

ISTEC-CNR
INSTITUTE OF SCIENCE AND TECHNOLOGY FOR CERAMICS
ITALIAN NATIONAL RESEARCH COUNCIL



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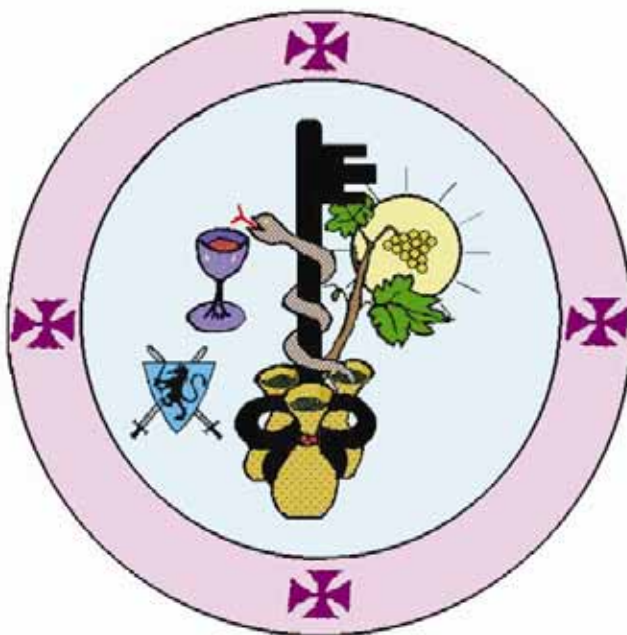


ISTEC-CNR

Agenzia Polo Ceramico

CERAMICS, CELLS AND TISSUES

11th Annual Seminar & Meeting



Topic of this year:

**NANOTECHNOLOGY FOR FUNCTIONAL REPAIR
AND REGENERATIVE MEDICINE**

THE ROLE OF CERAMICS AS IN BULK AND AS COATING

Congress Hall of BANCA DI ROMAGNA

Via P. Costa, 3 – Faenza - Italy

October 2-5, 2007



CO-PRESIDENTS OF THE 11th MEETING-SEMINAR



Racquel Z. LeGeros
New York University College of
Dentistry (USA)



Fereydoon Namavar
University of Nebraska Medical Center
(U.S.A.)



Sven Oscarsson
Uppsala University
(Sweden)

CHAIRMEN

Antonio Ravaglioli
(ravaglioli.antonio@alice.it)

Adriano Krajewski
(krajewski@istec.cnr.it)

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PAST PRESIDENTS

R. Silvestrini (Milano, I), G.C. Pescarmona (Saluzzo, I), W. Bonfield (London, U.K.), N. Theilgaard (Taastrup, DK), R. Coombs (London, U.K.), S. Hulbert (Terre Haute, U.S.A.), D.F. Williams (Liverpool, U.K.), C.C. Sorrell (Sydney, Aus), C.R. Howlett (Sydney, Aus), K. Nishihara (Tokyo, J), C. Rey (Toulouse, F), P. Ducheyne (Philadelphia, U.S.A.).

PROMOTED AND ORGANIZED BY:

ISTEC – CNR

*Institute of Science and Technology for Ceramics - Italian National Research Council
In collaboration with*

Agenzia Polo Ceramico

Secretariat

Contact persons: 11th CCT, secretariat, c/o Agenzia “Polo Ceramico”, Via Granarolo, 62 - 48018 Faenza (RA) - Italy:
Organizing secretariat: Mrs. Anna Beltrani ☎ +39-0546-670311; E-Mail: 11cct@agenziapoloceramico.it
Scientific secretariat: Mrs. Rossella Ravaglioli ☎ +39-347-0766986; E-Mail: cctfaenza@alice.it

Main Topics, Symposium and Round Tables

- Biomaterials/Tissue interfaces;
- Cells/scaffold interactions;
- Proteins/Biomaterials interactions;
- Synthesis and characterization of new biomaterials/bioceramics;
- Physical and chemical treatments of implants surfaces;
- Bioceramics properties: porosity, osteoconductivity, osteoinductivity;
- Ceramic applications: coatings, drug delivery, gene delivery;
- Biomimetic inspired biomaterials;
- Biocements, chemically organic and/or inorganic;
- Scaffolds for tissue engineering;
- Nanotechnology in bone repair and bone regeneration;
- Biologic performance of biomaterials;
- Computer modelling and simulation approach to biomaterials development;
- Clinical applications (dentistry and medicine);
- Standardization and certification of ceramic materials and devices.

SYMPOSIUM

“Natural environmental constraints on health” (AISA –Onlus, Italian Association for the Study of Clays): F. Tateo Chairman—AISA Padova

ROUND TABLES

“The STENTS of a new generation” (A. Maresta, A. Wilson - Cardiotoracic Department, “Santa Maria delle Croci” Hospital, Ravenna, Italy, & Department of Materials, University of Northumbria, Newcastle-on-Tyne, U.K.)

“Giacobbe Project - aging and degeneration of the biological tissues: biomechanical functionality of medical devices and prostheses” (M. Brunelli, L. Fonzi, A. Krajewski, S. Zanfrini, Italy)



From artistic competition “Ceramics, Cells and Tissues” - May 2006



PROGRAM OVERVIEW

OF THE SCIENTIFIC PROGRAM OF 11TH CCT

Day	Time	Session	Topic/Event	Chairmen	n. Papers	n. Posters
Tuesday October 2	10.00-18.00		Opening of the registration of the participants in the Congress Hall (Banca di Romagna, Via P. Costa 3)			
	10.00-12.00		<i>Facultative visit to the International Museum of Ceramics of Faenza</i>			
	16.00-16.45		<i>Welcome addresses by the Authorities</i>			
	16.45-19.10	Opening	Introductory and General Lectures	R.Z. Le Geros (U.S.A.) F. Namavar (U.S.A.) S. Oscarsson (S) A. Ravaglioli (I)	7	-
	19.30		<i>Welcome party Palazzo Esposizioni Corso Mazzini, 92 Faenza</i>			
Wednesday October 3	8.30-9.45	Starting	General Lectures	R. Le Geros (U.S.A.) F. Namavar (U.S.A.) S. Oscarsson (S) A. Ravaglioli (I)	5	2
	10-13	1	Surface investigations and treatments	S. Oscarsson (S) F. Korkusuz (TR) A. Vaccari (I)	10	2
	14.45-16.15	2	Traditional and nanocomposite coatings	R.Z. LeGeros (U.S.A.) K. Liefeth (D) K. Nishihara (J)	6	3
	16.45-18.30	3	Composites and nanocomposite materials	S. Barinov (Russia) F. Branda (I) F.H. Lin (Taiwan)	7	4
	18.45-19.15	4	Porous scaffolds	M. Wang (Hong Kong), M. Varella de Oliveira (BR)	2	2
	20.00-22.00		<i>Welcome party and buffet offered by the Major of Faenza at Palazzo Milzetti</i>			
Thursday October 4	8.30 -9.45	5	Ceramic glass systems	E. Verné (I) S. Oscarsson (S) C. Sorrell (A)	5	2
	10.00-11.15	6	Cells, bone and biomechanical response	A. Natali (I) A. Facchini (I) H. Neves (B)	4	1
	11.30-12.15	7	Evaluation tests	A. Krajewski (I) F. Namavar (USA) H. Oguchi (J)	3	1
	12.30-13.30	Symposium	Natural environmental constraints on health	F. Tateo (I)	4	1
	15.15-23.00		<i>Congress Trip To San Marino Republic and Official Dinner</i>			

PROGRAM OVERVIEW

OF THE SCIENTIFIC PROGRAM OF 11TH CCT

Day	Time	Session	Topic	Chairmen	n. Papers	n. Posters
Friday October 5	8.30-9.45	8	Tests in vitro and in vivo	F.H. Lin (Taiwan) D. Pressato (I) H. Furedi-Milhofer (Israel)	5	4
	10.00-11.00	9	Clinical applications	K. Nishihara (J) A. Karlov (Russia) R. Giardino (I)	3	1
	11.15-13.00	Round table 1	the stents of new generation	A. Maresta (I) A. Wilson (U.K.) S. Datta (U.K.)	7	1
	14.30-15.45	10	calcium phosphates and ions substitutions	A. Tampieri (Italy) G. Baldi (Italy) W. Abdel-Fattah (Egypt)	5	2
	16.00-16.45	11	Standards, certifications and normatives	A. Martinetti (I)	2	-
	17.00-18.15	Biomaterials Societies Presentation	Towards new interests with endorsement Societies	J. Cooper (AU) F. Korkusuz (TR) A. Ravaglioli (I)		
	17.00-18.15	Round Table 2	“Progetto Giacobbe” (room B)	M. Brunelli (I) A. Krajewski (I) S. Zanfrini (I)	3	2
	18.30		Closing remarks			

PRESENT LIST OF SUPPORTERS



Senaf - Bologna



Fin-Ceramica Faenza S.p.A.



Health Ricerca e Sviluppo S.r.l.
(Academic Spin Out) - Bologna



Ente Ceramica Faenza



International Biomedical Systems



LIZARD
Postural Forum
<http://www.lizardmed.it>



AT PRESENT WITH THE ENDORSEMENT OF:



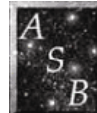
European Society for Biomaterials



Società Italiana Biomateriali



Canadian Society for Biomaterials



Australian Society for Biomaterials



Japanese Society for Biomaterials



Biomedical Division

IRGIB
Turkish Interdisciplinary Research
Group in Bioceramics



Society for Biomaterials and Artificial Organs (India)



University of Pennsylvania
Center for Bioactive Materials and Tissue
Engineering (U.S.A.)



University of New South Wales
School of Pathology – Sydney



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA



Surface Engineering Research Centre
Newcastle-upon-Tyne



Institut Nationale Polytechnique - Toulouse



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Nishihara Institute, Tokyo -
Japan



European Network of Mat. Res. Centre



Società Chimica Italiana

OPENING OF THE MEETING & SEMINAR ON
MONDAY, October 1, 2007
Congress Hall of Banca di Romagna

INCOMAT Project Meeting



A group of Scientists have planned to organize a “one day” International Project Meeting in Faenza, during the course of 11th edition of “Ceramics, Cells and Tissues” (CCT), including their meeting in the Congress. We are proud to host at “Banca di Romagna” Congress Hall the scientists currently establishing an European Network on Biomaterials (www.ssa-incomat.com) with a special focus the WBC (Western Balkan Countries) and NIS (New Independent States as part of the former Soviet Union), a network founded by the European Commission as a SSA (Specific Support Action).



