X International
Conference on

# Nanostructured Materials

NANO 2010

ROMA, Italy - September 13 - 17 , 2010

# Abstract book


# INTERNATIONAL CONFERENCE ON NANOSTRUCTURED MATERIALS NANO 2010

*September 13 - 17, 2010*
*University "La Sapienza"*

CHAIRs:
D. Fiorani, E. Traversa, E. Agostinelli

**http://nano2010.mlib.cnr.it**

# FOREWORD

The "Nanostructured Materials" Conference is the highest level International Conference in the field organized biannually under the auspices of the International Committee on Nanostructured Materials (ICNM). The Conference is designed to bring together the international community of scientists and engineers interested in recent developments on nanostructured materials in many different fields. It fosters the exchange of ideas, techniques, experiments, and applications in this exciting and rapidly developing field. In particular, the Conference provides a forum for the presentation and discussion of new concepts, properties, and developments on new science and novel materials in the nanoregime, new functional nanomaterials, applications in nanoelectronics, energy, environment, photonics, nanobiotechnology, nanomedicine, and information storage.

The 10th International Conference (NANO 2010) is held in Rome, following the previous editions held in Cancun - Mexico (1992), Stuttgart - Germany (1994), Kona - Hawaii, USA (1996), Stockholm - Sweden (1998), Sendai - Japan (2000), Orlando - USA (2002), Wiesbaden - Germany (2004), Bangalore - India (2006), Rio de Janeiro - Brazil (2008).

The Conference program includes 10 plenary invited lectures, 73 invited talks, 253 contributed talks distributed in 6 parallel sessions, devoted to specific topics, and 563 poster contributions divided in three sessions.

We warmly welcome all the participants and we are sure that the Conference will be scientifically outstanding for the novelty and the quality of the contributions received, making it a special moment in research on nanoscience and nanotechnology. We would like to thank all the Topics coordinators, the members of the International and National Advisory Boards, as well as the members of the International Committee (ICNM) for their valuable contribution and suggestions to the general organization of the Conference, and for making possible the preparation of an outstanding scientific program. Thanks are also due to all the sponsors. Finally, the members of the Secretariat and of the Local Organizing Committe, belonging to the Institute of Structure of Matter of the National Research Council of Italy, deserve a special mention for their endless effort.

Chairs of the NANO 2010 Conference

**Dino Fiorani, Enrico Traversa, Elisabetta Agostinelli**

# SPONSORS

International Committee on Nanostructured Materials - ICNM

National Research Council - CNR

Department of Materials and Devices- CNR

Institute for Structure of Matter - CNR

Physics Department - Roma "La Sapienza" University

Chemistry Department - Roma "La Sapienza" University

World Premier International Research Center Initiative - WPI

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Under the High Patronage of the President of Italian Republic

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# NANO2010 EXHIBITION

During nano2010 there will be an area for exhibition ranging from measuring systems, vacuum and material analysis equipments, books, etc. The informal atmosphere will facilitate in making quality contacts between companies and attendees.

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Attocube systems AG manufactures and distributes a complete line of easy-to-use scanning probe microscopes and nanopositioning systems for temperatures in the range from 300 K down to 10 mK! The innovative nanopositioners are also compatible with high vacuum and ultra high vacuum environments as well as with high magnetic fields up to 31 Tesla.
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L.O.T. Oriel Italia is present on national territory to serve italian research and industry, with agencies and demonstration centers in Milano and Roma, working with its specialists to identify the best technical solutions for any application.
Our team has continuous technical-scientific trainings and specialization courses, ensuring our customers the correct support and help in finding the best application solution.

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ENT NANO

**ENT** – *Environment Nano Technologies* is an international magazine covering the latest research, applications, and opinions in the field of nanotechnology for the environment.
*The spirit of the magazine is to alert its readers about the expanding possibilities of communication:*
- Exchange experiences, opinions and know-how among researchers, patent holders, universities, multi-national corporations and researching organizations in the field of Nanotechnologies for the Environment;
- Provide the latest news and innovative projects;
- Update industrial projects, practical realization of materials and equipments;
- Publish the latest scientific findings, opinions and ambitions for research;
- Digital archives and interactive website;
- Possibility to participate in Patent Auction

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JOURNAL OF MATERIALS: DESIGN AND APPLICATIONS

As publishers to the Institution of Mechanical Engineers, our Journals contain the latest and best research from across the discipline. Of particular interest to delegates is like to be our Journal of Materials: Design and Applications, which covers the usage and design of materials for application in an engineering context; and the Journal of Nanoengineering and Nanosystems, which is dedicated to the particular aspects of nanoscale engineering, science, and technology that involve the descriptions of nanoscale systems. Published 4 times a year, these Journals are led by an Editorial Board made up of leading researchers in these fields. For more information or to request a sample copy, please visit the website.

http://www.pepublishing.com/acadpub/JNN/home/

WILEY

Wiley-Blackwell publishes approximately 1,400 scholarly peer-reviewed journals (e.g. the high-quality journals Advanced Materials, Advanced Functional Materials and small) and a global collection of books.

For more information please visit www.wiley.com

RIVOIRA

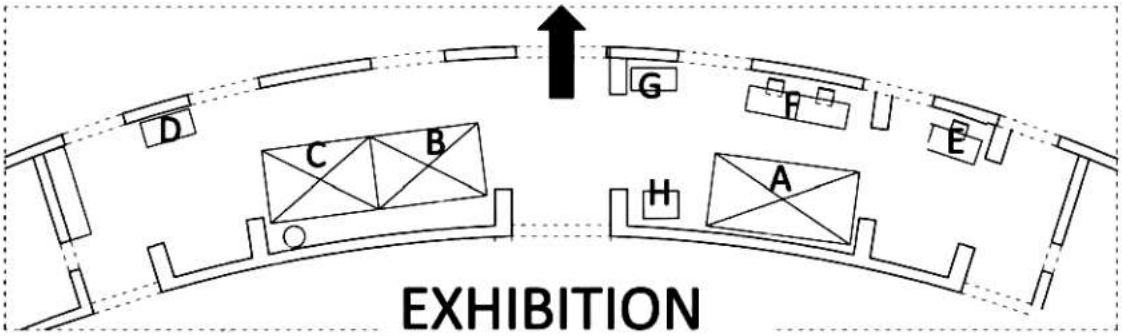
Rivoira is a company that supplies atmospheric, process and specialty gases, and related services and technologies to a wide diversity of customers. For more information please visit the website

www.rivoiragas.it/

# EXHIBITION AREA

***RETTORATO BUILDING***

TERRACE and COFFEE BREAKS AREA




EXHIBITION AREA

A - Attocube
B - Lot Oriel
C - Springer
D - ENT
E - Ionvac
F - Pfeiffer
G - Wiley
H - Rivoira

## 1.1 CONFERENCE ORGANIZATION

### *CHAIRS*

**Dino Fiorani** - National Research Council - ISM, Roma, Italy *(dino.fiorani@ism.cnr.it)*

**Enrico Traversa** - Roma Tor Vergata University, Chemistry Department, Roma, Italy *(traversa@uniroma2.it)*

**Elisabetta Agostinelli** - National Research Council - ISM, Roma, Italy *(elisabetta.agostinelli@ism.cnr.it)*

### *INTERNATIONAL COMMITTEE ON NANOSTRUCTURED MATERIALS - ICNM*

Prof. Kamanio Chattopadhyay (India) - ***Chair***

Prof. Jeff Th.M. De Hosson (The Netherlands) - ***Vice Chair***

Dr. Robert D. Shull (USA) - ***Secretary/Treasurer***

Prof. K. Lu (China) - ***Past chairman***

***MEMBERS***

Prof. Dr. Rudiger Bormann - Germany
Prof. Uwe Erb - Canada
Dr. Dino Fiorani - Italy
Prof. Dr. Horst Hahn - Germany
Prof. Akihisa Inoue -Japan
Dr. Do Hyong Kim - Korea
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Prof. Mamoun Muhammed - Sweden
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A. Fert - France
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M.L. Terranova - Univ. Roma 1
E. Tosatti - SISSA, Trieste
M. Venanzi - Univ. Roma 2
M. Vittori-Antisari ENEA, Roma

## *LOCAL COMMITTEE*

**CHAIR:** Elisabetta Agostinelli elisabetta.agostinelli@ism.cnr.it

| | |
|---|---|
| *IT/Technical support :* | C. Ottaviani, A. Ippoliti, G. Righini, E. Patrizi, S. Laureti, G. Contini |
| *Logistics :* | R. Occhiuto |
| *Social Program :* | I. Colace, A. Paoletti |
| *Communication/WEB :* | C. Ricci, M. Catricalà, D. Peddis, G. Righini |
| *Documents/Design :* | G. Varvaro, De Padova |
| *Abstract and Program Booklets :* | M. Girasole, C. Ottaviani, S. Laureti, G. Varvaro, G. Menichelli, F. Filippone |
| *Sponsorship :* | L. Petrilli, C. Matacotta |
| *Exhibition :* | E. Bauer, A. Capobianchi |

## *SECRETARY*

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Elena Destro, ISM-CNR, Roma
Franca Rossi ISM-CNR, Roma
Bruna Ponzi, ISM-CNR, Roma

E-mail: secretary.nano2010@ism.cnr.it

## 1.2 TECHNICAL PROGRAM

The technical program of NANO2010 has been established by the Chairmen, after consulting ICNM members and the two Advisory Boards. It includes plenary lectures, 6 parallel sessions for invited talks and oral contributed and 3 poster sessions.
In the Table the number of ORAL scientific contributions (divided by category ) are reported:

a) **10 PLENARY TALKS**
b) **73 INVITED TALKS** in parallel oral sessions
c) **253 CONTRIBUTED PAPERS** in parallel oral sessions

**Table 1 - SYNOPTIC TABLE**

| Sessions | Number | Talk duration |
|---|---|---|
| PLENARY TALKS | 10 | 40 min + 5 min discussion |
| INVITED PAPERS<br>in parallel Sessions | 73 | 25 min + 5 min discussion |
| CONTRIBUTED PAPERS<br>- ORAL PRESENTATION | 253 | 13 min + 2 min discussion |

Contributed papers accepted for the Conference are presented either as oral or as posters. Contributed Oral presentations will be 13 minutes long followed by a 2-minutes discussion.

