



10th International Conference UNSOLVED PROBLEMS ON NOISE

September 8-11, 2026

Messina, Italy



Università
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Messina

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*Messina is a city where fluctuations are part of everyday life:
winds, tides, currents, and waves continuously shape one of the
world's most fascinating natural laboratories.*



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**10th International Conference on
Unsolved Problems on Noise
UPoN 2026
8-11 September 2026, Messina, Italy**

TECHNICAL PROGRAM





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WELCOME FROM THE GENERAL CHAIR

Dear Colleagues and Friends,

Welcome to the 10th International Conference on Unsolved Problems on Noise (UPoN 2026).

It is a great honor and a genuine pleasure to welcome you to Messina for this special edition of UPoN. Celebrating the tenth edition is much more than marking the passage of time; it means celebrating a scientific community that has grown through curiosity, collaboration, and the shared passion for exploring the fascinating world of noise and fluctuations. Every place has its own sound. Here in Messina, the sea is never truly silent. Waves, currents, wind, and life continuously intertwine in a symphony of fluctuations. What may seem like noise is, in reality, a source of information waiting to be understood. Perhaps this is why Messina feels like the perfect place to celebrate the tenth edition of UPoN.

Throughout the years, UPoN has become a place where ideas are exchanged freely, disciplines meet naturally, and collaborations often begin with a conversation during a coffee break as much as with a presentation in the lecture hall. I hope that this spirit will once again characterize every moment of the conference.

Noise is frequently perceived as uncertainty or disturbance. Yet, for our community, it represents something far more valuable: a key to understanding nature. Hidden within fluctuations lie information, correlations, and mechanisms that often cannot be revealed in any other way. Listening carefully to noise allows us to discover the unseen, turning apparent randomness into scientific insight.

The scientific program reflects the remarkable breadth of this field, bringing together contributions spanning electronics, physics, quantum technologies, sensing, complex



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systems, artificial intelligence, biology, and many other areas where fluctuations play a fundamental role. I hope these days will inspire stimulating discussions, new perspectives, and lasting collaborations.

I would like to express my heartfelt gratitude to our keynote and invited speakers, the authors, reviewers, members of the Scientific and Organizing Committees, our sponsors, and all those whose dedication has made UPoN 2026 possible.

Finally, I encourage you to enjoy not only the conference but also the beauty of Messina and the unique atmosphere of the Strait, where Sicily meets the rest of Europe. May your time here be scientifically enriching, professionally rewarding, and personally memorable.

Thank you for being part of UPoN 2026.

Graziella Scandurra

UPoN 2026 General Chair
University of Messina
Italy



UPON 2026 COMMITTEE

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Janusz Smulko, Gdańsk University of Technology, Poland.

TECHNICAL AREA CHAIRS

Noise in biology and in biomedicine: Peter McClintock, Lancaster University, UK.

Noise in materials and devices: Bruno Sagnes, University of Montpellier, France.

Noise in circuits: Jean-Guy Tartarin, University of Toulouse, France.

Noise in quantum devices and systems: Elisabetta Paladino, University of Catania, Italy.

Acoustic and mechanical noise: Vincenzo Dattilo, European Gravitational Observatory, Italy.

Noise in human activities and application of noise: Christiana Chamon Garcia, Virginia Tech, USA.

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Jean-Guy Tartarin, University of Toulouse, France.
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UPON 2026 KEYNOTE SPEAKERS

KEYNOTE LECTURE: SEPTEMBER 8, H 9:00



The beneficial role of noise: stochastic resonance and beyond

Luca Gammaitoni,
Department of Physics and Geology
University of Perugia
Italy

ABSTRACT

The phenomenon of Stochastic Resonance has become the hallmark of a whole new wave in the discussion of stochastic nonlinear physical systems, in which the role of noise and fluctuations can have beneficial effects, if certain conditions are met. In this seminar, we will briefly review Stochastic Resonance and introduce new phenomena in which the role of noise is producing benefits far beyond what is normally expected.



KEYNOTE LECTURE: SEPTEMBER 9, H 9:00



**Spin noise and diamond spin
qubits**

Fedor Jelezko,
Institute of Quantum Optics,
Ulm University,
Germany

ABSTRACT

Diamond spin qubits are attracting increasing attention due to their potential applications in quantum information processing and sensing. In this talk, we will discuss the role of quantum projection noise in quantum sensing, and its impact on the sensitivity and frequency resolution of diamond colour centres as quantum magnetometers. We will also explore the detection of nuclear magnetic resonance (NMR) signals at the nanoscale using quantum sensors, where spin noise acts as the signal.