A very interesting project to be inserted to the international biomaterials events that at present is followed by 25 members with some known leaders as:

Dr.Ing. Klaus Lefeith, Institute for Bioprocessing and Analytical measurement techniques, Department of Biomaterials, Heilbad Heiligenstadt – Germany)

Mrs. Elke Röhmild (administrative coordinator of the EU project INCOMAT, Thüringer Innovation GmbH, Erfurt – Germany)

OPENING OF THE MEETING & SEMINAR ON
TUESDAY, October 2, 2007
Congress Hall of Banca di Romagna



10÷12	Registration of the participants
	Placing of Posters: mounted on the appropriately numbered boards

10÷12 Facultative visit to the International Museum of Ceramics of Faenza – Viale Baccarini 15 – Faenza – Free entrance

Web page: <http://www.racine.ra.it/micfaenza/index.htm>



Also this year, the Scientific and Organising Committees will award a prize for the Best Oral Paper presented by a young researcher on the basis of scientific content and quality of presentation.

	Italian National Research Council Institute for Science and Technology for Ceramics Faenza (Italy)	<p>The title of the award is:</p> <p>The Sixth CCT Prize</p> <p>€ 500</p>
		This is the sixth award financed by Banca di Romagna
<p>Young researchers candidate in the CCT Prize are signaled with an orange highlighted</p>		



ISTEC-CNR and PARCO TORRICELLI for future - Faenza

PROGRAM OF
TUESDAY, October 2, 2007
Congress Hall of Banca di Romagna

15÷16	Registration of the participants
16	Welcome addresses by the Authorities The intervention of the directors of MIC (Inter. Museum of Ceramics) Prof. Jadranka Bettini, and of ISA (Inst. of Art Ballardini, Faenza) Prof. Rolando Giovannini are announced.

Opening session: Introduction and general lectures

Chairmen: R. LeGeros (New York – U.S.A.); F. Namavar (Omaha – U.S.A.); S. Oscarsson (Uppsala - Sweden);
A. Ravaglioli (Faenza - Italy)

16.45	Conference chairmen's opening address: "Porous smart ceramic-glass scaffolds" <i>A. Ravaglioli, A. Krajewski</i> ISTEC-CNR – Faenza (Italy)
17.05	Is the constructor of the human machine a good engineer? <i>P. Rabischong</i> Scientist and writer – Montpellier – France
17.30	Carbonate- and fluoride- substituted apatites: properties and effects on cellular and tissue response <i>R.Z. LeGeros¹, A. Ookubo², T. Sakae², M. Inoue³, C. Frondoza⁴, J.P. LeGeros¹</i> ¹ New York University College of Dentistry – New York – NY - U.S.A.; ² Nihon University, School of Dentistry at Matsudo – Japan; ³ Okayama University, Okayama – Japan; ⁴ John Hopkins University, Baltimore - ML - U.S.A.
17.50	Triple smart surfaces for implant devices <i>F. Namavar¹, J. D. Jackson², J. Graham Sharp³, E. Mann², K. Bales², H. Haider¹, K. L. Garvin¹</i> University of Nebraska Medical Centre, Omaha - NE - U.S.A.: ¹ Department of Orthopaedic Surgery and Rehabilitation; ² Department of Pathology and Microbiology; ³ Department of Genetics, Cell Biology and Anatomy
18.10	Nanofibers, Nanoparticles and Nanocomposites for Tissue Engineering <i>Min Wang</i> Department of Mechanical Engineering, University of Hong Kong
18.30	Interlevel nano-, micro- and meso-bioengineering and abilities of interlevel control: experience of clinical use <i>A. Karlov</i> Tomsk Branch of the Russian Ilisarov Scientific Centre, Restorative Traumatology and Orthopaedics, Tomsk - Russian Federation
18.50	Surface materials and preparations for neural implants <i>H. Neves</i> IMEC, Heverlee (Leuven) - Belgium
19.10	Discussion

At 19.30 the traditional CCT welcome party at Palazzo Esposizioni, Corso Mazzini 92 – Faenza. The prizes for the winners of the International Artistic Competition will be offered by Banca di Romagna. The "artistic master pieces" will be shown with an exhibition.

PROGRAM OF
WEDNESDAY, October 3, 2007
Congress Hall of Banca di Romagna

MORNING SESSION

GENERAL LECTURES

Chairmen: R.Z. LeGeros (U.S.A.); F. Namavar (U.S.A.); S. Oscarsson (Sweden); A. Ravaglioli (Italy)

8.30	<p>Essential and Necessary Conditions for Gompholic Artificial dental Roots <i>K. Nishihara</i> Nishihara Institute, Minatoku, Tokyo - Japan</p>
8.45	<p>Organic-Inorganic nanocomposite coatings for bone regeneration and repair <i>H. Furedi-Milhofer, et alii.</i> “Casali” Institute of Applied Chemistry, Institute of Chemistry, The Hebrew University of Jerusalem - Israel.</p>
9.00	<p>The use of EXAFS on Biomaterials and to the progression from prosthetics, scaffolding, cells tissue engineering and organ building <i>C.S. Ioakimidis</i> Faculty of Engineering, Department of Production and Management Engineering, Kimmeria, Xanthi - Greece</p>
9.15	<p>20-years Study of Reaction Bonded Silicon Nitride – Human Model <i>C.C. Sorrel¹, P.H. Hardcastle², R.K. Druitt³, E.R. McCartney⁴</i> ¹School of Materials Science and Engineering, University of New South Wales, Sydney – NSW – Australia; ²Professional private practice, Cottesloe – WA – U.S.A.; ³Sialon Ceramics Pty. Ltd., North Rocks - NSW – Australia; ⁴deceased</p>
9.30	<p>Perspectives and potentialities of silicon nitride as nano-structural bioceramic <i>M. Mazzocchi, A. Bellosi</i> ISTEC-CNR, Faenza - Italy</p>
9.45	<p>Discussion of the lectures and Poster P97</p>

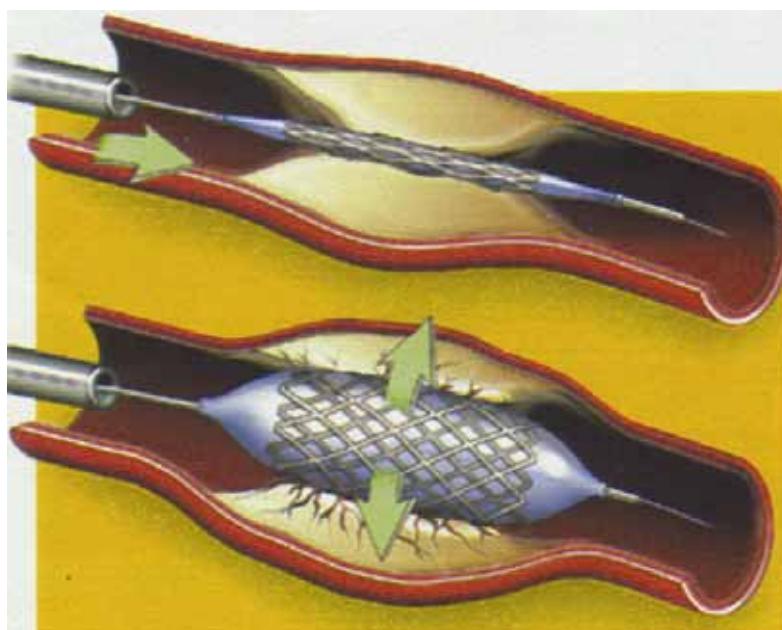


SESSION 1 – SURFACE INVESTIGATIONS AND TREATMENTS

Chairmen: S. Oscarsson (Sweden); F. Korkusuz (Turkey); A. Vaccari (Italy)

10.00	<p>Hyaluronic acid grafting on silicon surfaces: towards an increased biocompatibility of brain micro-electrode arrays <i>E. Göthelid^{1,2}, N. Benito³, M. Bongard³, E. Fernandez³, C. Geuens⁴, H. Neves⁴, S. Oscarsson^{1,2}</i> ¹Department of Surface Physics, Uppsala University – Sweden; ²Department of Biology and Chemical Engineering, “Mälardalen” University, Eskilstuna – Sweden; ³Faculty of Medicine, Department of Biology, Bio-Engineering Institute, “Miguel Hernandez de Elche” University, Alicante – Spain; ⁴IMEC, Microsystems, Components & Packing Division, Leuven - Belgium</p>
10.20	<p>Synthetic biomimetic hydroxyapatite nanocrystals vs. bioactive molecules: the important role of the surface <i>M. Iafisco¹, B. Palazzo¹, L. Rimondini², N. Roveri¹</i> ¹Department of Chemistry “G. Ciamician”, University of Bologna – Italy; ²Department of Medical Sciences, University of Eastern Piedmont “Amedeo Avogadro”, Novara - Italy</p>
10.35	<p>Functionalization of biomaterials via alkaline phosphatase grafting <i>E. Verné¹, S. Ferraris¹, S. Spriano¹, C. Vitale-Brovarone¹, C. Bianchi², M. Morra³, C. Cassinelli³</i> ¹Materials Science and Chemical Engineering Department, University Polytechnic of Torino - Italy; ²Physical Chemistry and Electrochemistry Department, University of Milan – Italy; ³Nobil BioRicerche, Villafranca d’Asti - Italy</p>
10.50	<p>Biological investigation of an experimental laser sintered titanium implant surface <i>F. Mangano¹, R. Sammons², C. Mangano³, S. Montini¹, T. Traini⁴, A. Piattelli⁴</i> ¹Private Practice, Gravedona (Como) – Italy; ²Dental School, University of Birmingham –U.K.; ³Dental School, University of Insubria, Varese – Italy; ⁴Dental School, University of Chieti - Italy</p>
11.05	<p>Observation of MC3T3-E1 Cells Applied Bioceramics by Scanning Electron Microscope(SEM) and Confocal Microscope(CM) <i>Gozde Kerman¹, Petek Korkusuz², Sema S. Hakki³, Nuhan Purali⁴, Nursen Koc⁵, Muharrem Timucin⁵, Feza Korkusuz⁶</i> ¹.Middle East Technical University Graduate School of Natural and Applied Sciences Department of Biotechnology; ².Hacettepe University School of Medicine Department of Histology and Embryology; ³.Konya Selcuk University Faculty of Dentistry Department of Periodontology; ⁴.Hacettepe University School of Medicine Department of Biophysics; ⁵.Middle East Technical University Faculty of Engineering Department of Metallurgical and Materials Engineering; ⁶.Middle East Technical University Medical Center Ankara 06531, Turkey</p>
11.20	<p>Discussion of the lectures of Session 1 and poster P18</p>
11.30	<p>Coffee break</p>
11.45	<p>Surface-immobilised SWCNT with diamine biomolecule as vector for gene delivery <i>C.-Yu Li¹, F.-H. Lin², C.-K. Hsu¹, L. Stobinski³</i> ¹ Department of Materials Science and Engineering, National Taipei University of Technology, Taipei – Taiwan (R.O.C.); ² Department of Biomedical Engineering, National Taipei University of Technology, Taipei – Taiwan (R.O.C.); ³Polish Academy of Sciences, Institute of Physical Chemistry, Warszawa - Poland</p>

