

Management structure (Core Group)

Action chair

Guido Valerio, Sorbonne Université, France

Action vice chair

Oscar Quevedo-Teruel, KTH, Sweden

Grant holder scientific representative

Kristian Zarb Adami, University of Malta, Malta

Working groups and transverse activities leaders and coordinators

WG 1 Higher-symmetric waves: dispersive engineering

Tiago Morgado, University of Coimbra, Portugal

Simon Horsley, University of Exeter, UK

WG 2 Higher-symmetries to design radiating devices

Eva Rajo-Iglesias, University Carlos III of Madrid, Spain

Marco Antoniadou, University of Cyprus, Cyprus

WG 3 Higher-symmetries for guided-wave components

Marta Martínez Vázquez, Renesas Electronics, Germany

Pablo Padilla, University of Granada, Spain

WG 4 Modelling of higher-symmetries

Francesca Vipiana, Polytechnic of Turin, Italy

WG 5 Dissemination of results

Jan Kracek, Czech Technical University in Prague, Czechia

WG 6 Training activities

Valma Prifti, Polytechnic University of Tirana, Albania

TA Medical applications

Tuba Yilmaz Abdolsaheb, Istanbul Technical University, Turkey

Stavros Koulouridis, University of Patras, Greece

TA Space

Eloy de Lera Acedo, University of Cambridge, UK

Herve Legay, Thales Alenia Space, France

TA 5G

Astrid Algaba Brazalez, Ericsson, Sweden

Grant Coordinator, STSM and Virtual Mobilities

Enrica Martini, University of Siena, Italy

ITC grants

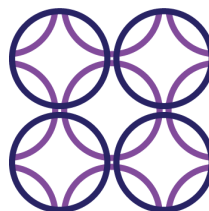
Sergio Matos, Instituto de Telecomunicações, Portugal



Partners



ΕΘΝΙΚΟ ΙΔΡΥΜΑ ΕΡΕΥΝΩΝ
National Hellenic Research Foundation



COST ACTION CA18223

SYMAT

FUTURE COMMUNICATIONS WITH
HIGHER-SYMMETRIC ENGINEERED
ARTIFICIAL MATERIALS

<https://symat-cost.eu/>

Scientific meeting, Core Group meeting, Management Committee meeting

8 - 10 April 2024, Athens, Greece

Organizer

Odysseas Tsilipakos

Theoretical and Physical Chemistry Institute (TPCI), National Hellenic Research Foundation (NHRF), Greece

Co-organizer

Stavros Koulouridis

Department of Electrical & Computer Engineering, University of Patras, Greece

Venue

National Hellenic Research Foundation (NHRF),
48 Vassileos Constantinou Avenue, 11635, Athens, Greece

Online link:

A personalized link will be sent to each participant

WiFi connection:

SSID: EIEGuest

pwd: nhrf1958

Find the program on-line:



Monday | 8 April 2024

13:00–14:00 Lunch

Ground-floor foyer, NHRF

14:00–15:30 Opening

Amphitheater “Leonidas Zervas”, NHRF

14:00–14:30 Welcome and Opening Remarks

Odysseas Tsilipakos, *National Hellenic Research Foundation*

14:30–14:50 COST Association Update

Ralph Stübner, *SyMat Science Officer, COST Association, Belgium*

14:50–15:30 Symmetries: how it started and what awaits us

Oscar Quevedo-Teruel, *Royal Institute of Technology (KTH), Sweden*

15:30–16:00 Coffee break

Ground-floor foyer, NHRF

16:00–17:30 Focussed Session

Amphitheater “Leonidas Zervas”, NHRF

16:00–17:00 SyMat’s story: a summary of the journey

Guido Valerio, *Sorbonne University, France*

17:00–17:30 Metasurface Controller Networks and Applications,

Marios Lestas (Frederick University), Christos Liaskos (FORTH),

Michele Segata (University of Trento), Sergi Abadal (UPC), Taqwa

Saeed (Lund University), Vassos Soteriou (Cyprus University of

Technology) and Andreas Pitsillides (University of Cyprus)

18:15–20:00 Guided tour in the historical city center

Sponsored by University of Patras. *Meeting point at the venue.*

Tuesday | 9 April 2024

9:00–10:00 Core Group meeting

Amphitheater “Leonidas Zervas”, NHRF

10:00–10:30 Coffee break

Ground-floor foyer, NHRF

10:30–11:30 Management Committee meeting

Amp. “Leonidas Zervas”, National Hellenic Research Foundation

11:30–13:00 Exhibition

13:00–14:00 Lunch

Ground-floor foyer, NHRF

14:00–16:00 Industrial sessions I

Amphitheater “Leonidas Zervas”, NHRF

14:00–14:45 Hardware Challenges for space antennas

Hervé Legay, *Thales Alenia Space, France*

14:45–15:30 Phased Antenna Arrays for Space Applications

N.Saponjic, M.C.Vigano, F.Bongard, D. Llorens et al., *Viasat, Switzerland*

15:30–16:00 Scalable optical and functional surfaces via alternative nano manufacturing techniques