KEYNOTE LECTURE: SEPTEMBER 9, H 11:00



**Decoherence and $1/f$ noise in
Quantum Nanoscience:
Superconducting Quantum
Computing Devices**

Giuseppe A. Falci,
Department of Physics and Astronomy
“E. Majorana”,
Università di Catania,
Italy

ABSTRACT

In standard quantum mechanics, physical systems are often idealized as isolated entities evolving under unitary dynamics. In practice, however, unavoidable interactions with environmental degrees of freedom lead to decoherence, limiting the performance of quantum technologies. In quantum computing, decoherence manifests as errors that hinder the realization of the expected computational advantage, low-frequency noise being the major source of degradation in solid-state quantum platforms.

In this talk, I review the main approaches to addressing decoherence induced by broadband colored noise, using superconducting quantum devices as a case study. I discuss diagnostic tools for identifying decoherence mechanisms and outline the main strategies for their mitigation. Open problems—such as the detection of non-Gaussian noise features, their effects in multilevel and multi-qubit systems, and the development of a comprehensive theory of quantum $1/f$ noise—are also addressed.

KEYNOTE LECTURE: SEPTEMBER 10, H 9:00



**Computing at kT: A Stochastic
Thermodynamics Perspective**

Massimiliano Esposito,
University of Luxembourg,
Luxembourg

ABSTRACT

As electronic devices operate increasingly close to the thermal energy scale kT , fluctuations become an intrinsic component of their dynamics rather than a perturbation. In this regime, computation must be understood as a nonequilibrium physical process.

In this talk, I will show how stochastic thermodynamics provides a consistent framework to describe nonlinear electronic circuits in the presence of noise, with a focus on subthreshold CMOS technologies. By enforcing thermodynamic consistency at the level of stochastic dynamics, this approach allows one to characterize energy exchanges, dissipation, and fluctuations in computational devices.

I will discuss how this perspective naturally leads to probabilistic computing elements that exploit thermal noise, and argue that stochastic thermodynamics offers a principled way to think about computation in energy-limited, noisy regimes.

KEYNOTE LECTURE: SEPTEMBER 11, H 9:00



**Towards the Low-Frequency Frontier:
Noise, System Dynamics and Digital
Twins**

Fabrizio Barone,
University of Salerno,
Italy

ABSTRACT

Low-frequency measurements are strongly influenced by the interaction between the system under investigation, the sensing device and the surrounding environment. Intrinsic sensor noise, external disturbances, electronic drift and noise within the measurement chain can compromise accuracy and distort the observed response, particularly in complex systems characterised by multiple degrees of freedom and coupled dynamics.

This keynote lecture examines the effects of these factors on measurement quality and system identification, with particular emphasis on mechanical sensors and feedback-controlled devices. Sensitivity, damping, structural configuration and electronic design are considered key parameters for enhancing weak-signal detection, mitigating noise and achieving a more reliable characterisation of the system's dynamic behaviour.

The same perspective is extended to digital twins by incorporating noise, environmental variability and actual system dynamics into the modelling process. This approach enables the development of models that more accurately reflect operating conditions, thereby improving monitoring reliability and anomaly detection.



UPON 2026 VENUE



UPoN 2026 will be held at the **Rectorate of the University of Messina**, in Piazza Pugliatti 1, 98122 Messina.

Housed in the historic building on Piazza Pugliatti, the Rectorate serves as the institutional and administrative heart of the University of Messina.

It contains the Aula Magna, a prestigious venue for major cultural and academic events and ceremonies.

The historic **Aula Cannizzaro**, which has long hosted conferences and symposia of international significance, will host the UPoN scientific sessions.



The afternoon session on Wednesday, September 9, will take place at **Horcynus Orca Park**, which we will reach together by bus.

Horcynus Orca Park is a cultural and scientific center located in Messina, specifically in the picturesque area of Torre Faro at Capo Peloro.

It stands at the northeastern tip of Sicily, exactly where the Tyrrhenian and Ionian Seas meet. It takes its name from the famous novel by Stefano D'Arrigo.

