

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

GROBOI 2002

Table of Contents

Schedule of GRIBOI 2002	1
Organizing and Scientific Committee	2
Open Ceremony	4
Academic Session:	5
1. Session 1 (O-1): Characterization of Biomaterials	5
2. Session 2 (O-2): Bone Cement.	5
3. Session 3 (O-3): Nano-Biomaterials.....	9
4. Session 4 (O-4): Stem Cell and Cell Culture.....	10
5. Session 5 (O-5): Surface Modification.	10
6. Session 6 (O-6): In vitro and in vivo Evaluation of Biomaterials.	12
7. Session 7(O-7): Biodegradable Composite.	13
8. Session 8 (O-8): Bioceramics I.	14
9. Session 9 (O-9): Tissue Engineering.	15
10. Session 10 (O-10): Clinic Application and Evaluation of Implants.	16
11. Session 11 (O-11): Coating.	17
12. Session 12(O-12): Bioceramics II	17
13&14 Special Session (SS) for Young Scientists and Ph D students	7 ~8
15. Poster Session	19
Other documents related with conference	24
Author Index	27

Agenda of the GRIBOI 2002 Conference

	March 13 th	Mar 14 th	Mar 15 th	Mar 16 th	Mar 17 th
8:40-9:00		Opening Ceremony (Conference Room 1)			
9:00 ~ 10:30		IL 1,2, 3 (Conference Room 1)	IL 7, 8,9 (Conference Room 1)	Session 7 (Conference Room 1) Session 8 (Conference Room 2)	
10:30 ~11:00	Pre-registration (Reception Desk of YuanLin Hotel)	Coffee Break (Lobby)	Coffee Break (Lobby)	Coffee Break (Lobby)	
11:00 ~12:35		Session 1 (Conference Room 1) Session 2 (Conference Room 2)	Session 3 (Conference Room 1) Session 4 (Conference Room 2)	Session 9 (Conference Room 1) Session 10 (Conference Room 2)	
12:35 ~14:00		Lunch (Dinner Hall)	Lunch (Dinner Hall)	Lunch (Dinner Hall)	City Tour
14:00 ~ 15:30		IL 4, 5, 6 (Conference Room 1)	IL 10, 11, 12 (Conference Room 1)	Session 11 (Conference Room 1) Session 12 (Conference Room 2)	
15:30 ~ 16:00	Registration	Coffee Break (Lobby)	Coffee Break (Lobby)	Introduction of GRIBOI 2003 in USA Close Ceremony (Multi-Function Hall)	
16:00 ~ 17:35		SS1 (Conference Room 1) SS2 (Conference Room 2) Poster Session (Conference Room 3)	Session 5 (Conference Room 1) Session 6 (Conference Room 2)		
	Welcome Reception (19:00) (Multifunction Hall)	Banquet and Tour of Huang-Pu River (17:35)	Dinner (18:00) (Dinner Hall)	Dinner (18:00) (Dinner Hall)	

Board of GRIBOI

President: J. Lemaitre(Lausanne)
Vice-president: P.Sharrock(Toulouse)
Secretary: P. Hardouin(Berck Sur Mer)
Treasurer: J. Jeanfils(Boulogne)
Vice Treasurer: J.X.Lu(Marseille, Shanghai)

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Changsheng Liu(Shanghai)

Executive committee

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Yue Huang (Shanghai)
J.X. Lu (Marseille, Shanghai)
J. Jeanfils (Boulogne)
P. Hardouin (Berck Sur Mer)

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J. Delecrin(Nantes)	D. Mainard(Nancy)
H. Deramond(Amiens)	J. P. Proust(Marseille)
J. L. Lacout (Toulouse)	

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 Biomateraux Nord-Pas de Calais
- Société Française 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.