Poster presentations will consist of well-prepared visual materials about the work, posted on a designated 1.00 m (width) x 2.50 m (height) poster board, with the author available to present details and answer questions during the entire poster session.

## 1.3 PROCEEDINGS

The opportunity to submit full manuscripts related to their presentation is offered to the authors for publication in a special issue of the **Journal of Nanoparticle Research**. The manuscripts will be peer-reviewed and published only if they meet the standard quality level required by the journal.

## 1.4 REGISTRATION FEES

As customary in most conferences, the normal registration fees apply for advance registration (deadline July 15$^{th}$) and a small fee (5%) is added for payment with credit cards to compensate the bank charges.

Early registration fees are:

| | | | | |
|---|---|---|---|---|
| Full registration: (check or bank transfer) - | euro | 450 (Credit card) | - | euro 473 |
| Students/retired: (check or bank transfer)- | euro | 250 (Credit card) | - | euro 260 |
| *Companion : (check or bank transfer)-* | *euro* | *200 (Credit card)* | - | *euro 210* |

After July 15$^{th}$, only on-site registration** are accepted:

| | | | | |
|---|---|---|---|---|
| Full registration: (check or bank transfer) - | euro | 530 (Credit card) | - | euro 557 |
| Students/retired: (check or bank transfer)- | euro | 280 (Credit card) | - | euro 294 |
| *Companion : (check or bank transfer)-* | *euro* | *230 (Credit card)* | - | *euro 242* |

****Note : only cash (Euro) or credit card payment is accepted for on-site registration.**

## 1.5 ADDITIONAL INFORMATION

### *CONFERENCE BADGES*

Every Conference participant must wear his/her official Conference badge to enter any technical sessions and/or the exhibition hall. Once assigned to a registrant, the badge is not transferable.

### *ACCOMPANYING PERSONS*

Accompanying persons interested in entering the Congress Building, are kindly requested to register to the Conference. The registration fee is 200 euro and this will allow him/her to follow the scientific sessions, and to participate to the Welcome Party held on Monday, September 13, and to coffee/Tea breaks during the week. Remember that, for safety reasons, people without the Conference badge will not be allowed to circulate inside the Conference sites. For Those who have not yet registered to the Conference, please do so at the registration desks.

### *E-MAIL AND OTHER SERVICES*

Services available for NANO2010 participants are free Internet WIFI connection and e-mail inside the Rettorato and in the CNR Buildings, cloakroom and first aid. Please ask the registration desk for username and password to connect to the Internet.

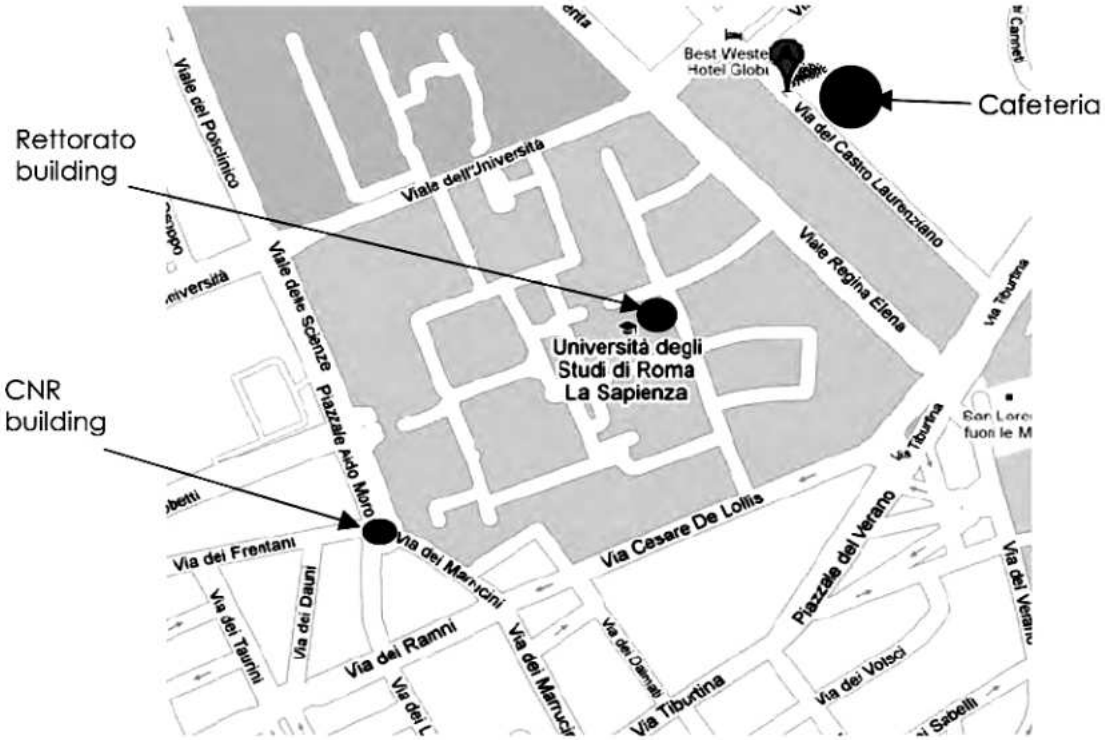
### *COFFEE/TEA BREAKS*

Pastry, coffee and tea will be served in three different locations:

- in the terrace in the back of Rettorato building
- in front of Phyisics department building (Marconi)
- in the CNR building, next to the Conference Hall

## *MEALS*

The NANO2010 organization has made an agreement with a catering service so you can enjoy your meal in the University Cafeteria (Via del Castro Laurenziano, 9, see the map below, 10 minutes walking) which is going to be open exclusively for NANO2010 attendees. Tickets will be sold at the registration desks (6,00 euros /meal). Moreover, a list of nearby snackbars, small restaurants and taverns will be also distributed at the registration desk.




## *WEDNESDAY AFTERNOON*

There will be no technical sessions in the afternoon of Wednesday, September 15th. Participants are encouraged to do sightseeing in Rome and neighbourhood. Information on tours are available at Triumph P.R. Tourist desk.
In the evening (7.30-11.30 p.m), the social dinner is scheduled at Palazzo Brancaccio (further details are given in the section *2.5 Social Program*).

# 2. CONFERENCE LOCATION

## 2.1 CONFERENCE SITE

**The NANO2010 Conference location is "La Sapienza" University - Roma**

The Conference is held at the University Roma 1 "La Sapienza", Piazzale Aldo Moro, 5. La Sapienza is presently the largest University Campus in Roma. It carries out the mission of contributing to the development of a society of knowledge through research, excellence and quality education as well as international cooperation.

It offers a wide range of fields of study that includes 370 first cycle and second cycle degrees and over 300 professional university masters (continuing education courses). Moreover, it carries out scientific research in various fields, achieving high-standard results, which are acknowledged both on a national and an international level.

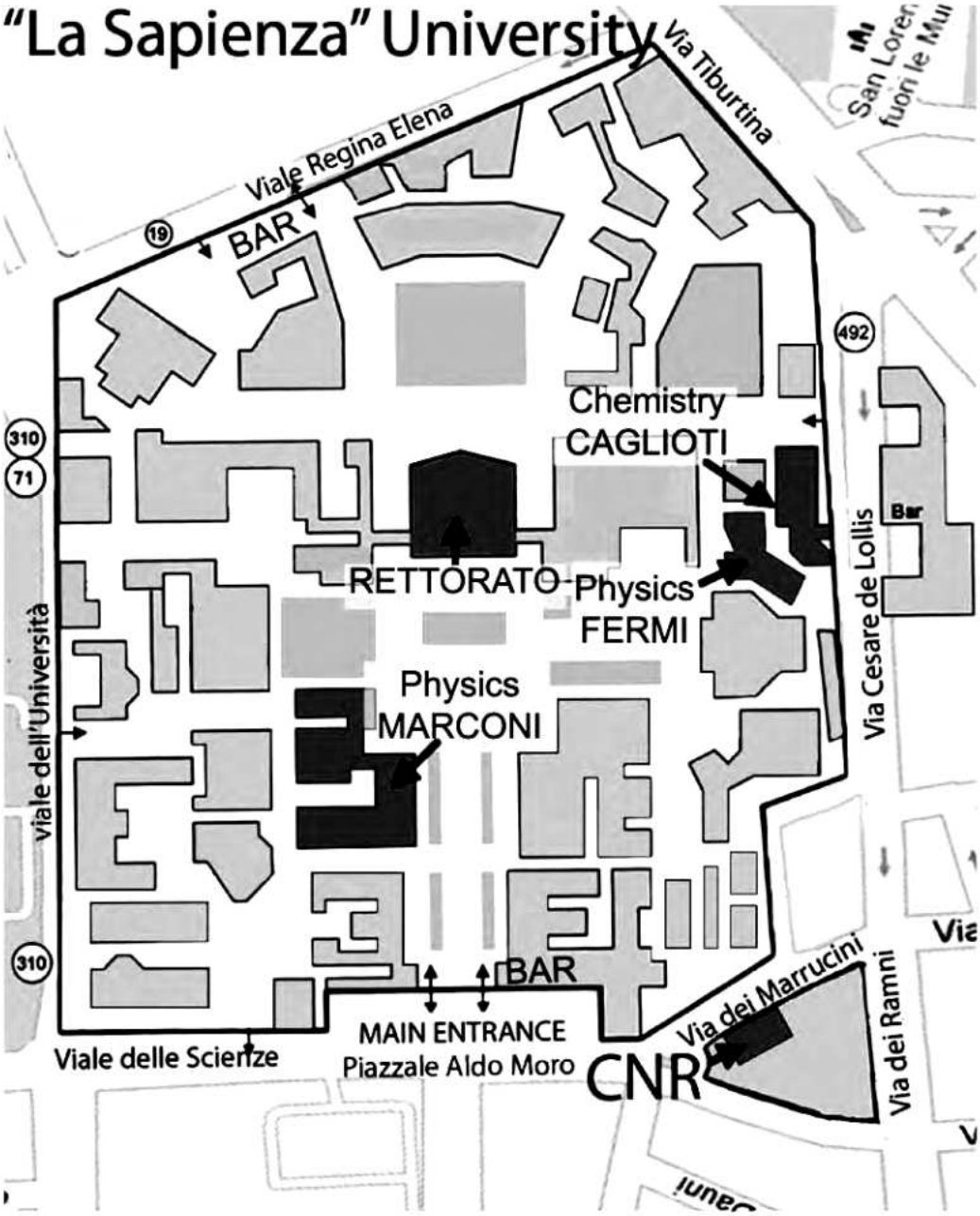
The branches involved cover every field of knowledge from pure science to technical branches and classical studies, historical, philosophic and economic-juridical subjects, from Sociology to Psychology, from Communication Sciences to Medicine.

