

Poster Program

Scaffold Design: Concepts and Fundamentals

IC 058 P A 1

R. Barbucci, A. Chiumiento, A. Welle, D. Pasqui

Evaluation of the proteins role in cell-surface interaction

Department of Chemical and Biosistem Sciences and Technologies, University of Siena, Via A. Moro, 53100 Siena, IT; Institute for Biological Interfaces, Forschungszentrum Karlsruhe,

IC 068 P A 2

F. Bloisi, L. Vicari, V. Califano, R. Pedezzani, E. Bontempi, L.E. Depero

MAPLE deposited Biomaterial thin films Characterization

CNR-INFM Coherentia – Napoli; Dip. Scienze Fisiche – Univ. Napoli “Federico II”, Piazzale V. Tecchio, 80 – 80125 Napoli; Laboratorio di Chimica per le Tecnologie Università degli Studi di Brescia Via Branze. 38 – 25123 Brescia, Italy

IC 086 P A 3

S. Bronco, C. Cappelli, G. Ciardelli, P. Giusti, S. Monti

A computational Approach for the Design of Highly Selective Recognition Sites for Drugs into Molecular Imprinting Polymers

PolyLab-CNR e Department of Chemistry and Industrial Chemistry, via Risorgimento 35, I-56126 Pisa; Department of Mechanics, C.so Duca degli Abruzzi, 24 Politecnico in Turin, I-10129 Turin; Department of Chemical Engineering, University of Pisa; Istituto per i Processi Chimico-Fisici (IPCF-CNR), Area della Ricerca, via G. Moruzzi 1, I56124 Pisa (Italy)

IC 040 P A 4

G. Ciardelli, A. Rechichi, S. Sartori, G. Vozi, M. D'Acunto, M. Tricoli, P. Cerrai, P. Giusti

Surface engineering through plasma assisted immobilization of bioactive molecules

CNR-Institute for Composite and Biomedical Materials via Diotalvi 2 56126 Pisa; University of Pisa, Dep. of Chemical Engineering via Diotalvi 2 56126 Pisa; Politecnico in Turin, Dep. of Mechanics Corso Duca degli Abruzzi, 24, 10129 Torino, Italy

IC 112 P A 5

V. Coccoli, A. Luciani, P.A. Netti

Preparation and characterization of gelatin microparticles crosslinked with non-toxic

Dept. Materials and Production Engineering and CRIB, University of Naples “Federico II,” P.le Tecchio 80, 80125, Naples, Italy.

IC 041 P A 6

A. D'Agostino, A. Catapano, M. De Rosa, A. De Rosa, E. Farina C. Schiraldi

Hydrogels based on PVA and GAGs as matrices for tissue engineering

Department of Experimental Medicine, Section of Biotechnology and Molecular Biology, Second University of Naples, Via De Crecchio n°7 80138 Naples, Italy

IC 119 P A 7

S. Fusco, A. Borzacchiello, D. Cohn, P.A. Netti

Modified PEO-PPO Block Copolymers: Micro and Macro Characterization

Department of Materials Engineering and Production, and CRIB, University of Naples “Federico II”, Italy; School of Applied Science and Tech., Casali Inst. of Appl. Chem, The Hebrew University of Jerusalem, Israel