4. Proceedings and Full Texts of GRIBOI 2002

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. Lefevre , 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 Moyer, 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 Bourrellys,
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

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J. L. Lacott

CIRIMAT Physicochimie des Phosphates ENSIACET / INP Toulouse UMR CNRS 5085 118,
Route de Narbonne 31077 Toulouse Cedex, France

11:20-11:35

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

11:35-11:50

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

11:50-12:05

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

12:05-12:20

A Hardening Paste Containing Calcium Phosphates

P. Sharrock, Marina Fiallo

Chemistry Department, Paul Sabatier Institute of Technology, Castres, France

12:20-12:35

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

14:00-14:30

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. Jeanfiles

16:00-16:15

Clinicotherapeutical Experience with Collagen Sponge as Hemostat and Wound Dressing Material

JiminWu, 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

X. Y. Cui, T. Y. Xiong, W. Q. Zhang, J. Wu, H. Z. Jin, Z. X. Guo

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

17:15-17:30

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 POCl₃ 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

Synthesis and Characterization of Nano-sized Hydroxyapatite Powder by Sol-gel Method

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

YuanYuan, 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

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State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University,
Xi'an 710049, China

12:05-12:20

The Bioactivity of Sol-gel Bioglass in Vitro

Fangping Chen, Xiaofeng Chen, Yingjun Wang

Material Colleges, South China University of Technology, Guangzhou 510640, China.

12:20-12:35

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 Stomatology, Fourth Military Medical University, Xi'an, China

11:50-12:05

Optimization of Culture Conditions of Human Mesenchymal Cells for Bone Tissue Engineering

Anselme K., Noel B., Broux O., Bouxin B. Dudermel A.F., Blanchi F., Jeanfiles J.,
Hardouin P

I.R.2.B., Université du 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. Malbrel, 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 Allologous 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

Institut de Recherche sur les Biomateriaux et les Biotechnologies (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.

Hôpital Universitaire 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

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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 Biomateriaux, 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 Constitutive 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 Platelets 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 Osteoconductive 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. Jeanfiles

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

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 Osteoporosis

P. Hardouin

IR2B Université du Littoral Cote 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

D.G. Poitout, P. Tropiano, C.H.U. Nord

Chemin des Bourrely, 13915 Marsellon Cedex 20, France

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

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

GRIBOI 2002

IR2B, 62608 Berck sur Mer, France

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

15:50-15:05

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 hold in Maryland, USA

Coffee Break (Lobby)

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

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 CaCO_3 and $\text{CaHPO}_4(2\text{H}_2\text{O})$ 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:

Negatedively 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 α -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

Y.M. Zhang, J.-C. Hornez, Z.C. Li, Y.M. Zhao, J. Li, M. Traisnel, T.W. Guo, H.F. Hildebrand

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 Osteogenesis

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

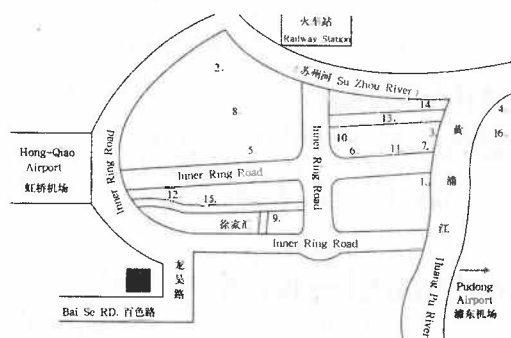
P-44:

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




 yuan lin shanghai
 诺富特上海园林宾馆

please take me to Novotel
 请送我到上海园林宾馆

201 Bai Se Rd. Shanghai 200231
 上海徐汇区百色路201号
 E-mail: caticylh@public.sta.net.cn
 http://www.accorhotels-china.com/yuanlin

TEL: 64701688
 FAX: 64700008

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

	Before Jan 31,2002	After Jan 31,2002
Registration fee	\$140	\$160
Students	\$80	\$100
Banquet	\$30	\$30
Workshop	\$120	\$140
Companion's program	\$140	\$160
Hotel/Per person (per night)	\$60	\$60
City Tour	\$60	\$60

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)



▲ Great Wall



▲ Ancient Horce

13. Participant's Guide

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

Notice for index:

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

- Anselmek K:O-4
 Acis H:P-36
 Anselm K:O-1, O-6
 Bacha Rosana Ahmad: P-37
 Bao.Quanhe:O-11,P-24
 Bataillon Linez P.:O-4
 Bei Jianzhong:KL-9
 Bernache-Assolantd:O-12
 Bindal C.:O-6
 Blake Cara:O-2
 Bloisson-Vidal C.:O-4
 Bouler J-M.:KL-1
 Bouxsein Mary:O-2
 Bresson B.:KL-1
 Broux O.:O-4,O-6
 Cai Haibo :P-20
 Cai Shu:SS-1,P-1,P-4
 Cala Paul:O-1
 Cao Xuehua:P-6
 Cao Yilin:IL-3
 Chang Jiang:O-9
 Chang Zhijie:O-4
 Chao Edmund Y.S.:O-10
 Chen Chuanzhong: O-11,P-24
 Chen Fang ping:O-3,P-19
 Chen Feiyue:P-32
 Chen Huaqing:O-12
 Yang Xinlin: P-15
 Chen Huihua:SS-1,SS-2,P-2
 Chen Jianguo:P-33
 Chen Jiyong:KL-8,O-5,O-8
 Chen L.J.:O-7
 Chen Ling :SS-2
 Chen Xiaofeng:O-3,P-19
 Chen Xiaoming:O-11
 Chen Ying:P-10
 Chen Yue:O-4
 Cheng JCY:IL,KL-11,O-4,P-41
 Cheng JQ:P-44
 Cheng Kui:O-6
 Cheng Yuen-Y:O-4
 Chi Zhan-you:SS-2,P-17
 Chu Chenglin:O-11
 Chu PK :O-5,O-8
 Chung Ren-Jei:O-2
 Cornet F:O-6
 Cui Fuzhai:IL, KL-3
 Cui X.Y.:SS-1
 D' Augusta Darren:O-2
 Da Hong: P-16
 Dai Gan-ce:SS-2
 Dai HongLian:O-12,P-22
 Dai Kerong:IL,O-9,O-10,P-25,P-26,P-27
 Davies J.E.:O-11
 Descamp M.:14
 Ding Shan:O-7
 Du Piyi: O-6
 Duan Cuimi:SS-1,SS-2,P-2
 Duan Xiaohong:O-6
 Dudermel A.F.:O-4
 Elisabeth Delcourt -Debruyne:O-7
 Famery R.:KL-1
 Fan Hongsong:P-41,P-44
 Fang Fang:O-12,P-22
 Fang Zeqiang: SS-2,P-2
 Feng Qingling:KL-3
 Feng Song Xue:SS-1
 Ferreira J.M.F.:O-6
 Fiallo Marina:O-2,P-37
 Flautre B.:14
 Freche M.:P-34
 Frei C.:O-2
 Fu Tao:P-42
 Gai Wei:O-2,P-21
 Gong Yandao:O-4
 Grard T:O-1
 Groot Klaas de:IL
 Gu Jinwei: O-5,P-15
 Gu Qisheng:SS-1
 Gu Weiming:O-11
 Gu Yajun:P-26
 Gu Zhongwei:PIL
 Guidoin RKL-1,O-10
 Guo Linghong:O-11,P-5
 Guo T.W.:P-39
 Guo Xia:P41
 Guo Ximin:SS-1,SS-2,P-2
 Guo Z.X.:SS-1
 Han Gaorong:O-6
 Han Y.: O-4,SS-2,P-42
 Hardouin P:KL-10,O-1,O-4,O-6,O-8
 Hartmann Daniel:IL
 He Aijun:O-5
 He Jian-hua:O-12