12.00	<p>A tale of gene therapy: from viruses to transfectants. <i>Candiani G.,^{1,2,*} Cabras M.,¹ Pezzoli D.¹</i> ¹ C.N.R. – I.C.R.M., via Mancinelli 7 - 20131 Milan (Italy)² <i>BioCell</i>, Dipartimento di Chimica, Materiali e Ingegneria Chimica "G. Natta", Politecnico di Milano, Milan (Italy)</p>
12.15	<p>In vivo biodegradation of polyurethane foams in the rat animal model <i>S. Bertoldi¹, S. Farè¹, M. Moscatelli¹, A. Addis², F. Vitari³, C. Domeneghini³, M.C. Tanzi¹</i> ¹ BioMatLab, Bioengineering Dept., Politecnico di Milano, Milan, Italy; ² CRABCC, University of Milan, Milan; ³ Anatomy Lab, Dept. of Veterinary Sciences and Technologies for Food Safety, University of Milan, Milan</p>
12.30	<p>Nano-mechanical properties of Hydroxyapatite-Carbon Nanotube composites for Biomedical Applications <i>Inderjeet Singh, Peter Allan</i> Wolfson Centre for Materials processing, Brunel University - Uxbridge, London, UK</p>
12.45	<p>Biomimetic coatings on laser sintered poly(L-lactide) based composite scaffolds doped with silica and hydroxyapatite. <i>E.N.Antonov¹, A. S. Fomin², O.S Antonova², A.V.Popova¹, V.K.Popov¹, I.I. Selezneva³, S. m. Barinov², V. N. Bagratashvili¹</i> 1.Institute of laser and information technologies RAS, Troitsk, Russia 2. Institute for physical chemistry of ceramics RAS, Moscow, Russia 3. Institute of theoretical and experimental biophysics RAS, Puschino ,Russia</p>
13.00	<p>Discussion of the lectures of Session 1 and poster P68</p>
13.15	<p>Lunch</p>



Towards the STENTS of a new generation

AFTERNOON SESSIONS

SESSION 2 – TRADITIONAL AND NANOCOMPOSITE COATINGS

Chairmen: R.Z. LeGeros (U.S.A.); K. Liefeth (Germany); K. Nishihara (Japan)

14.45	<p>Alternatives to plasma spray methods for depositing bioactive coatings on implants</p> <p><i>R.Z. LeGeros¹, R. Rohanzadeh², S. Lin¹, D. Mijares¹, J.P. LeGeros¹</i></p> <p>New York University College of Dentistry, New York – NY – U.S.A.; ²University of Sydney - Australia</p>
15.00	<p>TEM investigations of hydroxyapatite coatings on Al₂O₃ ceramics</p> <p><i>I. Pribošič, T. Kosmač</i></p> <p>“Jožepf Stefan” Institute, Ljubljana - Slovenia</p>
15.15	<p>New cold plasmas and DLC surface treatments for medical Co-Cr-Mo and Ti-6Al-4V prostheses</p> <p><i>A.C. Magnee¹, B. Forest², Y. Corre³</i></p> <p>¹Faculty of Applied Science, Physical Metallurgy, Tribology and Biomaterials, University of Liège - Belgium; ²Ecole Supérieure des Mines de Saint-Etienne, Centre Ingénierie et Santé, Saint-Etienne - France; ³Nitruvid, Fraisses - France</p>
15.30	<p>Microstructural and mechanical characterization of new ceramic biocoatings</p> <p><i>V. Cannillo, L. Lusvardi, F. Pierli, A. Sola</i></p> <p>Department of Engineering of Materials and Environment, University of Modena and Reggio Emilia, Modena - Italy</p>
15.45	<p>Nanothickness bioceramic coatings – Laboratory and in vivo performance of a ~400nm thickness bioceramic coating on dental implants</p> <p><i>P.G. Coelho¹, M.V.M. Guimaraes², M.C. Bottino³, M. Suzuki⁴</i></p> <p>1. New York University, Dept. of Biomaterials and Biomimetics, USA 2. UNESP, Dept of Prosthodontics, Sao Jose dos Campos, Sao Paulo, Brazil 3. University of Alabama at Birmingham, Alabama, USA 4. Tufts University, Boston, Massachusetts, USA</p>
16.00	<p>Osteoblast response on nanocomposite coated titanium</p> <p><i>R. Schade¹, K. Liefeth¹, M.D. Sikiric^{2,3}, H. Füredi-Milhofer²</i></p> <p>¹Department of Biomaterials, Institute for Bioprocessing and Analytical Measurement Techniques (IBA), Rosenhof – Germany; ²Department of Chemistry, “Casali” Institute of Applied Chemistry, The Hebrew University of Jerusalem – Israel; ³Department of Physical Chemistry, Laboratory of Radiochemistry, “Rudjer Boskovic” Institute, Zagreb - Croatia</p>
16.15	<p>Discussion of the lectures of Session 2 and posters P6, P14, P60</p>
16.30	<p>Coffee Break</p>

SESSION 3 – COMPOSITES AND NANOCOMPOSITE MATERIALS

Chairmen: S. Barinov (Russia), F. Branda (Italy), F.H. Lin (Taiwan)

16.45	<p>Functionalised silica particles from mixed alcoxide solutions <i>F. Branda, A. Costantini, G. Luciani, B. Silvestri, F. Tescione</i> Department of Materials Engineering and Production, University of Naples “Federico II”, Naples - Italy</p>
17.00	<p>Nanohydroxyapatites and their polymer composites for tissue engineering <i>Wafa L. Abdal-Fattah,</i> Biomaterials Dept. National Research Centre, Cairo, Egypt</p>
17.15	<p>Alendronate-hydroxyapatite composite nanocrystals: a chemico-physical and biological investigation <i>F. Boanini¹, P. Torricelli², M. Gazzano³, R. Giardino², A. Bigi¹</i> ¹Department of Chemistry “G. Ciamician”, University of Bologna – Italy; ²Department of Experimental Surgery, Research Institute “Codivilla-Putti”, “Rizzoli” Orthopaedic Institutes, Bologna – Italy; ³ISOF-CNR, Bologna - Italy</p>
17.30	<p>Bioactive poly(2-hydroxyethylmethacrylate) (PHEMA)/Silica gel nano-composites by <i>in-situ</i> sol-gel process <i>A. Costantini, G. Luciani, B. Silvestri, F. Tescione, F. Branda</i> Department of Materials Engineering and Production, University of Naples “Federico II”, Naples - Italy</p>
17.45	<p>Fe-doped calcium sulphide nanocomposite <i>S. Yueh-Hsiu Wu, C.-Li Tseng, F.-H. Lin</i> Institute of Biomedical Engineering, National Taiwan University, Taipei – Taiwan (R.O.C.)</p>
18.00	<p>Electrospinning of nano-fibres of collagen-hydroxyapatite composite material <i>A. Fedele¹, Z. Ahmed², H. Zhang², M. Edirisinghe², J. Huang²</i> ¹ISTEC-CNR, Faenza – Italy; ²Department of Mechanical Engineering, University College of London – U.K.</p>
18.15	<p>Physico-chemical interactions between collagen and hydroxyapatite <i>M. Gagliardi¹, N. Barbani¹, C. Cristallini², G.D. Guerra², A. Krajewski³, M. Mazzocchi³</i> ¹DICCISM, University of Pisa – Italy; ²IMCB-CNR, U.O. of Pisa – Italy; ³ISTEC-CNR, Faenza - Italy</p>
18.30	<p>Discussion of the lectures of Session 3 and posters P13, P55, P56, P79</p>

SESSION 4 – POROUS SCAFFOLDS

Chairmen: M. Wang (Hong Kong), M. Varella de Oliveira (Brazil)

18.45	Nanocomposite biomimetic scaffolds in articular osteochondral re-generation: preliminary evaluations <i>D. Pressato¹, A. Tampieri², R. Quarto³, E. Arcangeli¹, E. Kon⁴, S. Zaffagnini⁴, R. Giardino⁴, B. Parma⁵, R. Marcacci⁴</i> ¹ FinCeramica Faenza SpA, Faenza – Italy; ² ISTEC-CNR, Faenza – Italy; ³ Stem Cells Laboratory, Advanced Biotechnology Centre, University of Genoa – Italy; ⁴ Research Institute “Codivilla-Putti”, “Rizzoli” Orthopaedic Institutes, Bologna – Italy; Opocrin SpA, Corlo di Formigine (Modena) - Italy
19.00	Apatite lamellar porous scaffolds for bone substitution and drug release <i>E. Landi¹, F. Valentini¹, S. Sprio¹, A. Tampieri¹, D. Tonelli²</i> ¹ ISTEC-CNR, Faenza - Italy; ² Faculty of Industrial Chemistry, University of Bologna - Italy
19.15	Discussion on the lectures of session 4 and posters P5 and P33

