

Final Programme

Thursday 25 March 2004

08:00	Registration	
08:30	Opening session	
	B. VALADAS, vice president, University of Limoges	
09:00	Chairman P. HARDOUIN	
	Invited Lecture	
	Tissue engineering musculoskeletal tissues J.T. TRIFFITT The Botnar Research Centre, Univ. Oxford, Great Britain	
	Session 1. Orthopaedic Tissue Engineering	
09:40	Elaboration et caractérisation de bioverres poreux M. ARIOUA, R. ZENATI, J. CHEVALIER, G. FANTOZZI GEMPPM, UMR CNRS 5510, INSA de Lyon, France	
10:00	Biphasic calcium phosphate: a comparative study of interconnected porosity in two ceramics A. LECOMTE ^{1,2} , H. GAUTIER ^{1,2} , J.M. BOULER ¹ , A. GOUYETTE ^{1,2} , Y. PEGON ³ , G. DACULSI ¹ , C. MERLE ^{1,2} ¹ INSERM, Faculté de Chirurgie Dentaire, Nantes, France ² Laboratoire de Pharmacie Galénique, Faculté de Pharmacie, Nantes, France ³ Laboratoire de Chimie Analytique, Faculté de Pharmacie, Nantes, France	
10:20	A new in-vivo model for bone studies C. DELFOSSE ¹ , G. PENEL ¹ , M. DESCAMPS ² , G. LEROY ² ¹ LBM Raman, Faculté d'Odontologie, Université de Lille 2, France ² LAMAC, Université de Valenciennes et du Hainaut-Cambrésis, Maubeuge, France	
10:40	Coffee Break	
11:10	Chairman G. DACULSI	
	Development of multifunctional materials (MFM): bioabsorbable osteoconductive drug-realising hard tissue fixation screws N. ASHAMMAKHI ^{1,2} , M. VEIRANTO ¹ , P. VIITANEN ¹ , E. SUOKAS ³ , H. ARO ⁴ , J. KOORT ⁴ , J. TIAINEN ² & Coll. Inst. of Biomaterials, Tampere Univ. of Technology, Finland ² Dpt of Surgery, Oulu University Hospital, Finland ³ Linvatec Biomaterials Ltd, Tampere, Finland ⁴ Dpt of Surgery, Oulu University Hospital, Finland	
11:30	Mechanical properties of ciprofloxacin-releasing polylactide-co-glycolide screws and tacks J. TIAINEN ¹ , M. VEIRANTO ² , J. KOORT ³ , E. SUOKAS ⁴ , P. TORMALA ² , T. WARIS ¹ , O. KAARELA ¹ , N. ASHAMMAKHI ^{1,2} ¹ Dpt of Surgery, Oulu University Hospital, Finland ² Inst. of Biomaterials, Tampere Univ. of Technology, Finland ³ Orthopedic Research Unit, University of Turku, Finland ⁴ Linvatec Biomaterials Ltd, Tampere, Finland	
11:50	Lordoplasty – alternative method for restoration of lordosis in osteoporotic compression fractures P. F. HEINI, R. ORLER Dept. of Orthopedic Surgery, University of Berne, Switzerland	
12:10	An experimental study on rhBMP-2-CPC composite for the repair of segmental bone defect L. CHANGSHENG ¹ , C. ZHANQIANG ² ¹ East China Univ. of Science and Technology, Shanghai, China ² 301 Hospital, Beijing, China	
12:30	Lunch	
14:00	Chairman K. DAI	