- He Xinting:P-12
 He.Fe:P-28
 Hildebrand H.F.:O-1,O-4,O-5,O-7,P-39
 Hinard V.:O-4
 Hong S.:P-23
 Hornez J.-C.:O-1,P-39
 Hou Xiao-Kui:P-43
 Hua Ping:P-14
 Huang Chine-Wen:O-2
 Huang Congchun:P-26
 Huang Jitang:O-11
 Huang Lin:O-4
 Huang Mei:O-11,P-5
 Huang N.:O-5,O-8,P-23
 Huang P.:O-4,SS-2
 Huang Xiang:SS-2
 Huang Yue:P-6,P-7,P-28,P-29,P-33,
 Jeanfils J.:O-1,O-4,O-6,O-9,
 Jiang Dongliang:O-8,SS-2
 Jiang Shuwen:P-10
 Jiao Yuheng:O-11
 Jie Qing:O-11
 Jin H.Z.:SS-1
 Jozefonvicz J.:O-4
 Kang Yunqing:P-12
 Kang zizhen:P-17,P-20
 Kim Hyun-Min:IL
 Kokubo Tadashi:IL
 Konduk B.A.:KL-7,O-6
 Koo P.L.:O-4
 Kot K.:O-1
 Kumta Shekhar:O-4
 Labalette P.:O-4
 Lacout J.L.:KL-2,P-34
 Lee KM:KL-6
 Lefevre.A.:O-1,O-4
 Legrand A.P.:KL-1
 Lei M.K.:O-5
 Lei Tingquan:O-3,P-11
 Lemaitre J.:IL,O-2,P-3
 Leng Y: KL-8,O-5,O-8,P-23
 Leng Y.X:O-5,O-8
 Leonard A.:P-35
 Leong JCY:P-44
 Leung KS:KL-6
 Li Bogang:P-12
 Li Dechao:P-43
 Li Guang-Heng:P-43
 Li Guangming: KL-9
 Li J.:P-39
 Li Jianhua:O-11
 Li Ji-Yong:P-42
 Li Lihua:O-7
 Li Lin:SS-2
 Li Musen:O-3,O-10,P-11,P-40
 Li Rebecca:O-2
 Li Rui-xin:SS-1
 Li Shipu:O-8,O-12,P-22
 Li shitong:O-3,P-11
 Li Xiaoxi:O-8,SS-2
 Li Shitong:O-3,P-11
 Li Xiaoxi:O-8,SS-2
 Li Z.C.:P-39,O-10,P-8
 Li Jian:O-2
 Lin Kaili:O-9
 Liu Changsheng:IL,O-2,O-3,P-6,P-7,P-10,
 P-21,P-29,P-32,P-33
 Liu Guohua:O-9
 Liu lingrong:O-5
 Liu Q.L.:P-23
 Liu Xianghuai:KL-5
 Liu Xihua:O-10,P-8
 Liu Zhuangjun:P-6
 Lu Hua:O-9
 Lu Jianxi:KL-12,O-8,SS-2,P-2
 Lu Xuhui:O-8
 Lu W.W:P-44
 Ma Dongrui:O-9
 Lu Yupeng:O-3,P-11,P-24
 Malbrel F.:O-4
 Mao Xuan:O-7
 Marinov G.:O-10
 Maroi Y.S:O-10
 Ming Fan :SS-2,P-2
 Mo Xiumei:O-8
 Monchau Francine: O-7
 Mou Shangsong:O-7
 Moyen Olivier:O-1
 Nan Kaihui:O-9
 Ni J.:O-7
 Ning Congqin:P-26
 Noel B:O-1,O-4
 Nord C.H.U.:O-10
 Ouyang Anli:P-14
 Pelegris Ch.:O-5
 P.Legrand A.:O-10
 Pittet C.:P-3
 Poitout D.G:O-1,O-10
 Pu-Chi Lin:O-2
 Qi Haiyu:P-33
 Qin L:IL,KL-6,O-4
 Qu Haibo:O-6
 Qu Shuxin:KL-8,P-41,P-44
 Railhac JJ:O-6
 Ratier A.:P-34
 Richar.T O.:O-12

