Sunday April 3rd 2005

18:00-20:00 Registration of participants
Welcoming cocktail

Monday April 4th 2005

MONDAY

7:45-8:15 **Opening Ceremony**

8:15-9:00 **Keynote Speaker:**
IS-218 SUPERCRITICAL FLUID PROCESSING FOR FUNCTIONAL BIOMATERIALS: SOME MEDICAL APPLICATIONS, Dr. Tomasko

9:00-10:00 **Parallel Sessions Ambassadeur C, Ambassadeur A and Senateur**

Room Ambassadeur C
Porous biomaterials I
(Fabrication techniques)

9:00-9:30 IS-104 THE COMBUSTION SYNTHESIS OF ENGINEERED POROUS COMPOSITE MATERIALS FOR BONE REPLACEMENT APPLICATIONS, John Moore

9:30-9:45 IS-88 METAL HOLLOW SPHERE STRUCTURES A NEW MATERIAL FOR BIOMEDICAL IMPLANTS, Günter Stephani

9:45-10:00 IS-54 CHARACTERISATION OF POROUS NITI PRODUCED BY A NEW POWDER METALLURGY PROCESS, Orlando Scalzo

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Room Sénateur
Endovascular devices

9:00-9:15 IS-45 SURFACE MEASUREMENT OF THE ELASTICITY OF NATIVE AND CROSS-LINKED POLYELECTROLYTE MULTILAYER FILMS, Ludovic Richert

9:15-9:30 IS-120 EVALUATION OF THE LINK BETWEEN MATERIALS STATE OF BILEAFLET EXPLANTED MECHANICAL HEART VALVES AND CLINICAL DATA, Silvia Farè

9:30-9:45 IS-162 INADEQUATE HEALING AFTER ENDOVASCULAR REPAIR OF AORTIC ABDOMINAL ANEURYSM: ANALYSIS OF EXPLANTS, Annie Major

9:45-10:00 IS-163 THE EFFECT OF RADIOACTIVE STENT-GRAFTS ON NEOINTIMAL FORMATION AND IMPLANT FIXATION INTO ARTERIAL WALL, Sophie Lerouge

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MONDAY

Room Ambassadeur A

Processing and evaluation of artificial muscles

9:00-9:15 IS-176 A NOVEL METAL HYDRIDES EXO-MUSCLE PROVIDING SOLUTION TO PHYSICAL DYSFUNCTIONS, Stéphane Bédard

9:15-9:30 IS-177 ARTIFICIAL EXO-MUSCLES INVESTIGATIONS FOR COMMERCIAL APPLICATIONS, Stéphane Bédard

9:30-9:45 IS-105 DEVELOPMENT AND PSYCHOMETRIC EVALUATION OF A STATIC PELVIC FLOOR DYNAMOMETER, Chantale Dumoulin

9:45-10:00 IS-151 IN VITRO LOCALIZATION OF ELECTRICAL SOURCES WITHIN A CYLINDRICAL GEOMETRY USING A DIPOLE MODEL, Joel R. Florestal

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10:00-10:15 **COFFEE BREAK**

10:15-11:15 **Parallel Sessions Ambassadeur C, Ambassadeur A and Senateur**

Room Ambassadeur C

Porous biomaterials II

(Characterization and evaluation)

10:15-10:30 IS-175 ZIRCONIA - BASED CERAMICS WITH MICRO-, MESO- AND MACROPOROUS STRUCTURES, Sergey Kulkov

10:30-10:45 IS-72 EFFECT OF POROSITY ON THE OSTEOINTEGRATION OF NITI IMPLANTS IN BONE, Jorma Ryhänen

10:45-11:00 IS-179 MORPHOLOGIC CHARACTERIZATION OF POROUS CELLULOSIC MATERIALS BY MICROCOMPUTED TOMOGRAPHY (µCT) FOR BONE SUBSTITUTION, Laurent Pothuaud

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MONDAY

Room Sénateur

Stent, basic research

10:15-10:45 IS-85 THROMBO-INFLAMMATION AND IN STENT RESTENOSIS, Yahye Merhi

10:45-11:00 IS-251 LOCAL DELIVERY OF 17B-ESTRADIOL IMPROVES REENDOTHELIALIZATION AND DECREASES INFLAMMATION AFTER CORONARY STENTING IN A PORCINE MODEL, Pascale Geoffroy