	Session 2. Surface characterization, Surface modification	
	Activation of the biological behaviour of YAG-LASER irradiated polyethylene N. BLANCHETAIN ¹ , G. MAYER ¹ , M. TRAISNEL ² , Y. SETTI ³ , H.F. HILDEBRAND ¹ ¹ Laboratoire Biophysique, Faculté de Médecine, Lille, France ² LGPFRM, ENSCL, Villeneuve d'Ascq, France ³ Transystème Technologie, Nîmes, France	
14:20	Modification de surface du titane pour applications prothétiques. Caractérisation de surface. F. NOIRCLERE ^{1,2} , F. TETARD ¹ , G. PAVON ² , G. HELARY ² , V. MIGONNEY ² , B. BACROIX ¹ ¹ LPMTM, UPR CNRS 9001, Université Paris 13, France ² LBPS, UMR CNRS 7052, Université Paris 13, France	
14:40	Self assembled Monolayers for Biological Applications S. FLEITH ¹ , H. HAIDARA ¹ , R. BAREILLE ² , J. AMEDEE ² , M. NARDIN ¹ ¹ ICSI, UPR CNRS 9069, Mulhouse, France ² U-577 INSERM, Université V. Segalen, Bordeaux 2, France	
15:00	New hydroxylapatite coatings on metal substrates obtained at low temperatures C. DAMIA, S. SARDA, V. MIDY, P. SHARROCK Labo. Chim. Bioinorg. Méd., Univ. P. Sabatier, Castres, France	
15:20	Coffee break & Session 3. Posters	
16:40	Chairman J. L. LACOUT	
	Session 4. Injectable Biomaterials	
	Analysis of the cement injection process in vertebroplasty G. BAROUD ¹ , M. BOHNER ² , P. HEINI ³ , T. STEFFEN ⁴ ¹ Dépt. de génie mécanique, Université de Sherbrooke, Canada ² R. Mathys Stiftung, Bettlach, Switzerland ³ Dept. of Orthopedic Surgery, University of Bern, Switzerland ⁴ Orthopaedic Research Laboratory, McGill University, Canada	
17:00	In vivo cement injection pressure during vertebroplasty S.J. FERGUSON ¹ , J. KREBS ¹ , M. BOHNER ² , G. BAROUD ³ , T. STEFFEN ³ , P.F. HEINI ⁴ ¹ ME Müller Institute for Surgical Technology and Biomechanics, University of Bern, Switzerland ² R. Mathys Stiftung, Bettlach, Switzerland ³ Orthopaedic Research Laboratory, McGill University, Canada ⁴ Dept. of Orthopedic Surgery, Inselspital Bern, Switzerland	
17:20	Calcium phosphate cements containing α -tricalcium phosphate G. GEORGESCU, JL. LACOUT, M. FRECHE CIRIMAT, UMR CNRS 5085, INPT, Toulouse, France	
17:40	Propriétés ostéogéniques des composites fibrine-biocéramiques moulables/injectables pour la reconstruction osseuse G. DACULSI ¹ , E. GOYENVALLE ^{1,2} , E. AGUADO ^{1,2} , M. BILBAN ³ , K. BITTNER ³ , C. GOBIN ⁴ , R. SPAETHE ³ ¹ INSERM, Faculté de Chirurgie Dentaire, Nantes, France ² Ecole Nationale Vétérinaire, Nantes, France ³ Baxter Biosciences, BioSurgery R&D, Vienne, Austria ⁴ Biomatlante, Vigneux de Bretagne, France	
19:00	Réception à la Mairie de Limoges	
20:30	Conference Dinner	