We will have the opportunity to discuss noise on the shores of the Strait, while enjoying traditional Sicilian ice cream in an exceptional setting.



PROGRAM SCHEDULE - TUESDAY, SEPTEMBER 8

8:00-8:45	Registration (open until 17:20)
8:45-9:00	Conference Opening <i>Graziella Scandurra</i> ¹ , UPoN 2026 General Chair
	Keynote Lecture:
9:00-10:00	<i>Luca Gammaitoni</i> ² : The beneficial role of noise: stochastic resonance and beyond. Session Chair: <i>Luca Varani</i> ³
10:00-10:50	Session: Theory of noise and fluctuations Session Chair: <i>Gergely Vadai</i> ⁴
10:00-10:30	Too good to be true: Can too much evidence be unreliable? (Invited) <i>D. Abbott</i> ⁵
10:30-10:50	Blackbody Photon-Number Fluctuations as a New Paradigm for the Fine-Structure Constant: From Subatomic to Cosmological Scales. <i>L. Varani</i> ³ , <i>F. Intini</i> ⁶ , <i>L. Reggiani</i> ⁷ , and <i>Felipe da S. Alves</i> ⁸
10:50-11:20	Coffee break
11:20-13:00	Astronomical Clock - The Voice of the Tamburini Organ (musical and acoustic journey through the pipe organ of the Cathedral)
13:00-14:30	Lunch



Basilica Cattedrale “Santa Maria Assunta”



British-Italian organist, pianist, and conductor, **Domenico Gioffré** is a graduate of the Royal College of Music, London, where he specialised in performance and keyboard improvisation.

Amongst his several prestigious appointments feature Westminster Cathedral, Buckfast Abbey, and St

John's Fulham, where he conducted the internationally acclaimed Presley Scholars, recording and producing various CDs and DVDs (lastly, with BBC London).

Alongside his commitments in the UK, he currently serves as Assistant Director of Music and Organist at Messina Cathedral, as well as teaches English Language and Literature at the National Convitto of Salerno.

An active concert artist across Europe, his repertoire ranges from Baroque masterpieces to French Romanticism and Modernism, with a strong focus on plainchant and organ improvisation.

He holds a BA Classics and MA Comparative Literatures from King's College London.

During the visit to the Cathedral, Domenico Gioffré will introduce us to the Tamburini organ, illustrating its history, main technical and acoustic characteristics, its different registers and expressive possibilities, and then will demonstrate them through the performance of a selection of musical pieces or excerpts.



PROGRAM SCHEDULE - TUESDAY, SEPTEMBER 8

14:30-16:10	Session: Fluctuations and noise in materials and devices 1 Session Chair: <i>Bruno Sagnes</i> ³
14:30-14:50	Reducing the low-frequency noise of graphene resistors by gold nanoparticle deposition. <i>K. Drozdowska-Czubek</i> ⁹ , <i>J. Smulko</i> ⁹
14:50-15:10	Non-Gaussian Ambient Light Cancellation Overflow Noise in Wrist and Finger Photoplethysmography: A Statistical Characterization using the MAX30102 Sensor. <i>R. Rahman</i> ¹⁰ , <i>F. Mahzabeen</i> ¹⁰
15:10-15:30	Low-Frequency Noise and Temperature Resolution in Amorphous Silicon p-i-n Sensors. <i>G. Giusi</i> ¹ , <i>G. Scandurra</i> ¹ , <i>F. Cappelli</i> ¹¹ , <i>D. Caputo</i> ¹¹ , <i>G. Petrucci</i> ¹¹ , <i>C. Ciofi</i> ¹
15:30-15:50	Noise Analysis of micrometer-scale Vanadium Dioxide Resistors for Temperature Sensing. <i>G. Brandsteert</i> ¹² , <i>T. Ratier</i> ¹² , <i>L. Lahaye</i> ¹² , <i>V. Kilchytska</i> ¹² , <i>B. Reulet</i> ¹³ , <i>D. Flandre</i> ¹² , <i>L. Van Brandt</i> ¹²
15:50-16:10	Experimental studies of Charge-Density-Wave in 1T-TaS ₂ ink-printed devices at elevated temperatures. <i>J. Smulko</i> ⁹ , <i>K. Drozdowska-Czubek</i> ⁹ , <i>S. Rumyantsev</i> ¹⁴
16:10-16:40	Coffee break
16:40-17:20	Session: Fluctuations and noise in materials and devices 2 Session Chair: <i>Bruno Sagnes</i> ³
16:40-17:00	1/f noise in the nonlinear coefficients of dc- and ac-biased tunnel junctions. <i>N. Fontaine</i> ¹³ , <i>B. Reulet</i> ¹³
17:00-17:20	Noise Spectroscopy of beta-Ga ₂ O ₃ Epitaxial Layers Grown on Sapphire Substrate. <i>S. Pralgauskaite</i> ¹⁵ , <i>K. Gudeliauskas</i> ¹⁵ , <i>J. Glemža</i> ¹⁵ , <i>J. Matukas</i> ¹⁵ , <i>J. Jorudas</i> ¹⁶ , <i>S. Indrišiūnas</i> ¹⁶ , <i>P. Gečys</i> ¹⁶ , <i>P. Kašalynas</i> ¹⁶ , <i>C. Huang</i> ¹⁷ , <i>R. Horng</i> ¹⁷
17:20-18:45	Free time
18:45-19:15	Transfer to Teatro Vittorio Emanuele (Instructions will be provided during the conference)



