GRIBOI 2002

12th Interdisciplinary Research Conference on Biomaterials

Final Program

Shanghai, China
March 14-17, 2002

Organized by
East China University of Science and Technology
Shanghai Second Medical University, China
Université du Littoral Cote d'Opale, France
Université de La Méditerranée, France
Université de Valenciennes, France
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<td>Coffee Break (Lobby)</td>
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<td>Introduction of GRIBOI 2003 in USA</td>
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<td>Dinner (18:00)</td>
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Board of GRIBOI

President: J. Lemaitre (Lausanne)
Vice-president: P. Sharrock (Toulouse)
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A. P. Legrand (Paris)
G. Leroy (Lille)
Changsheng Liu (Shanghai)
D. Mainard (Nancy)
J. P. Proust (Marseille)

Local organizing committee

Chairmanman: Changsheng Liu
Co-Chairmanman: Kerong Dai
Linghong Guo
Yue Huang
Qi Chen
Zhilan Yin
Xianghuai Liu
Qisheng Gu
Wei Ga
Feng He
Endorsements

- State Ministry of Education, China
- National Natural Science Foundation of China
- Shanghai Nanotechnology Promotion Center
- Chinese Committee for Biomaterials
- Chinese Speaking Orthopaedic Society
- Asia Pacific Arthroplasty Society
- Fédération Biomateriaux Nord-Pas de Calais
- Société Francaise de Rhumatologie
- Groupe de Recherche en Chirurgie Orthopédique
- Association pour l'Etude des Greffes et des Substituts Tissulaires de l'Appareil Locomoteur
- Shanghai Rebone Biomaterials Co. Ltd
- Shanghai Bio-Lu Biomaterials Co. Ltd
- Shanghai Qisheng Biological Preparation Industry Co. Ltd

1. Oral presentations

The oral program will include invited lecture (25min.+5min. discussion) and key lecture (15min. +5min. discussion), as well as oral presentations (10min+5min discussion). An overhead projector and slide projector will be available as standard facilities. Other facilities, such as a beam for computer projection will be available upon request. The period of oral presentation will be strictly controlled by chairman.

2. Posters

The poster format will be portrait with a max size of 90 cm (wide) by 120 cm (high). The GRIBOI 2002 will supply the 3 min. oral presentation for each poster during the poster session and coffee break.

3. Language

The conference language will be English.


The organizing committee will print the proceeding of GRIBOI 2002, and then all abstracts will be published in Journal of Biomedical Materials Research: Applied Materials post conference. The GRIBOI will be responsible for publication of the full texts in an international journal. Scientific Committee of GRIBOI will undertake culling the excellent full texts for publication.
5. Academic Session Arrangement

March 14
Open Ceremony (Conference Room 1, 8:40-9:00)
Chairman: Prof. Changsheng Liu, Prof. P. Sharrock
Open Remark

Prof. J. Lemaitre, President of GRIBOI
Powder Technology Laboratory, EPFL-LTP, MX-Ecublens, CH-1015 Lausanne, Switzerland
Congratulation Remark (1)

Prof. Xingyu Wang, President of East China University of Science and Technology.
East China University of Science and Technology, Shanghai, China
Congratulation Remark (2)

Dr. Y. Gousty, Scientific and Education Officer.
Consulate General de France in Shanghai.
Congratulation Remark (3)

Prof. Tingfe Xi, Chairman of Chinese Society of Biomedical Engineering.
National Institute for the Control of Pharmaceutical and Biological Products, Beijing, China
Congratulation Remark (4)

Prof. Xingdong Zhang, Vice-Chairman and Secretary General, Chinese Committee for Biomaterials
Sichuan University, Chengdu, China

March 14

Invited Lectures-1 (Conference Room 1, 9:00-10:30)
Chairman: Acad. Zhongwei Chen, Prof. P. Sharrock

9:00-9:30
Working Characteristics of Injectable Calcium Phosphate Hydraulic Cement
Prof. J. Lemaitre
Powder Technology Laboratory, EPFL-LTP, MX-Ecublens, CH-1015 Lausanne, Switzerland

9:30-10:00
Future Direction of Calcium Phosphate Cements
Prof. Changsheng Liu
Institute of Biomaterials, East China University of Sci. and Tech., China

10:00-10:30
Drug Delivery and DDS Scaffold
Prof. Zhongwei Gu
Institute of Birth Control and Family Plan, Beijing, China

10:30-11:00 Coffee Break (Lobby)
Session 1 Characterization of Biomaterials (Conference Room 1, 11:00-12:35)
Chairman: Prof. Yilin Cao, Prof. J. Lemaitre

11:00-11:20  **Key Lecture:**
NMR Spectroscopy Contribution to the Study of Biomaterial Mineralisation

**Legrand, A.P.**  
Laboratoire de Physique Quantique, FRE CNRS 2312. ESPCI. 10, Rue Vauquelin 75005
Paris, France

11:20-11:35  
Biocompatibility of Dental Alloys: Establishment of a Cytotoxicity Index

**J.-C. Hornez, A. Lefevere, H. F. Hilderabd**  
Biomaterials Research Laboratory, Faculté de Médecine, F-59045 Lille Cedex, France

11:35-11:50  
Isolation and Two-Dimensional Electrophoresis Analysis of Plasma Membrane Proteins From Osteoblastic Cells

**Rouahi M.**, Grard T, Tavernier E, Anselm K, Noel B, Hardouin P, Jeanfils J  
Instistitut de Recherche sur les Biomateriaux et les Biotechnologies (IR2B)- ULCO Basin Napoleon, Quai Robert Masset, BP 120 62327 Boulogne sur mer, France

11:50-12:05  
Physico-Chemical Analysis of Dental Root Canal Filling Biomaterials

**Aline Sinan**, Olivier Moyen, Patrick Sharrock, Paul Cala  
Faculté d' Odontologie, Université Paul Sabatier, Toulouse, France

12:05-12:20  
Interbody Arthrodesis Using a Plasmapore Titanium Block. Mechanical and Histological Experimental Study in Sheep

