

**20 May 2015 - Morning Room A**  
**Opening**

<b>08:50-09:20</b>	<p align="center"><i>Dr. Espedito Vassallo</i> - Opening of the Conference by AIV President  <i>Prof. Paolo Comanducci</i> - Words of Welcome by Rector of the University of Genoa  <i>Prof. Marco Doria</i> - Welcome by Mayor of the City of Genoa  <i>Dr. Mariano Anderle</i> - Greetings by IUVSTA President  <i>Prof. Paolo Ossi</i> - Introduction by the Chairman of the Scientific Committee</p>	
<b>9:20-10:00</b>	<b>Plenary Session</b>	<p><b>Sandro De Silvestri -- Politecnico di Milano (Italia)</b>  Light at the extremes: from femto- to atto-science for real time studies of atomic and electronic motions</p>
<b>10:00-10:20</b>	<b>Coffee Break</b>	

**20 May 2015 - Morning Room A**  
**Industrial Plasmas**

**Chairman: R. d'Agostino (Università di Bari)**

<b>10:20-10:50</b>	<b>Oral 1</b>	<p><b>Anna Maria Coclite - Institute of Solid State Physics- University of Technology (Graz , Austria)</b>  Initiated PECVD: a new strategy to enhance monomer structure retention</p>
<b>10:50-11:15</b>	<b>Oral 2</b>	<p><b>Francesco Fumagalli - Center for Nano Science and Technology - IIT@PoliMI (Milano)</b>  Photoelectrochemical hydrogen production through hybrid organic/inorganic thin film systems</p>
<b>11:15-11:40</b>	<b>Oral 3</b>	<p><b>F. Palumbo - Istituto di Metodologie Inorganiche e dei Plasmi, CNR (Bari)</b>  Atmospheric plasma deposition of biocomposite coatings</p>
<b>11:40-12:05</b>	<b>Oral 4</b>	<p><b>Enrico Miorin - CNR-Institute for Energetics and Interphases (Padova)</b>  Thin films for extreme conditions by HiPIMS</p>
<b>12:05-12:30</b>	<b>Oral 5</b>	<p><b>Alì Ghadirzadeh, Francesco Fumagalli - Center for Nano Science and Technology - IIT@PoliMI (Milano)</b>  Vertical growth of nanostructured intercalated molybdenum oxide 2D semiconducting photoelectrodes</p>
<b>12:30-12:55</b>	<b>Oral 6</b>	<p><b>Simone Mutti - Kenosistec S.r.l. Binasco (Milano)</b>  Thin Film reactive deposition with Plasma Emission Monitor (PEM) control</p>
<b>13:00-14:20</b>	<b>Lunch</b>	

## 20 May 2015 - Morning Room A

### Opening

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10:00-10:20	<b>Coffee Break</b>	

## 20 May 2015 - Morning Room B

### **Vacuum Technology: particle accelerators for Fundamental Research and Medical applications**

**Chairman: Enrico Maccallini** (SAES Getters, Milano)

10:20-10:50	Oral 1	<p><b>Ivan Pongrac</b> - GSI Helmholtzzentrum für Schwerionenforschung GmbH (Darmstadt, Germany)</p> <p>The FAIR complex: a very challenging accelerator chain</p>
10:50-11:15	Oral 2	<p><b>Neri Lorenzo</b> - Istituto Nazionale di Fisica Nucleare, Laboratori Nazionali del Sud (Catania)</p> <p>The INFN in-kind contribution to the Accelerator of the European Spallation Source</p>
11:15-11:40	Oral 3	<p><b>Antonio Bonucci</b> - European XFEL GmbH (Hamburg, Germany)</p> <p>European XFEL in-kind contributions: a look into the main features of the designed vacuum systems</p>
11:40-12:05	Oral 4	<p><b>Roberto Cimino</b> LNF-INFN (Frascati, Italy) and CERN (Geneva, Switzerland)</p> <p>Vacuum and Material Science Challenges for Future Circular Colliders</p>
12:05-12:30	Oral 5	<p><b>Carlo Roncolato</b> - INFN, Laboratori Nazionali di Legnaro (Legnaro, Padova)</p> <p>Design of the Vacuum System for the SPES project and its Recovery System for Radioactive Gases</p>
13:00-14:20	<b>Lunch</b>	

