

# Phosphorene and 2D Companions

Roma, May 8<sup>th</sup> 2017

CNR, Sala Marconi, Piazzale Aldo Moro 7, Roma

For further information, please visit: <http://phosphoreneand2dcompanions.nano.cnr.it/>

## Program

9:30 – 10:20	<b>Registration</b>
10:20 – 10:50	<b>Opening address and welcome:</b> - Prof. Massimo Inguscio (President of National Research Council) - Dr. Maurizio Peruzzini (Director of Department of Chemical Sciences and Materials Technology) - Dr. Corrado Spinella (Director of Physical Sciences and Technologies of Matter)
10:50 – 11:30	<b>Plenary Lecture:</b> Dr. Miriam S. Vitiello (CNR-NANO, Pisa) Title: Terahertz Photonic devices exploiting bidimensional materials and heterostructures"
11:30 – 12:00	<b>Coffee Break</b>
12:00 – 13:00	<b>Session I: Six Oral Communications</b>
12:00 – 12:10	A. Lorenzoni "Multiscale molecular modeling of surface anisotropy and electronic properties of phosphorene"
12:10 – 12:20	A. Mezzi "Characterization of 2D materials by surface spectroscopies"
12:20 – 12:30	G. Profeta "Evolution of electronic structure from few-layer phosphorene to black phosphorous"
12:30 – 12:40	E. Rotunno "The influence of crystallographic defects on the optical properties of MoS <sub>2</sub> "
12:40 – 12:50	D. Scelta "High-pressure structure and reactivity of Phosphorus allotropes"
12:50 – 13:00	A. Martone "Preparation and Characterization of Graphite Nanoplatelet Nanolaminates"
13:00 – 14:00	<b>Light lunch</b>
14:00 – 14:40	<b>Plenary Lecture:</b> Dr. Vincenzo Palermo (CNR-ISOF, Bologna) Title: "Covalent and Supramolecular Chemistry of Organic Molecules with Graphene and Other 2D Materials"
14:40 – 16:00	<b>Session II: Eight Oral Communications</b>
14:40 – 14:50	M. Cavallini "Fabrication of complex functional structures from 2D materials by unconventional lithography"
14:50 – 15:00	F. Cicogna "Polymer-based BP nanocomposites: preparation, characterization and properties"
15:00 – 15:10	F. d'Acapito "Structural characterization of 2D X-ene sheets by X-ray Absorption Spectroscopy (XAS)"
15:10 – 15:20	C. Cantalini "Perspectives of 2D materials in gas sensing applications"
15:20 – 15:30	R. Flammini "The Sb-ene/Bi <sub>2</sub> Se <sub>3</sub> interface: a route to investigating the proximity effect?"
15:30 – 15:40	A. Kumar "STM studies of exfoliated black Phosphorus"
15:40 – 15:50	C. Grazianetti "The route to X-enes transistors: from silicon to phosphorene"
15:50 – 16:00	G. Nicotra "Electronic and structural properties of BP and MoS <sub>2</sub> at high energy and spatial resolution"
16:00 – 16:20	<b>Coffee Break</b>
16:20 – 17:20	<b>Session III: Six Oral Communications</b>
16:20 – 16:30	G. Greco "Key enabling processes for novel high frequency devices based on 2D materials integration with Nitride semiconductors"
16:30 – 16:40	A. Ienco "How to Decorate Phosphorene with Metal Fragments"
16:40 – 16:50	L. Ottaviano "Layer identification and engineering of mechanically exfoliated MoS <sub>2</sub> "
16:50 – 17:00	G. Giambastiani "Unravelling Surface basicity and Bulk Morphology of 2D Carbon-based Catalysts with Unique Dehydrogenation Performance"
17:00 – 17:10	G. Contini "Surface-confined polymerization as emerging technology for electronic devices"
17:10 – 17:20	M. G. Raucci "Cellular behaviour on few layer black phosphorus for tissue engineering"
17:20 – 17:40	<b>Concluding Remarks</b>



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