

# VIII Workshop Italiano Sol-Gel

## Program

Thursday June 21<sup>st</sup>, 2012

**13.30-14.30** *Registration*

**14.30-14.50** *Opening Remarks and Greetings of Guests*

*Sandra Dirè, Dipartimento di Ingegneria dei Materiali e Tecnologie Industriali, Università di Trento*

*Massimo Guglielmi, Representative of the International Sol-Gel Society, Università di Padova*

*Claudio Migliaresi, Director, Dipartimento di Ingegneria dei Materiali e Tecnologie Industriali, Università di Trento*

*Michele Nulli, Director PAT UNIRicerca, Trento*

**14.50-15.30** *Plenary Lecture*

*Florence Babonneau, Laboratoire de Chimie de la Matière Condensée de Paris, UMPC – CNRS – Collège de France, Paris, France*

EXPLORING INTERACTIONS BETWEEN ORGANIC SPECIES AND SILICA SURFACES BY A COMBINED SPECTROSCOPIC AND MODELING APPROACH

### I SESSION

**15.30-15.50** *Anna Corrias, Dipartimento di Scienze Chimiche e Geologiche Università di Cagliari*

INVERSION DEGREE IN ZINC FERRITE NANOCRYSTALS DISPERSED ON A HIGHLY POROUS SILICA AEROGEL MATRIX

**15.50-16.10** *Gianpaolo Chieffi, Dipartimento di Ingegneria dei Materiali e della Produzione, Università di Napoli Federico II*

FABRICATION OF TiO<sub>2</sub>/PS-B-PEO NANOCOMPOSITES AND THEIR MORPHOLOGICAL REARRANGEMENT BY SOLVENT VAPOR ANNEALING

**16.10-16.40 Coffee break**

## **II SESSION**

16.40-17.00 **Mauro Epifani**, *Istituto per la Microelettronica e Microsistemi (CNR-IMM), Lecce*

SOL-GEL SURFACE MODIFICATION OF TITANIA  
NANOCRYSTALS WITH VANADIUM OXIDE SPECIES FOR  
IMPROVED SUPERCAPACITORS

17.00-17.20 **Gabriele Sponchia**, *Department of Molecular Sciences and Nanosystems, Ca Foscari, Università di Venezia*

TWO DIFFERENT APPROACHES FOR THE SYNTHESIS OF  
ORDERED MESOPOROUS SILICA NANOPARTICLES WITH  
TUNABLE DIAMETER AND PORE SIZE

17.20-17.40 **Simona Maggini**, *Dipartimento di Ingegneria dei Materiali e Tecnologie Industriali, Università di Trento*

DESIGN OF I/O HYBRID SILOXANE MATERIALS  
CONTAINING ZrNBBs

17.40-18.00 **Silvia Borsacchi**, *Dipartimento di Chimica e Chimica Industriale, Università di Pisa e INSTM*

INSIDE COMPLEX ORGANIC-INORGANIC SOL-GEL  
MATERIALS THROUGH SOLID STATE NMR

**20.00 Social Dinner**

## Friday June 22<sup>nd</sup>, 2012

### III SESSION

- 8.30-8.50 **Maurizio Crippa**, *Dipartimento di Scienza dei Materiali, Università Milano-Bicocca*
- TiO<sub>2</sub> NANOCRYSTALS GRAFTED ON MACROPOROUS SILICA: A NOVEL HYBRID ORGANIC-INORGANIC SOL-GEL APPROACH FOR THE SYNTHESIS OF HIGHLY PHOTOACTIVE COMPOSITE MATERIAL
- 8.50-9.10 **Erika Zanchetta**, *Dipartimento di Ingegneria Industriale, Università di Padova*
- NEW NANOCOMPOSITE RESISTS BASED ON INORGANIC OXIDES
- 9.10-9.30 **Fabio Lisi**, *Department of Chemistry, The University of Melbourn and CSIRO Materials Science and Engineering Private Bag 33, Australia*
- SYNTHESIS, CHARACTERIZATION AND APPLICATION OF DYE-FREE FLUORESCENT SILICA PARTICLES
- 9.30-9.50 **Elisa Cappelletto**, *Dipartimento di Ingegneria dei Materiali e Tecnologie Industriali, Università di Trento*
- A SYSTEMATIC INVESTIGATION ON ORGANOFUNCTIONAL SILANES FOR SURFACE TREATMENT OF PAPER
- 9.50-10.10 **Michela Cittadini**, *Dipartimento di Ingegneria Industriale, Università di Padova*
- UV PROCESSABLE TITANATE NANOSHEETS: A NEW INORGANIC RESIST
- 10.10-10.30 **Claudia Marras**, *Dipartimento di Scienze Chimiche e Geologiche, Università di Cagliari*
- SYNTHESIS OF AEROGEL NANOCOMPOSITE CATALYSTS FOR THE PRODUCTION OF CARBON NANOTUBES
- 10.30-11.00 **Coffee break**

#### IV SESSION

11.00-11.20 *Giovanni Predieri, Dipartimento di Chimica GIAF, Università di Parma*

INVESTIGATIONS ON COPPER AND BORON RELEASE FROM WOOD MODIFIED WITH AMINO-FUNCTIONALIZED SILOXANES

11.20-11.40 *Riccardo Ceccato, Dipartimento di Ingegneria dei Materiali e Tecnologie Industriali, Università di Trento*