- IC 008** **P A 8**
M. GeeverLuke, D.M. Devine, S. Devery, C.L. Higginbotham
In situ UV polymerization of a lubricious hydrophilic coating
Centre for Biopolymer and Biomolecular Research, Athlone Institute of Technology, Athlone, Co. Westmeath, Ireland
- IC 114** **P A 9**
A. Gloria, F. Causa, R. De Santis, P. A. Revell, K.E. Tanner, L. Nicolais, L. Ambrosio
Innovative Device for Intervertebral Disc Replacement: Design, Preparation and Characterization
Institute of Composite and Biomedical Materials, (IMCB-CNR), P.le Tecchio 80, 80125, Naples, Italy; Department of Experimental and Clinical Medicine, University of Magna Graecia, Germaneto, 88100, Catanzaro, Italy; Biomaterials and Tissue Engineering, UCL Eastman Dental Institute, London, UK; Queen Mary University of London, Mile End Road,
- IC 109** **P A 10**
V. Guarino, L. Ambrosio, P.A. Netti
Morphological investigation of polycaprolactone scaffolds via thermal induced phase separation
Institute of Biomedical and Composite Materials CNR and Interdisciplinary Research Centre on Biomaterials CRIB, University of Naples "Federico II" P.le Tecchio 80, 80125, Naples,
- IC 110** **P A 11**
V. Guarino, F. Causa, P.A. Netti, M.P. Ginebra, J. Planell, L. Ambrosio
Biodegradable composite scaffolds by filament winding technology for bone tissue
Institute of Biomedical and Composite Materials CNR and Interdisciplinary Research Centre in Biomaterials CRIB, University of Naples "Federico II" P.le Tecchio 80, 80125, Naples, Italy; Dept. Experimental and Clinical Medicine -University of Magna Graecia, Germaneto Catanzaro, Italy; Department of Materials Science and Metallurgy, Technical University of Catalonia (UPC), Barcelona, Spain
- IC 016** **P A 12**
C.L. Higginbotham, M. GeeverLuke, D.M. Devine, S. Devery, O. Lawlor.
Chemically crosslinked temperature sensitive hydrogels for site specific drug delivery
Centre for Biopolymer and Biomolecular Research, Athlone Institute of Technology, Dublin Rd, Athlone, Co. Westmeath, Ireland
- IC 015** **P A 13**
J.E. Kennedy, J.G. Lyons, S. Devery C.L. Higginbotham
The modification of monolithic devices prepared using hot melt extrusion with the use of novel filler systems
Centre for Biopolymer and Biomolecular Research, Athlone Institute of Technology, Dublin Rd, Athlone, Co. Westmeath, Ireland.
- IC 027** **P A 14**
P. Laurienzo, L. Calandrelli, M. Malinconico, A. Di Feo, R. Di Pasquale, I. Passaro, A. Oliva
Synthesis and Characterization of New Functionalized Crosslinkable Poly(ϵ -caprolactone)
Istituto di Chimica e Tecnologia dei Polimeri-CNR, Via Campi Flegrei, 34-Pozzuoli (Naples); Dipartimento di Biochimica e Biofisica, Faculty of Medicine, Second University of Naples,
- IC 012** **P A 15**
S. Sakai, H. Masuhara, T. Ono, H. Ijima, K. Kawakami
Hemoglobin-alginate conjugate for tissue engineering scaffold
Department of Chemical Engineering, Faculty of Engineering, Kyushu University, 744 Nishi-ku, Fukuoka-city, Fukuoka, JAPAN

- IC 051** **P A 16**
A. Salerno, E. Di Maio, S. Iannace, P. A. Netti
m-bimodal porous scaffolds for tissue engineering
Institute of Composite and Biomedical Materials (IMCB-CNR) & Department of Materials and Production Engineering, University of Napoli "Federico II" Piazzale Tecchio 80, 80125 Napoli, Italy
- IC 050** **P A 17**
A. Sannino, M.G. Lionetto, A. Esposito, A. Maffezzoli, A. Barbarisi, L. Ambrosio L. Nicolais
A cellulose-based hydrogel as a potential bulking agent for hypocaloric diets
Department of Innovation Engineering, University of Lecce, via per Monteroni – 73100 Lecce; Department of Biological and Environmental Sciences and Technologies, University of Lecce, via per Monteroni – 73100 Lecce; Department of Public Health, Human Anatomy Unit, Second University of Naples Via L. Armanni, 5 80138, Napoli; Department of General, Specialist and Transplant Surgery, Second University of Naples, via Santa Maria di Costantinopoli, 104 – 80138 Naples; Institute of Composite and Biomedical Materials, National Research Council, Piazzale Tecchio, 80 – 80125 Naples; Department of Materials and Production Engineering, University of Naples 'Federico II', Piazzale Tecchio, 80 – 80125
- IC 013** **P A 18**
Y. Yamada, S. Sakai, T. Ono, H. Ijima, K. Kawakami
Electrospun silicate fiber for bone tissue engineering
Department of Chemical Engineering, Faculty of Engineering, Kyushu University, 744 Nishi-ku, Fukuoka-city, Fukuoka, JAPAN