**20 May 2015 - Afternoon Room A**

**Industrial Plasmas**

**Chairman: F. Fracassi (Università di Bari)**

14:20-14:45	Oral 7	<b>Luca Passoni, Francesco Fumagalli- Center for Nano Science and Technology - IIT@PoliMI (Milano)</b> Hierarchical Nanostructures by Physical Vapour Deposition for Transparent Monolithic Dye-Sensitized Solar Cells
14:45-15:10	Oral 8	<b>Marta Garzia Trulli - Department of Chemistry, University of Bari “Aldo Moro” (Bari)</b> Plasma processing of MWCNTs for improved dispersion properties in aqueous solutions
15:10-15:35	Oral 9	<b>F. Fanelli - CNR - Institute of Inorganic Methodologies and Plasmas (Bari)</b> Atmospheric pressure PECVD of thin films on polymeric foams
15:35-16:00	Oral 10	<b>A. M. Mastrangelo - Department of Chemistry, University of Bari “Aldo Moro” (Bari)</b> Deposition of organic/inorganic nanocomposite coatings by atmospheric pressure dielectric barrier discharges
16:00-16:25	Oral 11	<b>Alessandro Mezzetti - Center for Nano Science and Technology@PoliMI, IIT@PoliMI (Milano)</b> Hyperbranched quasi-1D WO <sub>3</sub> nanostructures as efficient photoanodes for photoelectrochemical water-splitting at low bias potentials
16:25-16:40		<b>Coffee Break</b>
16:40-17:00	Oral 12	<b>Luca Passoni, Fabrizio Giordano - Center for Nano Science and Technology - IIT@PoliMI (Milano)</b> Pulsed Laser Deposition Hyperbranched 1-D Nanostructure for Dye Sensitized Solar Cells
17:00-17:20	Oral 13	<b>Matteo Pedroni - CNR, Istituto di Fisica del Plasma “P. Caldirola” (Milano)</b> Formation of nanostructures in silicon by a maskless plasma process
18:30-19:30		<b>AIV – Members Meeting</b>

**20 May 2015 - Afternoon Room B**

**Vacuum Technology: *particle accelerators for Fundamental Research and Medical applications***

**Chairman: P. Michelato (INFN-LASA Segrate, Milano)**

14:20-14:45	Oral 6	<b>Marco Pullia - CNAO (Pavia)</b> Il centro Nazionale di Adroterapia Oncologica a Pavia
14:45-15:10	Oral 7	<b>Marco Schwarz - Centro di Protonterapia – Azienda Provinciale per i Servizi Sanitari (Trento)</b> Proprietà fisico-dosimetriche del sistema di protonterapia di Trento
15:10-15:35	Oral 8	<b>Dario Giove – INFN Sezione di (Milano)</b> Acceleratori full-optical per applicazioni di adroterapia: stato attuale e prospettive
15:35-16:00	Oral 9	<b>F. Siviero SAES GETTERS S.p.A. (Lainate, Milano)</b> Recent developments in NEG technology for particle accelerators from high vacuum to extreme high vacuum
16:00-16:25	Oral 10	<b>Andrea Principe and Fabien Siroti - Angelantoni Test Technologies, (Massa Martana, Perugia)</b> Angelantoni Test Technologies experience in High Vacuum applications
16:25-16:40	<b>Coffee Break</b>	
18:30-19:30	<b>AIV – Members Meeting</b>	

## 21 May 2015 - Morning Room A

### Plenary Session

Chairman: P. Ossi (Politecnico di Milano)

9:20-10:00

**Sergio Girotto (Marine Contracting Consultant) Discussant: Giancarlo M. Potenza (PMSC S.A.)**  
"Il caso Costa Concordia: un salto di qualità nei recuperi marittimi"