It is equipped with facilities for hosting large conferences. The main location of NANO 2010 is in the "Rettorato" Building, the main building of the University, whose Aula Magna (ROOM E) can host up to 1000 people. All Plenary Lectures will be held there. The scientific parallel sessions (oral and poster) will be held in the Physics (ROOM A and D) and Chemistry ( ROOM B and F) buildings and in the CNR headquarters (ROOM C) See map page 27.

**AULA MAGNA**
**Rettorato - University**

**CONFERENCE HALL**
**CNR**

The University is located in a central area of the town, at a walking distance from TERMINI Central Train Station. It can be reached from the Fiumicino "Leonardo da Vinci "Airport in only 30 minutes by train connection (train Leonardo Express, every 30 minutes). From Termini Central Train Station: bus N. 310; from Tiburtina Station: bus No. 163, 492, 71; and it is linked to other areas by a number of buses and by the Metro B-line (Metro linea B: Stop "Policlinico" for further details on transportation or visit the web site http://www.atac.Roma.it/).




The number of busses with the most convenient stops are reported in the circles.
The buildings where the oral presentations are planned are evidenced in dark grey

## 2.2 ROMA

Roma is worldwide known as the Eternal City for its unique history. It has always attracted tourists from all over the world for its beauty and charm, its unforgettable monuments, architecture and invaluable arts which are a fascinating reminder of the past. In middle September the weather is very pleasant, the temperatures ranging from 10 to 25 degrees Celsius, with rare rain.

## 2.3 TRANSPORTATION IN ROME

Roma is served by an integrated public transport system operated by the companies Atac (http://www.atac.roma.it/ ), Cotral - FS. The system includes a network of metro, bus, tram and metro-type rail Services. The **metro** has two lines:

*Line A* Links the area of Tuscolana in the south-east of the city with Termini rail and Metro station, the historic centre of Roma and Vatican City to the west

*Line B* Links the EUR district to the south of the city with the Basilica San Paolo, the Colosseo and the rail stations of Ostiense, Termini and Tiburtina.

The metro is in service between the hours of 5:30 untill 23:30. The 75-Minute-Ticket (BIT) costs 1.00 EURO and it can be used for up to 75 minutes on all ATAC buses and trams, for one trip on metro lines A and B and for one trip on any metro-type FS train (2nd class).

## 2.4 ACCOMMODATION

Roma has an overall accommodation capacity of about 30,000 rooms (single, double or suites). The organizing secretariat has reserved selected hotels in the venue area and in nearby comfortable city areas. The Reservation can be done exclusively through Triumph C&C booking Department - *Via Lucilio, 60 – 00136 Roma* e-mail: booking@gruppotriumph.it Fax: +39 06 35530231 .
Please go to http://nano2010.mlib.cnr.it in the *Tourist Information* page, where you will find all the instructions to make your Hotel reservation.

Cheaper accommodation will be offered to a limited number of applicants in some of the pilgrim houses in Roma belonging to religious orders or congregations.
*The following selected Two stars hotels and "B&B" are sited in a central position but can offer a very limited number of rooms. Participants interested in a cheaper accommodation can contact, reserve and pay directly such structures.*

***2* hotels***

| | | |
|---|---|---|
| FELICE HOTEL | www.hotelfelice.com | Tel. 06 44 53347 |
| MILAZZO HOTEL | www.hotelmilazzo.com | Tel. 06 44 52283 |
| LUCIANI HOTEL | www.hotelluciani.it | Tel. 06 44 91327 |

***B&B***

| | | |
|---|---|---|
| CASA PER FERIE AEDES PLACIDA | www.aedesplacida.it | Tel. 06 44258953 |
| CASA DI GIORGIA | www.bbacasadigiorgia.it | Tel. 06 8548 79 |
| TOWN HOUSE DOMUS COPPEDE | www.domuscoppede.it | Tel. 06 8541 982 |
| MATILDE B&B | www.residenzamatilde.it | Tel. 06 8543 280 |
| LA SAPIENZA HOUSE | www.lasapienzahouse.com | Tel. 06 8530 5601 |
| CASA A ROMA | www.bb-casaaroma.romaonline.net | Tel. 06 4491289 |

Triumph Group through the Viaggi & Incentive Division, can offer ON REQUEST complimentary tourist services like: international air tickets, transfer, excursions, ecc

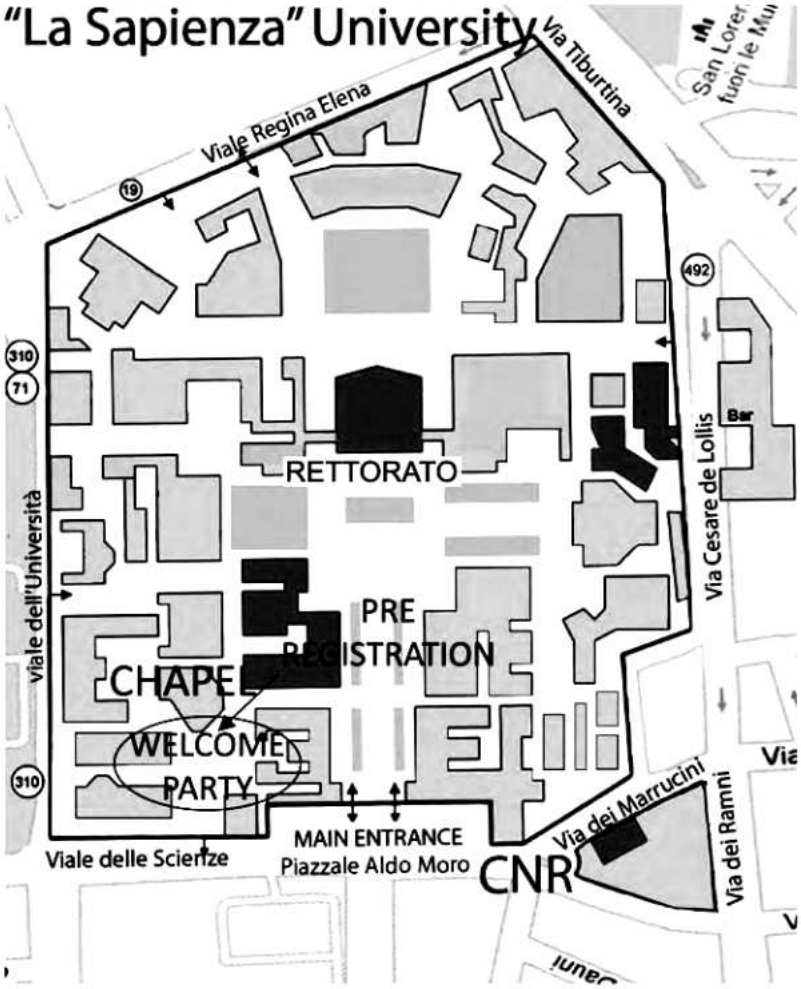
## 2.5 SOCIAL PROGRAM

### *WELCOME PARTY*

*Sunday, **September 12th**, 2010 6:00 p.m. – 8:00 p.m.*

*Rome University La Sapienza Piazzale Aldo Moro, 5 00185 Roma*

On Sunday evening, the Welcome party will be held during which food, wine and soft drinks will be served. Starting from 5 p.m. **exclusively pre-registered attendees** will be able to pick up their registration material. The event will be held in the area in front of the university Chapel (see the map below). Don't miss this opportunity to meet people in an informal atmosphere.




