



N&N - NANOSCIENCE AND NANOTECHNOLOGY 2017

16 - 20 OCTOBER 2017
INFN - LNF ISTITUTO NAZIONALE DI FISICA NUCLEARE
LABORATORI NAZIONALI DI FRASCATI
FRASCATI, VIA ENRICO FERMI, 40

FIRST DAY, 16 OCTOBER 2017 INSTITUTIONAL

08:45 – 09:45 Registration of the Participants

09:45 – 10:00 **Dr. S. Bellucci**, INFN, Italy: Opening and welcome

10.00-10.30 **Col. AArnn L. Esposito**, Aeronautic Academy Studies Director Defence Ministry, Italy: Integrated & innovative education for future Air Force Pilots and Engineers

10.30 – 11.00 **Prof. G. Alegi**, LUISS University Rome, Italy: Making Research Great Again: The Tension Between Collaboration, Competition and National Goals

11:00 - 11:30 Coffee break

11:30 - 12:00 **Eng. A. Fiorello**, Leonardo, Italy: (to be announced)

12:00 - 12:30 **Eng. M. Falzetti** APRE, Italy: Nano and Materials research from H2020 to FP9

12:30 - 13:00 **Eng. D. Rubini**, ASI, Italy: Nanotechnologies for space applications - Space Missions, Opportunities & Challenges

13:00 - 13:30 **Prof. M. Onofri**, University of Rome Sapienza, Director Aerospace District, Italy: Perspectives for developing national research within the framework of the PNR strategic programs

13:30 - 14:45 Lunch

14:45 - 15:15 **CV S.U. De Ceglie**, CISAM, Defense Ministry, Italy: Applications of hyperspectral technology for area monitoring

15:15 - 15:45 **Dr. S. Bellucci**, INFN, Italy: Research Highlights from the LNF NEXT Laboratory

15:45 – 17.15 Welcome cocktail/**Guided Tours** to the NEXT Nanotechnology Laboratory



SECOND DAY, 17 OCTOBER 2017 INDUSTRIAL/ENGINEERING

09:30 - 10:15 **Eng. P. Di Petta**, MBDA, Italy: Graphene, where it will lead us? Civilian watch & military vision

10:15 - 11:00 **Dr. A. Simone**, THALES Alenia Space, Italy: Nanomaterials Applications in the Space Environment – Thales Alenia Space' Experience.

11:00 - 11:30 Coffee break

11:30 – 12:15 **Dr. E. Tolino**, CSM, Italy: Nanotechnologies for advanced materials

12:15 - 13:00 **Eng. R. Lombardi**, LAMBATECH: Nanotechnologies for energy applications

13:00 - 13:30 **Prof. K. Naishadham**, Georgia Institute of Technology, USA: Nanotechnology Based Antennas for Wireless Sensor Nodes

13:30 - 14:45 Lunch

14:45 - 15:05 **Dr. M. S. Jagadesh**, Milan Polytechnic University, Italy: Spin-resolved PES and IPES investigation of the graphene/Ni(111) interface

15:05 - 15:45 **Dr. D. Lewis**, Nanonics, Israel: Nano-positioning systems and measurement techniques

15.45 - 16.15 **Dr. B. Bonanni**, University Roma Tor Vergata, Italy: Corrol layers on Au(111) at "true" solid-liquid interface

16.15 - 16.45 **Dr. R. Yivlialin**, Milan Polytechnic University, Italy: Blister evolution timing during graphite anion intercalation: a new interpretative model

16.45 - 17.15 **Prof. G. Bussetti** Milan Polytechnic University, Italy: H₂TPP molecules used as corrosion inhibitors for graphite electrodes



THIRD DAY, 18 OCTOBER 2017 NANOMATERIALS

9:30 - 10:10 **Prof. G. Palmerini**, Aerospace Engineering School, University of Rome Sapienza
Italy: Space platforms for nanotechnology experiments

10:10 - 10:35 **Prof. F. Frezza**, Department of Information Engineering, Electronics and
Telecommunications, University of Rome Sapienza, Italy: Nanoparticle detection in coatings
for stone protection

10:35 - 11:00 **Prof. N. P. Belfiore**, Department of Engineering, University of Rome Tre, Italy:
Design and fabrication of a NEMS-Technology based Nano Gripper

11:00 - 11:30 Coffee break

11:30 - 12:10 **Prof. C. Scarponi**, Mechanical and Aerospace Engineering University of Rome
Sapienza: Advanced technologies for production of composite parts: a review

12:10 - 12:50 **Prof. A. Vomiero**, Luleå University of Technology, Sweden:
Photoelectrochemical nanoparticle applications

12:50 - 13:30 **Prof. F. Ciccacci**, Milan Polytechnic University, Italy: Ge-based Nanostructures
for spintronic application