HYBRID SOL-GEL FILMS ON ROOF TILES AS PROTECTIVE COATINGS

11.40-12.00 *Michele Fedel, Dipartimento di Ingegneria dei Materiali e Tecnologie Industriali, Università di Trento*

EFFECT OF MONTMORILLONITE / SILICA INTERACTION ON THE CORROSION PROTECTION PROPERTIES OF HYBRID COATINGS

12.00-12.20 *Maria Cristina Ferrara, Technical Unit for Materials Technologies, Brindisi Research Center, UTTMATB, Brindisi*

PHOTOCATALYTIC ACTIVITY OF TITANIA THIN FILMS PREPARED BY TWO DIFFERENT SOL GEL PRECURSOR SOLUTIONS

12.20-12.40 *Alessandra Pinna, Laboratorio di Scienza dei Materiali e Nanotecnologie, L.M.N.T., Università di Sassari e INSTM*

CONTROLLED RELEASE OF CERIA NANOPARTICLES GRAFTED ON ORGANIC-INORGANIC HYBRID FILMS FOR BIOMEDICAL APPLICATION

12.40-13.00 *Luca Minati, Fondazione Bruno Kessler, Trento*

pH-ACTIVATED DOXORUBICIN RELEASE FROM POLYELECTROLYTE COMPLEX COATED MESOPOROUS SILICA NANOPARTICLES

13.00-14.30 **LUNCH**

## V SESSION

14.30-14.50 *Andrea Chiappini, Institute of Photonics and Nanotechnologies, CNR-IFN CSMFO Lab., Trento*

COLLOIDAL PLASMONIC PHOTONIC CRYSTALS

14.50-15.10 *Laura Brigo, Dipartimento di Ingegneria Industriale, Università di Padova*

BRIDGED POLYSILSESQUIOXANE THIN FILMS DOPED WITH AU NANOPARTICLES AS PLASMONIC NANOSTRUCTURED XYLENE SENSOR

15.10-15.30 *Lidia Armelao, ISTM – CNR e INSTM, Dipartimento di Scienze Chimiche, Università di Padova*

TUNABLE COLOUR EMISSION OF SILICA THIN FILMS DOPED WITH LANTHANIDE ANTENNA COMPLEXES

15.30-15.50 *Davor Ristic, Institute of Photonics and Nanotechnologies, CNR-IFN CSMFO Lab., Trento*

ERBIUM ACTIVATED SILICA – HAFNIA COATED MICROSPHERES

15.50-16.10 *Orlando Tari, Dept. of Materials and Production Engineering and Dept. of Electronic Engineering, Università di Napoli Federico II*

SOL-GEL SYNTHESIS OF ZnO THIN FILMS FOR PHOTOVOLTAIC APPLICATIONS

**16.10**            **Concluding remarks**

# *Poster Session*

**June 21-22, 2012**

- P1 *Antonio Aronne, Dipartimento di Ingegneria dei Materiali e della Produzione, Università di Napoli Federico II*  
HYBRID SOL-GEL ZIRCONIA MATERIALS IN THE REMOVAL OF THE HERBICIDE MCPA
- P2 *Laura Brigo, Industrial Engineering Department and INSTM, University of Padova*  
PHENYLSILICATE RESIST FOR ELECTRON BEAM LITHOGRAPHY
- P3 *Massimiliano D'Arienzo  
Department of Materials Science, University of Milano Bicocca, Milano*  
SOL-GEL PREPARED  $\text{Na}_2\text{Ti}_6\text{O}_{13}$  AND  $\text{Na}_4\text{Ti}_5\text{O}_{12}$  NANOCRYSTALS AS PROMISING ANODE MATERIALS FOR Na-ION BATTERIES
- P4 *Claire Arfuso Duverger, IMMM - UMR CNRS 6283 Université du Maine -Le Mans, France*  
DOWN CONVERSION IN RARE EARTH DOPED GLASSES AND GLASS CERAMICS
- P5 *Maurizio Ferrari, Institute of Photonics and Nanotechnologies, CNR-IFN CSMFO Lab., Trento*  
 $\text{Er}^{3+}$  ACTIVATED NANO AND MICRO SILICA SPHERES

- P6 **Fabrizio Girardi**, *Dipartimento di Ingegneria dei Materiali e Tecnologie Industriali, Università di Trento*  
SYNTHESIS AND CHARACTERIZATION OF ANATASE NANOSOLS WITH PHOTOCATALYTIC ACTIVITY
- P7 **Benjamin Papendorf**, *Dipartimento di Ingegneria dei Materiali e Tecnologie Industriali, Università di Trento*  
SYNTHESIS AND CHARACTERIZATION OF THIOL-FUNCTIONALIZED NANOBUILDING BLOCKS (NBBs)
- P8 **M. Trevisani**, *Dipartimento di Biotecnologie, Univ. Verona*  
FAST UV LUMINESCENCE OF SOL-GEL DERIVED  $Y_2SiO_5:Pr^{3+}$  POWDERS
- P9 **Emanuele Zera**, *Dipartimento di Ingegneria dei Materiali e Tecnologie Industriali, Università di Trento*  
SiOC AND SiC AEROGELS FROM PRECERAMIC POLYMERS