Biomaterials as Cell Control Platform

IC 113 P B 1

C. Borselli, O. Oliviero, E. De Rosa, L. Majol, S. Battista, L. Ambrosio, P.A. Netti

The spatial distribution and the time evolution of the matrix regulate sprouting

Department of Materials and Production Engineering and Interdisciplinary Research Centre on Biomedical Material (CRIB), University of Naples Federico II, P.le Tecchio 80, 80125 Naples; School of Biotechnological Sciences, department of Pharmaceutical and Toxicological Chemistry, University of Naples Federico II, Via D. Montesano,49, 80131 Naples, Italy

IC 067 P B 2

A. Borzacchiello, D. Guarnieri, M. De Micco, S. Zeppetelli, P.A. Netti, C. Pedone, D. Marasco, A. Saporito, M. Ruvo

Effect of substrate mechanical properties on cell activities

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IC 034 P B 3

G. Candiani, M. Frigerio, F. Viani, N. Zaffaroni, M. Folini, M. Zanda

Development of azine-based transfectants for cancer gene therapy

C.N.R. -Istituto di Chimica del Riconoscimento Molecolare and Dipartimento C.M.I.C., Politecnico di Milano, – Via Mancinelli, 7 – 20131 Milan; Dipartimento di Oncologia Sperimentale, Istituto Nazionale per lo Studio e la Cura dei Tumori, U.O. 10, Via Venezian, 1, 20133 Milan, Italy

IC 070 P B 4

M. Charles-Harris, G. Imparato, S. Zeppetelli, F. Urciuolo, J.A.Planell, P.A. Netti

Distribution and Differentiation of Stem Cells in Composite Scaffolds

Reference Centre for Bioengineering of Catalonia, Universitat Politècnica de Catalunya, Av. Diagonal 647, 08028 Barcelona, Spain; Centro di Ricerca Interdipartimentale sui Biomateriali, Università degli Studi di Napoli Federico II Piazzale Tecchio 80, 80125 Napoli, Italy; Centro Nazionale di Ricerca. Piazzale Tecchio 80, 80125 Napoli, Italy

IC 116 P B 5

D. Guarnieri, A. Guaccio, P.A. Netti

Polystyrene nanoparticles: evaluation of endothelial uptake

Department of Materials and Production Engineering, University of Naples Federico II, Naples, Italy

IC 066 P B 6

D. Guarnieri, S. Battista, A. Borzacchiello, L. Mayol, E. De Rosa, L. Muscariello, A. Barbarisi, P.A. Netti

Effect of extracellular matrix proteins on structural properties of 3D collagen gels

Interdisciplinary Centre of Biomedical Materials (CRIB), University of Naples Federico II, P.le Tecchio 80, Naples, Italy

- IC 014** **P B 8**
I. Hashimoto, S. Sakai, T. Ono, H. Ijima, K. Kawakami
Gelatin-agarose conjugate for tissue engineering
Department of Chemical Engineering, Faculty of Engineering, Kyushu University, 744 Nishi-ku, Fukuoka-city, Fukuoka, JAPAN
- IC 020** **P B 9**
D. Natali, M. Mattioli-Belmonte, G. Vozzi, K. Kyriakidou, A. Ahluwalia, G. Biagini
Poly-(ε-caprolactone)/carbon nanotubes Free Form Fabrication composites and cell adhesion
Institute of Normal Human Morphology, Universita' Politecnica delle Marche, via Tronto 10/a, 60020 Ancona, Italy; Interdepartmental Research Center "E Piaggio", Faculty of Engineering, University of Pisa, via Diotisalvi 2, 56126 Pisa Italy
- IC 123** **P B 10**
M.G. Raucci, L. Manto, R. De Santis, M. Catauro, L. Ambrosio
Bioactivity and Mechanical Properties of TiO₂ /Polycaprolactone Hybrid Materials Prepared by Sol-Gel Method.
Institute of Composite and Biomedical Materials, CNR and CRIB, University of Naples "Federico II", P.le Tecchio 80, 80125 Naples; Department of Mechanical and Aerospaziale Engineering, University 2nd of Naples, Via Roma 21, 81031 Aversa, Italy.