19:30-22:00

Piano Concert and Welcome Cocktail
“Improvising the Unpredictable”



Teatro Vittorio Emanuele

Luciano Troja - Pianist & Composer



Italian pianist and composer Luciano Troja is a prominent figure in contemporary jazz and improvised music. His musical background bridges a rigorous academic education in Italy with advanced training in New York, shaping a distinctive style that seamlessly blends European lyrical traditions with the expressive freedom of American jazz.

Throughout his career, he has led various creative ensembles—ranging from duos to quartets—and performs regularly at music festivals and venues across Europe and the United States. His acclaimed discography has received significant international recognition, including prestigious nominations at the Independent Music Awards in the US and enthusiastic reviews from global music critics. In addition to his career as a performer and composer, he shapes the cultural landscape as the artistic director for one of Italy's oldest and most historic concert societies, a role he has held for over a decade.

Luciano Troja will present an improvised performance inspired by the conference themes.



PROGRAM SCHEDULE - WEDNESDAY, SEPTEMBER 9

8:30-9:00	Registration (open until 14:20)
	Keynote Lecture:
9:00-10:00	<i>Fedor Jelezko</i> ¹⁸ : Spin noise and diamond spin qubits. Session Chair: <i>Massimo Macucci</i> ¹⁹
10:00-10:40	Special Session: Quantum Sensing Session Chair: <i>Giuseppe Falci</i> ²⁰
	Machine-Learning-Assisted Quantum Sensing of Noise Correlations.
10:00-10:20	<i>L. Giannelli</i> ²⁰ , <i>S. Mukherjee</i> ²⁰ , <i>D. Fasone</i> ²⁰ , <i>E. Paladino</i> ²⁰ , <i>G. Falci</i> ²⁰
10:20-10:40	Magnetic sensing and imaging with NV centers in diamond. <i>S. Hernandez Gomez</i> ²¹
10:40-11:00	Coffee break
	Keynote Lecture:
11:00-12:00	<i>Giuseppe Falci</i> ²⁰ : Decoherence and 1/f noise in Quantum Nanoscience: Superconducting Quantum Computing Devices. Session Chair: <i>Massimo Macucci</i> ¹⁹
12:00-12:40	Session: Noise in nano-scaled and quantum devices and systems Session Chair: <i>Giuseppe Falci</i> ²⁰
12:00-12:20	Noise-driven ionic transport in single-walled carbon nanotubes. <i>D. Luchinsky</i> ²² , <i>P. McClintock</i> ²² , <i>W. Gibby</i> ²² , <i>I. Khovanov</i> ²³
12:20-12:40	Approximate model of phase noise in qubit control pulses. <i>A. Barsotti</i> ¹⁹ , <i>M. Macucci</i> ¹⁹



PROGRAM SCHEDULE - WEDNESDAY, SEPTEMBER 9

12:40-14:00 **Lunch**

14:00-15:00 **Free time**

15:00-16:00 **Transfer to Horecynus Orca Park (by conference bus)**

16:00-17:40 **Session: Noise in biology and in biomedicine 1**

Session Chair: *Peter McClintock*²²

16:00-16:30 Is noise always stochastic? (**Invited**)

*A. Stefanovska*²²

16:30-17:00 Statistical fluctuations of large-scale mind states. (**Invited**)

*D. Chialvo*²⁴

17:00-17:20 Biological Noise as a Therapeutic Tool: A Novel Platform based on the Constrained Disorder Principle

*Y. Ilan*²⁵

17:20-17:40 Analysis of Repetitive Handwriting by Using the Multifractal Spectrum.