### *JAZZ CONCERT*

*Monday, **September 13th**, 2010 7.00 p.m.*

*Rome University La Sapienza "RETTORATO" Piazzale Aldo Moro, 5 00185 Roma*

*La Musa Orchestra*

Drinks and snacks will be served before the concert

# *CONFERENCE BANQUET*

*Wednesday,* ***September 15th****, 2010 7:30 p.m.*

*Palazzo Brancaccio, Viale del Monte Oppio, 7 00184 Roma*

**Important***: Closure is at 11:30 !! Ticket: 60,00 EURO*

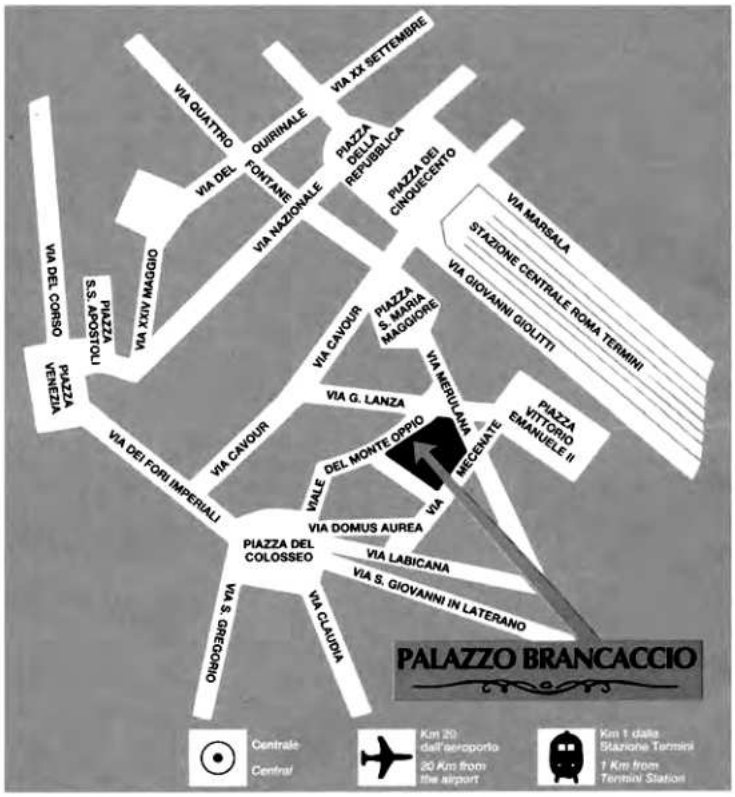
## Palazzo Brancaccio

Palazzo Brancaccio is the last Roman Patrician Palace built in 1880 in the heart of Rome. Palazzo Brancaccio is located on Colle Oppio, near Emperor Nero's, "Domus Aurea" and the seven hills, between Colosseum and the famous Basilica of Santa Maria Maggiore.
Princess Mary Elisabeth Field, wife of Salvatore Brancaccio, in 1879 commissioned architect Gaetano Koch the construction of the palace situated in a beautiful natural old park between roman ruins, ancient trees, fountains and beautiful flowerbeds.
In the Park you can also admire the small and charming Hunting Lodge turned into a Coffee House, rich of decorations and painted by Francesco Gay.
Today this Palace is considered as one of the most beautiful venue in Rome, where getting together is to find again the plasure for living.
The party will start at 7:30 p.m. with a cocktail in the park, followed by the Italian-style dinner served in the magnificents halls. After dinner, the dessert will be served in the park. Music and dancing will follow. A dinner for a limited number of persons has been arranged, so please, register in advance if you don't want to miss this opportunity.

http:// www.palazzobrancaccio.com/

**By BUS:**
Departure from Roma Piazza dei cinquecento , 1
walk 150 meters
go to stop TERMINI
take Line No 714 (Direction: Palazzo SPORT) for 2 stops (every 7 min).
get off at stop MERULANA/BRANCACCIO
walk 250 meters to viale del monte oppio , 7
**Attention: there is no bus connection after midnight !!!!**

**By METRO** :
As an alternative route, you can easily reach Palazzo Brancaccio by METRO. The closest Metro Station, (Piazza Vittorio METRO STATION/ A-line), is at 400 m distance (see the map).
**Attention: METRO transport closes at 11:30 p.m. !!!**




## *BEETHOVEN CONCERT*

*Thursday, **September 16th**, 9.00 pm*
*Auditorium Parco della Musica, Viale Pietro de Coubertin, Roma*

**Santa Cecilia National Academy Orchestra**
**Kurt Masur Director**
**Beethoven's Symphonies: Symphony n. 6 "The Pastoral" and Symphony n. 7**

In the New Auditorium of Rome designed by the "archistar" **Renzo Piano,** Nano2010 has reserved 100 seats in the "vip gallery" of the wonderful **Sala Santa Cecilia** for the concert. The ticket will cost around 50 euros.

You can easily reach the Auditorium by Bus (line M) from TERMINI station to terminal stop (Viale Pietro de Coubertin), (every 15 minutes from 5.00 pm up to the end of the concerts). For additional information on others bus lines and metro visit the web site

www.auditorium.com

# 3. SCIENTIFIC PROGRAM

## *LIST OF TOPICS*

T01 - 2D molecular self assembling on surfaces and surface functionalization
T02 - Nanostructured Materials for energy applications
T03 - Environment
T04 - Advanced Characterization techniques of nanostructures
T05 - Nanoelectronics, Nanodevices and sensors (MEMS, NEMS..)
T06 - Nanofabrication
T07 - Materials with controlled nanostructure via chemical methods
T08 - Nanophotonics
T09 - Mechanical properties of nanostructured materials
T10 - Modelling and simulation of nanostructures
T11 - Nanomedicine
T12 - Nanobiotechnologies
T13 - Nanocomposite materials
T14 - Catalysts
T15 - Organic-Inorganic Hybrid Materials
T16 - Nanomaterials for information storage
T17 - Atomic clusters
T18 - Nanoparticles
T19 - Carbon nanotubes and graphene
T20 - Nanotoxicology
T21 - Atomic manipulation
T22 - Defects in nanostructures
T23 - Nanoporous materials
T24 - Nanometrology
T25 - Nanostructured semiconductors
T26 - Nanomagnetism
T27 - Multiscale materials

## *TOPIC COORDINATORS*

Nano2010 Organizers warmly thank the Topic Coordinators for the huge work performed in coordinating the process of Abstracts Refereeing

Franca ALBERTINI
Carlo BELLITTO
Ennio BONETTI
Carlo CARBONE
Anna CAVALLINI
Agostina CONGIU CASTELLANO
Giorgio CONTINI
Antonio CRICENTI
Maurizio DE CRESCENZI
Alek V. DEDIU
Rodolfo DEL SOLE
Paola DE PADOVA
Elisabetta DI BARTOLOMEO
Giancarlo FAINI
Giovanni FERRARIS
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Silvia LICOCCIA
Stefano ORLANDO
Davide PEDDIS
Giorgio PICCALUGA
Gian Bartolo PICOTTO
Paolo PISERI
Nicola ROSATO
Corrado SPINELLA
Marco VITTORI

## *LIST OF PLENARY LECTURES*

| *NAME* | *TITLE* | *COUNTRY* |
|---|---|---|
| **Masazaku Aono** | Atomic/molecular-scale control of electrochemical reactions | Japan |
| **Hironori Arakawa** | Development of highly efficient dye-sensitized solar cell sub-module and its application to solar hydrogen production | Japan |
| **Samuel D. Bader** | Spintronics Overview with Implications for Energy, Information and Medical Technologies | USA |
| **Flemming Besenbacher** | Catalytic model systems studied by high-resolution, video-rate Scanning Tunneling Microscopy | Denmark |
| **Frank Caruso** | Nanoengineered particles for therapeutic delivery | Australia |
| **Steven J. Chou** | Nanoimprint lithography and nanostructure self- perfection -- unique enabling technologies for nanoengineering and nanoscience | USA |
| **Maurizio Prato** | Novel applications of functionalized carbon nanotubes | Italy |
| **Erio Tosatti** | Nanofriction and nanocontact conductance: classical and quantum surprises | Italy |
| **Harry L. Tuller** | Nano-structured materials for next generation fuel cells and sensors | USA |
| **Viola Vogel** | Mechanical Regulation of Protein Function | Switzerland |

## *LIST OF INVITED SPEAKERS*

| *NAME* | *TITLE* | *COUNTRY* |
|---|---|---|
| **Franca Albertini** | Laterally-confined hard-soft magnetic media based on L10 FePt grown on substrates with variable matching | Italy |
| **Manfred Albrecht** | Magnetic films on templates: a route towards percolated media | Germany |
| **Mohamed S. Aly-Hassan** | Functionalization of the Thermal Properties of Composite/Nanocomposite Materials | Japan |
| **Heinz Amenitsch** | Small angle X-ray scattering as in situ tool at the nanoscale: watch molecules during the selfassembly | Italy |
| **Giuseppe Battaglia** | Polymeric virus-like nanovectors: structure design and applications | UK |
| **Friedhelm Bechstedt** | Embedded and doped Si nanocrystals: electronic, magnetic and optical properties from first principles | Germany |