20÷22 Welcome party and buffet offered by the Major of Faenza at the City Hall – “Palazzo Milzetti”, Neoclassic Age Museum



Images from “palazzo Milzetti”



PROGRAM OF
THURSDAY, OCTOBER 4, 2007
Congress Hall of Banca di Romagna

MORNING SESSION

SESSION 5 – CERAMIC GLASS SYSTEMS

Chairmen: E. Verné (Italy), S. Oscarsson (Sweden), C. Sorrell (Australia)

8.30	<p>Structural transformations and sintering behaviour of 45S5 bioglass <i>L. Lefebvre¹, J. Chevalier¹, L. Gremillard¹, R. Zenati², D. Bernache³, A. Govin³</i> ¹University of Lyon, INSA-Lyon, MATEIS CNRS UMR 5510, Lyon – France; NORAKER, Centre Scientifique et Technologique d’Entreprises (CSTE), Villeurbanne – France; École National Supérieure des Mines de Sain-Étienne, Centre CIS, Saint-Étienne - France</p>
8.45	<p>Optimising bioactive glass-ceramic tissue engineering scaffolds by polymer coatings and surface functionalization <i>O. Bretcanu¹, D. Mohammad Yunos¹, Q.Z. Chen¹, C. Vitale Brovarone², E. Verné², Ch. Hellmich³, V. Salih⁴, A.R. Boccaccini¹</i> ¹Department of Materials, Imperial College, London – U.K.; ²Department of Materials Science and Chemical Engineering, University Polytechnic of Turin – Italy; ³Technical University Vienna – Austria; ⁴“Eastman” Dental Institute, University College of London, U.K.</p>
9.00	<p>Micro-CT studies on 3D bioactive glass-ceramic scaffolds for bone regeneration <i>C. Vitale-Brovarone¹, E. Verné¹, C. Renghini², F. Rustichelli²</i> ¹Department of Materials Science and Chemical Engineering, University Polytechnic of Turin – Italy; ²SACS Department, Physical Sciences Section, University Polytechnic of Marche, Ancona - Italy</p>
9.15	<p>Production and properties of apatite-wollastonite ceramics for bio-medical applications <i>C. Vakifahmetoglu¹, J. Park¹, F. Korkusuz², A. Ozturk¹, M. Timucin¹</i> ¹Department of Metallurgical and Materials Engineering, Middle East Technical University, Ankara - Turkey; Middle East Technical University Medical Centre, Ankara - Turkey</p>
9.30	<p>Response of human gingival epithelial cells (HE-15 cells) for the RBP1 and RBP2 bioactive glasses using scanning and transmission electron spectroscopy <i>H. Oguchi¹, Y. Karube¹, K. Matsumoto¹, M. Morito¹, T. Ohshima¹, A. Krajewski², A. Ravaglioli²</i> ¹Tsurumi University School of Dental Medicine, Tsurumi (Yokohama) – Japan; ²ISTEC-CNR, Faenza - Italy</p>
9.45	<p>Discussion on the lectures of Session 5 and Posters P12, P19</p>

SESSION 6 – CELLS, BONE AND BIOMECHANICAL RESPONSE

Chairmen: A. Natali (Italy); A. Facchini (Italy), H. Neves (Belgique)

10.00	<p>Nanophase biodegradable ceramics for the treatment of bone infections <i>T.S. Sampath Kumar</i> Department of Metallurgical and Materials Engineering, Indian Institute of Technology Madras, Chennai - India</p>
10.15	<p>Cell-based bone engineering using a novel porous bioactive ceramic <i>A. John¹, M. B. Nair¹, H.K. Varma², K.V. Menon³</i> ¹Division of Implant Biology, Biomedical Technology “Wing, Sree Chitra Tirunal” Institute for Medical Sciences & Technology, Thiruvananthapuram – Kerala -India; ²Bioceramics Laboratory, Biomedical Technology “Wing, Sree Chitra Tirunal” Institute for Medical Sciences & Technology, Thiruvananthapuram – Kerala -India; ³Division of Orthopaedics, “Amritha” Institute for Medical Sciences, Kochi – Kerala - India</p>
10.30	<p>Substrate dependent differences in osteoblasts proliferation, bone matrix molecules production and inflammation factors expression <i>B. Tonnarelli¹, C. Manferdini¹, A. Piacentini¹, K. Codeluppi¹, F. Grassi¹, N. Zini², S. Ghisu³, A. Facchini^{1,4}, G. Lisignoli¹</i> ¹Laboratory of Immunology and Genetics, Research Institute “Codivilla-Putti”, “Rizzoli” Orthopaedic Institutes, Bologna – Italy; ²IGM-CNR, Section of Bologna c/o “Rizzoli” Orthopaedic Institutes, Bologna – Italy; ³Laboratory of Cellular Biology and Electronic Microscopy, Research Institute “Codivilla-Putti”, “Rizzoli” Orthopaedic Institutes, Bologna – Italy; ⁴Department of Internal Medicine and Gastroenterology</p>
10.45	<p>Constitutive models of soft tissues for investigation of biomechanical response with evaluation of degenerative effects <i>A. Natali, P.G. Pavan, E.L. Carniel, D. Cum</i> Centre of Mechanics and Biological Materials, University of Padua - Italy</p>
11.00	Discussion on the lectures of Session 6 and Poster P17
11.15	Coffee Break

SESSION 7 – EVALUATION TESTS

Chairmen: F. Namavar (USA), H. Oguchi (Japan)

11.30	<p>Disclosure of causes of human-specific intractable immune disease by means of bio-energy resonance – Detection of mitochondrial deterioration due to intracellular infections using bi-digital O-ring test <i>K. Nishihara</i> “Nishihara” Institute, Rappongi (Tokyo) - Japan</p>
11.45	<p>Vibrational spectroscopy characterization of self-assembling oligopeptides <i>M. Di Foggia¹, C. Fagnano¹, P. Taddei¹, A. Torreggiani², M. Dettin³, A. Tinti¹</i> ¹Department of Biochemistry “G. Moruzzi”, University of Bologna – Italy; ²ISOF-CNR, Bologna – Italy; ³Department of Chemical Processes of Engineering, University of Padua - Italy</p>
12.00	<p>Evaluation of the role of nanosurface roughness on cells <i>Yu-Cheng Hsu</i> National-Cheng Kung University, Taiwan (Rep. of China)</p>
12.15	Discussion on the lectures of Session 7 and Posters P32

SYMPOSIUM: NATURAL ENVIRONMENTAL CONSTRAINTS ON HEALTH

Moderator: F. Tateo (Italy)

12.30	<p>Trace elements and health: earth constraints <i>F. Tateo¹, V. Summa²</i> ¹Institute of Geosciences and Georesources of CNR c/o Department of Geosciences, University of Padua – Italy; ²Institute of Methodologies for environmental analysis of CNR, Tito Scalo (Potenza) - Italy</p>
12.45	<p>SEM analysis of microcrystals from sinovial fluids and bone tissues of patients with osteoarthritis <i>L. Peruzzo¹, P. Frallonardo², F. Oliviero², A. Scanu², L. Tauro³, R. Ramonda², P. Sfriso², F. Lioté⁴, L. Punzi²</i> ¹Institute of Geosciences and Georesources of CNR c/o Department of Geosciences, University of Padua – Italy; ²Department of Clinical and Experimental Medicine, Division of Rheumatology, University of Padua – Italy; ³Department of Georesources, University of Padua – Italy; ⁴Rheumatology Federation, “Viggo Petersen” Centre, INSERM U606, “Lariboisière” Teaching Hospital, Paris - France</p>
13.00	<p>INVITED LECTURE Development of Clays for sanitary uses and perspectives with nanotechnologies <i>G. Novelli (Livorno, Italy)</i></p>
13.15	<p>Silicate doping as a route to fabricate prospective calcium phosphate biomaterials <i>A. Veresov¹, V. Putlayev¹, A. Kuznetsov¹, A. Soin¹, A. Ravaglioli², A. Krajewski²</i> 1- Moscow State University, Moscow, 119991 Russia, Leninskie Gory, 1/3 2- ISTECC, Faenza, Italy</p>
13.30	<p>Discussion on the lectures of symposium and Posters P67 from session 10</p>
13.45	<p>Lunch</p>