*M. Uchida*²⁶

17:40-18:15 **Round Table: Evolution of Research on Noise**

Panelists: *D. Abbott*⁵, *L. Kish*²⁷, *P. McClintock*²²

18:15-19:15 **The discussion will continue over Sicilian Ice Cream!**



Stritto di Messina



PROGRAM SCHEDULE - THURSDAY, SEPTEMBER 10

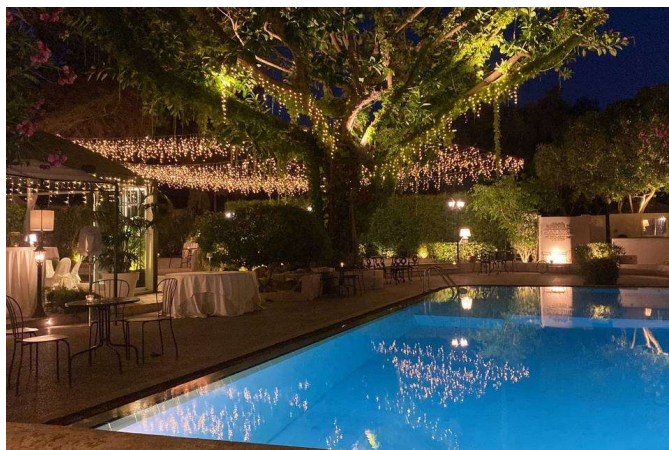
8:30-9:00	Registration (open until 18:30)
	Keynote Lecture:
9:00-10:00	<i>Massimiliano Esposito</i> ²⁸ : Computing at kT: A Stochastic Thermodynamics Perspective. Session Chair: <i>Jean-Charles Delvenne</i> ¹²
10:00-10:50	Special Session: Stochastic Thermodynamics 1 Session Chair: <i>Leopold Van Brandt</i> ¹²
10:00-10:30	Higher order moments of entropy production and consequences for electronic devices. (Invited) <i>J. Delvenne</i> ¹²
10:30-10:50	Fluctuations of integrated currents and timing observables for dissipation inference in Markov jump processes. <i>A. Garilli</i> ²⁹
10:50-11:20	Coffee break
11:20-12:20	Special Session: Stochastic Thermodynamics 2 Session Chair: <i>Leopold Van Brandt</i> ¹²
11:20-11:40	Stochastic thermodynamics and predictability of Ornstein–Uhlenbeck processes: application to the Madden–Julian Oscillation. <i>R. Benincasa</i> ³⁰ , <i>J.B. Weiss</i> ³¹ , <i>D. Du</i> ³² , <i>G. S. Duane</i> ³¹
11:40-12:00	Taming nonequilibrium thermal fluctuations in subthreshold CMOS circuits. <i>J. Freitas</i> ³³
12:00-12:20	Energy statistics in two-qubit solid-state system. <i>Z. Rashid</i> ²¹ , <i>S. Hernández Gómez</i> ²¹ , <i>S. Gherardini</i> ²¹ , <i>N. Fabbri</i> ²¹
12:20-13:00	Session: Noise in biology and in biomedicine 2 Session Chair: <i>Peter McClintock</i> ²²
12:20-12:40	Effects of Screen Conditions and 20 Hz Band-Pass Filtering on Gaze Discrimination in SSVEP-Based BCIs. <i>H. Gyobu</i> ²⁶ , <i>T. Mizuno</i> ²⁶ , <i>N. Itakura</i> ²⁶ , <i>S. Matsuno</i> ²⁶ , <i>S. Ogo</i> ²⁶ , <i>S. Tanaka</i> ²⁶



