboratories	A. Bazzano Superconducting materials for application to magnets: overview of HTS and LTS superconductors and of related measurements techniques	Visits to the Antiproton Decelerator (AD) hall and to the Cryolab	
15.00 - 15.30					
15.30 - 16.00	Break		Break		
16.00 - 17.30	G. Iacobucci Silicon sensors in collider experiments for Science and Health		M. Pezzetti (ACC) State of the art of research on cryogenics monitoring		
20:00	Dinner	Dinner	Social Dinner	Dinner	

Topic A: Measuring systems and instrumentation (6/12)

Topic B: Measurement for quality and innovation management (6/12)

Speakers:

F. Iaccarino	STMicroelectronics - Geneva
L. Rossi	University of Milan, CERN
G. Iacobucci	University of Geneva, CERN
G. Rumolo, M. Bastos, M. Martino, F. Roncarolo, A. Ballarino, M. Pezzetti, L. Bottura, M. Di Castro	CERN
L. De Vito	University of Sannio

CERN Laboratories Technical Visits

Magnet Facility

Mechanical Measurements Lab

Magnetic Measurements Lab

Antiproton Decelerator Hall

Cryolab (Cryogenic Laboratory)

Overall Participants: **54**

Sede	# part.
Univ. Bologna	3
Univ. Brescia	1
Univ. Cagliari	1
Univ. Cassino	3
Univ. Catania	2
CERN	6
Univ. Genova	1
Polit. Milano	8
Univ. Perugia	1
Univ. Napoli	4
Univ. Reggio Calabria	2
Univ. Roma 1	3
Univ. Roma 3	2
Polit. Torino	7
Univ. Salerno	3
Univ. Sannio	2
Univ. Siena	5



Poster presented: **14**

Category «Best Presentation»

Valentina Sinatra (University of Catania)

“PiezoMUMPS Microsensor for Contactless Measurements of DC-Electrical Current”

Category «Best Application»

Riccardo Gassino (Politechnic of Turin)

“Fiber Bragg Grating Sensor for Laser Tumor Treatments”

Category «Best Scientific Contribution»

Alimenti Andrea (University of Rome 3)

“Challenging Microwave Resonant Measurement Technique for Material Characterization”



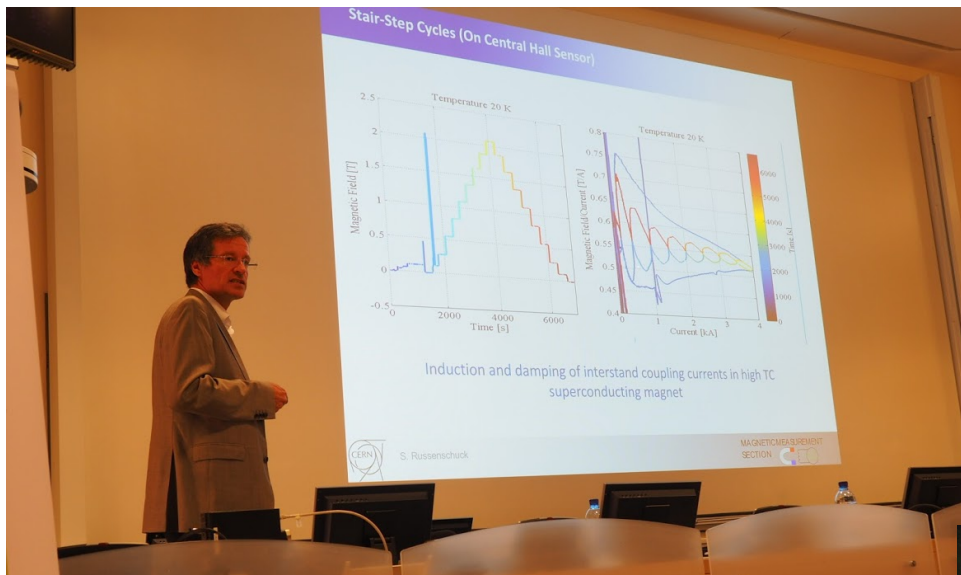
life.augmented

The awards: **ST Microelectronics Nucleo high-end with STM32H743**

Photo Gallery



Photo Gallery



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Balance in CHF (almost definitive)

Outflows

	TOTAL
Overnight and breakfast	9084
Lunch and Dinner Risto 1	5040
Gala dinner	3150
Regali (Speakers, Carnita) - CERN bags	207
Web site development	600
Tickets tram	336
Coffe break	2310
Poster dinner	1320
Welcome drink	250
Stamp Duty	115

Total outflows 22412

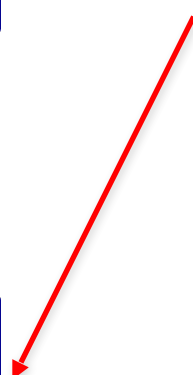
Incomes

	Fee	Number	TOTAL
Students GMEE	450	46	20700
Other registered	390	4	1560
Contribution Department	0	0	0
Contribution sponsors (N	350	1	350
CERN members	170	5	850

Total incomes 23460

Surplus 1048

Positive



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Thanks to the Organizing Committee!



Carlo Baccigalupi

CERN, Switzerland



Gianni Caiafa

*University of Naples
Federico II, Italy*



Umberto Cesaro

*University of Naples
Federico II, Italy*



Alessandro Parrella

*Instituto Superior Técnico,
Portugal*



Carnita Hervet CERN/TE

Maria Amodeo
Vincenzo Di Capua
Federico Gargiulo
Antonio Gilardi
Francesco Giordano



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Some messages from CERN

- Special Edition on IM and Metrology 4 Particle Accelerators as a cultural growth also for CERN
- Passion and continuity vs fear
- *“What man is a man who does not make the world better”* (Kingdom of Heaven, Ridley Scott).



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I GO
Goodbye to next year In Naples!