10:00-10:20

**Coffee Break**

## 21 May 2015 – Morning Room A

### Surface Science and Nanostructuring at Surfaces

Chairman: Mario Rocca (Università di Genova)

10:20-10:55

Oral 1

**Fausto Sirotti - Synchrotron radiation source - Soleil (Gif sur Yvette, France)**  
Introduction

10:55-11:20

Oral 2

**Niloofer Haghghian - Dipartimento di Fisica, Università di Genova**  
Plasmonic response of composite graphene-Au nanopatterned systems

11:20-11:45

Oral 3

**Andrea Gerbi - CNR-SPIN (Genova)**  
Ballistic Transport at the Nanometric Inhomogeneities in Au/Nb:SrTiO<sub>3</sub> Resistive Switches

11:45-12:10

Oral 4

**Giovanni Carraro - IMEM-CNR (U.O.S. Genova)**  
Enhanced chemical reactivity of pristine and doped graphene strongly interacting with a substrate: chemisorbed CO on graphene/Ni(111)

12:10-12:35

Oral 5

**Letizia Savio IMEM-CNR (U.O.S. Genova)**  
How Growing Conditions and Interfacial Oxygen Affect the Final Morphology of MgO/Ag(100) Films and of supported Ni clusters.

12:35-13:00

Oral 6

**Giorgio Speranza - Fondazione Bruno Kessler, Istituto Fotonica e Nanotecnologie -CNR and University of Trento, Trento**  
Recent advances in graphene research at FBK

13:00-14:20

**Lunch**

## 21 May 2015 - Morning Room A

### Plenary Session

Chairman: P. Ossi (Politecnico di Milano)

9:20-10:00

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"Il caso Costa Concordia: un salto di qualità nei recuperi marittimi"

10:00-10:20

**Coffee Break**

## 21 May 2015 - Morning Room B

### **Fusion Technology**

Chairman: S. Dal Bello (Consorzio RFX, Padova)

10:20-10:55

Oral 1

**Ciattaglia Sergio - EURO-fusion CSU (Culham, UK)**  
Overview of EU DEMO Integrated Conceptual Design Work

10:55-11:20

Oral 2

**Valerio Tomarchio - (F4E) JT-60 SA European Home Team D-85748 (Garching, Germany)**  
Broader Approach Activities in the Field of Fusion Energy Research

11:20-11:45

Oral 3

**Thomas Sunn Pedersen - Max-Planck-Institut für Plasmaphysik (Greifswald, Germany)**  
Progress on commissioning and plans for plasma operation on the Wendelstein 7-X stellarator

11:45-12:10

Oral 4

**Chiara Bustreo - Università degli Studi di Padova**  
Scenarios for power generation in Italy by 2020

12:10-12:35

Oral 5

**P. Sonato - Università degli Studi di Padova**  
Requirements for DEMO NBI pumping system

13:00-14:10

**Lunch**

**21 May 2015 - Afternoon Room A**  
**Surface Science and Nanostructuring at Surfaces**  
**Chairman: Mario Rocca (Università di Genova)**