Biomaterials as Tissue Control Platform

IC 049 **P C 1**

G. Ciardelli, V. Chiono, G. Vozzi, P. Giusti

Bioartificial blends for peripheral nerve regeneration

Politecnico in Turin, Department of Mechanics, Corso Duca degli Abruzzi 24, 10129 Turin; Department of Chemical Engineering, Industrial Chemistry and Materials Science, University of Pisa Via Diotisalvi 2, 56126 Pisa; C.N.R. Institute for Composite and Biomedical Materials Via Diotisalvi 2, 56126 Pisa, Italy

IC 111 **P C 2**

E. De Rosa, S. Steinsland, C. Palmiero, P. A. Netti

Role of HA on transport regulation within cellular collagenous networks in vitro

Department of Materials and Production Engineering (DIMP) - University of Naples 'Federico II', p.le Tecchio 80 - 80125 Napoli, Italy

IC 080 **P C 3**

D. Granchi, I. Amato, G. Ciapetti, S. Pagani, G. Marletta, N. Baldini

Biomimetic Strategies On Poly (ε-caprolactone) Polymers To Improve Biocompatibility and Osteoblast Differentiation

Laboratory for Pathophysiology, Istituti Ortopedici Rizzoli, via di Barbiano 1/10, 40136 Bologna; Department of Orthopedic Surgery, University of Bologna, Bologna; Laboratory for Molecular Surfaces and Nanotechnologies, Department of Chemical Sciences, Università di Catania, v.le A. Doria 6, 95125, Catania, Italy

IC 120 **P C 4**

A. Guaccio, O. Oliviero, C. Borselli, P.A. Netti

Cell-material interaction affects oxygen uptake in engineered constructs

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IC 022 **P C 5**

J.M. Kang, S.H. Bhang, Y.E. Lee, J.W. Chang, C.Y. Choi, B.S. Kim

Sustained delivery of bFGF promotes mesenchymal stem cell implantation-mediated neural regeneration

Department of Bioengineering, Hanyang University, Seoul 133-791; School of Chemical and Biological Engineering, Seoul National University, Seoul 151-742; Department of Neurosurgery, Yonsei University College of medicine, Seoul 120-752, Korea

IC 019 **P C 6**

B.S. Kim, S.S. Kim, K.M. Ahn, M.S. Park, J.H. Lee, C.Y. Choi

A poly(lactide-co-glycolide)/hydroxyapatite composite scaffold with enhanced

Department of Bioengineering, Hanyang University; Interdisciplinary Program for Biochemical Engineering and Biotechnology, Seoul National University; Department of Oral and Maxillofacial Surgery, Seoul National University; Department of Chemical Engineering, Hanyang University; School of Chemical and Biological Engineering, Seoul National University, Seoul, Korea