11:00-11:15 IS-183 3D CHARACTERIZATION OF THE WALL SHEAR STRESS IN A STENTED CORONARY ARTERY, Rosaire Mongrain

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Room Ambassadeur A

Smart Materials for medical applications

10:15-10:30 IS-57 EFFECT OF ZR AND SN ON YOUNG'S MODULUS AND SUPERELASTICITY OF TI-NB BASED ALLOYS, Rui Yang

10:30-10:45 IS-64 DEVELOPMENT OF THIN FILMS OF FERROMAGNETIC NI-MN-GA MARTENSITES, Volodymyr Chernenko

10:45-11:00 IS-66 THE ACTUATOR "ARTIFICIAL MUSCLE" BASED ON SHAPE MEMORY ALLOY, Ivan Vahhi

11:00-11:15 IS-65 MEDICAL APPLICATIONS OF SHAPE MEMORY POLYMERS, Witold Sokolowski

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11:15-11:45 **COFFEE BREAK**

11:45-12:00 **Winners of the Innovation Contest (AITS)**

12:00-12:40 **Keynote Speaker:**
IS-114 POLYIONIC HYDROGEL BASED ON POLYSACCHARIDES AND MODULATION OF SOLUBILIZATION RATES OF DRUGS VIA THIS HYDROGEL, Dr. Delphine Magnin

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12:40-14:00 **LUNCH**

14:00-15:30 **Parallel Sessions Ambassadeur C, Ambassadeur A and Senateur**

Room Ambassadeur C
Tissue engineering and regeneration I (Orthopaedic applications)

MONDAY

14:00-14:15 IS-192 SILK KNITTED STRUCTURES AS SCAFFOLD FOR ACL TISSUE ENGINEERING, Silvia Farè

14:15-14:30 IS-146 ENGINEERING CARTILAGE/BONE WITH HYDROGEL SCAFFOLDS, Dong-an Wang

14:30-14:45 IS-155 PHOTOPOLYMERIZABLE BILAYERED HYDROGELS FOR OSTEOCHONDRAL TISSUE ENGINEERING, Blanka Sharma

14:45-15:00 IS-153 OSTEOCHONDRAL SCAFFOLDS FOR THE REPLACEMENT OF ARTICULAR CARTILAGE BY TISSUE ENGINEERING, Caroline Auclair-Daigle

15:00-15:15 IS-193 CA/P COATED SMP FOR BONE REPLACEMENT IN MINI-INVASIVE SURGERY: INTERACTION WITH OSTEOBLAST-LIKE CELLS, Luigi de Nardo

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Room Sénateur
Fluid Biomechanics

14:00-14:45 IS-256 FLUID-STRUCTURE INTERACTIONS IN COMPUTATIONAL CARDIOVASCULAR MECHANICS – A REVIEW, Frédéric Wilquem

14:45-15:00 IS-86 SELF INDUCED OSCILATIONS IN ARTERIES, Frantisek Marsik

15:00-15:15 IS-165 DEVELOPMENT OF A NON-NEWTONIAN BLOOD ANALOG FOR PIV EXPERIMENTS, Rosaire Mongrain

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Room Ambassadeur A

Nanotubes

(Development and applications)

14:00-14:30 IS-260 CHALLENGES AND OPPORTUNITIES FOR THE DEVELOPMENT OF CARBON NANOTUBE BIOMATERIALS, Philippe Poulin

14:30-14:45 IS-184 PRESSURE EFFECTS ON CARBON NANOTUBES, Nedjma Bendiab

14:45-15:00 IS-182 INTEGRATION OF CARBON NANOTUBES WITH BIOMOLECULES, Jean-Paul Salvetat

15:00-15:15 IS-106 POTENTIAL INTEREST OF CARBON NANOTUBES AS FUNCTIONAL BIOMATERIALS, Cécile Zakri

15:15-15:30 IS-185 BIOCOMPATIBILITY OF C-NANOTUBES AND C-FULLERENS, Silvana Fiorito

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15:30-14:00 **COFFEE BREAK**