**Tropiano P.**, Bronsard J.J., Poitout D.G.  
Centre Hospitalo-Universitaire, Service D'orthopedie, Traumatologie, Chemin des Bourrelys, Marseille, France

12:20-12:35  
Rheological Characteristics of Chitin/PCL Blends with BC Additives

**Kang Sun**, Anle Yang and Renjie Wu  
Shanghai Jiao Tong University, Huashan Road, Shanghai 200030, China

Session 2 Bone Cement (Conference Room 2, 11:00-12:35)
Chairman: Prof. Changsheng Liu, Prof. P. Hardouin

11:00-11:20  **Key Lecture:**
Improvement of the Resorbability and Release of Active Principles in Injectable Phosphocalcium Cement; Research and Development
Bone-Cements Based on Tricalcium Silicate

Chine-Wen Huang, Ren-Jei Chung, Pu-Chi Lin, Tuan-Jung Hsu and Tsung-Shune Chin
Department of Materials Science and Engineering, National Tsing Hua University, 101, Sec-2, Kunag-Fu Road, Hsinchu 30043, Taiwan, China

Long-term Aging of Brushite Cements in Physiological Conditions: An in Vitro Study
S. Rousseau, J. Lemaitre, M. Bohner & C. Frei
Powder Technology Laboratory, EPFL-LTP, MX-Ecublens, CH-1015 Lausanne, Switzerland

In Vivo Evaluation of Recombinant Human Bone Morphogenetic Protein 2 (rhBMP-2) Delivered in an Injectable Calcium Phosphate-based Matrix for Fracture Repair
Rebecca Li, Howard Seeherman, Darren D'Augusta, Cara Blake, Mary Bouxsein, Jian Li, John Wozney
Genetics Institute/Wyeth-Ayerst Research, 200 Cambridge Park Drive, Cambridge, MA, USA

A Hardening Paste Containing Calcium Phosphates
P. Sharrock, Marina Fiallo
Chemistry Department, Paul Sabatier Institute of Technology, Castres, France

The Mechanism of Hydration Reaction in Magnesium Phosphate Bone Cement
Wei Gai, Changsheng Liu
Institute of Biomaterial, East China University of Science and Technology, Shanghai 200237, China

12:35-14:00 Lunch (Dinner Hall)

Invited Lectures-2 (Conference Room 1, 14:00-15:30)
Chairman: K. de Groot, Prof. H.F. Hildebrand

The Articular Cartilage Replacement. New Perspectives in Tissular Engineering
Prof. D. Hartmann
Unité Biomatériaux et Remodelages Matriciels - EA 3090, Université Claude Bernard, 69373 Lyon Cedex, France
14:30-15:00
Advances of Tissue Engineering in China

Prof. Yilin Cao
Department of Plastic and Reconstructive Surgery, Shanghai Ninth Hospital, Tissue Engineering Research Center, Shanghai Second Medical University, Shanghai, China

15:00-15:30
The Osteoinductivity of Ca-P Biomaterials and the Potential in Clinic

Prof. Xingdong Zhang
Engineering Research Engineering Center for Biomaterials, Sichuan University, China

15:30-16:00 Coffee Break (Lobby)

Young Scientist and Ph.D. Student Session: 1 (Conference Room 1, 16:00-17:35)
Chairman: Prof. Ling Qin, Prof. J. Jeanfles

16:00-16:15
Clinicothertapeutical Experience with Collagen Sponge as Hemostat and Wound Dressing Material

Jemin Wu, Huilei Shi, Yongfu Zhao, Song Zhao, Xizheng Zhang, Ruixin Li
Institute of Medical Equipment, Tianjin 300161, China

16:15-16:30
Cardiac Muscle Tissue Engineering with Cardiac Myocytes Seeded on PGA Polymer

Changyong Wang, Huihua Chen, Ximin Guo, Cuimi Duan, Qiang Zhao, Yonghong Wang
Institute of Basic Medical Sciences of Beijing, 27, Taiping Road, Beijing 100850, China

16:30-16:45
The Identification and Large Culture of Human Bone Marrow Stromal Cells

Demin Wen, Wensong Tan
East China University Of Science and Technology, Box 309, No. 130, Meilong Rd., Shanghai, China

16:45-17:00
Preparation of Bioactive Oxide Films on the Surface of Titanium Alloys

Institute of Metal Research, Chinese Academy of Science, Wenhua Road 72#, Shenyang, China

17:00-17:15
Optimization of ST-cell Microcarrier Culture Process

Jianchao Wang, Yan Zhou, Wensong Tan
East China University of Science and Technology, Box 309, No. 130 Meilong Rd., Shanghai, China
The Physiological Action and the Clinical Use of Hyaluronic Acid in Articulation

**Kai Yan**, Qisheng Gu
Qisheng Institute of Biomaterials and Technology, Shanghai, China

**Young Scientist and Ph D. Student Session: 2 (Conference Room 2, 16:00-17:35)**

**Chairman: Prof. Jiang Chang, Prof. Guangfu Yin,**

16:00-16:15
Surface Modification of Titanium Implant by Microarc Oxidation and Hydrothermal Treatment
**Ping Huang**, Kewei Xu, Yong Han
State-Key Laboratory of Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an710049, China

16:15-16:30
Cross-linked Tapioca Starch with POCI3 for Use as Biomedical Materials: Its Enzymatic Digestibility and Enzyme Resistant Starch Content
**Xiaoxi Li**, Ling Chen, Lin Li, Qibiao Wen, Jiandong Ye
College of Materials, South China University of Technology, Guangzhou, China

16:30-16:45
Apatite Formation on the Surface of Wollastonite/tricalcium Phosphate Composites Immersed in Simulated Body Fluid
**Xiang Huang**, Dongliang Jiang, Shouhong Tan
Shanghai Institute of Ceramics, Shanghai 200050, China

16:45-17:00
Experimental Study for Repair of Cranial Defects with Bone Marrow Stem Cells and β-TCP
**Bin Bo**, Changyong Wang, Ximin Guo, Cuimi Duan, Qiang Zhao, Yonghong Wang, Huihua Chen, Fan Ming, Zeqiang Fang, Jianxi Lu
Institute of Basic Medical Sciences of Beijing, 27, Taiping Road, Beijing 100850, China