- Rocher Philippe:O-5,O-7
 Rodriguez F.:P-34
 Rouahi M:O-1
 Rousseau S.:O-2
 Seeherman Howard:O-2
 Shangxi-fu:O-10,P-27
 Shao Huifang:P-6,P-7,P-32
 Sharrock Patrick:O-1,O-2,P-37
 Shen Ge:O-6
 Shi Hui-lei:SS-1
 Sinan Aline :O-1
 Song Yunjing:O-3,P-40
 Song Zhiguo:P-18
 SuQingcai:O-10,P-8
 Sun H:O-5,O-8
 Sun Kang:O-1,P-7
 Tai KO:KL-6
 Tan Shouhong:O-8,SS-2
 Tan Wensong:SS-1,SS-2,P-14,P-17,P-20,P-30
 Tang Shunqing:O-7
 Tang Tingting:O-10,P-25,P-27,P-43
 Tavernier E:O-1
 Tropiano P:O-1,O-10
 Tsung-Shune Chin:O-2
 Tu Mei:O-7
 Tuan-Jung Hsu:O-2
 Ucisik A.H.:KL-7,O-6
 Vavasseur S.:114
 Wan G J.:O-5,O-8
 Wang Bin:P-17
 Wang Changyong:SS-1,SS-2,P-2
 Wang Diangang:O-11,P-24
 Wang J:O-5,O-8,P-23
 Wang Jianchao:SS-1
 Wang Jianhua:O-3
 Wang Li:P-25
 Wang Liyong:O-5,P-15
 Wang M.:IL,O-7
 Wang Ruoding:O-11
 Wang Shenguo:KL-9
 Wang Xiaozhi:P-21
 Wang Yingjun:O-3,O-9,P-19
 Wang Yonghong:SS-1,SS-2,P-2
 Wang You-fa:O-12
 Wen De-min:SS-1,SS-2
 Wen Qibiao:SS-2
 Wen Shulin:O-3,P-40
 Weng,Wenjian:O-6
 Wong EN:KL-6
 Wozney John:O-2
 Wu J.:SS-1
 Wu Junzheng:O-6
 Wu Renjie:O-1
 Wu Xiang-Fu:P-43
 Xi TF:O-5,O-8
 Xiong T.Y.:SS-1
 Xu Chuanbo:O-11
 Xu Kewei:O-3,O-4,O-6,SS-2,P-42
 Xu Li:P-20
 Xu Yong:P-29
 Yan Kan:SS-1
 Yan Yuhua:O-9,O-12,P-22
 Yang Anle:O-1
 Yang Guang-Zhen:O-9
 Yang Jian KL-9
 Yang Ming:O-4
 Yang P.:O-5,O-8,P-23
 Yang Xioaling:P-16
 Yang Z.B.:P-23
 Yao Kangde:SS-1,P-1,P-4
 Yao Shushan:O-11,P-24
 Yao Xiumin:O-8
 Ye Fen:P-1
 Ye Jiandong:O-9,SS-2
 Yin Guangfu:O-5,O-12,P-12,P-13,P-18
 Yin Yuji:SS-1,P-1,P-4
 Yin Yuji:SS-1,P-1,P-4
 Yin Zhongda:O-11
 Yu Haiqiang:P-30
 Yuan Yuan:O-3
 Zeytin S.:O-6
 Zhang Hong-quan:O-12
 Zhang Lihai:O-9
 Zhang Qiqing:O-9
 Zhang W.Q.:SS-1
 Zhang Y.M.:O-1,O-4,P-39
 Zhang Zhao:P-18
 Zhao Feng:P-1
 Zhao Nanming:O-4
 Zhao Qiang:SS-1,SS-2,P-2
 Zhao Song:SS-1
 Zhao Y.M.:O-1,O-4,P-39
 Zhao Yun:KL-4
 Zheng Changqiong:O-5,O-12,P-12,P-13,P-18
 Zheng Haiyan:P-32
 Zhou Changren:O-7
 Zhou Dali:O-5,O-12,P-18
 Zhou Yu:P-26
 Zhou Yan:SS-1,P-14
 Zhu Hesun: O-5,P-15
 Zhu Jingchuan:O-11
 Zhu Shanshan:O-4
 Zhu X.M.:O-5
 Zhu Yihua:P-16



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