13:30 - 14:45 Lunch

14:45 - 15:30 **Prof. L. Santo** University Roma Tor Vergata, Italy: Nano-coating fragmentation
for organic nano-composite production

15:30 - 16:15 **Prof. J. Arbiol** ICREA and Catalan Institute of Nanoscience and Nanotechnology
(ICN2), CSIC and BIST, Spain: Free-standing nanostructures at atomic scale: from structure to
growth mechanisms and applications

16:15 - 17:00 **Prof. M. Dragoman** IMT Bucharest, Romania: HfO₂ ferroelectrics- new high
frequency devices for 5 G applications

17:00 - 17:30 **Dr. A. Dinescu** IMT Bucharest, Romania: Electron Beam Lithography for
graphene based devices

17:30 - 17:45 **Dr. D. Di Battista**, Assing S.p.A., Nanomaterial characterization

17:45 - 18:45 **POSTER SESSION** (with coffee break)

19:30 Social Dinner



FOURTH DAY, 19 OCTOBER 2017 NANOMEDICINE

09:30 - 10:00 **Dr. V. Pyeshkova**, National Academy of Sciences of Ukraine: to be announced

10:00 - 10:30 **Dr. N. Storozhylova** University of Santiago de Compostela, Spain: Nanotechnology-based therapies for rheumatoid arthritis

10:30 - 11:00 **Dr. A. Cricenti**, CNR-ISM, Rome, Italy: Raman and Infrared SNOM nanospectroscopy for Tissue Imaging and Early Cancer Diagnostics

11:00 - 11:30 Coffee break

11:30 - 12:15 **Prof. M. Moghimi** Durham University, UK: Nanomedicine and its applications

12:15 - 13:00 **Prof. N. Cioffi** University of Bari, Italy: What's new and good in the aqueous synthesis of colloidal gold nanoparticles (AuNPs). A critical overview of AuNPs synthetic methods and their Analytical applications.

13:00 - 13:30 **Prof. N. Ditaranto** University of Bari, Italy: Designing nanostructured prodrugs and drug carriers: the importance of a thorough analytical characterization

13:30 - 14:45 Lunch

14:45 - 15:30 **Prof. A. Fiorillo** University Magna Grecia, Italy: Biomedical applications of zeolite thin layers

15:30 - 16:15 **Prof. A. Van Den Berg** University of Twente, The Netherlands: Organs-on-Chip

16:15 - 16:45 **Dr. A. Conti** CEA/NeuroSpin, France: The best acoustic strategy to deliver high concentrations of nanoparticles to glioblastoma

16:45 - 17:15 **T.Col. L. Allegrucci**, CSV Centro Sperimentale Volo - Reparto Tecnologie Materiali Aeronautici e Spaziali, Defense Ministry, Italy: Ultrafine particles originated by air force operations: occupational exposure and environmental issues



FIFTH DAY, 20 OCTOBER 2017 SURFACE PROPERTIES

9:30 - 10:00 **Prof. A. Sassella** University of Milano Bicocca, Italy: Growth and properties of organic nanostructures

10:30 - 10:30 **Prof. C. Goletti**, University Roma Tor Vergata, Italy: (to be announced)

10:30 - 11:00 **Dr. M. Penconi**, CNR, Institute of Molecular Science and Technology, Italy: From tailored molecules to advanced nanomaterials

11:00 - 11:30 Coffee break

11:30 - 12:15 **XXX, xxx**

12:15 - 13:00 **Dr. A. Damin** University of Turin, Italy: SERS Raman Spectroscopy

13:00 - 13:30 **Dr. O. Fesenko** Ukraine National Academy of Sciences: Raman and luminescence characterization of Coumarin 152A enhanced by Ag nanoparticles

13:30 - 14:45 Lunch

14:45 - 15:30 **Dr. A. Di Donato**, Ancona Polytechnic University, Italy: Synthetic holography at infrared wavelength for nanostructure imaging

15:30 - 16:15 **xxx**

16:15 - 16:45 **open discussion on future calls for proposals (H2020/FP9, etc.)**

16:45 - 17:15 Highlights from the conference contributions and closing remarks



PROCEEDINGS

Material presented at the Conference will be handed to Participants at Registration Desk.

Registration - There is no fee for attendance, however registration is mandatory and must be submitted before 8th October 2017.

Hotel reservation is the responsibility of the participants. Additional information can be found in the web site: <http://www.lnf.infn.it/lnfadmin/travel/alberghi.html>

Information how to reach the venue is found in:

<http://www.lnf.infn.it/lnfadmin/travel/travel.html>

A map of the Frascati town, indicating the INFN-Laboratori Nazionali di Frascati, Via E. Fermi 40, is found in:

<http://www.lnf.infn.it/lnfadmin/travel/frascaticatmap.jpg>

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