17:00-17:15
Fabrication of Calcium Phosphate Ceramics with Controlled Composition and Porosity
**Shu Cai**, Kangde Yao, Jijin Yu, Xuefeng Song
Department of Material Science and Engineering, Tianjin University, Tianjin, China

17:15-17:30
Culture Materials Affect ex vivo Expansion of Hematopoietic Cells
**Zhanyou Chi**, Demin Wen, Wensong Tan and Gance Dai
East China University Of Science and Technology, Box 309, No. 130, Meilong Rd., Shanghai, China
March 15

Invited Lectures-3 (Conference Room 1, 9:00-10:30)
  Chairman: Prof. P. Hardouin, Prof. T. Kokubo
9:00-9:30
  Collagen-Based Scaffold Materials for Bone Tissue Engineering
  Prof. F. Z. Cui
  Department of Material Science and Engineering, Tsinghua University, Beijing, China
9:30-10:00
  Biomimetic Coatings that Can be Bone Inductive
  Prof. Klaas de Groot
  IsoTis NV, P.O.Box 98, 3720 AB Bilthoven, The Netherlands
10:00-10:30
  Bioactive Composites for Tissue Repair
  Prof. M. Wang
  School of Mechanical and Production Engineering, Nanyang Technological University
  50 Nanyang Avenue, Singapore 639798

10:30-11:00    Coffee Break (Lobby)

Session 3 Nano-Biomaterials (Conference Room 1, 11:00-12:35)
  Chairman: Prof. F. Z. Cui, Prof. A. H. Ucisik
11:00-11:20 Key Lecture:
  Nano-Hydroxyapatite/Collagen Composite
  Qinling Feng
  Department of Material Science and Engineering, Tsinghua University, Beijing 100084
  China
11:20-11:35
  Yunjing Song, Musen Li, Shulin Wen
  College Of Materials Science and Engineering, Shandong University, Jinan, China
11:35-11:50
  Synthesis of Nano-HAP by Sol-gel Method
  Yuan Yuan, Changsheng Liu
  Institute of Biomaterials, East China University of Science and Technology, Shanghai, China
11:50-12:05
  Wet Synthesis and Reactive Parameters of Nano-hydroxyapatite Particles
  Guo Dagang, Kewei Xu
The Bioactivity of Sol-gel Bioglass in Vitro

**Fangping Chen**, Xiaofeng Chen, Yingjun Wang
Material Colleges, South China University of Technology, Guangzhou 510640, China.

Super-Fine Particles Formation in Plasma Sprayed Hydroxyapatite Coating

**Yupeng Lu**, Shitong Li, Ruifu Zhu, Musen Li, Jianhua Wang, Tingquan Lei
College Of Materials Science and Engineering, Shandong University, Jinan, China

Session 4 Stem Cell and Cell Culture (Conference Room 2, 11:00-12:35)

**Chairman: Prof. D. Hartmann, Prof. Qiqing Zhang**

11:00-11:20 **Key Lecture:**
A Briefly Introduction about Stem Cell Engineering

**Yun Zhao**
Stem Cell Research Center, Peking University, Beijing, China

11:20-11:35
Growth and Differentiation of Human Bone Marrow Stromal Cells on Chitosan Derived Materials

**Ming Yang**, Shanshan Zhu, Yue Chen, Zhijie Chang, Yandao Gong, Nanming Zhao
Department of Biological Science and Biotechnology, Tsinghua University, Beijing, China

11:35-11:50
Surface Analyses and Biological Behavior of Micro-arc Oxidized and Hydrothermally Treated Titanium

**Y.M. Zhang**, P. Bataillon-Linez, P. Huang, Y.M. Zhao, Y. Han, M. Traosnel. K.W. Xu, H.F. Hildebrand
School of Stomatolgy, Fourth Military Medical University, Xi'an, China

11:50-12:05
Optimization of Culture Conditions of Human Mesenchymal Cells for Bone Tissue Engineering

I.R.2.B., Universitédu Littoral Cote d'Opale, Berck sur mer, Boulogne/mer, France

12:05-12:20
Adhesion, Proliferation and Migration Behaviour of Bovine Pigmented Retinal Epithelial Cells Cultured with Sulphated Polysaccharides

**F. Malbrei**, V. Hinard, A. Lefevre, C. Boisson-Vidal, P. Labalette, J. Jozefonvicz, H.F. Hildebrand
Biomaterials Research Laboratory, Faculté de Médecine, F-59045 Lille cedex, France.

12:20-12:35
Low Molecular Weight Hyaluronans Induce Bone Colony Formation in Rat Mesenchymal Cell Cultures

**Yuen-Y Cheng**, Lin Huang, P. L Koo, J.C.Y Cheng, L Qin, Shekhar Kumta
Department of Orthopaedics and Traumatology, Chinese University of Hong Kong, Hong Kong, China

12:35-14:00  Lunch (Dinner Hall)

**Invited Lectures-4 (Conference Room 1, 14:00-15:30)**

**Chairman: Prof. J. Lemaitre, Prof. Xingdong Zhang**

14:00-14:30
Bioactive Metals: Preparation and Properties

**Prof. T. Kokubo**
Department of Material Chemistry, Graduate School of Engineering, Kyoto University, Japan

14:30-15:00
Biotechnologies in Studying Bone-Biomaterial Interface in Experimental Spinal - a Review

**Prof. JCY Cheng**
Department of Orthopaedics & Traumatology, Chinese University of Hong Kong, Hong Kong, China

15:00-15:30
Bone Ingrowth of Bone Substitutes

**Kerong Dai**
Department of Orthopaedics, Shanghai Ninth People's Hospital, Shanghai Second Medical University, Shanghai, China

15:30-16:00  Coffee Break (Lobby)

**Session 5 Surface Modification of Biomaterials (Conference Room 1, 16:00-17:35)**

**Chairman: T. Kokubo, Prof. Kewei Xu**

16:00-16:20  **Key Lecture:**
Surface Treatment of Biomaterials and Its Applications