14:10-14:45	Oral 7	<b>Marie Claire Pradier - Université Pierre et Marie Curie (Paris, Francia)</b> Surface chemical functionalisation: How to make surfaces passive or pro-active in a biological environment
14:45-15:10	Oral 8	<b>Mario Rocca - Università di Genova and CNR-IMEM (Genova)</b> Acoustic surface plasmons on a stepped surface: Au(788)
15:10-15:35	Oral 9	<b>Renato Buzio - CNR-SPIN (Genova)</b> Electron injection barrier and energy-level alignment at the Au/PDI8-CN2 interface via current-voltage measurements and ballistic emission microscopy
15:35-16:00	Oral 10	<b>Andrea Goldoni - ST-INSTM lab., Elettra – Sincrotrone, Trieste</b> Metalation of porphyrins interacting with surfaces
16:00-16:20	Oral 11	<b>Luca Passoni, Giacomo Bonvini - Center for Nano Science and Technology - IIT@PoliMI (Milano)</b> Tunable Wettability Through Independent Tuning of Micro and Nano Scale Features of Self-Assembled Hierarchical Material by Pulsed Laser Deposition
16:20-16:40	<b>Coffee Break</b>	
16:40-17:05	Oral 12	<b>Giorgio Nava - Center for Nano Science and Technology - IIT@PoliMI (Milano)</b> Nanoparticles Jet Deposition of silicon-carbon composite nanostructured anodes for next generation Lithium ion batteries
17:05-17:25	Oral 13	<b>Alessandro Mezzetti - Center for Nano Science and Technology@PoliM (Milano)</b> Inorganic nanostructured films for photoelectrochemical water splitting grown by ballistic deposition methods
17:25-17:55	Oral 14	<b>Fabrizio Valenza – CNR- IENI (Genova)</b> The role of surface and interfaces in liquid metal systems
17:55-18:20	Oral 15	<b>F. Cirisano – CNR-IENI (Genova)</b> Coatings for protection in shallow euphotic seawater
18:00-19:00	<b>Poster Session</b>	
20:30	<b>Social Dinner</b>	

**21 May 2015 - Afternoon Room B**

**Fusion Technology**

**Chairman: G. Mazzitelli (ENEA Frascati)**

14:10-14:45	Oral 6	<b>Raffaele Albanese - Università di Napoli</b> Status and Perspective of the Project of a Nuclear Fusion Infrastructure for Testing Alternative Power Exhaust Systems
14:45-15:10	Oral 7	<b>Thomas Giegerich - Karlsruhe Institute of Technology (Karlsruhe, Germany)</b> Vacuum pumps for fusion reactors: Recent developments and the KALPUREX-Process
15:10-15:35	Oral 8	<b>Ladicicco Daniele - Center for Nano Science and Technology - IIT@PoliM (Milano)</b> Advanced nanoceramic coatings as tritium permeation and corrosion barrier in fusion nuclear system
15:35-16:00	Oral 9	<b>Carlo Neri - Unità Tecnica Fusione - ENEA C. R. (Frascati, Roma)</b> Visual inspection in vacuum
16:00-16:20	Oral 10	<b>Pierluigi Veltri - Consorzio RFX, CNR, ENEA, INFN, Università di Padova</b> Design, modelling and operation of the NIO1 negative ion source
16:20-16:40	<b>Coffee Break</b>	
16:40-17:05	Oral 11	<b>Marco Tardocchi - Istituto di Fisica del Plasma, CNR (Milano)</b> Neutron and Gamma Ray diagnostics developed within EUROFUSION for JET DT plasmas
17:05-17:20	Oral 12	<b>A. De Lorenzi - Consorzio RFX (Padova)</b> The High Voltage Padova Test Facility: a Laboratory for the technology development of High Voltage Insulation in Vacuum
17:20-17:50	Oral 13	<b>A. Maffini - Dipartimento di Energia, Politecnico di Milano</b> Laser cleaning of ITER-LIKE diagnostic first mirrors
18:00-19:00	<b>Poster Session</b>	
21:00	<b>Social Dinner</b>	