12:40-13:00	Theoretical Foundation and Validation of R-B Color Difference for Robust Hemodynamic Assessment in Actual Images. <i>M. Shimizu</i> ²⁶ , <i>N. Itakura</i> ²⁶ , <i>K. Mito</i> ²⁶ , <i>T. Mizuno</i> ²⁶
13:00-14:30	Lunch
14:30-15:50	Session: Noise in biology and in biomedicine 3 Session Chair: <i>Peter McClintock</i> ²²
14:30-14:50	Local Spatial Patterns of Hemodynamic Fluctuations in Near-Infrared Face Images Under Acute Stress. <i>E. Gono</i> ³⁴ , <i>K. Nagumo</i> ³⁴ , <i>A. Nozawa</i> ³⁴
14:50-15:10	Toward Human Motor Control State Discrimination in Rhythmic Movements from Short-Time Fluctuation Characteristics Using Neural Networks. <i>K. Nagumo</i> ³⁴ , <i>A. Nozawa</i> ³⁴
15:10-15:30	Rare Deep-Brain Stimulation Pulse Trains from Purely High-Frequency Harmonics. <i>L. Kish</i> ²⁷ , <i>S. M. Bezrukov</i> ³⁵ , <i>L. Kovács</i> ³⁶
15:30-15:50	ECG, PPG, and Elite HRV based HHR determination on a treadmill test. <i>M. Huotari</i> ³⁷
15:50-16:50	Session: Noise in human activities 1 Session Chair: <i>Christiana Chamon Garcia</i> ³⁸
15:50-16:20	Ultradian Organization of the Human Physical Activity. (Invited) <i>A. Dé</i> ³⁹
16:20-16:50	High Frequency Attack Against the KLJN Secure Key Exchange Scheme. (Invited) <i>L. Kish</i> ²⁷ , <i>K. Entesari</i> ²⁷
16:50-17:20	Coffee break
17:20-18:20	Session: Noise in human activities 2 Session Chairs: <i>Christiana Chamon Garcia</i> ³⁸ , <i>Laszlo Kish</i> ²⁷
17:20-17:40	Two Factor Authentication with PPG and Voice Input Leveraging Hidden Markov Model. <i>S. Saif</i> ⁴⁸ , <i>M. Karamat</i> ³⁸ , <i>C. Garcia</i> ³⁸
17:40-18:00	Above and Beyond the Daily Rhythm: How Can We Examine the Fluctuations in Our Everyday Motion?



	<i>B. Maczák⁴, C. Nagy⁴, G. Skrionya⁴, A. Hock⁴, C. G. Horváth⁴⁰, R. Bódizs⁴⁰, G. Vadai⁴</i>
18:00-18:20	Noiseprint: Toward Robust Image Classification via Intrinsic Sensor Noise Signatures. <i>C. Garcia³⁸</i>
15:50-18:20	Poster on display: Artificial Intelligence-data driven analysis of human activities noise in the banking sector: Implications for security and economic performance. <i>C. Sahani⁵⁰, A. Sharma⁵⁰, P. Kumar⁵⁰, R. Kumar⁵⁰</i>
18:20-19:30	Free time
19:30-20:30	Transfer to the gala dinner venue (Villa Ida)
20:30-22:30	Gala Dinner (Villa Ida)



Villa Ida



PROGRAM SCHEDULE - FRIDAY, SEPTEMBER 11

	Keynote Lecture:
9:00-10:00	<i>Fabrizio Barone</i> ⁴¹ : Towards the Low-Frequency Frontier: Noise, System Dynamics and Digital Twins. Session Chair: <i>Carmine Ciofi</i> ¹
10:00-11:30	Special Session: Noise in Gravitational-Wave Detectors: Sources, Mitigation, and Open Problems Session Chair: <i>Vincenzo Dattilo</i> ⁴²
10:00-10:30	Noise in the Advanced Virgo Plus detector. (Invited) <i>Francesco Di Renzo</i> ⁴²
10:30-10:50	Optical electronics and environmental noises that affect the stability performances and reliability of the laser injection of Virgo. <i>P. Lagabbe</i> ⁴²
10:50-11:10	Environmental Noise Coupling in Virgo Gravitational-Wave Detector: Magnetic Measurements and Acoustic Simulations. <i>L. Lunghini</i> ² , <i>I. Fiori</i> ⁴² , <i>M. Punturo</i> ⁴³ , <i>M.C. Tringali</i> ⁴²
11:10-11:30	Bias from Noise Idealization in Null Stream Searches for Non Tensorial Gravitational Wave Polarizations. <i>B. Cirok</i> ⁴ , <i>I.C.F. Wong</i> ⁴⁴ , <i>G. Vadar</i> ⁴
11:30-11:50	Coffee break
11:50-13:20	Session: Noise in circuits Session Chairs: <i>Jean-Guy Tartarin</i> ⁴⁵ , <i>Matthias Rudolph</i> ⁴⁶
11:50-12:20	GaN-based Low-Noise Amplifiers: A review. (Invited) <i>M. Rudolph</i> ⁴⁶
12:20-12:40	Self-reconfigurable GaN LNA: a game changer for next generation of robust RF receivers. <i>J.G. Tartarin</i> ⁴⁵
12:40-13:00	Stochastic port-Hamiltonian modeling of electrical networks out of equilibrium. <i>M. Bonnin</i> ⁴⁷ , <i>L. Desoppi</i> ¹³ , <i>L. Van Brandt</i> ¹² , <i>J. Delvenne</i> ¹² , <i>B. Reulet</i> ¹³ , <i>F. Bonani</i> ⁴⁷ , <i>F. Traversa</i> ⁴⁸
13:00-13:20	A Reactive Capacitive Variant of the Kirchhoff-Law-Johnson-Noise (KLJN) Secure Key Exchange Scheme.