**Xianghuai Liu**
Shanghai Institute of Micro System and Information Technology, Chinese Academy of Sciences, Shanghai, China

16:20-16:35
Electrochemical, Physicochemical and Biological Surface Characterization of Gold
Based Alloys

M. Traisnel, Ph. Rocher, Ch. Pelegris, H. F. Hildebrand
ENSCL, BP 108, 59652 Villeneuve d'Ascq, France

16:35-16:50
Structural Design of DLC/Titanic Alloy Gradient Biomaterials Used for Artificial Mechanical Heart Valves

Guangfu Yin, Dali Zhou, Changqiong Zheng, Aijun He
College of Material Science and Engineering, Sichuan University, Chengdu 610065, China

16:50-17:05
Improvement of Endothelial Cell Adhesion onto Silk Fibroin Surface SO2 Plasma Treatment and Free Radical Involvement

Xinlin Yang, Liyong Wang, Jinwei Gu, Hesun Zhu
Research Center of Materials Science, Beijing Institute of Technology, P.O. Box 327, Beijing 100081, China

17:05-17:20
Surface Modification of Blood Contacting Biomaterials by Titanium Oxide Coatings

N. Huang, P. Yang, YX Leng, JY Chen, J. Wang, H Sun, G.J. Wan, TF Xi, Y. Leng and PK Chu
Institute of Surface Engineering of Biomaterials, College of Materials Science and Engineering, Southwest Jiaotong University, Chengdu, China

17:20-17:35
Plasma-based Low-energy Ion Implantation for Surface Engineering of Biomedical Metallic Materials

X. M. Zhu, M. K. Lei
Surface Engineering Laboratory, Department of Materials Engineering, Dalian University of Technology, Dalian 116024, China

Session 6 In vitro and vivo Evaluation of Biomaterials (Conference Room 2, 16:00-17:35)
Chairman: Prof. JCY. Cheng, Prof. P. Hardouin

16:00-16:20 Key Lecture:
Engineered Allogeneous Chondrocyte Pellet For Reconstruction of Fibrocartilage Zone at Bone Tendon Junction

L. Qin, WN Wong, KO Tai, KM Lee, KS Leung
Department of Orthopaedics & Traumatology, Chinese University of Hong Kong, Shatin, N.T., Hong Kong, China

16:20-16:35
Study on the Microcapsulated Immortalized Mandibular Condylar Chondrocyte

Xiaohong Duan, Dagang Guo, Kewei Xu, Junzheng Wu
School of Material Engineering, Xi'an Jiaotong University, Xi'an, China
16:35-16:50
Effect of Dexamethasone on the Differentiation of Rabbit Bone Marrow Stromal Stem Cell
Cornet F, Broux O, Anselme K, Hardouin P, Jeanfils J
Instiitutut de Recherche sur les Biomaaateriaux et les Biotechnolgies (IR2B)- ULCO Basin
Napoleon, Quai Robert Masset, BP 120 62327 Boulogne sur mer, France

16:50-17:05
A Study on the Deformability of Human Femoral Head Cartilage
S. Zeytin, B.A. Konduk, C. Bindal, A.H. Ucisik
Bogazici University, Institute of Biomedical Engineering, 80815 Bebek-Istanbul, Turkey

17:05-17:20
Catheterization of the Long Bones: Development of a New Device for Intraosseous Biomaterials Injection
Railhac J.J.
Hôpitel Universitairaire Purpan, 31059 Toulouse Cedex, France

17:20-17:35
Sol-gel Preparation and in vitro Test of Fluorapatite/Hydroxyapatite Films
Kui Cheng, Haibo Qu, Wenjian Weng, Gaorong Han, Piyi Du, Ge Shen, J. M. F. Ferreira
Department of Material Science and Engineering, Zhejiang University, Hangzhou 310027, China

March 16

Session 7 Biodegradable Composites (Conference Room 1, 9:00-10:35)
Chairman: Prof. C. Baquey, Prof. Shengguo Wang

9:00-9:20 Key Lecture:
The Effect of Dialysis Environment on the Behavior of Polymeric Hollow Fibers
A.H. Ucisik, B.A. Konduk
Bogazici University, Institute of Biomedical Engineering, Dept. of Materials, Prostheses and Artificial Organs 80815 Bebek-Istanbul, Turkey

9:20-9:35
Preparation and Characterization of the Silicone Rubber-hydroxyapatite Composites
Shansong Mou, Mei Tu, Lihua Li, Changren Zhou, Shunqing Tang
Institute of Biomedical Engineering, Jinan University, Guangzhou 510632, China

9:35-9:50
Production and Evaluation of Bioactive and Biodegradable Composites for Tissue Regeneration
M.Wang, J.Ni, L.J.Chen
School of Mechanical and Production Engineering, Nanyang Technological University
50 Nanyang Avenue, Singapore 63979
9:50-10:05
Preparation and Application of the PLA/Chitosan Composite Materials
Changren Zhou, Lihua Li, Shan Ding
Department of Chemistry, Jinan University, Guangzhou, China
10:05-10:20
Collagen - Processing and Properties as Biomaterial
Hartmut F. H, Ph. Rocher, F. Monchau
Elisabeth Delcourt-debruyne Laboratoire de Recherche sur les Biomaté riaux, UPRES EA 1049,Faculté de Médecine, 59045 Lille cedex, France
10:20-10:35
Reinforced Collagen Sponge as Artificial Skin Scaffold
Shunqing Tang, Shansong Mou, Xuan Mao, Changren Zhou
Biomedical Institute Engineering of Jinan University, Guangzhou 510632, China

Session 8 Bioceramics (I) (Conference Room 2, 9:00-10:35)
Chairman: Prof. P. Sharrock, Prof. Xinling Yang

9:00-9:20 Key Lecture:
Precipitation Phase on the HA/TCP in Simulated Body Fluid
Yang Leng, JY. Chen, Shuxin Qu
Department of Mechanical Engineering, Hong Kong University of Science & Technology, Hong Kong, China