15.15 - CONGRESS TRIP

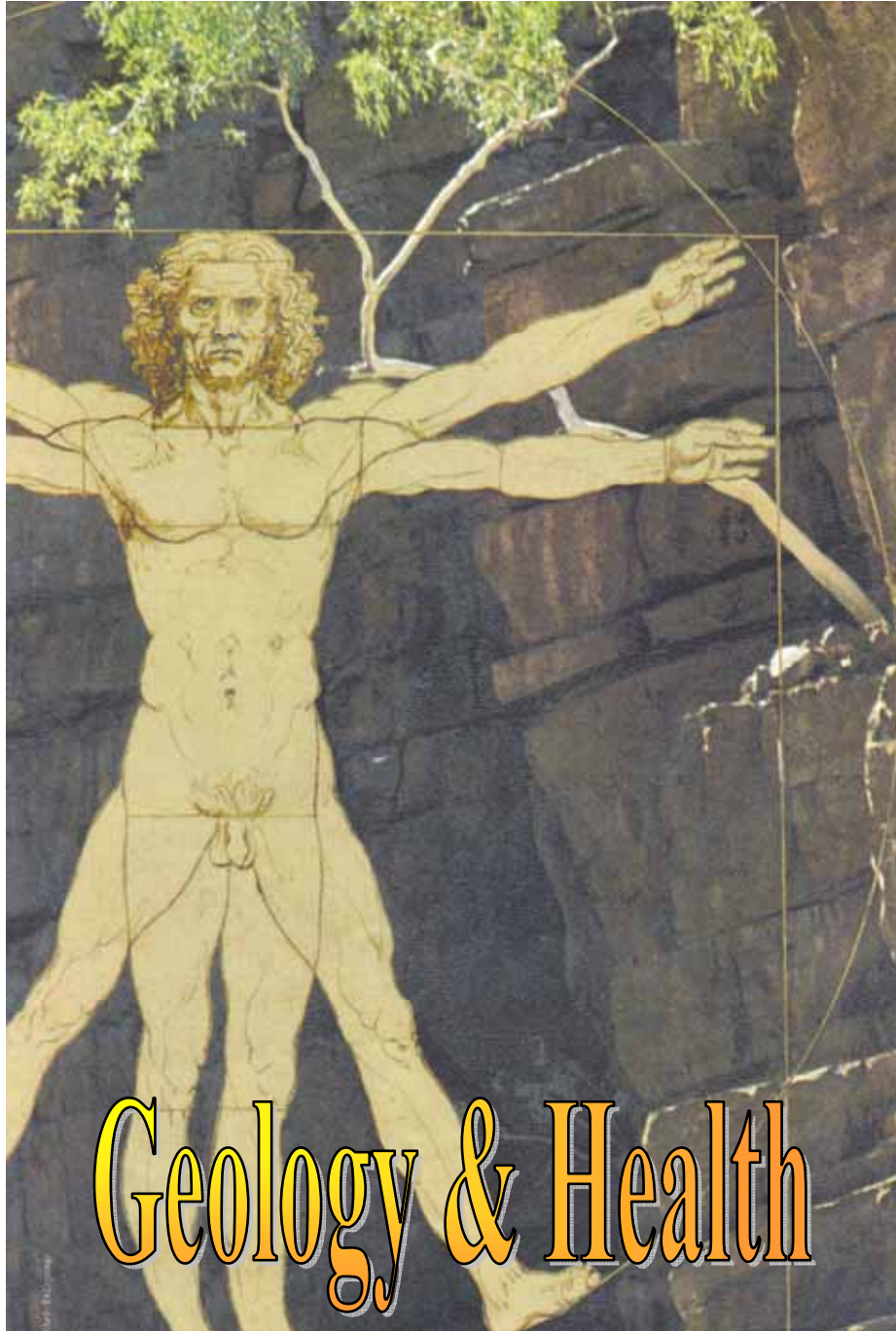
Republic of San Marino



For the Congress Trip a shuttle bus service will start at 15.00 from the Central Square (Piazza del Popolo) in front of the Cathedral (close to the Congress Hall).

The official dinner is forecasted about 20.00 after the visit to the town and shopping.

The Presidents of the 11CCT and the president of Banca di Romagna (avv. A. Bartolotti) will deliver the prize for the best oral paper proposed by a young researcher.



Geology & Health

Health with Science

Proceedings I Seminar on “Geology and health” - Geobiology 4-2006
(from Coccioni R., University of Urbino & Tatteo F. , CNR Padoa)

PROGRAM OF
FRIDAY, OCTOBER 5, 2007
Congress Hall of Banca di Romagna

MORNING SESSION

SESSION 8 – TESTS IN VITRO AND IN VIVO

Chairmen: F.H. Lin (Taiwan); D. Pressato (Italy); H. Furedi - Milhofer (Israel)

8.30	<p>Adhesion and spreading of human osteoblasts on biomimetic glass surfaces by total internal reflection fluorescence (TIRF) microscopy <i>P. Brun, M. Scorzeto, S. Vassanelli, S. Castagliuolo, I. Di Bello, C. Bagno, M. Dettin</i> University of Padova, Dept. of Chemical processes engineering, Padova, Italy</p>
8.45	<p>Insulinoma/Agarose microspheres enclosed in calcium phosphate cement chamber as bioartificial pancreas: <i>in vitro</i> and preliminary animal study <i>Y. Kai-Chiang¹, Wu Chang-Chin^{1,2}, L. Feng-Huei¹</i> ¹Institute of Biomedical Engineering, College of Medicine, National Taiwan University, Taipei – Taiwan (R.O.C.); ²Department of Orthopaedics, “En Chu Kong” Hospital, San-shia Town (Taipei Hsien) - Taiwan (R.O.C.)</p>
9.00	<p>The Influence of Biomaterial Induced Microenvironment Upon Cell Growth in the Case of Polymer Network Based Biomaterials <i>¹M.B. Plavsic, ¹I. Pajic-Lijakovic, ²V. Jokanovic, ¹B. Bugarski</i> ¹Faculty of Technology and Metallurgy, Belgrade University, Belgrade, Serbia ²Institute of Nuclear Sciences “Vinca”, Belgrade, Serbia</p>
9.15	<p>Synthesis of nanometric materials and applications on dental implants <i>G. Baldi¹, A. Barzanti¹, I. Zama¹, G. Lorenzi², F. Carinci²</i> 1. Colorobbia Italia SpA, Cericol - Italy; 2. Arcispedale “Sant’Anna”, Ferrara - Italy</p>
9.30	<p>Multipurpose use of Ca-aluminate as biomaterial <i>L. Hermansson</i> DOXA AB, Uppsala - Sweden</p>
9.45	<p>Discussion on the lectures of Session 8 and Posters P22, P35, P44, P75</p>

SESSION 9 – CLINICAL APPLICATIONS

Chairman: K. Nishihara (Japan), A. Karlov (Russia), R. Giardino (Italy)

10.00	<p>CustomBone™ service in the reconstruction of large skull defects – A retrospective clinical trial</p> <p><i>E. Arcangeli¹, A. Nataloni¹, D. Pressato¹, G. Staffa², F. Servadei²</i></p> <p>¹FinCeramica Faenza SpA, Faenza – Italy; ²Hospital Aids “Bufalini”, O.U. Neuro-traumatology, Cesena - Italy</p>
10.15	<p>“One step” treatment for tumor-associated cranial demolition and reconstruction by neuronavigator and porous hydroxyapatite custom made prosthesis: a case report</p> <p><i>V. Havenbergh¹, E. Arcangeli², A. Nataloni²</i></p> <p>¹Department of Neurosurgery, “St. Augustinus” Hospital of Antwerpen – Belgium; ²FinCeramica Faenza SpA, Faenza – Italy</p>
10.30	<p>Case studies related to the successful treatment of intractable immune diseases in Japan</p> <p><i>K. Nishihara, H. Sakitani, M. Tejima, N. Shyoji</i></p> <p>“Nishihara” Institute, Rappongi (Tokyo) - Japan</p>
10.45	Discussion on the Lectures of Session 9 and Poster P64
11.00	Coffee Break

ROUND TABLE 1: THE STENTS OF NEW GENERATION

Moderators: A. Maresta (Italy), A. Wilson (U.K.), S. Datta (U.K.)

11.15	<p>New strategies in the development of drug-eluting-stents</p> <p><i>M. Balduccelli, A. Maresta</i></p> <p>¹ Department Emergency-Urgency, O.U. Cardiology, AUSL of Ravenna, “Santa Maria delle Croci” Hospital, Italy</p>
11.30	<p>Nanotechnology and ceramic coatings for biomedical applications</p> <p><i>A. Wilson</i></p> <p>Advanced Materials Research Institute, Northumbria University, Newcastle-upon-Tyne – U.K.</p>
11.45	<p>Drug eluting stents: new concepts for alloys, coatings and choice of the pharmac</p> <p><i>N. Shehata,</i></p> <p>IBS Research Area, Trieste, Italy</p>
12.00	<p>Synthesis and characterization of drug eluting graft copolymers used in biomedical applications</p> <p><i>J.E. Kennedy, C.L. Higginbotham</i></p> <p>Centre for Biopolymer and Biomolecular Research, Department of Polymer Engineering, “Atlone” Institute of Technology, Athlone Co., Westmeath - Ireland</p>
12.15	<p>Immobilisation of NaIO₄-treated heparin on PEG-modified 316L SS surface for high anti-thrombin-III binding</p> <p><i>T.W. Chuanga¹, D.-T. Lin², F.-H. Linac³</i></p> <p>Institute of Biomedical Engineering, National Taiwan University, Taipei – Taiwan (R.O.C.); Department of Laboratory Medicine, National Taiwan University, Taipei – Taiwan (R.O.C.); Department of Biomedical Engineering, National Taiwan University Hospital, Taipei – Taiwan (R.O.C.)</p>
12.30	Papers from ABBOT (Bioresorbable stents) and TEER COATING (about the Magnetron Sputtering Techniques) were announced
13.00	Discussion on the lectures of the round table and Poster P71
13.15	Lunch

SESSION 10 – CALCIUM PHOSPHATES AND IONS SUBSTITUTIONS

Chairman: A. Tampieri (Italy), G. Baldi (Italy), W. Abdel-Fattah (Egypt)

14.30	A hierarchical structure of apatites <i>S.V. Dorozhkin</i> Private scientist, Moscow - Russia
14.45	Synthesis and characterization of pure and silicon-substituted nano-hydroxyapatite <i>N.V. Bakunova¹, A.S. Fomin¹, V.M. Ievlev², S.M. Barinov¹, I.V. Fadeeva¹, V.S. Komlev¹, L.I. Shvorneva¹, E.K. Belongov²</i> ¹ Institute for Physical Chemistry of Ceramics RAS, Moscow - Russia; ² Voronez State University, Voronez - Russia
15.00	Hydrogel nanoreactor matrixes for the synthesis and stabilization of hydroxyapatite <i>Z. Ulberg, Yu. Samchenko, L. Bereza</i> "F.D. Ovacharenko" Institute of Biocolloidal Chemistry, National Academy of Sciences of Ukraine, Kyiv - Ukraine
15.15	Synthesis of nanocrystalline hydroxyapatites at low temperature <i>S. Naravana Kalkura, S. Prakash Parthiban, R.V. Suganthi, A. Joshy, R. Vani, E.K. Girija, A. Kuriakose</i> Crystal Growth Centre, "Anna" University, Chennai - India
15.30	Bioactive materials from butyrylated chitosan <i>G. Schoukens</i> Department of Textiles, Ghent University, Ghent - Belgium
15.45	Discussion on the Lectures of Session 10 and Posters P42, P67
16.00	Coffee break

SESSION 11 – STANDARDS, CERTIFICATIONS AND NORMATIVES

Chairman: A. Martinetti (Italy)

16.15	INVITED LECTURE Quality systems for regulatory purposes: goals of EN ISO 13485 and related standards for medical devices manufacture and sales <i>F. Banfi</i> ITALCERT, Milan - Italy
16.30	Validation principles in regulated quality systems <i>A. Tabanelli</i> T&T, business management consulting practice, Lugo (RA) - Italy
16.45	Discussion on the Lectures of Session 11

BIOMATERIALS SOCIETIES PRESENTATION

17.00-18.00 The principal aim of this session is to promote new interests in the field of biomaterials involving endorsement societies.