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|---|---|---|
| **Isabelle Berbezier** | Ge nanocrystals self-organized on nanopatterned substrates | France |
| **Giorgio Bertotti** | Nonlinear magnetization dynamics and spin-wave instabilities in spin-transfer-driven nanomagnets | Italy |
| **Anja Bieberle** | Nanoionics: from thin metal/metaloxide films to devices | Switzerland |
| **Fabio Biscarini** | Label-free sensing of biomolecules and neural networks with ultra-thin film organic field effect transistors | Italy |
| **Walter J. Botta Filho** | Nanoscale grain refinement and H-sorption properties of MgH2 - based composites processed by severe plastic deformation | Brazil |
| **Juergen Brickmann** | Hierarchical pattern of microfibrils in a 3D fluorapatite–gelatine nanocomposite: Simulation of a bio-related structure building process | Germany |
| **Giulio Caracciolo** | Status and Perspectives of Lipid-mediated Gene Delivery | Italy |
| **Eugenio Coronado Miralles** | Switchable spin-crossover nanoparticles | Spain |
| **Antonio Cricenti** | Scanning Probe Microscopy in Material Science and Biology. | Italy |
| **Maurizio De Crescenzi** | Multi wall carbon nanotube–silicon heterojunction photovoltaic devices | Italy |
| **Jeff T. M. De Hosson** | Tunable self-organization of nanocomposite multilayers | The Netherlands |
| **Alessandro De Vita** | Multiscale modelling of fracture chemo-mechanics in brittle materials | UK |
| **Yair Ein-Eil** | Advanced metal-air batteries based on silicon fuel | Israel |
| **M. Samy El-Shall** | Nanocatalysis on Graphene and Metal-Graphene Nanocomposites | USA |
| **Toshiaki Enoki** | Edge state and magnetic properties of nanographene | Japan |
| **Claus Feldmann** | Nanoscale Hollow Spheres: Microemulsion-based Synthesis, Properties and Application | Germany |
| **Josef Fidler** | Particular and granular magnetic nanostructures for advanced magnetic recording schemes | Austria |
| **Harald Fuchs** | Probing matter at the atomic scale | Germany |
| **Yves H. Geerts** | Dimensionality and alignment of discotic liquid crystals | Belgium |
| **Fabrizio Gelain** | Nanostructured scaffolds for nervous tissue regeneration | Italy |

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|---|---|---|
| **Dominique Givord** | Some aspects of exchange-bias | France |
| **Jean-Marc Greneche** | Magnetic Nanoparticles: Correlation between Structural and Magnetic Properties | France |
| **Simonetta Grilli** | Highly flexible manipulation and dispensing of nano-drops by a pyro-electro-hydrodynamic approach | Italia |
| **George Hadjiapanayis** | Magnetic nanoparticles for novel applications | USA |
| **Hannu Hakkinen** | Ligand-protected metal clusters: building blocks of new nanomaterials? | Finland |
| **Bert Hecht** | Single-crystalline plasmonic nanostructures | Germany |
| **Antonio Hernando** | Magnetism in functionalised ZnO nanoparticles: Magnetic moment of two dimensional electron gas confined over a spherical surface | Spain |
| **Xiaoxu Huang** | Correlation between dislocation structure and mechanical behaviour in nanometals | Denmark |
| **Lawrence Kabacoff** | Bi-Modal Nanostructured Ceramic Composite Coatings with Extraordinary Damage Tolerance: A Case Study | USA |
| **Harald F. Krug** | Nanotoxicology - biological principles and methodological flaws | Switzerland |
| **Robert Kruk** | Electronically tuneable properties of nanostructured materials | Germany |
| **Enrique J. Lavernia** | Mechanical properties and deformation in multi-scale nanostructured materials | USA |
| **Edson R. Leite** | A novel strategy for the synthesis of metal oxides nanocrystals using high molecular weight solvents: synthesis and functionalization in a single step | Brazil |
| **Guy Le Lay** | Silicene: the silicon based alternative of graphene | France |
| **Ziyou Li** | Nanometrology using Size-selected Clusters | UK |
| **Lei Lu** | Strengthening mechanism of nano-scale twins | China |
| **Giorgio Margaritondo** | Imaging with coherent X-rays for nanotechnology and nanomedicine | Switzerland |
| **Dimitris Niarchos** | Graded L10-FePt media as candidates for ultrahigh magnetic recording storage beyond 1 Tbit/in2 | Greece |
| **Fernando Palacio** | Polymer-based multifunctional magnetic nanoparticles for biomedical applications | Spain |
| **Richard E. Palmer** | Counting the Atoms in Supported, Monolayer-Protected Gold Clusters | UK |
| **Yossi Paltiel** | Hybrid Organic Inorganic Quantum Nano - Devices | Israel |

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|---|---|---|
| **Teresa Pellegrino** | Stimuli-responsive magnetic based nanocontainers as delivery systems for therapeutic agents. | Italy |
| **Chiara Pernechele** | Interface effects on an ultrathin Co film in multilayered stacks based on the organic semiconductor Alq3 | Italy |
| **Valeri Petkov** | Nanostructure by high-energy XRD and atomic pair distribution functions | USA |
| **Enrico Prati** | Control of the Energy Levels of a Single Atom in a Back-Gated Silicon Quantum Dot | Italy |
| **Olivia Pulci** | Electronic and optical properties of graphane and related 2-D systems. | Italy |
| **Vito Raineri** | Local probing of graphene transport properties | Italy |
| **Federico Rosei** | Exploring molecular assembly at surfaces: from supramolecular systems to robust surface confined polymers | Canada |
| **Maria Sabrina Sarto** | Nanomaterials for industrial applications: research development and technology transfer activities at Research Centre on Nanotechnology applied to Engineering of Sapienza University | Italy |
| **Linda Schadler** | Tailoring the Properties of Hairy Nanoparticle Composites Through Interface Design | USA |
| **Ivan K. Schuller** | Hybrid magnetic/superconducting nanostructures | USA |
| **John M. Seddon** | Amphiphile self-assembling materials with potential applications in nanomedicine | UK |
| **Roberta Sessoli** | Single Molecule Magnets on Metallic and Magnetic Substrates | Italy |
| **Francesco Stellacci** | Cell Membrane Penetrating Nanoparticles | Switzerland |
| **Leander Tapfer** | Novel strategies for the synthesis of hybrid inorganic-organic nanocomposite materials for energy conversion applications | Italy |
| **Javier Tejada Palacios** | Magnetic nanoparticles: free nanocompass and quantum mechanical rotation | Spain |
| **Thomas Tsakalakos** | Mechanical Behaviour of Nanostructured Coatings: An Eigenstrain Analysis by EDXRD Synchrotron Probe | USA |
| **Tseung-Yuen Tseng** | Manganese oxide-carbon nanotube nanocomposite supercapacitor electrodes | Taiwan |
| **Filip Tuomisto** | Advanced characterization of nanostructured materials: positron annihilation spectroscopy | Finland |
| **Knut W. Urban** | Picometre Electron Microscopy | Germany |

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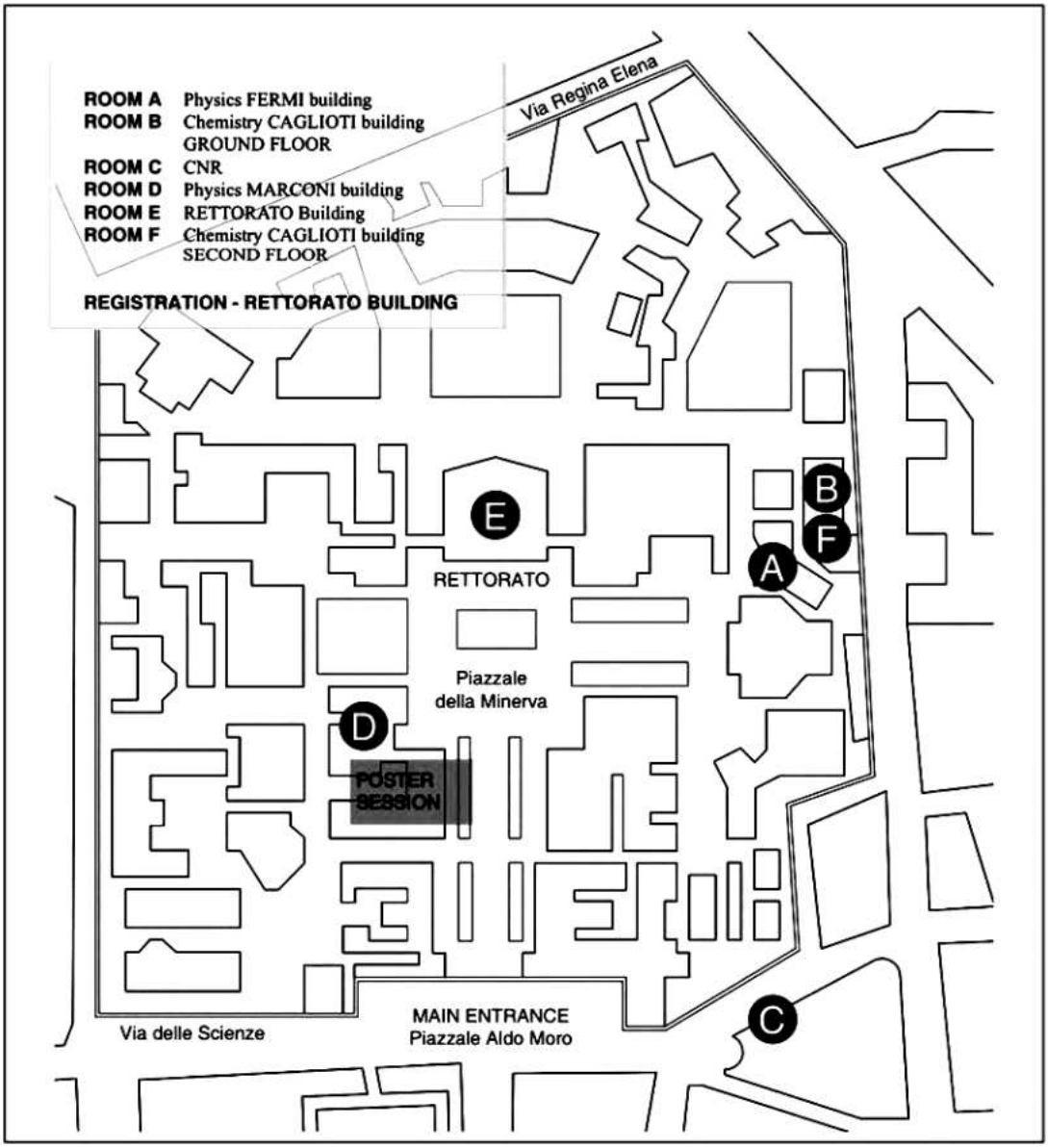
|---|---|---|
| **Wilfried Vandervorst** | Counting dopants/atoms in (3D) nanoscale structures. | Belgium |
| **Steven Van Petegem** | In situ diffraction study of nanocrystalline metals | Switzerland |
| **Lionel Vayssieres** | Low-cost and large scale oriented arrays of metal oxide quantum rods and dots | Japan |
| **L. Veerayah Jayaraman** | Micro/Nano pillar based single crystal semiconductor sevices on amorphous substrates for efficient and low-cost energy conversion | USA |
| **Laurent Vila** | Nanofabrication by combining top-down and bottom-up approaches | France |
| **Joerg Weissmueller** | Novel functional materials based on nanoporous metals | Germany |
| **Roland Wiesendanger** | Spin mapping, spin manipulation, and magnetometry at the atomic level | Germany |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ROOM B Chemistry CAGLIOTI building GROUND FLOOR
ROOM C CNR
ROOM D Physics MARCONI building
ROOM E RETTORATO Building
ROOM F Chemistry CAGLIOTI building SECOND FLOOR
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Piazzale della Minerva
D
POSTER SESSION
Via delle Scienze
MAIN ENTRANCE
Piazzale Aldo Moro
C