16:00-17:30 **Parallel Sessions Ambassadeur C, Ambassadeur A and Senateur**

Room Ambassadeur C

Tissue engineering and regeneration II

(Other applications)

16:00-16:15 IS-150 COLLAGEN-BASED SCAFFOLD FOR VASCULAR TISSUE ENGINEERING, Jason Habermehl

16:15-16:30 IS-107 A BIOMECHANICAL STUDY OF THE STRENGTH OF BIOLOGIC TISSUES USED IN SURGICAL TREATMENT OF PROLAPSE AND URINARY INCONTINENCE, Patrick Dubois

16:30-16:45 IS-98 USEFULNESS OF BIODEGRADABLE POLYMER FOR GINGIVAL RECESSION TREATMENT, Rouabhia Mahmoud

16:45-17:00 IS-152 HANGING BY A THREAD WITHOUT BEING LET DOWN: WHAT CAN ENGINEERS USEFULLY LEARN FROM SPIDER SILK?, Christopher Viney

17:00-17:15 IS-110 ELECTRICALLY CONDUCTIVE BIODEGRADABLE POLYMER COMPOSITE: STUDY ON IN VITRO NEURITE OUTGROWTH AND AXON REGENERATION IN RATS, Ze Zhang

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MONDAY

Room Sénateur

Biomechanical modeling

16:00-16:15 IS-20 EFFECT OF RESIDUAL STRESSES DUE TO CEMENT CURING IN CEMENTED HIP IMPLANTS: A NUMERICAL STUDY, Natalia Nuño

16:15-16:30 IS-39 ANALYZING HETEROGENEITY OF MECHANICAL PROPERTIES IN KNEE BONES BY COMPUTED TOMOGRAPHY, Anthony Au

16:30-16:45 IS-44 STRESS DISTRIBUTION IN THE CRUCIATE LIGAMENTS, Franz K. Fuss

16:45-17:00 IS-243 ENHANCING UNCERTAINTY TOLERANCE IN MODELLING CREEP OF LIGAMENTS USING FUZZY LOGIC, Mahmoud Reda Taha

17:00-17:15 IS-241 A MATHEMATICAL ANALYSIS OF FINGER PULLEY INJURIES, Franz K. Fuss

17:15-17:30 IS-200 NON-UNIFORM STRAIN DISTRIBUTION WITHIN RAT CARTILAGINOUS GROWTH PLATE UNDER UNIAXIAL COMPRESSION, Isabelle Villemure

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Room Ambassadeur A

Bionanomaterials

16:00-16:30 IS-247 CHARGE CONDUCTION IN NANO SCALE DNA AND BIOMATERIALS, Mahi Singh

16:30-16:45 IS-116 HIGH MOMENT MAGNETIC CARRIERS FOR BIOTECHNOLOGY, Klaus Wojczykowski

16:45-17:00 IS-248 A POSSIBLE PHASE TRANSITION IN SELF-ASSEMBLED DEOXYGUANOSINE BIO-MOLECULAR NANO-CRYSTALS, Mahi Singh

17:00-17:15 IS-249 HOPPING DISTANCE OF CHARGE CARRIERS IN DNA BASED NANO-DEVICES, Mahi Singh

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18:00-20:00 Room Ambassadeur B

Poster Session

Tuesday April 5th 2005

8:15-9:00 **Keynote Speaker:**
IS-XXX RECENT ADVANCES IN 3D ANALYSIS OF MUSCLESKELETICAL SYSTEM, Dr. Skalli

9:00-10:15 **Parallel Sessions Ambassadeur C, Ambassadeur A and Senateur**

Room Ambassadeur C
Orthopaedics biomaterials I

9:00-9:15 IS-128 BETA TITANIUM ALLOYS FOR BONE IMPLANTS, Shuji Hanada

9:15-9:30 IS-1 Ti-BASED MULTICOMPONENT COATINGS FOR LOAD-BEARING MEDICAL APPLICATIONS, Shtanski Dmitry

9:30-9:45 IS-143 CHARACTERISATION OF COLLAGEN-FIBRIL BASED EXTRA-CELLULAR MATRICES FOR TITANIUM IMPLANTS, Timothy Douglas