Representatives are announced from England, Australia, Turkey, India, Hong Kong, with the assistance of ESB, SIB, CSB, JSB, ENMAT.

18.15 CLOSING REMARKS

FAENZA FRIDAY, OCTOBER 5, 2007
Congress Hall of Banca di Romagna
(Room B)

“GIACOBBE” PROJECT



SCIENTIFIC COMMITTEE

G. Amabile (Roma), F. Cerboni (Firenze), D. Tonlorenzi (Massa-Carrara), L. Fonzi (Siena),
P. Pasquetti (Firenze), D. Chiesa (Genova), G. Rocchi (Siena), A. Moschini (Massa-Carrara),
A. Veronica (Latina), D. Zaffe (Modena), M. Brunelli (Pisa), A. Natali (Padova),
E. Bertolucci (Siena), A. Krajewski (Faenza), A. Ravaglioli (Faenza)

SCIENTIFIC SECRETARY: S. Zanfrini (Como) lizardmed@tiscali.it

17.00-18.15 ROUND TABLE 2: (ROOM B)

“PROGETTO GIACOBBE”

Moderators: M. Brunelli (Italy), A. Krajewski (Italy), S. Zanfrini (Italy)

17.00	Instrumental evaluation of the postural alteration in the different ages <i>S. Zanfrini</i> Lizard, Como and Chieti Univ. (Italy)
17.20	Postural pains and therapies <i>D. Tonlorenzi¹, M. Brunelli², F. Cerboni³</i> 1 Dental surgeon, Massa Carrara - Italy 2 Department of Physiology and Biochemistry, University of Pisa - Italy 3 Otorinolaringoiatry Surgeon, Empoli - Italy
17.40	New insides on the pathogenesis of aged linked neurogenerative diseases <i>M. Brunelli</i> Department of Physiology and Biochemistry, University of Pisa - Italy
18.00	Discussion on the lectures of the round table and Posters P51, P52

In this occasion the book of proceedings of previous “PROGETTO GIACOBBE” meeting, will be presented, printed thanks to the contribution of IDECO S.p.A. (Sig. Bassi)

PROGRAM OF THE
POSTER SESSION

All Poster presenters will have the opportunity to give an outlook of their work during the appropriate session.

P1	<p>Electrospinning of nano-fibres of collagen-hydroxyapatite composite material <i>A. Fedele¹, Z. Ahmed², H. Zang², M. Edirisinghe², J. Huang²</i> ¹ISTEC-CNR, Faenza – Italy; ²Department of Mechanical Engineering, University College of London - U.K.</p>
P5	<p>Totally bioresorbable nanocomposite microspheres and scaffolds for bone tissue engineering <i>B. Duan, W. Zhou, W.Lam Cheung, M. Wang</i> Department of Mechanical Engineering, The University of Hong Kong</p>
P6	<p>Apatite/TiO₂ composite coatings formed on Ti, Ti-6Al-4V and NiTi shape memory alloy through a biomimetic process <i>T. Sung, M. Wang</i> Department of Mechanical Engineering, The University of Hong Kong</p>
P12	<p>A comparison among different doped glass systems tested in vitro for tissue engineering <i>A. Ravaglioli¹, A. Krajewski¹, G. Baldi², A. Barzanti², A. Antonini²</i> ¹ISTEC-CNR, Faenza – Italy; ²Research Centre of Colorobbia SpA, Sovigliana-Vinci (Florence) - Italy</p>
P14	<p>Gas-detonation HAP coatings on titanium: properties and nanosized structure <i>V. Dubok¹, O. Atamanenko², N. Klyui³, V. Temchenko³, B. Lyashenko⁴</i> ¹“I.M. Frantsevich” Institute for Problems of Materials Science NASU, Kiev - Ukraine; ²Research Center for Radiation Medicine, Kiev - Ukraine; ³“V.E. Lashkaryov” Institute of Semiconductor Physics NASU, Kiev - Ukraine; ⁴Institute for Problems of Strength NASU, Kiev – Ukraine.</p>
P18	<p>Influence of pre-treatment temperature in calcium phosphate deposition on porous titanium <i>W.S. de Medeiros¹, M.V. Oliveira², L.C. Pereira³, M.C. Andrade⁴, R. Medonça⁵, W.A.A. Macedo⁵</i> ¹Federal University “Fluminense”, UFF, “Antônio Pedro” University Hospital, Niterói – RJ, Brazil; ²National Institute of Technology, INT, Rio de Janeiro – RJ, Brazil; ³Federal University of Rio de Janeiro, UFRJ/PEMM, Rio de Janeiro – RJ, Brazil; ⁴Polytechnic Institute of UERJ-IPRJ, Vila Nova, Nova Friburgo - RJ, Brazil; ⁵Development Centre of Nuclear Technology, CDTN, Pampulha, Belo Horizonte–MG, Brazil.</p>
P19	<p>Ceramic spacers for spine coated with hydroxyapatite and glass-ceramic <i>A. Krajewski¹, A. Ravaglioli¹, A. Natali²</i> ¹ISTEC-CNR, Faenza – Italy; ²Centree of Mechanics of Biological Materials, University of Padua - Italy</p>
P22	<p>Electron microscopic research on the cemento-genesis of gompholic artificial dental roots <i>K. Nishihara, M. Tejima</i> Nishihara Institute Minato-Ku, Tokio, Japan</p>
P32	<p>In vitro evaluation of calcium phosphate based biomaterials <i>A. Ślósarczyk, Z. Paszkiewicz</i> AGH, University of Science and Technology, Kraków - Poland</p>
P33	<p>Electron bio-resorbable nanofibrous scaffolds for tissue engineering applications <i>C. Gualandi¹, M.L. Focarete¹, M. Scandola¹, P. Dobrzynski², M. Kawalec²</i> ¹Department of Chemistry “Giacomo Ciamician”, University of Bologna – Italy; ²Institute of Polymers and Carbon Materials, Zabrze – Poland.</p>

P35	<p>Bone healing in critical-size defects treated with various bone graft substitutes in rat calvaria</p> <p><i>J.W. Park^{1,2}, D.-H. Lee^{2,3}, S.-R. Bae¹, J.-B. Kim¹</i></p> <p>¹Department of Periodontology, School of Dentistry, Kyungpook National University, Daegu, South Korea; ²Osteophil Co. Ltd., Daegu, South Korea; ³College of Life Science, Kyunghee University, Yongin, South Korea.</p>
P42	<p>Calcium phosphate bone cement reinforced by metallic titanium and ceramic particulates</p> <p><i>V.V. Smirnov¹, A.A. Egorov¹, D. Ferro², S.M. Barinov¹, S.S. Gretsov¹</i></p> <p>¹Institute for Physical Chemistry of Ceramics RAS, Moscow – Russia; ²ISMNS-CNR, Rome – Italy.</p>
P43	<p>Calcium phosphate reinforced chitosan-based porous scaffolds for bone tissue engineering</p> <p><i>V.V. Smirnov¹, A.Yu. Fedotov¹, S.M. Barinov¹, N.S. Sergeeva², I.K. Sviridova², V.A. Kirsanova²</i></p> <p>¹Institute for Physical Chemistry of Ceramics RAS, Moscow – Russia; ²“P.A. Herzen” Moscow research Oncological Institute, Moscow – Russia.</p>
P44	<p>Comparative in vivo study of biocompatibility and bone tissue substitution dynamics for different porous calcium phosphate ceramic granules</p> <p><i>V.I. Chissov¹, I.K. Sviridova¹, N.S. Sergeeva¹, G.A. Frank¹, V.A. Kirsanova¹, S.A. Achmedova¹, I.V. Reshetov¹, M.M. Filushin¹, S.M. Barinov², V.S. Komlev², I.V. Fedeeva², V.V. Smirnov²</i></p> <p>¹“P.A. Herzen” Moscow research Oncological Institute, Moscow – Russia; ²Institute for Physical Chemistry of Ceramics RAS, Moscow – Russia.</p>
P55	<p>Property analysis of porous composite scaffolds</p> <p><i>C.-M. Chung¹, W.-H. Chung¹, W.-J. Liao¹, Y.-Y. Hung², T.-Yu Lin³, Y.-S. Chen⁴, C.-W. Lan⁵, G.-C. Dong⁶, C.-H. Yao¹</i></p> <p>¹Institute of Biomedical Engineering and Materials Science, Central Taiwan University of Science and Technology, Taichung – Taiwan (R.O.C.); ²Department of Medical Radiology Technology, Central Taiwan University of Science and Technology, Taichung – Taiwan (R.O.C.); ³Graduate Institute of Chinese Medical Science, China Medical University, Taichung – Taiwan (R.O.C.); ⁴Department of Medical Radiology Technology, China Medical University, Taichung – Taiwan (R.O.C.); ⁵Department of Biomedical Engineering, “I-Shou” University, Kaohsiung - Taiwan (R.O.C.); ⁶Department of Chemistry and Centre of Nanoscience and Nanotechnology, National “Chung Hsing” University, Taichung – Taiwan (R.O.C.).</p>
P56	<p>Property analysis of β-TCP/PLA composite scaffold</p> <p><i>K.-C. Yen¹, J.-H. Lin¹, C.-H. Yao²</i></p> <p>¹Laboratory of Fiber Application and Manufacturing, Institute of Textile Engineering, “Feng Chia” University, Taichung – Taiwan (R.O.C.); ²Institute of Biomedical Engineering and Materials Science, Central Taiwan University of Science and Technology, Taichung – Taiwan (R.O.C.).</p>
P60	<p>Annealing-induced structural changes of hydroxyapatite films obtained by sol-gel and magnetron sputtering methods</p> <p><i>T.F. Stoica¹, A. Slav¹, A. Ianculescu², I. Pasuk¹, T. Stoica¹</i></p> <p>¹National Institute of Materials Physics, Bucharest – Romania; ²Department of Oxide Materials Science and Engineering, Polytechnic University of Bucharest – Romania.</p>
P64	<p>Ultra-structural features of bone tissue remodelling at filling large bone defects with different kinds of bioactive ceramics</p> <p><i>V. Procenko¹, O. Atamanenko², V. Dubok³, L. Zotikov¹, A. Shinkaruk³</i></p> <p>¹Institute of Oncology of Ukrainian AMS, Kiev - Ukraine; ²Research Center for Radiation Medicine, Kiev - Ukraine; ³“I.M. Frantsevich” Institute for Problems of Materials Science NASU, Kiev – Ukraine.</p>