**22 May 2015 - Morning Room A**

**Innovative materials for microelectronics and sensors**

**Chairman: A. Lamperti** ((IMM-CNR, Agrate Brianza MB)

<b>10:00-10:40</b>	<b>Oral 1</b>	<b>Livio Baldi - Micron Semiconductor Italia</b> Emerging non-volatile memories
<b>10:40-11:10</b>	<b>Oral 2</b>	<b>Luca Pellegrino - CNR-SPIN, (Genova)</b> Multistate Memory Devices Made of Free-standing Transition Metal Oxide Structures
<b>11:10-11:40</b>	<b>Oral 3</b>	<b>Matteo Cantoni - Department of Physics, Politecnico di Milano</b> Interplay between symmetry based spin filtering and ferroelectricity in fully epitaxial Co/Fe/BaTiO <sub>3</sub> /LaSrMnO <sub>3</sub> tunneling junctions
<b>11:40-12:10</b>	<b>Oral 4</b>	<b>Silvia Vangelista - Laboratorio MDM IMM-CNR, (Agrate Brianza, MB)</b> Atomic layer / chemical vapor deposition of materials for spintronics
<b>12:10-12:40</b>	<b>Oral 5</b>	<b>F. Telesio - Dipartimento di Fisica, Università di Genova</b> Novel functionalities of Lanthanum Aluminate/Strontium Titanate interface for device applications
<b>13:00-14:00</b>	<b>Lunch</b>	

## 22 May 2015 - Morning Room B

### Biointerfaces

Chairman: **G. Ceccone** (European Commission DG JRC, Ispra VA)

10:00-10:40	Oral 1	<b>Alex Shard - National Physical Laboratory, Hampton Road, (Teddington, UK)</b> Challenges in the Measurement of Biomedical Nanoparticles
10:40-11:10	Oral 2	<b>M. Morra - Nobil Bio Ricerche (Portacomaro, AT)</b> Quantitative evaluation of effectiveness of oxidative glow discharge plasma in the removal of adherent endotoxin from titanium devices surfaces
11:10-11:40	Oral 3	<b>Salvatore Iannotta - CNR-IMEM (Parma e Trento)</b> Organic electrochemical transistors for biosensing and bioelectronics
11:40-12:10	Oral 4	<b>Marta Cavo - IEIIT-CNR and University of Genoa, Polytechnic School (Genova)</b> Development of 3D alginate based hydrogels with different mechanical properties as in vitro breast cancer model
12:10-12:40	Oral 5	<b>Paolo Facci - Institute of Biophysics of CNR (Genova)</b> Electrical drive of biological reactions at electrodes' surfaces
12:40-14:00	<b>Lunch</b>	

**22 May 2015 - Afternoon Room A**

**Innovative materials for microelectronics and sensors**

**Chairman: A. Lamperti (IMM-CNR, Agrate Brianza MB)**

<b>14:00-14:30</b>	<b>Oral 6</b>	<b>Christian Wenger Leibniz Institute for innovative microelectronics (Frankfurt, Germany)</b> CMOS process integration of HfO <sub>x</sub> -based resistive memory cells
<b>14:30-15:00</b>	<b>Oral 7</b>	<b>Giovanni Giusti - IMEM-CNR Institute (Trento)</b> Synthesis of nanostructured metal oxide thin film for memristor devices: the PMCS approach
<b>15:00-15:30</b>	<b>Oral 8</b>	<b>Alessandro Leveratto - CNR-SPIN (Genova)</b> Comparison between III-V and II-VI semiconductors: GaN- vs ZnO-based heterostructures
<b>15:30-15:50</b>	<b>Coffee Break</b>	
<b>15:50-16:20</b>	<b>Oral 9</b>	<b>Matteo Tonezzer – FBK, IMEM-CNR (Trento)</b> Gas sensing performance of nanostructured metal oxides depending on their size and dimensionality
<b>16:20-16:50</b>	<b>Oral 10</b>	<b>Luca Passoni - Center for Nano Science and Technology - IIT@Polimi (Milano)</b> Self-assembled hierarchical nanostructures by pulsed laser deposition for photonic devices
<b>16:50-17:20</b>	<b>Oral 11</b>	<b>Alessio Lamperti - Laboratorio MDM IMM-CNR, (Agrate Brianza, MB)</b> Evaluation of Ta-CoFeB-MgO ultrathin films for racetrack magnetic memory
<b>18:00</b>	<b>Closing remarks of the AIV President</b>	