# TOPICS ALLOCATION IN POSTER SESSIONS

3.00 - 4.00 pm

Building G. Marconi (1st and 2nd floor)

## Poster Session 1

Monday, 13 September

**Topics**

T02 Nanostructured materials for energy applications
T03+T20 Environment + Nanotoxicology
T04 Advanced characterization techniques of nanostructures
T09 Mechanical properties of nanostructured materials
T10 Modelling and simulation of nanostructures
T11 Nanomedicine
T12 Nanobiotechnologies
T14 Catalysts
T19 Carbon nanotubes and graphene
T24 Nanometrology

## Poster Session 2

Tuesday, 14 September

**Topics**

T05 Nanoelectronics, nanodevices and sensors
T08 Nanophotonics
T16 Nanomaterials for information storage
T18 Nanoparticles
T25 Nanostructured semiconductors
T26 Nanomagnetism

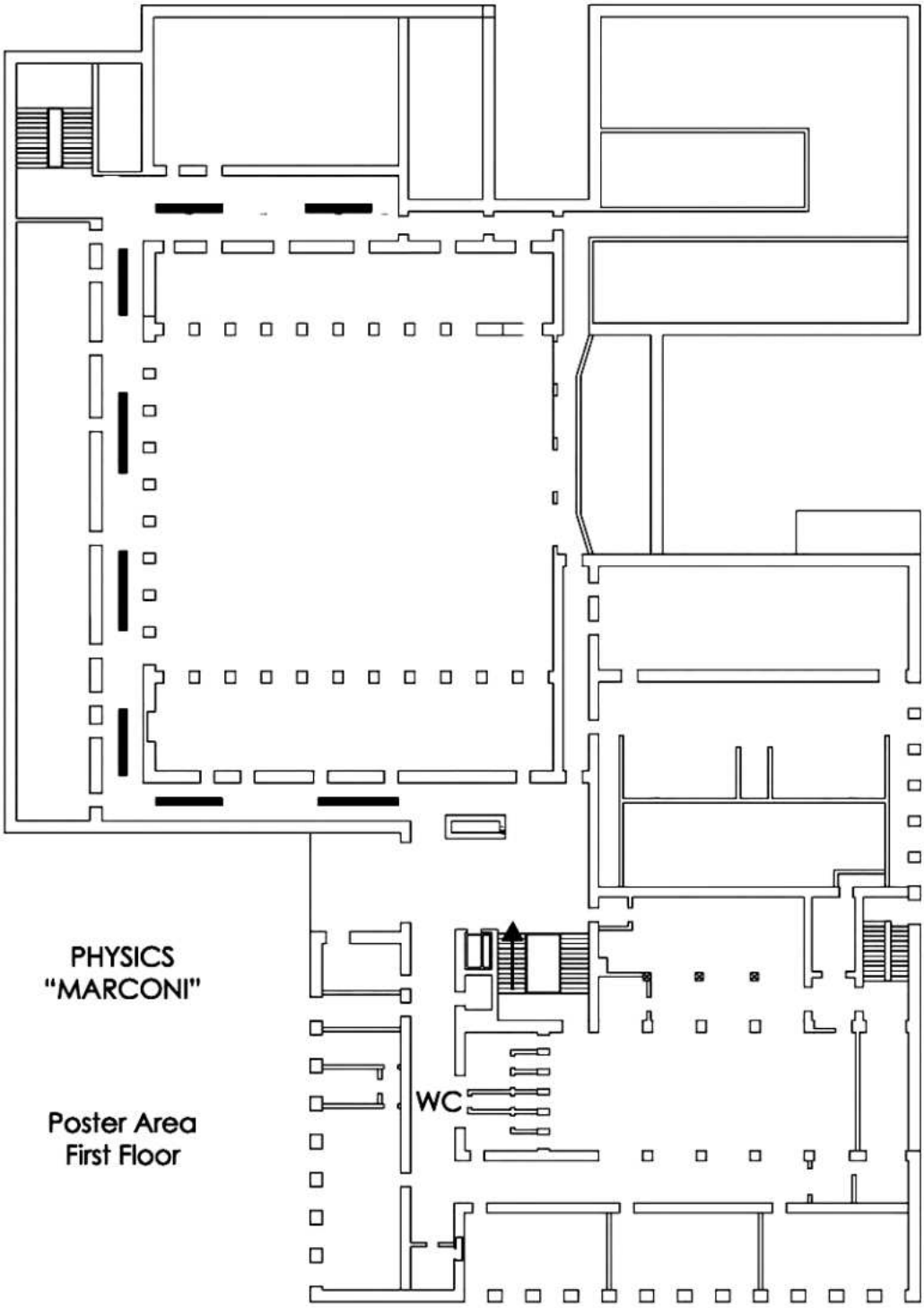
## Poster Session 3

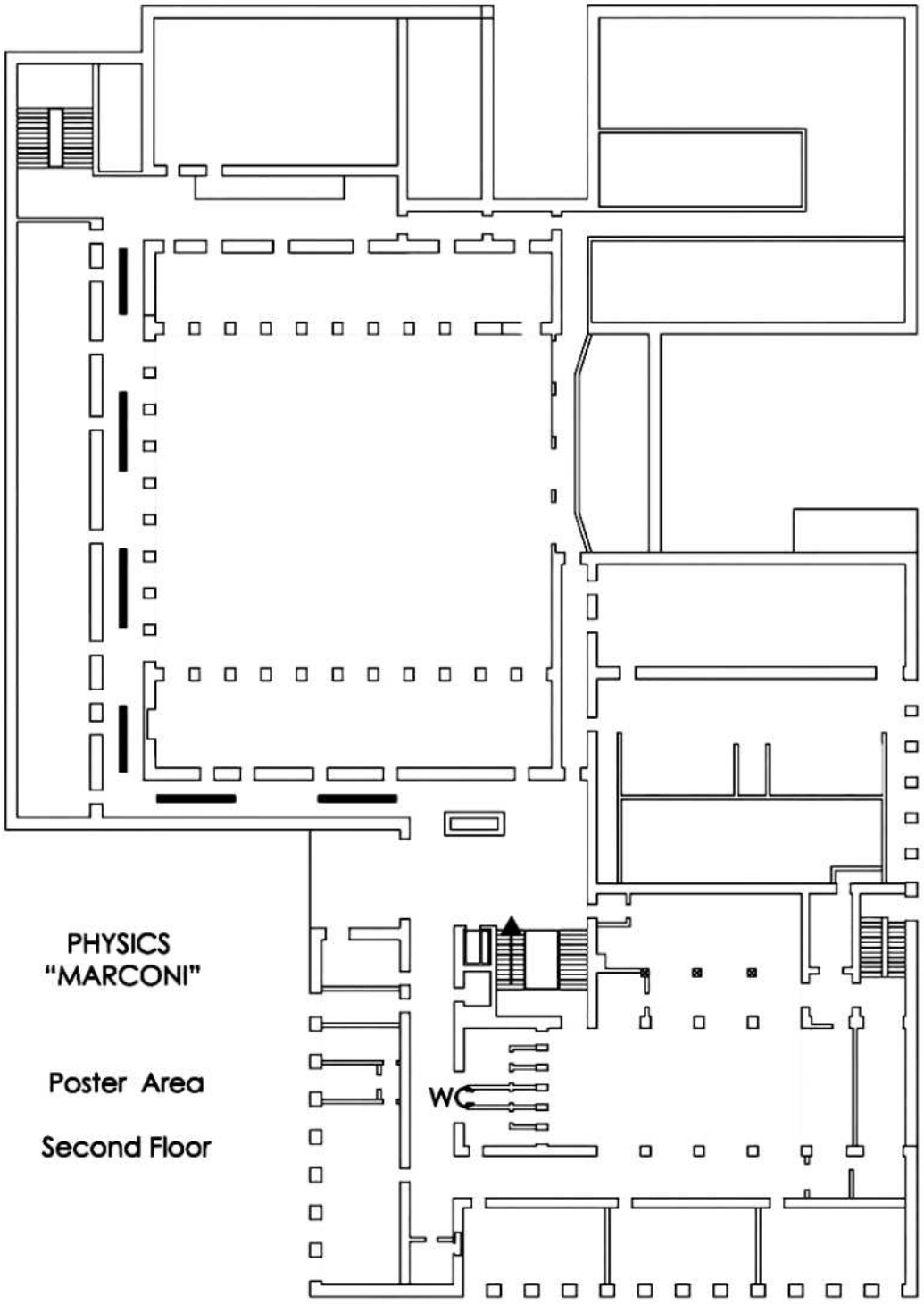
Thursday, 16 September

**Topics**

T01 2D molecular self assembling on surfaces and surface functionalization
T06 Nanofabrication
T07 Materials with controlled nanostructure via chemical methods
T13 Nanocomposite materials
T15 Organic-inorganic hybrid materials
T17+T21 Atomic clusters + Atomic manipulation
T22 Defects in nanostructures
T23 Nanoporous materials
T27 Multiscale materials