- IC 124** **P C 7**
L. Manto, A. Gloria, B. Esposito, R. De Santis, L. Ambrosio, L. Nicolais.
Design and Characterization of a Novel Fibre-reinforced Composite for Spinal Fusion
 Institute of Composite and Biomedical Materials, CNR and CRIB, University of Naples“Federico II”,
 P.le Tecchio 80, 80125 Naples, Italy
- IC 118** **P C 8**
O. Oliviero, C. Borselli, A. Guaccio, P.A. Netti
Angiogenesis and cell oxygen distribution in 3D porcine aortic endothelial cell (PAE) spheroid cultures
 Department of Materials and Production Engineering and Interdisciplinary Research Centre of
 Biomedical Material (CRIB), University of Naples, P.le Tecchio 80, 80125 Naples, Italy
- IC 117** **P C 9**
C. Palmiero, G. Imparato, S. Battista, P.A. Netti
Microbeads coated by de novo synthesized tissue as a system for tissue delivery
 Interdisciplinary Research Centre in Biomaterials (C.R.I.B.), University of Naples, Federico II,
 Naples; Department of Materials and Production Engineering, University of Naples Federico II,
 Naples, Italy
- IC 038** **P C 10**
E. Rosellini, C.Cristallini, N.Barbani, G.Vozzi, M.D’Acunto, G.Ciardelli, D.Silvestri, F.Ferri
 P.Giusti
Preparation and Characterization of New Bioartificial Polymeric Materials for Myocardial Tissue Engineering
 Department of Chemical Engineering, University of Pisa, Via Diotisalvi 2, 56126 Pisa; CNR Institute
 for Composite and Biomedical Materials, Via Diotisalvi 2, 56126 Pisa, Italy
- IC 122** **P C 11**
V. Sanginario, F.Quaglia, L. Ambrosio, M.P. Ginebra, J.A.Planell, L.Nicolais
Injectable Bone Substitute Composite as drugs delivery system: release kinetic and influence on mechanical properties.
 Institute for Composite Materials and Biomaterials and CRIB, University of Naples“Federico II” P.le
 Tecchio 80, 80125, Naples, Italy; Department of Pharmaceutical Chemistry University of Naples
 Federico II Via D. Montesano 49, 80131, Naples Italy; Department of Materials Engineering and
 Metallurgy, Universitat Polytechnica de Catalunya, Avda. Diagonal 647, 08028 Barcelona
- IC 121** **P C 12**
V. Sanginario, L. Ambrosio, L. Nicolais, P. Torricelli, M. Fini, R. Giardino, M.P. Ginebra,
 J.A.Planell
Injectable Composite Bone Substitute: setting kinetic, injectability test and in “vivo”
 Institute for Composite Materials and Biomaterials and CRIB, University of Naples “Federico II”
 Piazzale Tecchio 80, 80125, Naples, Italy; Department of Experimental Surgery-Rizzoli Orthopaedic
 Institute, 40136 Bologna, Italy; Department of Materials Engineering and Metallurgy, Universitat
 Polytechnica de Catalunya, Avda. Diagonal 647, 08028 Barcelona, Spain

- IC 081** **P C 13**
L. Savarino, D. Dallari, C. Stagni, C. Tarabusi, A. Cenacchi, P.M. Fornasari, A. Giunti, N. Baldini
Bone Healing Enhancement By Lyophilized Bone Grafts Added with Platelet Gel or Platelet Gel-BMSCs in Patients with Tibial Osteotomy For Genu Varus
Laboratory for Pathophysiology of Orthopaedic Implants, Istituti Ortopedici Rizzoli, Bologna; 7th Division, Istituti Ortopedici Rizzoli, Bologna; Blood Transfusion Service, Istituti Ortopedici Rizzoli, Bologna, Italy
- IC 011** **P C 14**
T. Takei, S. Sakai, T. Ono, H. Ijima, K. Kawakami
Novel Approach for Constructing Endothelialized Tube with Predetermined Three-Dimensional Configuration
Department of Chemical Engineering, Faculty of Engineering , Kyushu University, Japan
- IC 097** **P C 15**
M. Ventre, F. Mollica, F. Urciuolo, P.A. Netti
The effect of ECM macromolecules on the viscoelastic behaviour of bovine dermis
Department of Materials and Production Engineering, University of Naples Federico II, P.le V. Tecchio 80, 80125 Naples; Department of Engineering, University of Ferrara, Via Saragat 1, 44100 Ferrara; Interdisciplinary Research Centre in Biomaterials, University of Naples Federico II Piazzale Tecchio 80, 80125 Naples, Italy