Friday 26 March 2004

08:30	Assemblée Générale du GRIBOI	10:50	Chairman J. T. TRIFFITT
09:00	Chairman J. LEMAITRE		Session 6. Cell Therapy, Clinical Aspects
	Invited Lectures		New aspects in osteoinduction T. STOLL, O. MAISSEN, T. MEURY, S. BECKER Mathys Medical Ltd., Bettlach, Switzerland
	Bioceramic custom made implants by stereolithography process T. CHARTIER ¹ , C. CHAPUT ² , J. BRIE ³ , M. LOISEAU ² ¹ SPCTS, UMR CNRS 6638, ENSCI, Limoges, France ² Centre Transfert Technologie Céramique, Limoges, France ³ Centre Hospitalier Universitaire, Limoges , Fance	11:10	BMP-2 gene modified tissue-engineered bone in the repair of segmental tibial bone defects in goats K. DAI ¹ , X. XU ¹ , T. TANG ¹ , L. ZHU ¹ , J. LOU ² ¹ Department of Orthopedics, Ninth People's Hospital, Shanghai Second Medical University, China ² Dept. of Orthopedic Surgery, Washington University School of Medicine, USA
09:30	Potentialities of ink-jet prototyping process for biomedical devices R. NOGUERA, M. LEJEUNE, T. CHARTIER SPCTS, UMR CNRS 6638, ENSCI, Limoges, Franc	11:30	Repairing cancellous bone defects in rabbits with calcium phosphate ceramics loaded with bone marrow derived mesenchymal stem cells T. TANG ¹ , J. ZHOU ¹ , K. DAI ¹ , J. LU ² ¹ Dept. of Orthopedics, Ninth People's Hospital, Shanghai Second Medical University, China ² LR2B, Université du Littoral Côte d'Opale, Berck-sur-Mer, France
09:50	Session 5. New Processing, New methods	11:50	Cell transfection: a new application for calcium phosphate ceramics P. FRAYSSINET Urodelia, Saint Lys, France
	Multi-nozzle biopolymer deposition and freeform fabrication of tissue scaffolds W. SUN, S. KHALIL, J. NAM, A. DARLING Lab. Computer-Aided Tissue Engng., Drexel University, USA	12:50	In vivo behavior of biphasic brushite cement in metaphyseal and cranial defects A. OBERLE ¹ , J. JUMMERLE ¹ , F. THEISS ¹ , L. BOECKEN ² , M. BOHNER ³ , C. FREI ⁴ , J. AUER ¹ , B. VON RECHENBERG ¹ ¹ MSRU, University of Zurich, Switzerland ² Mathys Medical Ltd., Bettlach, Switzerland ³ RMS Foundation, Bettlach, Switzerland ⁴ Stratec Medical, Oberdorf, Switz
10:10	Performance of a new cancellous bone explant tissue culture-loading system V. DAVID ¹ , M. MARINO ¹ , A. GUIGNANDON ¹ , D. JONES ² , P. RUEGSEGGER ³ , E. SMITH ⁴ , L. VICO ¹ ¹ LBTO, INSERM, Faculté de Médecine, Saint-Etienne, France ² Dept. Experimental Orthopaedics & Biomechanics, Philipps-University Marburg, Germany ³ Inst. for Biomedical Engineering, Univ. of Zurich, Switzerland ⁴ Biogerontology Lab., University of Wisconsin, Medical School, Madison, USA	12:40	Lunch
10:30	Coffee break	14:00	Visit of "Porcelaine Bernardaud" Manufactory

Session 3. Posters (provisional - Last minute posters will be accepted)

Oscillatory mixing improves the injectability of cements in vertebroplasty

G. BAROUD¹, M. SAMARA¹, T. STEFFEN²

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²Orthopaedic Research Laboratory, McGill University, Montreal, Canada

Influence of porosity and surface characteristics of biphasic calcium phosphate bone substitutes on cellular response

A. BENADJAOUD¹, E. BARRIER¹, M. MELIN², L. HEINRICH², J. CHEVALIER¹, J. CHEVALIER¹, G. FANTOZZI¹,

D.J. HARTMANN²

¹National Institute of Applied Sciences, GEMPPM, UMR CNRS 5510, Villeurbanne, France

²Biomaterials and matrix remodeling laboratory, EA 3090, Faculté de Pharmacie, Lyon, France

Processing of organic-inorganic composite biomaterials - an EELS-TEM microstructural study

E. BRES¹, N. BUNJES², T. DUHOO¹, M.W. HOSSEINI³, J.M. PLANEIX³

¹Laboratoire de Structures et des Propriétés de l'Etat Solide, Université de Sciences et Technologies, Lille, France

²Max Planck Institut fur Metallforschung, Germany

³Laboratoire de Chimie de Coordination Organique, Université Louis Pasteur, Strasbourg, France

Propriétés de pièces macroporeuses de phosphate tricalcique β

A. DESTAINVILLE¹, E.CHAMPION¹, C. FLUTEAUX², E. LABORDE¹, D. BERNACHE-ASSOLLANT¹

¹SPCTS, Université de Limoges, UMR CNRS 6638, France

²Ceraver, Roissy, France

Elaboration and characterization of fluoridated calcium phosphate coatings.

N. DUMELIE¹, A. PERCHET¹, G. BALOSSIER¹, C. ROUSSE-BERTRAND², H. BENHAYOUNE¹

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²DTI 3242 UMR 6107, Reims, France

Fabrication of cross-linked recombinant human bone morphogenetic protein-2/chitano microcapsules

C. FANGPING, L. CHANGSHENG

East China University of Science and Technology, Shanghai, China

Physico-chemical investigation of bovine bone with magnetic resonance imaging

D. GENSANNE, S. SARDA, P. SHARROCK

Medical Bioinorganic Chemistry Laboratory, Université Paul Sabatier, Toulouse, France

Radiation exposure of the surgeon during percutaneous cement injection.