9:45-10:00 IS-190 EFFECTS OF THE STERILIZATION AND IMPLANTATION TIME ON THE PERFORMANCE OF UHMWPE HIP COMPONENTS, Anna Ferretto

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Room Sénateur
Polymer delivery system I / Biofilms (Materials and characterization)

9:00-9:15 IS-113 WHEY PROTEINS-BASED BIOFILMS: A PRECIOUS BIOMATERIAL FOR TISSUE ENGINEERING, Rouabhia Mahmoud

9:15-9:30 IS-123 MECHANICAL PROPERTIES OF PEG-BASED BIOARTIFICIAL HYDROGELS, Rony Snyders

9:30-9:45 IS-159 ENGINEERED BIOFILM ADHESION FORCES & DEVELOPMENT, Mary Parent

9:45-10:00 IS-158 SUBSTITUTED AMYLOSE MATRICES FOR ORAL DRUG DELIVERY, Louis Cartilier

10:00-10:15 IS-166 CROSS-LINKED HIGH AMYLOSE STARCH DERIVATIVES FOR DRUG RELEASE. DIFFUSION PROPERTIES, Alexandru Mateescu

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Room Ambassadeur A

Nanomaterials I (Processing)

9:00-9:15 IS-78 NANOENGINEERED POLYMER BASED COMPOSITE STIMULI-RESPONSIVE MICROCAPSULES, Gleb B. Sukhorukov

9:15-9:30 IS-135 COMPOSITE OF BIODEGRADABLE NANOFIBER WITH HYDROXYAPATITE, Yoshihiro Ito

9:30-9:45 IS-25 NANOFIBROUS SCAFFOLD OF ALGINATE AND CHITOSAN, Narayan Bhattarai

9:45-10:00 IS-95 PRINTING OF ADHESION, SPREADING, AND MIGRATION PEPTIDES ON PTFE FILMS TO PROMOTE ENDOTHELIALISATION, Gaétan Laroche

10:00-10:15 IS-47 DEVELOPMENT OF MINIMALLY INVASIVE DIAGNOSTIC AND THERAPEUTIC DEVICES USING MICROTECHNOLOGIES, Yoichi Haga

T U E S D A Y

10:15-10:40 **COFFEE BREAK**

10:40-12:10 **Parallel Sessions Ambassadeur C, Ambassadeur A and Senateur**

Room Ambassadeur C

Ligaments and Joint evaluation

10:40-10:55 IS-52 EVALUATION OF RECONSTRUCTIVE SURGERY USING ARTIFICIAL LIGAMENT IN 48 ACUTE KNEE DISLOCATIONS, Eros Junior

10:55-11:10 IS-228 DIAGNOSING FRACTURES WITH OSTEOPHONY; AN EXPERIMENT IN GOAT TIBIAE, Peter de Leeuw

11:10-11:25 IS-221 FEASIBILITY AND RELIABILITY OF A NEW BIOMECHANICAL APPROACH FOR THE FUNCTIONAL ASSESSMENT OF THE KNEE OSTEOARTHRITIS: PRELIMINARY RESULTS IN AN ASYMPTOMATIC ELDERLY POPULATION, Karine Boivin

11:25-11:40 IS-230 VIENNA - KNEE JOINT SIMULATOR FOR BIOMECHANIC IN VITRO TESTING, Gobert Skrbensky

11:40-11:55 IS-231 COMPARISON OF TWO FINITE HELICAL ALGORITHMS ON THE DETERMINATION OF THE FINITE SCREW AXIS OF THE HUMAN KNEE JOINT, Hakim Mecheri

11:55-12:10 IS-261 THE BIOMECHANIC TESTING OF THE INSERTION POINT AFTER SUPRASPINATUS RECONSTRUCTION, Gobert Skrbensky

Room Sénateur

Polymer delivery system II
(Nano-micro devices)

10:40-10:55 IS-53 NANOENGINEERED POLYMER CAPSULES: TOOLS FOR DETECTION, CONTROLLED DELIVERY AND SITE SPECIFIC MANIPULATION, Wolfgang J. Parak

10:55-11:10 IS-60 LIPID NANOCAPSULES FOR CANCER CHEMOTHERAPY, Mohamed Nabil Khalid