9:20-9:35
Study on the Constitute and Structure of the Interface Between β-TCP Bioceramic and Bone after Implantation
Yuhua Yan, Xiaoxi Li, Xuhui Lu, Shipu Li
Biomedical Materials Engineering and Research Center, Wuhan University of Technology, Wuhan 430070, China

9:35-9:50
Behavior of Platetes Adhered on Ti-O Film
P. Yang, N. Huang, Y. X. Leng, J. Y. Chen, H. Sun, J. Wang, G. J. Wan, T.F. Xi, Y. Leng, P. K. Chu
Department of Materials Engineering, Southwest Jiaotong Univ., Chengdu 610031, China

9:50-10:05
Effect of Size and Shape as Osteocoductive Materials
B.Flautre, S.Vavasseur, M.C.Blary, M.Descamp, JX Lu, & P.Hardouin
IR2B-Berck/Mer -62600,France

10:05-10:20
Fabrication of Hydroxyapatite Ceramics with Controlled Porosity

**Xiumin Yao, Shouhong Tan, Dongliang Jiang**  
Shanghai Institute of Ceramics, Chinese Academy of Science, Shanghai 200050, China  
10:20-10:35

TCP Reinforced Materials for Scaffold Fabrication

**Xiumei Mo**  
National University of Singapore, Singapore  
10:35-11:00  
Coffee Break (Lobby)

**Session 9 Tissue Engineering (Conference Room 1, 11:00-12:35)**  
Chairman: Prof. Xinling Yang, Prof. P. Hardouin

11:00-11:20 **Key Lecture:**  
A New Type Injectable Cells Scaffold  
**Shenguo Wang, Guanming Li, Jian Yang, Jianzhong Bei**  
Center for Molecular Sciences, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100080, China  
11:20-11:35  
Enhanced Osteogenesis of Cancellous Bone Allograft Loaded with Human Marrow Mesenchymal Cells  
**Tingting Tang, Hua Lu, Kerong Dai**  
Department of Orthopaedics, Shanghai Ninth People's Hospital, Shanghai Second Medical University  
Department of Orthopaedics, Xinhua Hospital, Shanghai Secondary Medical University, Shanghai, China  
11:35-11:50  
Study on the Bioactive Degradable Bone Tissue Engineering Scaffold Materials  
**Naru Zhao, Jiandong Ye, Yingjun Wang, Kaihui Nan, Guohua Liu**  
College of Materials Science and Engineering, South China University of Technology, Guangzhou, China  
11:50-12:05  
Bone Tissue Engineering: Genetic Aspects  
**J. Jeanfils**  
IR2B, 62327 Boulogne sur mer, France  
12:05-12:20  
The Construction of Collagen-Cs Scaffold in Artificial Dermis  
**Qiqing Zhang, Lihai Zhang, Lingrong Liu, Dongrui Ma**  
Institute of Biomedical Engineering, Chinese Academy of Medical Sciences & Peking Union Medical College, P. O. Box 25 (204), Tianjin 300192, China
GRIBOI 2002

12:20-12:35
Bone Tissue Engineering Using Cells from Goat Adipose Tissue

**Jiang Chang**, Kaili Lin
Biomaterials and Tissue Engineering Research Center, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, China

Session 10 Clinical Application and Evaluation of Biomaterials
(Conference Room 2, 11:00-12:35)
Chairman: Prof. JCY Cheng, Prof. D. Poitout

11:00-11:20 **Key Lecture:**
Vertebroplasty and Kyphoplasty in Osteoporesis

**P. Hardouin**
IR2B Université du Littoral Côte d'Opale, 62600, Berck/mer, Boulogne/mer, France

11:20-11:35
Segmental Prosthesis for Bone/Joint Replacement after Tumor Resection Using Tissue/Organ Engineering Principles

**Edmund Y. S. Chao**
Johns Hopkins University, Baltimore, Maryland, USA

11:35-11:50
An Investigation of Biological and Mechanical Properties of TCP Impregnated PMMA Cement

**Kerong Dai**, Shangxi Fu, Tingting Tang,
Department of Orthopaedics, Shanghai Ninth People's Hospital, Shanghai Second Medical University, Shanghai, China

1:50-12:05
Failure Modes of a Low Profile Porcine Valve Analysis of 62 Example Bioprosthesis

**R. G. Guidoin**, G. Marinov, A.P. Legrand, Y. Marois
Laval University, Quebec City, Canada

12:05-12:20
The Stress Analysis in Gait and the Structural Optimization of Femur

**Qingcai Su**, Musen Li, Xihua Liu, Dongke Liang
Biomaterials Research Laboratory, College of Materials Science and Engineering, Shandong University, Jinan 250061, China

12:20-12:35
Osteochondral Allografts or Massive Prosthesis Surrounding by Allograft in Bone Tumor Surgery

Chemin des Bourrely, 13915 Marsellon Cedex 20, France
Session 11 Coating (Conference Room 1, 14:00-15:35)
Chairman: Prof. A.P. Legrand, Prof. Ling Qin

14:00-14:20 **Key Lecture:**
Changes of Phases and Microstructure in Plasma Sprayed HA Coatings

*JY Chen*
Engineering Research Center in Biomaterials, Sichuan University, Chengdu, China

14:20-14:35

Investigation of Bioactive Glass Coatings and the Clinic Application of Artificial Dental Implants

*Weiming Gu, Jitang Huang, Qing Jie, Ruoding Wang*
Shanghai Institute of Ceramics, Chinese Academy of Science, Shanghai, China

14:35-14:50

Fabrication and Characterization of Hydroxyapatite-Ti Functionally Graded Biomaterial as Hard Tissue Replacement

*Jingchuan Zhu, Chenglin Chu, Zhongda Yin*
School of Materials Science and Engineering, Harbin Institute of Technology, Harbin 150001, China

15:50-15:05

The New Technology of Preparing BG/HA Graded Coating on Titanium Alloy by Electrophoresis Codeposition

*Xiaoming Chen, Chuanbo Xu, Jianhua Li, Yuheng Jiao*
Biomedical Materials Engineering and Research Center, Wuhan University of Technology, Wuhan 430070, China