P. F. HEINI¹, R. HARSTALL¹, R. ORLER¹, R.L. MINI²

¹Dpt. of Orthopedic Surgery, University of Bern, Switzerland

²Division for Medical Radiation Physics, University of Bern, Switzerland

Synthèses et propriétés de céramiques macroporeuses à base de phosphate de calcium

J.C. HORNEZ¹, G. MOREAU¹, E. RADZISZEWSKI², G. LEROY³, A. LERICHE¹, M. DESCAMPS¹

¹LAMAC, Université de Valenciennes et du Hainaut-Cambrésis, France

²IEMN-DOAE, Université de Valenciennes et du Hainaut-Cambrésis, France

³LBM, Faculté d'Odontologie, Lille, France

Influence of low-molecular weight polylactic acid on the properties and structure of polylactic acid membrane

H. HUA, Q. YIN, X. YONG, L. CHANGSHENG

East China University of Science and Technology, Shanghai, China

Influence of polyethylene glycol on the viscosity and the injectability of calcium phosphate cement

J. JING, L. CHANGSHENG

East China University of Science and Technology, Shanghai, China

Improvement of porosity of a calcium phosphate cement by incorporation of biodegradable glass fibres

I. KHAIROUN, P. WEISS, G. DACULSI, J.M. BOULER

EM INSERM 99-03, Faculté de Chirurgie Dentaire, Nantes, France

Synthèse et frittage d'hydroxyapatites carbonatées de type B

JP. LAFON, E. CHAMPION, E. LABORDE, D. BERNACHE-ASSOLLANT

SPCTS, Université de Limoges, UMR CNRS 6638, Faculté des Sciences et Techniques, France

Correlation between sintering temperature of hydroxyapatite particles and the production of inflammatory cytokines and metalloproteinases by human monocytes

P. LAQUERRIERE¹, A. GRANDJEAN-LAQUERRIERE², M. GUENOUNOU², P. FRAYSSINET³, E. JALLOT⁴, M. NARDIN⁵, G. BALOSSI¹

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³Urodelia, St Lys, France

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The influence of implant alloys composition on osteoblast morphology and adhesion

P. LINEZ-BATAILLON¹, E. EISENBARTH², M. TRAISNEL³, J. BREME², H.F. HILDEBRAND¹

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Controlled release of osteoinductive factors from functionalized dextran derived hydrogels improves the bone induction

D. LOGEART-AVRAMOGLOU¹, M. MAIRE², F. CHAUBET², C. BLANCHAT¹, A. MEUNIER¹, L. SEDEL¹

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Biological improvements of PET by excimer LASER irradiation

G. MAYER¹, N. BLANCHEMAIN¹, C. DUPAS-BRUZEK², M. TRAISNEL³, D. DEROZIER⁴, L.D. LAUDE², H.F. HILDEBRAND¹

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Preparation and drug release behavior of PCL coatings on 316L stainless steel

Y. MIN, Y. YUAN, L. CHANGSHENG

East China University of Science and Technology, Shanghai, China

Dissolution des apatites amélaires en présence de primaires automordançants

K. NASR¹, G. GREGOIRE¹, S. THIBEAULT², P. SHARROCK²

¹Faculté d'Odontologie, Université Paul Sabatier, France

²IUT de Castres, Université Paul Sabatier, France

Fibronectin adsorption and cell adhesion on three porous calcium phosphate ceramics:

Effect of a chelating surface treatment.