P67	<p>Nanostructured silicon substituted hydroxyapatite powders <i>I. Cacciotti¹, M. Lombardi², A. Bianco¹, L. Montanaro²</i> ¹Department of Chemical Sciences and Technology, INSTM Research Unit “Tor Vergata”, Rome – Italy; ²Department of Materials Science and Chemical Engineering, INSTM Research Unit of Polytechnic of Turin, University Polytechnic of Turin, University Politechnic of Turin – Italy.</p>
P68	<p>Chitosan-UA nanoparticles as gene carriers in gene delivery system <i>C.P. Huang¹, F.-H. Lin², C.-K. Hsu¹</i> ¹Department of Materials Science and Engineering, National Taipei University of Technology, Taipei – Taiwan (R.O.C.); ²Department of Biomedical Engineering, National Taiwan University, Taipei – Taiwan (R.O.C.).</p>
P71	<p>Copolymer hydrogels of medical purpose with immobilized medicinal preparations and cells <i>Yu. Samchenko, Z. Ulberg, O. Kosenko</i> “F.D. Ovcharenko” Institute of Biocolloidal Chemistry, National Academy of Sciences of Ukraine, Kiev – Ukraine.</p>
P75	<p>In vitro studies regarding the biocompatibility of iron-aluminosilicates for hyperthermia and radiotherapy <i>S. Cavalu¹, V. Simon², R. Stefan³</i> ¹Faculty of Medicine and Pharmacy, University of Oradea – Romania; ²Faculty of Physics, “Babes-Bolyai” University, Cluj-Napoca – Romania; ³USAMV Cluj-Napoca, Agricultural Science and Veterinary Medicine University, Cluj-Napoca – Romania.</p>
P77	<p>Microstructural and mechanical characterization of infiltrated zirconia ceramic <i>M. Andrzejczuka¹, M. Lewandowska¹, T. Kosmač², K.J. Kurzydłowski¹</i> ¹Faculty of Materials Science and Engineering, Warsaw University of Technology, Warsaw – Poland; ²Ceramics Department, “Jozef Stefan” Institute, Ljubljana - Slovenia</p>
P79	<p>Spectroscopic and calorimetric study on different γ-irradiated poly-ϵ-caprolactone/hydroxyapatite (PLC/HA) composite biomaterials <i>M. Di Foggia¹, U. Corda², A. Torreggiani², P. Taddei¹, C. Fagnano¹</i> ¹Department of Biochemistry, Section of Chemistry and Biochemical propaedeutics, University of Bologna – Italy; ²ISOF-CNR, Bologna – Italy.</p>
P97	<p>Nanotechnologies in relation to the materials science and biomimetic structures: an up to date <i>M. Kirsch¹, A. Ravaglioli², A. Krajewski²</i> ¹WITEG GmbH, Berlin - Germany; ²ISTEC-CNR, Faenza - Italy</p>



11CCT secretariat among the 10 CCT participants. From left: Anna Beltrani and Rossella Ravaglioli assisted by Giovanni Mingazzini

THE BOOKS COLLECTING THE PROCEEDINGS OF ALL CCT'S MEETING-SEMINARS

All the participants in the CCT's meeting-seminars coming from the medical field have placed great attention on the proposal of experimental clinic papers of high scientific and technological level. This has contributed to the publication of proceedings with very interesting contents, not only for their originality. These proceedings are also a real source of knowledge for researchers and technicians coming from materials science as well as from medical science. The approach of all these people confirms curiosity for and interest in the ceramic world with its realisations, in particular for specific medical applications.

List of the books of the proceedings of all CCT Meeting-Seminars.

●	Proceedings of the international congress: "Bioceramics and the Human Body" (Faenza, April 2-5, 1991), Edited by: A. Ravaglioli and A. Krajewski, 519 pages. Elsevier Applied Science (London & New York, 1992), ISBN 18-5166-748-2.
●	Meeting and seminar on: CERAMICS, CELLS AND TISSUES, "Bioceramics, Cells and Tissues" (Faenza, April 15-17, 1993), Edited by: A. Ravaglioli and A. Krajewski, 224 pages, Faenza Editrice S.p.A. (Faenza, 1994), €23.80 [out-of-print].
●	Meeting and seminar on: CERAMICS, CELLS AND TISSUES, "Ceramic in Oral Surgery" (Faenza, May 5-6, 1995), Edited by: A. Ravaglioli and A. Krajewski, 240 pages, Faenza Editrice S.p.A. (Faenza, 1996), €27.40 [out-of-print].
●	Meeting and seminar on: CERAMICS, CELLS AND TISSUES, "Bioceramics Coating for Guided Bone Growth" (Faenza, May 2-4, 1996), Edited by: A. Ravaglioli and A. Krajewski, 236 pages, Faenza Editrice S.p.A. (Faenza, 1997), €27.40 [out-of-print].
●	Meeting and seminar on: CERAMICS, CELLS AND TISSUES, "Ceramic-Polymer Composites" (Faenza, May 22-24, 1997), Edited by: A. Ravaglioli and A. Krajewski, 291 pages, Editions of IRTEC-CNR (Italian National Research Council) (Tipografia Moderna, Ravenna, 1998), €33.60.
●	Meeting and seminar on: CERAMICS, CELLS AND TISSUES, "Implants for Spine" (Faenza, October 1-3, 1998), Edited by: A. Ravaglioli and A. Krajewski, 291 pages, Editions of IRTEC-CNR (Italian National Research Council) (Tipo-litografia Fabbri, Modigliana, 1999), €33.60.
●	Meeting and seminar on: CERAMICS, CELLS AND TISSUES, "Drug Delivery Systems" (Faenza, March 9-11, 2000), Edited by: A. Ravaglioli and A. Krajewski, 223 pages, Editions of IRTEC-CNR (Italian National Research Council) (Tipo-litografia Fabbri, Modigliana, 2000), €37.75.
●	Meeting and seminar on: CERAMICS, CELLS AND TISSUES, "Biomimetic Engineering: a new role for ceramics" (Faenza, June 13-15, 2001), Edited by: A. Ravaglioli and A. Krajewski, 305 pages, Editions of ISTEC-CNR (Italian National Research Council) (Tipo-litografia Fabbri, Modigliana, 2002), ISBN 88-8080-029-9, €50.00.
●	Meeting and seminar on: CERAMICS, CELLS AND TISSUES, "Bioceramics Surfaces: behaviour in vitro and in vivo" , (Faenza, March 18-21, 2003), Edited by: A. Ravaglioli and A. Krajewski, 453 pages. Editions of ISTEC-CNR (Italian National Research Council) (Tipo-litografia Fabbri, Modigliana, 2003), ISBN 88-8080-045-0, €70.00
●	Meeting and seminar on: CERAMICS, CELLS AND TISSUES, "Materials for Tissue Engineering – Chemistry and Microstructure: the role of ceramics" (Faenza, September 28 – October 1, 2004), Edited by: A. Ravaglioli and A. Krajewski, 522 pages. Editions of ISTEC-CNR (Italian National Research Council) (Tipo-litografia Fabbri, Modigliana, 2005), ISBN 88-8080-056-6, €90.00
●	Meeting and seminar on: CERAMICS, CELLS AND TISSUES, "Materials for Scaffolding of Biologically Engineered System: Interfaces and interactions on a nanoscale" (Faenza, May 23-27, 2006), Edited by A. Ravaglioli and A. Krajewski, 450 pages. Editions of ISTEC-CNR (Italian National Research Council) (Tipo-litografia Fabbri, Modigliana, 2006), ISBN 88-8080-071-X, €100.00



It is planned to publish the proceedings of the 11th CCT on "NANOTECHNOLOGY FOR FUNCTIONAL REPAIR AND REGENERATIVE MEDICINE The role of ceramics as in bulk and as coating" within Spring of the 2008, by the Editions of ISTEC-CNR (Italian National Research Council)



Note: except for the first reported, who intends to buy copies of these books already available, must kindly establish contact with:

☒ **Publications and Scientific Information of C.N.R., Via San Martino della Battaglia 44 – 00185 Roma (Italy); ☎ Phone: +39-06-49932204; ✉ E-Mail: mara.mallardo@cnr.it**

GENERAL INFORMATION

HOW TO REGISTER

Please, send your registration form and check to “*Agenzia Polo Ceramico*” to the attention of Mrs. Anna Beltrani, Via Granarolo 62 – 48018 Faenza – Italy.

(+39-0546 670311; Fax: +39-0546 670399; E-Mail: 11cct@agenziapoloceramico.it)

The registration fee for each participant includes: «*Participation to the meeting-seminar; Welcome party; Coffee breaks; Meeting trip, Official dinner; Documentation of the meeting; 11th CCT book of the proceedings when available*». The accompanying persons can participate to the session of the meeting-seminar free of charge.

The registration fee can be paid by:

€ 400.00 through bank transfer to: “*Agenzia Polo Ceramico Soc. cons. a r.l., Faenza – Italy*” on its account at the Bank “*Banca di Romagna – Corso Garibaldi 1, Faenza – Italy*” (Bank Codes: BIC: BARMIT2F – IBAN: IT49 I 0620523704 000072006676, indicating clearly the participant name(s) and as cause: “11th CCT 2007 Registration fee ”. **Please, note that all payments by money transfer must be free of banking charge for beneficiary.** Proof of payment (photocopy of the bank transfer receipt) must be sent by fax (+39-0546-670399) to the secretariat of the 11th CCT Congress to the attention of Mrs. Anna Beltrani. Registration forms received without registration fee payment will be considered void and pending. Expiration date for this transfer is September 20, 2007.

€ 500.00 by cash directly to the secretariat at the meeting desk. Registration desk of the participants opens on October 2, 2007, at 15.00 in the reception hall of “*Banca di Romagna*”, Via P. Costa 3 – 48018 Faenza – Italy (the same place of the Conference).