# POSTER SESSIONS MAP




PHYSICS
"MARCONI"
Poster Area
Second Floor
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# SCHEMATIC PROGRAM

| | | Monday, Sept 13 | | | | | |
|---|---|---|---|---|---|---|---|
| TIME | | ROOM A | ROOM B | ROOM C | ROOM D | ROOM E | ROOM F |
| 8:00 | 10:45 | REGISTRATION | | | | | |
| 10:45 | 11:15 | OPENING CERIMONY | | | | | |
| 11:15 | 12:00 | **PL1 - S.D. Bader:** Spintronics Overview with Implications for Energy, Information and Medical Technologies | | | | | |
| 12:00 | 12:45 | **PL2 - M. Prato:** Functionalized Carbon Nanotubes: Versatile Building Blocks in Nanomedicine and Materials Science | | | | | |
| 12:45 | 14:15 | *LUNCH* | | | | | |
| 14:15 | 15:00 | **PL3 - F. Besenbacher:** Catalytic model systems studied by high-resolution, video-rate Scanning Tunneling Microscopy | | | | | |
| 15:00 | 16:00 | POSTER session 1 | | | | | |
| 16:00 | 16:30 | *COFFEE BREAK* | | | | | |
| | | **T05** Nanoelectronics, nanodevices and sensors (MEMS, NEMS...) | **T14** Catalysts | **T26** Nanomagnetism | **T13 & T27** Nanocomposites materials Multiscale materials | **T07** Materials with controlled nanostructure via chemical methods | **T23** Nanoporous materials |
| ***Chairman*** | | ***H. Hahn*** | ***G. Ferraris*** | ***G.C. Hadjipanayis*** | ***E.J. Lavernia*** | ***C. Feldman*** | ***J.T. De Hosson*** |
| 16:30 | 16:45 | **V. Raineri** | E. Rombi | **I.K. Schuller** | **T. Tseng** | **L. Vayssieres** | **J. Weissmüller** |
| 16:45 | 17:00 | | R. Felici | | | | |
| 17:00 | 17:15 | I. Enculesco | N.R. El Hassan | **G. Bertotti** | **L.T. Kabacoff** | I. Freris | **J.T. De Hosson** |
| 17:15 | 17:30 | V. La Ferrara | E.V. Golubina | | | L.T. Mancic | |
| 17:30 | 17:45 | **R. Kruk** | **M.S. El Shall** | M. Madami | S. Kashyap | J. Li | V. Raghavan Nadar |
| 17:45 | 18:00 | | | W. Heimbrodt | M. A. Correa-Duarte | A. Sugunan | E. Detsi |
| 18:00 | 18:15 | | | C. de Julián Fernández | | | |
| | | | | | | | |
| 19:00 | 21:00 | JAZZ CONCERT | | | | | |

# Tuesday, Sept 14

| TIME | | ROOM A | ROOM B | ROOM C | ROOM D | ROOM E | ROOM F |
|---|---|---|---|---|---|---|---|
| 8:00 | 8:45 | | | | | | |
| 8:45 | 9:30 | **PL4 - M. Aono**<br>Atomic/molecular-scale control of electrochemical reactions | | | | | |
| 9:30 | 9:45 | | | | | | |
| | | **T05**<br>Nanoelectronics, nanodevices and sensors (MEMS, NEMS...) | **T02**<br>Nanostructured materials for energy applications | **T26**<br>Nanomagnetism | **T04**<br>Advanced characterization techniques of nanostructures | **T01**<br>2D molecular self assembling on surfaces and surface functionalization | **T09**<br>Mechanical properties of nanostructured materials |
| ***Chairman*** | | ***A. Bearzotti*** | ***A. Bieberle-Hutter*** | ***I.K. Schuller*** | ***M. Vittori*** | ***G. Contini*** | ***T. Tsakalakos*** |
| 9:45 | 10:15 | **E. Prati** | **Y. Ein-Eli** | **G.C. Hadjipanayis** | **K.W. Urban** | F. Mariano Neto<br>F. Nepi | **X. Huang** |
| 10:15 | 10:30 | K. Kral | A. Convertino | U. Wolff | P. Moras | I. Luzinov | R.Z. Valiev |
| 10:30 | 10:45 | E. Matei | M. El Khakani | G. Carlotti | T.S. Perova | D. Pozzi | A. Kuzmin |
| 10:45 | 11:15 | *COFFEE BREAK* | | | | | |
| 11:15 | 11:30 | **V.J. Loogeswaran** | M. Toprak | **J. Fidler** | **H. Amenitsch** | P.A. Sokolov | **L. Lu** |
| 11:30 | 11:45 | | Z.S. El Mandouh | | | M. Venanzi | |
| 11:45 | 12:00 | V.Y. Butko | V. Sepelák | V. Iannotti | **G. Margaritondo** | M. Celino | M. Pouryazdan Panah |
| 12:00 | 12:15 | A. Alberti | Y.G. Mateyshina | F. Tournus | | E. Lepore | G.D. Hibbard |
| 12:15 | 12:30 | F. Di Girolamo | E. Fabbri | M.D. Glinchuk | D. Carbone | M.C. Gimenez-Lopez | A. Singh |
| 12:30 | 12:45 | A. Casaburi | N. Agoudjil | V. Salgueirino | G. Martinez-Criado | P. Tiberto | Y. Ivanisenko |
| 12:45 | 13:00 | | | I.P. Suzdalev | | | |
| 13:00 | 14:15 | *LUNCH* | | | | | |
| 14:15 | 15:00 | **PL5 - V. Vogel**<br>Playing with Forces: how the stretching of proteins can alter their functions | | | | | |
| 15:00 | 16:00 | **POSTER session 2** | | | | | |
| 16:00 | 16:30 | *COFFEE BREAK* | | | | | |
| | | **T10**<br>Modelling and simulation of nanostructures | **T02**<br>Nanostructured materials for energy applications | **T17&T21**<br>Atomic clusters Atomic manipulation | **T04**<br>Advanced characterization techniques of nanostructures | **T07**<br>Materials with controlled nanostructure via chemical methods | **T09**<br>Mechanical properties of nanostructured materials |
| ***Chairman*** | | ***A. Amore Bonapasta*** | ***H.L. Tuller*** | ***P. Piseri*** | **H. Amenitsch** | **L. Vayssieres** | ***K. Chattopadaway*** |
| 16:30 | 16:45 | **F. Bechstedt** | **A. Bieberle-Hutter** | **H. H□kkinen** | **A. Cricenti** | **C. Feldmann** | **T. Tsakalakos** |
| 16:45 | 17:00 | | | | | | |
| 17:00 | 17:15 | B.R. Bulka | D. Pergolesi | **R. Palmer** | **R. Wiesendanger** | **A. De Vita** | **S. Van Petegem** |
| 17:15 | 17:30 | Y. Behnamian | M.J. Wagner | | | | |
| 17:30 | 17:45 | **J. Brickmann** | F. Deganello | T. Mazza | S. Licoccia | K. Miyazawa | **E.J. Lavernia** |
| 17:45 | 18:00 | | R. Nechache | M. Devetta | C. Albonetti | M. Balucani | |
| 18:15 | 18:30 | H. Jin | G. Grasso | C. Nacci | | | T. Mattar |

| | | Wednesday, Sept 15 | | | | | |
|---|---|---|---|---|---|---|---|
| TIME | | ROOM A | ROOM B | ROOM C | ROOM D | ROOM E | ROOM F |
| 8:00 | 8:45 | | | | | | |
| 8:45 | 9:30 | PL6 - H.L. Tuller<br>Nano-Structured Materials for Next Generation Fuel Cells and Sensors | | | | | |
| 9:30 | 9:45 | | | | | | |
| | | **T05**<br>Nanoelectronics, nanodevices and sensors (MEMS, NEMS...) | **T11**<br>Nanomedicine | **T26**<br>Nanomagnetism | **T13 & T27**<br>Nanocomposites materials Multiscale materials | **T18**<br>Nanoparticles | **T25**<br>Nanostructured semiconductors |
| ***Chairman*** | | ***V.J. Loogeswaran*** | ***N. Rosato*** | ***M. Albrecht*** | ***L.T. Kabacoff*** | ***V. Salgueirino*** | ***P. De Padova*** |
| 9:45 | 10:00 | **Y.H. Geerts** | **T. Pellegrino** | **D. Givord** | **L.S. Schadler** | **L. Tapfer** | **G. Le Lay** |
| 10:00 | 10:15 | | | | | | |
| 10:15 | 10:30 | K.G. Kornev | V. Vergaro | P. Kozlowski | P. Sharma | S. Ghaffari | L. Bagolini |
| 10:30 | 10:45 | S. Herth | C.A. Smid | E. Annese | L. Ravagnan | J. Kolny-Olesiak | R. Milazzo |
| 10:45 | 11:15 | *COFFEE BREAK* | | | | | |
| 11:15 | 11:30 | A. Ensafi | **G. Battaglia** | **R. Sessoli** | G. Varvaro | R. Redon | **I. Berbezier** |
| 11:30 | 11:45 | A. Forleo | | | A. Fornara | C. Wang | |
| 11:45 | 12:00 | A. Bearzotti | M. Girasole | A. Li Bassi | A. Capobianchi | P. Tamarat | Y. Kim |
| 12:00 | 12:15 | K.A. Pierpauli | M. Malvindi | M. Corbetta | V. Provenzano | H.H. Hanan | C. Baumgart |
| 12:15 | 12:30 | R. Mosca | C. Mandoli | F. Donati | K. Kolipaka | M.J. Jafari | M. Ambrico |
| 12:30 | 12:45 | M. Tallarida | R. Salvati | S. Gardonio | C. Zhi | A.E. Aleksenskiy | V. Poborchii |
| 12:45 | 13:00 | **M.S. Sarto** | **G. Caracciolo** | **A. Hernando** | **S. Grilli** | G. Renaud | L.G. Quagliano |
| 13:00 | 13:15 | | | | | H.J. Dickerson | L. Di Gaspare |
| 13:15 | 15:00 | *LUNCH* | | | | | |
| | | *FREE* | | | | | |
| 19:30 | 23:30 | *CONFERENCE BANQUET* | | | | | |