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C. Garcia³⁸, S. Ferdous⁴⁹, L. Kish²⁷

13:20-13:30 **Conference closing**

13:30-14:30 **Lunch**

Enjoy a weekend in Messina!



Agorà dello Stretto



Author affiliations

- ¹University of Messina, Italy
- ²University of Perugia, Italy
- ³University of Montpellier, France
- ⁴University of Szeged, Hungary
- ⁵University of Adelaide, Australia
- ⁶University of Modena and Reggio Emilia, Italy
- ⁷Salento University, Italy
- ⁸Federal Institute of Education, Science and Technology of Minas Gerais (IFMG), Brazil
- ⁹Gdańsk University of Technology, Poland
- ¹⁰North South University, Basundhara, Bangladesh
- ¹¹University of Rome “La Sapienza”, Italy
- ¹²UCLouvain, Belgium
- ¹³University of Sherbrooke, Canada
- ¹⁴CENTERA Laboratories, Institute of High Pressure Physics PAS, Warsaw, Poland
- ¹⁵Vilnius University, Lithuania
- ¹⁶Center for Physical Sciences and Technology, Lithuania
- ¹⁷National Yang Ming Chiao Tung University, Taipei, Taiwan
- ¹⁸Institute of Quantum Optics, Ulm University, Germany
- ¹⁹University of Pisa, Italy
- ²⁰University of Catania, Italy
- ²¹LENS - European Laboratory for Non-Linear Spectroscopy / INO-CNR, Firenze, Italy
- ²²Lancaster University, UK
- ²³University of Warwick, UK
- ²⁴National University of San Martin, Argentina



- ²⁵Hadassah Medical Center, Jerusalem, Israel
- ²⁶The University of Electro-communications, Chōfu, Tokyo, Japan
- ²⁷Texas A&M University, Texas, USA
- ²⁸University of Luxembourg, Luxembourg
- ²⁹University of Padova, Italy
- ³⁰University of Bologna, Italy
- ³¹University of Colorado, Boulder, USA
- ³²Princeton University, NJ, USA
- ³³University of Buenos Aires, Argentina
- ³⁴Aoyama Gakuin University, Japan
- ³⁵National Institutes of Health (NIH), Bethesda, Maryland, USA
- ³⁶Obuda University, Budapest, Hungary
- ³⁷University of Oulu, Finland
- ³⁸Virginia Polytechnic Institute and State University, USA
- ³⁹HUN-REN Biological Research Centre, Szeged, Hungary
- ⁴⁰Semmelweis University, Budapest, Hungary
- ⁴¹University of Salerno, Italy
- ⁴²European Gravitational Observatory (EGO), Italy
- ⁴³INFN, Perugia, Italy
- ⁴⁴KU Leuven, Belgium
- ⁴⁵LAAS-CNRS, Toulouse, France
- ⁴⁶Brandenburg University of Technology (BTU), Germany
- ⁴⁷Politecnico di Torino, Torino, Italy
- ⁴⁸MemComputing, Inc., San Diego, CA, USA
- ⁴⁹Advanced Micro Devices, Inc. (AMD), Santa Clara, CA, USA
- ⁵⁰Graphic Era Deemed to be University, Clement Town, Dehradun, Uttarakhand, India



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