15:05-15:20

Influence of Proteins on Formation of the Surface Reactive Layer on the HA/TCP Ceramics

*Linghong Guo, Mei Huang, Xingdong Zhang, J. E. Davies*
Engineering Research Center in Biomaterials, Sichuan University, Chengdu, China

15:20-15:35

The Microstructure of HA Bioceramic Coating Synthesized by Laser Induced Deposition

*Diangang Wang, Chuanzhong Chen, Shushan Yao, Quanhe Bao*
Institute of Materials Science and Technology, Shandong University, Jinan 250061 China

Session 12 Bioceramics (Conference Room 2, 14:00-15:35)
Chairman: Prof. Qinling Feng, Prof. J.L. Lacout

14:00-14:20 **Key Lecture:**
Use of Porous Bioceramics as Tissue Engineering Support

*JX Lu*
14:20-14:35
Preparation of Bioactive Apatite by Hydrothermal Method
Youfa Wang, Yuhua Yan, Hongquan Zhang, Jianhua He
Biomedical Materials Engineering and Research Center, Wuhan University of Technology, Wuhan 430070, China

14:35-14:50
Study on A New Process Preparing Poly(L-lactic acid)/ β-tricalcium Phosphate Porous Scaffolds
Dali Zhou, Guangfu Yin, Changqiong Zheng, Rui Chen, Huaiqing Chen College of Materials Science and Engineering, Sichuan University, Chengdu 610065, China

15:05-15:05
Histological Observation of the Interface of β-TCP Bioceramics after Implanting in Bone Defect
Honglian Dai, Yuhua Yan, Fang Fang, Shipu Li
Biomedical Materials Engineering and Research Center, Wuhan University of Technology, Wuhan 430070, China

15:05-15:20
Sintering of Hydroxyapatites with Variable Ca/P Molar Ratios and Characteristics of Hot Pressed Ceramics
D. Bernache-Assolant
Université de Limoges, 87060 Limoges, France

15:20-15:35
In Vivo Response to a New Type of Macroporous Biphasic Calcium Phosphate Bone Substitute
O. Richart
Medtronic Sofamor Danek - D-94469 Deggendorf, Allemagne, France

15:35-17:30
Close Ceremony and Introduction of GRIBOI 2003 to be held in Maryland, USA

Chairman: Prof. J. Lemaitre, Prof. Changsheng Liu

Coffee Break (Lobby)


Poster Session

March 14 (Conference Room 3, 16:00-17:30)
Session Chair: Prof. Xinling Yang, Prof. Dali Zhou

P-1:
Preparation of Macroporous Calcium Phosphate Cement
Yuji Yin, Fen Ye, Shu Cai, Kangde Yao, Feng Zhao, Xuefeng Song
Research Institute of Polymeric Materials, Tianjin University, Tianjin 300072, China

P-2:
Repair of Sheep Articular Cartilage Defects with Bioceramics as Scaffold
Ximin Guo, Changyong Wang, Bin Bo, Zeqiang Fang, Cuimi Duan, Qiang Zhao, Yonghong Wang, Huihua Chen, Fan Ming, Jianxi Lu
Institute of Basic Medical Sciences of Beijing, 27, Taiping Road, Beijing 100850, China

P-3:
Working Characteristics of Radio-Opacified Brushite Cements
C. Pittet & J. Lemaitre
Powder Technology Laboratory, EPFL-LTP, MX-Ecublens, CH-1015 Lausanne, Switzerland

P-4:
Synthesis of Crystalline Hydroxyapatite from CaCO3 and CaHPO4(2H2O by Mechan-Chemical Method
Shu Cai, Kangde Yao, Yuji Yin, Xuefeng Song
Department of Material Science and Engineering, Tianjin University, Research Institute of Polymeric Materials, Tianjin University, Tianjin 300072, China

P-5:
Biodegradation of Ceramics and Cement Based on Calcium Phosphate
Linghong Guo, Mei Huang, Xingdong Zhang
Engineering Research Center for Biomaterials, Sichuan University, Chengdu, China

P-6:
Shape Control of Hydroxyapatite Crystal Seed and Its Effects on the in-situ Reinforcement of Calcium Phosphate Cement
Huifang Shao, Changsheng Liu, Yue Huang, Xuehua Cao
Institution of Biomaterials, East China University of Science and Technology, No. 130, Meilong Road, P.O. Box 112, Shanghai 200237, China

P-7:
Dynamic Rheological Behavior of Injectable Calcium Phosphate Cement
Huifang Shao, Changsheng Liu, Yue Huang, Kang Sun
Institute of Biomaterials, East China University Science and Technology, Shanghai, China

P-8:
Creation of Three-dimensional Finite Element Imitated Model of Natural Tooth and Implant

**Dongke Liang**, Xihua Liu, Ruifu Zhu, Qingcai Su, Musen Li
Biomaterials Research Laboratory, South Campus of Shandong University, Jinan 250061, China

**P-9:**
Influence of Tobramycin on the Applied Properties of Calcium Phosphate Cement

**Yue Huang**, Changsheng Liu, Huifang Shao, Zhuangjun Liu
Institute of Biomaterials, East China University of Science and Technology, Shanghai 200237, China

**P-10:**
Clinical Application of Self-setting Calcium Phosphate Cement with Drug in the Treatment of Chronic Osteomyelitis of Green-pus-bacillus

**Ying Chen**, Xingren Jiang, Changsheng Liu
Shanghai Rebone Biomaterials Co. Ltd, Shanghai, China

**P-11:**
Plane Electron Density Continuity of Ti, Zr, Nb and Ta

**Yupeng Lu**, Shitong Li, Ruifu Zhu, Musen Li, Tingquan Lei
Biomaterials Research Laboratory, College of Materials Science and Engineering, Shandong University, Jinan 250061, China.