Nikos Kehagias, *NANOTYPOS, Greece*

16:00–16:30 Coffee break

Ground-floor foyer, NHRF

16:30–17:30 Industrial sessions II

Amphitheater “Leonidas Zervas”, NHRF

16:30–17:00 Research on Wireless Beyond 5G/6G Technologies at

Intracom Telecom: Recent Highlight, D. Kritharidis, E. Pikasis, and D. Tzarouchis, *INTRACOM-TELECOM, Greece*

17:00–17:30 10 years of research on higher symmetries at Ericsson Research

Astrid Algaba Brazalez, Lars Manholm, Martin Johansson, *Ericsson Research, Sweden*

20:00–22:30 Dinner at “Rakkan” restaurant, Xatzigianni Mexi 6, GR-11528, Athens

Wednesday | 10 April 2024

9:00–10:30 Session 1

Amphitheater “Leonidas Zervas”, NHRF

9:00–9:30 Study of a fully metallic PTD-symmetric bifilar edge line and an approach to obtain wide band performance

Nelson Castro Salas¹, Eva Rajo Iglesias¹, Enrica Martini²

¹University Carlos III of Madrid, Spain, ²University of Siena, Italy

9:30–10:00 Glide symmetric EBG structures applied to V-band

geodesic H-plane horn antenna

Mingzheng Chen¹, Jose Rico-Fernandez², Francisco Mesa³ and

Oscar Quevedo-Teruel¹, ¹Royal Institute of Technology (KTH),

Sweden ²Northern waves, Sweden, ³University of Seville, Spain,

10:00–10:30 Efficient Analysis of Two-Dimensional Reconfigurable

Intelligent Surfaces by Characteristic Basis Functions

Botond Tamás Csathó, József Pávó, Zsolt Badics, Bálint Péter Horváth

10:30–11:00 Coffee break

Ground-floor foyer, NHRF

11:00–13:00 Session 2

Amphitheater “Leonidas Zervas”, NHRF

11:00–11:30 Numerical Modelling for Higher-Symmetric Periodic Structures with a Hexagonal Lattice

Martin Petek, Jorge A. Tobon Vasquez, Guido Valerio, Francisco Mesa, Oscar Quevedo-Teruel, and Francesca Vipiana

11:30–12:00 Homogenization of glide-symmetric metamaterials over a wideband

Guido Valerio, *Sorbonne University, France*

12:00–12:30 A dispersive study of a glide-symmetric waveguide opened with slots

Yuhuan Tong¹, Davide Comite², Guido Valerio¹, ¹Sorbonne University, France, ²Sapienza University of Rome, Italy

12:30–13:00 “Integrated passive Q-switched and mode-locked lasers utilizing TMD gain and graphene saturable absorption”

Georgios Nousios, Dimitrios Chatzidimitriou, Thomas Christopoulos, Odysseas Tsilipakos, Emmanouil E. Kriezis

13:00–14:00 Lunch

Ground-floor foyer, NHRF

14:00–15:30 Session 3

Amphitheater “Leonidas Zervas”, NHRF

14:00–14:30

Modeling the propagation of light through time-varying metasurfaces with a multiple scattering method

N. Papanikolaou¹, E. Panagiotidis^{1,2}, I. Stefanou², E. Almpanis^{1,2}, N.

Stefanou² ¹Institute of Nanoscience and Nanotechnology, NCSR

“Demokritos”, Athens, Greece, ²Department of Solid State Physics, National Kapodistrian University of Athens, Greece.

14:30–15:00 Optimizing Layered Structures of Giant Polarization

Selectivity, Costas Valagiannopoulos, *National Technical Univ. of Athens*

15:00–15:30 Efficient Ray-Tracing Approach to Analyze Arbitrarily

Shaped Leaky-Wave Antennas Embedded in Lenses, Miguel Poveda

García, Francisco Mesa, José Luis Gómez Tornero, Astrid

Algaba-Brazález and Óscar Quevedo-Teruel

15:30–16:00 Coffee break

Ground-floor foyer, NHRF

16:00–16:40 Session 4

Amphitheater “Leonidas Zervas”, NHRF

16:00–16:30 Analysis and Design of Reconfigurable Microwave Metasurfaces and their Applications in Wireless Communications,

Alexandros Pitilakis and Odysseas Tsilipakos, *National Hellenic Research Foundation*

16:30–16:50 Adaptable large area meta surfaces for customized applications”

N. Dimogerontaki^{1,2}, N. Matthaiakakis², K. Tzourlouki², N. Kehagias²

¹School of Applied Mathematical and Physical Sciences National

Technical University of Athens, Greece ²NCSR Demokritos, Institute of Nanoscience & Nanotechnology, Greece

16:50–17:10 Overview of a systematic root finding procedure for computing complex roots of analytic functions

Dubravko Tomić and Francisco Mesa

17:10–17:25 Optimization of work processes in a production

company in Albania, Valma Prifti

17:25–17:30 Closing

Amphitheater “Leonidas Zervas”, NHRF

Odysseas Tsilipakos, *National Hellenic Research Foundation*

Guido Valerio, *Sorbonne University, France*