€ 200.00 for undergraduate students and PhD students. Interested students have to submit a request to the Organizing Secretariat, together with a presentation letter by their own tutor. Students who will present a communication will be preferred by the 11th CCT Scientific Committee.

ACCOMODATION

Please, reserve your accommodation in Faenza consulting www.prolocofaenza.it (ospitalità) as soon as possible, because during Congress period there are many events in Faenza and in the nearest towns, too. A shuttle bus service will be available every morning to reach the congress hall.

ENQUIRES

Should you require further information regarding: attendance at the conference, delivery of a paper, participation to the sixth CCT prize (for young researcher presentation), to social international events or purchasing a copy of the book of proceedings of the previous CCT International Congresses, etc., by taking contact with:

Mrs. Rossella Ravaglioli, (+39-347 0766 986; E-Mail: cctfaenza@alice.it).

VENUE

Faenza is a small town placed in the southern part of the Emilia-Romagna region (see Figure). It is 30 km far from Adriatic sea, 50 Km S-E from Bologna, 100 Km N-E from Florence, 200 Km S from Venice. To reach Faenza it is easy: if you use aircraft flight you can arrive to the airports of Bologna, Forlì or Rimini. From Bologna airport you have a direct connection with railways station with a public bus labelled BLQ.

Faenza has an interesting Internatioinal Museum of Ceramics and other artistic architectures and manufactures. Very near there are towns (Ravenna, Florence, Bologna, Venice) that are famous tourist stops.



REGISTRATION FORM

APPLICATION FORM TO BE RETURNED TO:

Conference Secretariat: Mrs. Anna Beltrani- c/o Agenzia Polo Ceramico - Via Granarolo 62 – 48018 Faenza - Italy
Phone +39 0546 670311 -  Fax +39 0546 670399 - E-Mail: 11cct@agenziapoloceramico.it
 Scientific Secretariat: Mrs. Rossella Ravaglioli Phone +39 347 0766986 - E-Mail: cctfaenza@interfree.it

Family name First name



Title/Occupation: As individual
..... Institute/Company


Position Affiliation


Professional or Academic sector of your activity:

Sector/Department VAT n.:


Mailing Address (street, n.):

 Town:  City/Post code:

 Country

Phone E-Mail:  Fax

Young Scientist Prize Candidate Fiscal Code (only for Italians)

 Date Signature[§]

* Not necessary for electronic delivery.

The payment must be settled through (see GENERAL INFORMATION page for details):



Money transfer


By cash or check directly to the secretariat at the meeting desk


Request of invoice[^]. The invoice must be produced and sent to:

Institute/Company:


Mailing Address (street, n.):

 Town:  City/Post code:

 Country

Phone E-Mail:  Fax

VAT n.: Fiscal Code (only for Italians)

Payment type[^]: by cash; by money transfer.  Date of the payment:

Signature:

[^]To take possession of the invoice, the person concerned must produce copy of the bank transfer receipt if the payment was made by Money Transfer or copy of the receipt of payment if this was done by cash or cheque directly to the secretariat desk.



Registration desk of the participants opens on Tuesday October 2, 2007 at 10.00 a.m. in the reception hall of Banca di Romagna, Via P. Costa 3 – 48018 Faenza – Italy (the same place of the Meeting-Seminar).

Please complete the registration form and return it to the Organising Secretary of the Meeting.

Your Highlight notes from 11CCT

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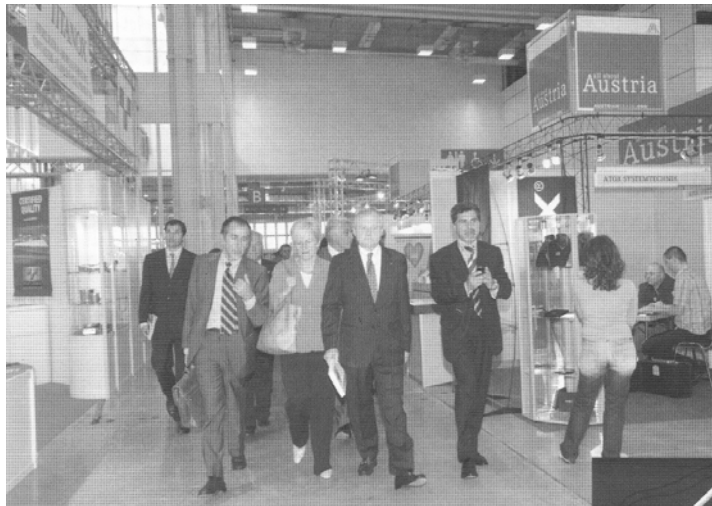
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Remembering Exposanità and “Progetto Giacobbe” meeting (may 2006) for a dialogue Science and Business



Dr. Piero Proni at Exposanità (Bologna) for the visit of the Exhibition with the Authorities and the Italian Minister of Health, the Senator Livia Turco (at his right)



TECHNICAL INFORMATION FOR THE PRESENTATION OF THE WORKS

Presentation of the posters

All posters must not exceed the following dimensions: 1.00 m wide, 1.20 m height. The posters can be pinned on the panels provided by using thumbtacks. All presenters will have the opportunity to present their work during the discussion of the appropriate session.

Attendance by at least one of the authors is requested for poster presentation.

LAST MINUTE POSTER PRESENTATION

Until September 24, 2007, it is still possible to submit poster presentations concerning topics discussed in one of the meeting sessions.

Presentation of the lectures

All oral presentations must be contained in the interval of time assigned on the program. No extra time will be agreed.

Presentation of the texts for the proceedings book

All authors, interested in having the full text of their presented work 11th CCT proceedings, are kindly invited to send their final written text by December 20, 2007.

It is planned to publish the proceedings of the 11th CCT on “**NANOTECHNOLOGY FOR FUNCTIONAL REPAIR AND REGENERATIVE MEDICINE the role of ceramics as in bulk and as coating**” within the spring of 2008. The authors should send their contribution electronically on floppy disks or on a CD-ROM (not rewritable, modality: open multisession), together with paper copy, to the secretary of the 11th CCT to the attention of the editors: Antonio Ravaglioli. (cctfaenza@alice.it)

The text submitted must be written in English in unique column on an electronic standard page (21x29.7 cm) through Microsoft Word 2000 in format .rtf. The margins (left and right justified) must be settled as follows: top and bottom 2.5 cm., left and right 2.0 cm. The text must be typed using Times New Roman 12 pt character set, single spaced. Figures, tables and graphs must be included inside the text in the proper position with their caption written with Arial 10 character set (please put every single image with corresponding caption inside a text label or produce an object by joining image with its corresponding caption written into a text label).

To prevent possible loss of images during the treatment of the electronic sheets, the authors are kindly requested to produce also separate electronic copy of the figures, tables and graphs in a good .jpeg reproduction.


First page must contain the title of the presentation (character set: Times New Roman Bold 16 pt, centered), authors' names (character set: Times New Roman bold 12 pt, centred), Institutions with address and state between brackets (character set: Times New Roman 12, left justified), translated in English (and not in national language) quoted with proper increasing numerical symbols from the authors' names list. The minimum number of pages is 4 and the maximum one must not exceed 8.

Before being accepted for publication in the proceedings book, each contribution will be examined by 2 referees extracted from the International Scientific Committee.

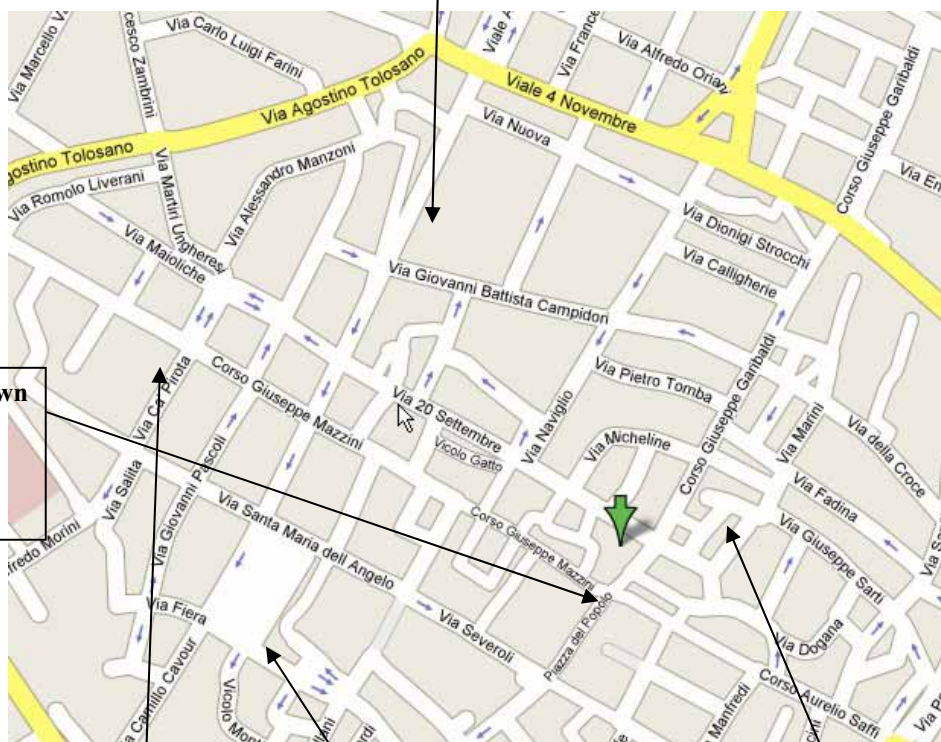
How to reach the Congress Hall of BANCA DI ROMAGNA
Via P. Costa, 3 - (+39-0546-676230 – Faenza Italy)

	The nearest and most important Airport to Faenza is Bologna -“G. Marconi” , linked to the central train station by a shuttle bus service. Minor regional airports near Faenza are at Forlì and Rimini.
	From Bologna to Faenza a main railway route offers very frequent trains all throughout day. Railway timetable is available at: www.trenitalia.com


International Museum of Ceramics
Viale Baccarini, 15



Suggested itinerary: 15 min. from the Train station by walk, 10 min. from A14 Motorway



Centre of the Town




Palazzo dell'Esposizioni
C.so Mazzini, 92

Palazzo Milzetti
Via Tonducci, 15



Congress Hall



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