Biomaterials as Bioactive Agent Delivery

IC 035 P D 1

N. Barbani, C. Cristallini, G. Ciuti, G. Ciardelli, D. Silvestri, F. Bertoni, A. Bonaretti, P. Giusti
Novel Phospholipidic Emulsifier-Based Method for the Preparation of Gellan Gum Microspheres
Departement of Chemical Engineering, Industrial Chemistry and Materials Science, University of Pisa; Institute for Composite and Biomedical Materials, C.N.R. Pisa; Departement of mechanics, Politecnico in Turin, Italy

IC 078 P D 2

M. Biondi, G. Cardone, S. Fusco, V. Gonzalez, A. Lewis, P.A. Netti
Ion-exchange doxorubicin-loaded polyvinyl alcohol microspheres: release kinetics and diffusion features
CRIB - Interdisciplinary Research Center on Biomaterials, University of Naples Federico II, Naples, Italy Piazzale Tecchio, n°80, 80125 Naples, Italy

IC 072 P D 3

A. Borzacchiello, L. Mayol, F. Quaglia, M.I. La Rotonda, L. Ambrosio
Design of Thermosensitive and Mucoadhesive Gels for Ocular Drug Delivery
Department of Pharmaceutical and Toxicological Chemistry, University of Naples Federico II, Via D. Montesano, 49, 80131 Naples; Institute of Composite and Biomedical Materials, CNR and CRIB, University of Naples Federico II, Piazzale Tecchio 80, 80125 Naples, Italy

IC 045 P D 4

T. Ciach, A. Schumacher, L.I. Giannola, A. Wolf
Dental Implant for Electronically Controlled Drug Release
Warsaw University of Technology, Faculty of Chemical Engineering Warsaw 00-645, Warynskiego st.1, POLAND

IC 094 P D 5

A. Esposito, M. Flamourakis, G. Sito, A. Strand, M. Esposito, A. Mezzogiorno.
In Vitro Studies of NASHA Fillers
II University of Naples, Department of Clinic, Public and Preventive Medicine, Human Anatomy Unit, Via L. Armani 5, 80138, Napoli, Italia; Q-Med AB, Q-Med, Uppsala, Sweden.

IC 106 P D 6

G.D. Guerra, C. Cristallini, G. Ciuti, N. Barbani
Drug-delivering Ability of a Poly(styrene-alt-maleic anhydride)-cross-polyoxyethylene Tested using Methylene Blue
CNR Institute for Composite and Biomedical Materials, Section of Pisa, Via Diotallevi 2, I-56126 Pisa; Department of Chemical Engineering, Industrial Chemistry and Materials Science, University of Pisa, Pisa, Italy.

IC 017 P D 7

C.L. Higginbotham, M.J.D. Nugen
Development of novel cryogels for biomedical applications
Centre for Biopolymer and Biomolecular Research, Athlone Institute of Technology, Athlone, Co. Westmeath, Ireland.

- IC 098** **P D 8**
L. Indolfi, M. Biondi, A. Marzullo, F. Ungaro, F. Quaglia, P.A. Netti, M.I. La Rotonda
BSA release kinetics from biodegradable microspheres entrapped in collagen-hyaluronic acid semi-IPN networks
CRIB - Interdisciplinary Research Center on Biomaterials, University of Naples Federico II, Naples, Italy Piazzale Tecchio, n°80, 80125 Naples Italy
- IC 108** **P D 9**
A. Luciani, V. Coccoli, S. Orsi, V. Guarino, F. Causa, L. Ambrosio, P.A. Netti
Protein eluting scaffolds by sintering poly-ε-caprolactone microspheres
Dept. Materials and Production Engineering and CRIB, University of Naples “Federico II,” P.le Tecchio 80, 80125, Naples, Italy
- IC 099** **P D 10**
F. Urciuolo, G. Imperato, P.A. Netti
Mechanical Activated Transport in Agarose Gel: Implications on Tissue Engineering and Drug Delivery Systems.
Centro di Ricerca Interdipartimentale sui Biomateriali, Università degli Studi di Napoli Federico II Piazzale Tecchio 80, 80125 Napoli, Italy