11:10-11:25 IS-111 CHITOSAN/B-LACTOGLOBULIN CORE-SHELL NANOPARTICLES AS NUTRACEUTICAL CARRIERS, Lingyun Chen

11:25-11:40 IS-186 POLYPLEX NANOPARTICLES FOR TNF-A INHIBITION AND APOPTOSIS INDUCTION IN MACROPHAGES, Fatiha Chellat

11:40-11:55 IS-133 BIODEGRADABLE DDS CHIP, Yoshihiro Ito

11:55-12:10 IS-244 HYDROGELS AND DEGRADABLE POLYMERS DERIVED FROM BILE ACIDS AS CONTROLLED RELEASE SYSTEMS, Julian X.X. Zhu

TUESDAY

Room Ambassadeur A

Nanomaterials II
(Characterization and modification)

10:40-10:55 IS-195 INDUSTRIAL APPLICATION OF TOF-SIMS TO MONITOR BIOMATERIAL SURFACES, Reema Chatterjee

10:55-11:10 IS-250 SURFACE ANALYSIS OF AN ENCAPSULATION MEMBRANE AFTER ITS IMPLANTATION IN GOETTINGEN MINI-PIGS, Marie Henry-Iker

11:10-11:25 IS-236 NANOSCALE CHARACTERISATION OF CARBON NANOTUBE BASED BIOMATERIALS, Stefania Polizu

11:25-11:40 IS-90 NANOSCALE TOPOGRAPHIC FEATURES TEMPORALLY REGULATE THE ACTIVITY OF THE SMALL GTPASE, RHO, IN CORNEAL EPITHELIAL CELLS AND COOPERATE WITH RHO TO AFFECT CELL ELONGATION AND ALIGNMENT RESPONSES, John Foley

11:40-11:55 IS-134 MICROARRAY IMMOBILIZATION OF ALLERGENS FOR ALLERGY DIAGNOSIS, Yoshihiro Ito

11:55-12:10 IS-136 MICROPATTERNING OF VEGF FOR CULTURE OF VASCULAR ENDOTHELIAL CELLS, Yoshihiro Ito

12:10-12:45 **Keynote lecture :**
IS-XXXTHE BENEFITS OF DENTAL IMPLANTS, Dr. Poitras

12 :45-14 :00 **LUNCH**

14:00-15:30 **Parallel Sessions Ambassadeur C, Ambassadeur A and Senateur**

Room Ambassadeur C

New composites biomaterials
(Processing and characterization)

14:00-14:15 IS-188 CYTOTOXICITY AND PROINFLAMMATORY STUDY OF CERAMICS COMPOSITES, Laura Épure

14:15-14:30 IS-132 TITANIUM / APATITE WOLLASTONITE COMPOSITES: PREPARATION, CHARACTERISATION AND BIOACTIVITY EVALUATION, T.R. Rama Mohan

14:30-14:45 IS-215 NANOCOMPOSITES OF HYDROXY APATITE WITH CHEMICALLY DISINTEGRATED SILK FIBROIN FROM POWDERED COCOON, Mamoru Senna

14:45-15:00 IS-84 BIOMIMETIC POLYMER COMPOSITES FOR ORTHOPEDIC IMPLANTS, Martin N. Bureau

15:00-15:15 IS-174 VIBRATIONAL PROPERTIES OF ADAPTIVE POLYMER MATRIX COMPOSITES WITH EMBEDDED SMA WIRES, Magdalena Wojtan

Room Sénateur

Corrosion of biomaterials

14:00-14:15 IS-36 A COMPARISON OF THE CORROSION RESISTANCE OF DIN W NR 1.4970 AND 316L STAINLESS STEELS FOR BIOMEDICAL APPLICATIONS, Maysa Terada

14:15-14:30 IS-37 THE EFFECT OF HYDROGEN PEROXIDE ON THE ELECTROCHEMICAL BEHAVIOUR OF TI-13NB-13ZR ALLOY IN HANK´S SOLUTION, Isolda Costa

14:30-14:45 IS-198 EFFECT OF FLUORIDE CONCENTRATION ON THE CORROSION RESISTANCE OF NICKEL-TITANIUM DENTAL ORTHODONTIC ARCHWIRES FROM DIFFERENT MANUFACTURERS, Her-Hsiung Huang