**P-12:**
Adsorption of Protein on Biomedical Carbonaceous Materials

**Bogang Li**, Guangfu Yin, Yunqing Kang, Changqiong Zheng, Xinting He
College of Materials Science and Engineering, Sichuan University, Chengdu 610065, China

**P-13:**
An Investigation of Bio-tribological Performance of DLC Film/Ti6Al4V Gradient Material and Its Effects on Hemocompatibility

**Shuwen Jiang**, Guangfu Yin, Changqiong Zheng
College of Material Science and Engineering, Sichuan University, Chengdu 610065, China

**P-14:**
The Effect of Low Oxygen Tension on the in-vitro Life Span of Mouse Epidermal Keratinocytes

**Anli Ouyang**, Yan Zhou, Ping Hua, Wensong Tan
The State Key Laboratory of Bioreactor Engineering, East China University of Science and Technology, 130 Meilong Road, Shanghai 200237, China

**P-15:**
Negatively Charged Silk Fibroin: Characterization, Bloodcompatibility and Biocompatibility towards Human Endothelial Cells

**Xinlin Yang**, Jinwei Gu, Liyong Wang, Hesun Zhu
Research Center of Materials Science, Beijing Institute of Technology, P.O. Box 327, Beijing 100081, China

**P-16:**
Assembled Core-shell Monodispersed Magnetic Silica Microspheres for Bio-separations

**Yihua Zhu**, Hong Da, Xiaoling Yang

Key Laboratory for Ultrafine Materials of Ministry of Education, East China University of Science and Technology, Shanghai 200237, China

**P-17:**
Hematopoietic Stem/Progenitor Cell Expansion from Umbilical Cord Blood CD34+ Selected Cell and MNC

**Bin Wang**, Zizhen Kang, Zhanyou Chi, Wensong Tan

The State Key Laboratory of Bioreactor Engineering, East China University of Science and Technology, 130 Meilong Road, Shanghai 200237, China

**P-18:**
Drug Release Kinetics of \( \alpha \)-Tricalcium Phosphate Cement Containing Tetracycline Hydrochloride

**Zhiguo Song**, Dali Zhou, Guangfu Yin, Zhao Zhang, Changqiong Zheng

College of Material Science and Engineering, Sichuan University, Chengdu 610065, China

**P-19:**
Spin-coating Sol-gel Bioactivity Glass on Ti-alloy Substrate

**Fangping Chen**, Xiaofeng Chen, Yingjun Wang

Institute of Biomaterials, East China University of Science and Technology, Shanghai 200237, China

**P-20:**
Generation of Dendritic Cells from Cord Blood Mononuclear Cells

**Li Xu**, Zizhen Kang, Haibo Cai, Wensong Tan

State Key Laboratory of Bioreactor Engineering, East China University of Science and Technology, Shanghai 200237, China

**P-21:**
Influence of the Compound Additives on Performances of Magnesium Phosphate Bone Cement

**Wei Gai**, Xiaozhi Wang, Changsheng Liu

Institute of Biomaterial, East China University of Science and Technology, Shanghai 200237, China

**P-22:**
Study on the Bone-formation Rate of Ca-P system Bioceramics at Repairing Bone Defects

**Yuhua Yan**, Fang Fang, Honglian Dai, Shipu Li

Biomedical Materials Engineering and Research Center, Wuhan University of Technology, Wuhan 430070, China

**P-23:**
Plasma Surface Modification of Medical Polyurethane for Antithrombogenicity

**J. Wang**, N. Huang, Q. L. Liu, S. Hong, P. Yang, Z. B. Yang, Y. Leng

Surface Engineering of Biomaterials, Department of Materials Engineering, Southwest Jiaotong University, Chengdu 610031, China

**P-24:**
The Surface Modifying of Plasma Sprayed HA Bio-ceramic Coating by Laser
Chuanzhong Chen, Diangang Wang, Yupeng Lu Quanhe Bao, Shushan Yao
Institute of Materials Science and Technology, Shandong University, Jinan 250061, China

P-25:
The Long-term Tissue Reaction of Biodegradable Poly-L-lactide (PLLA) in Epiphysis of Rabbits

Wang Li, Kerong Dai, Tingting Tang
Department of Orthopaedics, Shanghai Ninth People's Hospital, Shanghai Second Medical University, Shanghai 200011, China,

P-26:
Effect of Phase Composition on the Biological Behavior of Titanium-hydroxyapatite Biocomposites

Congqin Ning, Yu Zhou, Kerong Dai, Yajun Gu, Congchun Huang, Dechao Li
Department of Orthopaedics, Ninth People's Hospital, Shanghai Second Medical University, Shanghai 200011, China

P-27:
The Effect of Monomer-polymer Ratio on the Mechanical Properties of the TCP-PMMA Cement

Xifu Shang, Kerong Dai, Tingting Tang
Department of Orthopaedics, Shanghai Ninth People's Hospital, Shanghai Second Medical University, Shanghai, China

P-28:
Preparation and Characterization of Polycaprolactone/hydroxyapatite Composite

Feng He, Yue Huang, Changsheng Liu
Institute of Biomaterials, East China University of Science and Technology, China

P-29:
Preparation of DDS: Matrix-cross-lined Chitosan Microspheres

Yong Xu, Yue Huang, Changsheng Liu
Institute of Biomaterials, East China University of Sci. and Tech., China

P-30:
Calcium-regulated Clonal Growth and Differentiation of Murine Epidermal Keratinocytes

Haiqiang Yu, Wensong Tan
The State Key Laboratory of Bioreactor Engineering, East China University of Science and Technology, 130 Meilong Road, Shanghai 200237, China

P-32:
Rheological Properties of Calcium Phosphate Cement during the Hydration Process

Changsheng Liu, Huifang Shao, Feiyue Chen, Haiyan Zheng
Institute of Technical Chemistry and Physics, East China University of Science and Technology, Shanghai 200237, China

P-33:
The Physicochemical Properties of the Solidification of Calcium Phosphate Cement

Changsheng Liu, Yue Huang, Jianguo Chen, Haiyu Qi
Institute of Technical Chemistry and Physics, East China University of Science and Technology, Shanghai 200237, China
P-34:
Release of Tetracycline by an Injectable Calcium Phosphate Cement
A.Ratier, M.Freche, J.L.Lacout, F.Roderigue
Laboratoire de Galénique - GEFSODEA 2631 - Faculté de Pharmacie Toulouse, France