D. PELLENC¹, S. GIRAUDIER¹, E. CHAMPION², K. ANSELME³, V. LARRET GARDE¹, O. GALLET¹

¹ERRMECE, Université de Cergy-Pontoise, France

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Effects of Chitosan addition in Cementek®, a phosphocalcium cement

K. PORET¹, M. FRECHE², S. GONCALVES³, J.L. LACOUT², F. RODRIGUEZ¹

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Effects of hydroxyapatite surface characteristics on osteoblastic cell attachment

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Calcium phosphate as sustained release biomaterials for bone defect filling mini tablets

M. VIANA¹, C. PONTIER¹, E. CHAMPION², D. BERNACHE-ASSOLLANT², D. CHULIA¹

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An injectable self setting hydrogel for biomaterial and tissue engineering

P. WEISS, C. VINATIER, G. GRIMANDI, G. DACULSI, J. GÜICHEUX

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Effect of silane coupling agent on bonding strength of polymer film to 316L stainless steel

Y. ZHILAN, Y. YUAN, L. CHANGSHENG

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Persistence of Indentation with Bioabsorbable Poly-L/D-Lactide vs. Silicone Sponge Scleral Buckling Implants.
S. LANSMAN¹, A. KARTTUNEN², H. HIRVELA¹, T. PALOSAARI¹, M. KELLOMAKI³, V. ELLA³, P. OHTONEN⁴, P. TOMALA³, T. WARIS⁴, N. ASHAMMAKHI^{3,4}

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Evaluation of Poly-L/D-Lactide (PLDLA) 96/4 Scaffolds Implanted in the Subcutis of Rats.

N. ASHAMMAKHI^{1,2}, S. LANSMAN¹, M. KELLOMAKI², P. TOMALA², T. WARIS¹

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Pullout Forces of Bioabsorbable Polylactide/Glycolide Screws (Biosorb and Lactosorb) and Tacks.

J. TIAINEN¹, S-M. LEINONEN¹, J. ILOMÄKI², E. SUOKAS², P. TÖRMÄLÄ³, T. WARIS¹, N. ASHAMMAKHI^{1,3}

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Pullout Strength of Ciprofloxacin-Containing Polylactide-Polyglycolide Screws in Human Cadaver Parietal Bone.

J. TIAINEN¹, M. VEIRANTO², E. SUOKAS³, P. TÖRMÄLÄ², T. WARIS¹, M. NINKOVIC⁴, N. ASHAMMAKHI^{1,2}

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Tissue Reactions to Multifunctional Bioabsorbable Ciprofloxacin-Releasing Polylactide-Polyglycolide 80/20 Screws in Rabbit Cranial Bone

J. TIAINEN¹, Y. SOINI², E. SUOKAS³, M. VEIRANTO⁴, P. TÖRMÄLÄ⁴, T. WARIS¹, N. ASHAMMAKHI^{1,4}

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Self-Reinforced Polylactide-Polyglycolide 80/20 Screws take more than 1½ years to Resorb in Rabbit Cranial Bone.

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Tissue Engineering of Cartilage Using Prefabricated Microvascularized Perichondrial Bioabsorbable Polylactide Nonwoven Scaffolds.

H. PENTTILÄ¹, R-M. TULAMO², T. WARIS¹, V. ELLÄ⁴, M. KELLOMAKI⁴, P. TÖRMÄLÄ⁴, N. ASHAMMAKHI^{3,4}

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Bioabsorbable Miniplating Versus Metallic Fixation for Metacarpal Fractures.

E. WARIS¹, N. ASHAMMAKHI^{2,3}, H. HAPONEN⁴, T. RAATIKAINEN⁵, O. KAARELA³, P. TÖRMÄLÄ², S. SANTAVIRTA⁵,

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Self-Reinforced Bioabsorbable Versus Metallic Fixation Systems for Metacarpal and Phalangeal Fractures: A Biomechanical Study.

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Transphyseal Bioabsorbable Screws Cause Temporary Growth Retardation in Rabbit Femur.

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Up-date of interposition arthroplasties of the small joints in an experimental mini pig model

E. WARIS¹, N. ASHAMMAKHI², M. LEHTIMAKI³, R.-M. TULAMO⁴, M. KELLOMAKI⁵, P. TORMALA⁵, R. LAPPALAINEN⁶, S. SANTAVIRTA⁷, Y.T. KONTTINEN¹

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Ciprofloxacin-Releasing Bioabsorbable Polymer is Superior to Titanium in Preventing *Staphylococcus Epidermidis* Attachment and Biofilm Formation in Vitro.

S.-M. Niemelä¹, I. Ikäheimo², M. Koskela², M. Veiranto³, E. Suokas⁴, P. Törmälä³, T. Waris¹, N. Ashammakhi^{1,3}, H. Syrjälä⁵

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