# Thursday, Sept 16

| TIME | | ROOM A | ROOM B | ROOM C | ROOM D | ROOM E | ROOM F |
|---|---|---|---|---|---|---|---|
| 8:00 | 8:45 | | | | | | |
| 8:45 | 9:30 | **PL7 - F. Caruso**<br>Nanoengineered Particles for Therapeutic Delivery | | | | | |
| 9:30 | 9:45 | | | | | | |
| | | **T15**<br>Organic-inorganic hybrid materials | **T02**<br>Nanostructured materials for energy applications | **T26**<br>Nanomagnetism | **T16**<br>Nanomaterials for information storage | **T18**<br>Nanoparticles | **T25**<br>Nanostructured semiconductors |
| ***Chairman*** | | ***C. Bellitto*** | ***S. Licoccia*** | ***C. Carbone*** | ***J. Fidler*** | ***F. Palacio*** | ***I. Berbezier*** |
| 9:45 | 10:00 | **Y. Patiel** | **W.J. Botta** | **E. Coronado** | **M. Albrecht** | **J.M. Greneche** | **V. Petkov** |
| 10:00 | 10:15 | | | | | | |
| 10:15 | 10:30 | I. Miletto | A. Calzolari | W.A. Macedo | P. Torelli | S. Laureti | V. Müller |
| 10:30 | 10:45 | A. Mattoni | J.E. ten Elshof | R.D. Shull | S. Mercone | A.P. Srivastava | B. Nasr |
| 10:45 | 11:15 | *COFFEE BREAK* | | | | | |
| 11:15 | 11:30 | **C. Pernechele** | A. Montone | B. Panigrahy | **D. Niarchos** | A. Martinelli | A. Telegin |
| 11:30 | 11:45 | | B. Paci | V. Tuboltsev | | G. Campi | J.P. Singh |
| 11:45 | 12:00 | R. Matassa | S. Masala | P. Allia | **F. Albertini** | N. Aldea | D. Mailly |
| 12:00 | 12:15 | A. Chiolerio | E. Kymakis | I. Pana | | T.E. Konstantinova | N. Lovergine |
| 12:15 | 12:30 | G. Grenci | H.L. Castricum | M. Coisson | M. Golshan | D. Pohl | S. Colonna |
| 12:30 | 12:45 | S. Petroni | L. Pasquini | **J.Tejada** | M. Longo | M. Rovatti | T. Stoica |
| 12:45 | 13:00 | | | | | | |
| 13:00 | 14:15 | *LUNCH* | | | | | |
| 14:15 | 15:00 | **PL8 - E. Tosatti**<br>Nanofriction and nanocontact conductance: classical and quantum surprises | | | | | |
| 15:00 | 16:00 | **POSTER Session 3** | | | | | |
| 16:00 | 16:15 | *COFFEE BREAK* | | | | | |
| 16:15 | 16:30 | | | | | | |
| | | **T15**<br>Organic-inorganic hybrid materials | **T02**<br>Nanostructured materials for energy applications | **T03 & T20**<br>Environment Nanotoxicology | **T10**<br>Modelling and simulation of nanostructures | **T07**<br>Materials with controlled nanostructure via chemical methods | **T19**<br>Carbon nanotubes and graphene |
| ***Chairman*** | | ***C. Pernechele*** | ***W.J. Botta*** | ***L. Ghibelli*** | ***R. Del Sole*** | ***D. Peddis*** | ***K. Miyazawa*** |
| 16:30 | 16:45 | A. Amore Bonapasta | E.D. Eydelman | **H.F. Krug** | **O. Pulci** | P. Ayyub | **T. Enoki** |
| 16:45 | 17:00 | T. Bruhn | F. Di Fonzo | | | M. Meyns | |
| 17:00 | 17:15 | M. Ludemann | G. Gigli | M. Sharon | N. Gorjizadeh | R. Di Mundo | L. Simon |
| 17:15 | 17:30 | P. Gargiani | G. Pellegrino | A. Panacek | E. Cannuccia | C. Meneghini | P. De Marco |
| 17:30 | 17:45 | F. Fabbri | R. Krahne | T. Trindade | S.A. Khan | S.K. Kumar | R. Larciprete |
| 17:45 | 18:00 | G. Di Santo | A. Makino | K. Abdel Halim | Y.V. Vorobiev | S. Chakraborty | M. Papagno |

# Friday, Sept 17

| TIME | | ROOM A | ROOM B | ROOM C | ROOM D | ROOM E | ROOM F |
|---|---|---|---|---|---|---|---|
| 8:00 | 8:45 | | | | | | |
| 8:45 | 9:30 | **PL9 - S.Y. Chou**<br>The First 15 Years of Nanoimprint Lithography – An Enabling Engine to Nanotechnology | | | | | |
| 9:30 | 9:45 | | | | | | |
| | | **T06**<br>Nanofabrication | **T01**<br>2D molecular self assembling on surfaces and surface functionalization | **T12**<br>Nanobiotechnologies | **T13 & T27**<br>Nanocomposites materials Multiscale materials | **T18**<br>Nanoparticles | **T19**<br>Carbon nanotubes and graphene |
| ***Chairman*** | | ***G. Faini*** | ***M. Venanzi*** | ***J.M. Seddon*** | ***S. Iannotta*** | ***J.M. Greneche*** | ***R. Paul*** |
| 9:45 | 10:15 | **L. Vila** | **F. Rosei** | **F. Biscarini** | **M.S. Aly-Hassan** | **E.R. Leite** | **M. De Crescenzi** |
| 10:15 | 10:30 | A. Cattoni | C. Kumpf | T.V. Torchynska | K. Kanjanapongkul | R. Prucek | S. Bagiante |
| 10:30 | 10:45 | S. Prezioso | M. Scardamaglia | N.A. Kasyanenko | Y.Y. Mugnier | G. Caruntu | M. Fratini |
| 10:45 | 11:15 | *COFFEE BREAK* | | | | | |
| 11:15 | 11:30 | **F. Gelain** | P. Gori | **F. Stellacci** | I. Bracko | C. Srivastava | V. Grossi |
| 11:30 | 11:45 | | L. Ottaviano | | D. Manfredi | M. Anusha | F. Mahammadzadeh |
| 11:45 | 12:00 | A.O. Pugin | M.V. Nardi | A.G. Kanaras | M.S. Ersoy | X. Su | C. Iamsamai |
| 12:00 | 12:15 | M. Alubaidy | N. Abdurakhmanova | R. Bertacco | A.J. Zarbin | K.C. Singh | V. Le Borgne |
| 12:15 | 12:30 | N. Rossetto | G. Bussetti | P. Sahoo | V. Cecen | P. Ammendola | Y. Hirooka |
| 12:30 | 12:45 | M. Klonner | M. Pedio | M.A. Martins | A. Heilmann | B. Ryu | A.K. Mitra |
| 12:45 | 14:15 | *LUNCH* | | | | | |
| 14:15 | 15:00 | **PL10 - H. Arakawa**<br>Development of highly efficient dye-sensitized solar cell sub-modules | | | | | |
| 15:00 | 15:30 | *COFFEE BREAK* | | | | | |
| | | **T24**<br>Nanometrology | **T08**<br>Nanophotonics | **T12**<br>Nanobiotechnologies | **T22**<br>Defects in nanostructures | **T18**<br>Nanoparticles | **T19**<br>Carbon nanotubes and graphene |
| ***Chairman*** | | ***R.D. Schull*** | ***S. Orlando*** | ***F. Biscarini*** | ***V. Petkov*** | ***E.R. Leite*** | ***M. De Crescenzi*** |
| 15:30 | 15:45 | **H. Fuchs** | **B. Hecht** | **J.M. Seddon** | **F. Tuomisto** | **F. Palacio** | R. Di Paola |
| 15:45 | 16:00 | | | | | | R. Paul |
| 16:00 | 16:15 | **Z. Li** | S. Camelio | C. Braeuchle | **W. Vandervorst** | S. Chirachanchai | C. Portesi |
| 16:15 | 16:30 | | L.H. Shao | A. Cedola | | L. Kvitek | R.K. Joshi |
| 16:30 | 16:45 | K. Dirscherl | M. De Seta | J. Qin | U. Erb | H. Yao | A. Wurl |
| 16:45 | 17:00 | G. Berti | M. Donarelli | V. Brunetti | A. Rinaldi | K. Skartsila | S. Lizzit |
| 17:00 | 17:15 | | | | | | |
| 17:15 | 17:30 | **CONCLUDING REMARKS** | | | | | |