**22 May 2015 - Afternoon Room B**

**Biointerfaces**

**Chairman: S. Iannotta (CNR-IMEM Parma e Trento)**

14:00-14:30	Oral 6	<b>Silvia Giordani - Istituto Italiano di Tecnologia IIT (Genova)</b> Functionalization of carbon nano-onions for biomedical applications
14:30-15:00	Oral 7	<b>Giacome Ceccone - European Commission, (Ispra, VA)</b> Surface chemistry of nanoparticles for bio-applications
15:00-15:30	Oral 8	<b>Daniele Maiolo - CEN c/o Dipartimento di Chimica, Politecnico di Milano</b> Engineered Nanoparticles: the Bionano Interface in a Biological Environment
15:30-15:50	<b>Coffee Break</b>	
15:50-16:20	Oral 9	<b>C. Pederzoli - LaBSSAH, Fondazione Bruno Kessler, IMEM-CNR (Trento)</b> Biofunctional interfaces for on-chip nucleic acids purification and analysis
16:20-16:50	Oral 10	<b>Sergio Perero - Politecnico di Torino</b> Sputtered coatings: antibacterial and other application
18:00	<b>Closing remarks of the AIV President</b>	

## POSTER SESSION

### GALLERIA

21 May 2015, 18.00 – 19.00

<b>P-1</b>	<b>Alessio Montarsolo - CNR ISMAC (Biella)</b> Enhanced adhesion of UV-protective coatings on textile fabrics by means of a plasma pre-treatment
<b>P-2</b>	<b>Valentina Spampinato – CNR-IFP (Milano)</b> Microstructural characterization of Ti-Cr and Ti-Cr-Mn coatings deposited using plasma sputtering on Si substrates
<b>P-3</b>	<b>Chiara Monti - Unità Tecnica Fusione, C. R. ENEA (Frascati, Roma)</b> Evaluation of the reliability of the piezoceramic motor technology in high vacuum and high temperature conditions
<b>P-4</b>	<b>B. Laterza - Consorzio RFX (Padova)</b> Il Sistema di alimentazioni elettriche dell'esperimento NIO1
<b>P-5</b>	<b>Marco Bernardi – CNR-IGI, Consorzio RFX, (Padova)</b> Requisiti per l'assemblaggio e per le prove di compatibilità vuoto di MITICA Beam Source
<b>P-6</b>	<b>Luca Lotto - Consorzio RFX (Padova)</b> The New Acquisition System of the High Voltage Padova Test Facility
<b>P-7</b>	<b>F. Degli Agostini - Consorzio RFX, CNR, ENEA, INFN, Università di Padova</b> Status of the ITER-NBI Test Facility (PRIMA) in Padova
<b>P-8</b>	<b>Fabrizio Valenza, S. Gambaro, A. Passerone, M.L. Muolo IENI-CNR (Genova)</b> Wetting and interfacial reactivity of Ta-X (X=Ni, Co) alloys on CVD-SiC ceramics
<b>P-9</b>	<b>D. Giuranno, R. Novakovic, E. Ricci, IENI-CNR (Genova)</b> Surface tension of Cu-X (Ag, Sn) binary alloys under oxygen influence
<b>P-10</b>	<b>Roberto Caniello – CNR-IFP (Milano)</b> Surface diagnostics of nanostructured silicon by CF <sub>4</sub> /H <sub>2</sub> plasmas

**POSTER SESSION**

**GALLERIA**

**21 May 2015, 18.00 – 19.00**

<b>P-11</b>	<b>Michele Magnozzi - Dipartimento di Fisica, Università di Genova and CNR-SPIN (Genova)</b> High vacuum chamber for real-time, in situ spectroscopic ellipsometry
<b>P-12</b>	<b>Suree Uttiya - Department of Physics (DIFI), Università di Genova</b> Mesoporous Structure of Titanium Dioxide Thin Films via Anodic Spark Deposition Method
<b>P-13</b>	<b>Giovanni Carraro - IMEM-CNR (U.O.S. Genova)</b> CO interaction with pristine and defected graphene: the role of topological and chemical defects
<b>P-14</b>	<b>Sergio Perero - Politecnico di Torino</b> Sputtering at GLANCE - DISAT - Politecnico di Torino: overview on sputtering activity.