P-35:
Ionic Cements: Applications, Current Market and Prospects
A. Leonard
Teknimed, Vic-en Bigorre, 65270, France

P-37:
Release of Anthracyclines Adsorbed on Copper Treated Hydroxylapatites
Rosana Ahamad Bacha, Marina L. Fiallo, Patrick Sharrock
Chemistry Department, Paul Sabatier Institute of Technology, Castres, France

P-38:
In Vitro Corrosion of Implant Alloys in the Presence of Human Lymphoid Cells
J.-C. Hornez, K. Kot, Y.M. Zhang
Biomaterials Research Laboratory, Faculté de Médecine, F-59045 Lille Cedex, France

P-39:
Electrochemical Behavior of Titanium Alloys under Biological Conditions
School of Stomatology, Fourth Military Medical University, Xi'an 710032, China

P-40:
Effect of Concentration and Ageing on the Synthesis of Hydroxyapatite Powder
Yunjing Song, Musen Li, Shulin Wen
College of Materials Science and Engineering, Shandong University, Jinan 250062, China

P-41:
The Effect of Ca-P Ceramic Crystallinity on Heterotopic Osteogensis
Shuxin Qu, Hongsong Fan, Xia Guo, Jack CY Cheng, Xingdong Zhang
Engineering Research Center in Biomaterials, Sichuan University, Chengdu, China

P-42:
Induction of Calcium Phosphate on IBED-TiO Coated Carbon-Carbon Composite
Tao Fu, Yong Han, Jiyong Li, Kewei Xu
State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an, China

P-43:
Experimental Research on Spine Fusion in Rabbit Model Using a New Composite: Cell, Protein and Carrier
Guangheng Li, Tingting Tang, Xiaokui Hou, Guangzhen Yang, Xiangfu Wu
Department of Orthopaedics, Shanghai Ninth People's Hospital, Shanghai Second Medical University, Shanghai, China
P-44:
The Preparation of an Injectable Calcium Phosphate Bone Cement and the Initial Histological Response in Dogs

HS Fan, WW Lu, JQ Cheng, JCY Leong, KW Liu, SX Qu, XD Zhang
Engineering Research Center in Biomaterials, Sichuan University, Chengdu 610064, China

6. Location map

7. Accommodation

We have reserved Novotel Shanghai Yuan Lin Hotel (3 Star) as the conference accommodations. It's 15 km to the Hongqiao International Airport, 50 km to the Pudong International Airport, 17 km to railway station. Beautiful location next to the Shanghai Botanic Garden gives the hotel a unique resort atmosphere in a big business city.

8. Climate

The weather is pretty cool at the early spring with an average temperature of 5-18°C. Jacket and sweater are recommended for morning and evening.

9. Companion's program

The companion's program will include sightseeing and shopping in Shanghai. The excursion with a bus trip to the Suzhou and Zhouzhuang will be arranged on 15th and 16th of March. A tour of the famous
GRIBOI 2002

Oriental Bright Pearl Tower with conference banquet is planned in the evening together with all participants. Detailed information will be available at the registration desk.

10. Conference fees

<table>
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<tr>
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<th>Before Jan 31,2002</th>
<th>After Jan 31,2002</th>
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<tbody>
<tr>
<td>Registration fee</td>
<td>$140</td>
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<tr>
<td>Students</td>
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<td>Banquet</td>
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<td>Companion's program</td>
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<td>Hotel/Per person (per night)</td>
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</tr>
<tr>
<td>City Tour</td>
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</tbody>
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The registration fee includes entry to technical sessions, lunch and dinner, excursion, welcome reception, coffee breaks, and one copy of the proceedings. Registration fee of company's program ($140) includes city tour ($60).

- **Accounts for registration:**
  
  Name of Account: Shanghai Rebone Biomaterials Co., Ltd
  
  Bank of Deposit: Meilong Branch of Bank of China, Shanghai, China
  
  Account Number: 044298-05170040036

11. Payments

Payment must be made in US Dollars by cash or traveler's check.

12. Travelling

Post symposium tours will be organized for those who wish to extend their stay in China.

- Shanghai/Xian/Beijing (quotation: 5000 Fr)
Travel by air

Shanghai is easily accessible by air, and train. The Shanghai Pudong and Hongqiao International Airports are linking with almost all the major cities in over 40 countries. Most international and domestic airlines now have tickets booking offices in or near major hotels. Many travel agencies offer fast and reliable booking services. Shanghai now has non-stop flights to San Francisco, Seattle, Los Angeles, New York, Vancouver, Sydney, Tokyo, Bangkok, Paris, London, Zurich, Rome, Frankfurt, Copenhagen, Madrid, Bucharest, Moscow, Hong Kong, Macao and many other international cities.

Culture and Food

Shanghai—the bright oriental pearl, has a history of some hundreds years. Lying at the downstream of Changjiang River, Shanghai today has become the banking, culture, transportation centres of the eastern region. Here you can find all kinds of cultural entertainment. There are museums and over 60 higher education institutes. Many performances are available such as rock concert, symphony, western opera, acrobatics, ballet and drama. Shanghai's colourful leisure facilities offer you the possibility to relax and unwind from a busy working or sightseeing day.

Shanghai has food from all over the world. You can find exquisite Cantonese, Sichuan and Shanghainese food as well as a wide selection of western cuisine.

Shopping

Shopping in Shanghai is very convenient and pleasant now. There are so many department stores, supermarket and free-duty markets where you can buy anything you want. The native products of China, which you can find in Shanghai Yu Garden and some streets, are antiques, silk, porcelain, handicrafts, etc.

Insurance

The organizing Committee is not liable for the personal accidents or loss during the conference. Participants should make their own arrangements with respect to personal insurance.
14. Author Index

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1. IL-Invited Lecture of The Conference
2. KL-Key Lecture of Session
3. O-x-xth Session Oral Presentation
4. SS-x-xth Special Session
5. P-x-xth Poster

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