14:45-15:00 IS-197 CORROSION RESISTANCE OF TITANIUM-CONTAINING DENTAL ORTHODONTIC ARCHWIRES: EFFECTS OF PLASMA IMMERSION ION IMPLANTATION SURFACE TREATMENT, FLUORIDE CONCENTRATION, AND ELASTIC LOADING, Her-Hsiung Huang

15:00-15:15 IS-73 THE CORROSION PROPERTIES OF IMPLANTED MATERIALS WITH VARIOUS PROTECTIVE COATINGS, Vasyl Rashkovan

15:15-15:30 IS-217 STATUS ON THE CORROSION BEHAVIOUR OF BIOMATERIALS: (I) EFFECT OF THE MATERIAL PROPERTIES, Oumarou Savadogo

TUESDAY

Room Ambassadeur A

Nanodevices

14:00-14:15 IS-7 MEMS CAPACITIVE FORCE SENSORS AND THEIR BIOLOGICAL APPLICATIONS, Yu Sun

14:15-14:30 IS-160 VOLUME PHASE TRANSITION HYDROGELS FOR ULTRASONIC SENSITIVE DISPERSED MICRO/NANO-SENSORS, David H. Burns

14:30-14:45 IS-252 NANOSTRUCTURED TITANIUM FOR USE IN NANOMEDECINE, Caroline Bernard

14:45-15:00 IS-253 NANO-BIOTECHNOLOGY: THE DESIGN OF BETTER TISSUE ENGINEERING MATERIALS, Thomas J. Webster

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15:30-16:00 **COFFEE BREAK**

16:00-17:30 **Parallel Sessions Ambassadeur C, Ambassadeur A and Senateur**

Room Ambassadeur C
Sterilization of medical devices

16:00-16:15 IS-109 MEDICAL DEVICE DESIGN AND MATERIAL CONSIDERATIONS FOR EFFECTIVE CLEANING AND STERILIZATION, Jim Tatalick

16:15-16:30 IS-79 EFFECTIVENESS OF PRE-STERILIZATION CONDITIONING PROTOCOLS FOR INTRAVASCULAR CATHETERS RE-USE SURFACE AND MICROBIOLOGY ANALYSIS, Francesco Tessarolo

16:30-16:45 IS-234 ROLE OF O IN PLASMA STERILIZATION AT REDUCED PRESSURE : RECENT RESULTS AND NEW HYPOTHESES, Bachir Saoudi

16:45-17:00 IS-103 NON-THERMAL PLASMA AS STERILISATION AND COATING TECHNIQUE, Christian Schrader

TUESDAY

Room Sénateur
Nitinol, basic research and applications

16:00-16:30 IS-210 NITINOL, 15 YEARS OF MEDICAL DEVICES AND COUNTING, Philippe Poncet

16:30-16:45 IS-58 APPLICATION OF SUPERELASTIC NITI SPRINGS FOR MANDIBLE ELONGATION AND CORRECTIVE OPERATION OF SKULL, Henryk Morawiec

16:45-17:00 IS-71 NITI SUTURES HAS SUITABLE BIOCOMPATIBILITY AND STRENGTH PROPERTIES FOR TENDON SURGERY, Jorma Ryhänen

17:00-17:15 IS-229 ON THE THERMODYNAMICAL MODELLING OF PHASE TRANSFORMATION IN SHAPE MEMORY ALLOYS, Wael Zaki

Room Ambassadeur A

Spine Biomechanics

16:00-16:15 IS-99 SPINAL ROD CONTOURING AND FATIGUE PROPERTIES OF TITANIUM AND STAINLESS STEEL, Hassan Serhan

16:15-16:30 IS-100 ROD BENDING TECHNIQUE DOES NOT AFFECT THE FATIGUE PERFORMANCE OF TITANIUM SPINAL IMPLANTS IN KYPHOSIS, Hassan Serhan

16:30-16:45 IS-240 INFLUENCE OF IMPLANT MATERIAL ON EXTRAFORAMINAL LUMBAR INTERBODY FUSION, Franz K. Fuss

16:45-17:00 IS-171 RIB SHORTENING OR LENGTHENING TO PRODUCE GROWTH MODULATION OF THE SCOLIOTIC SPINE, Carl-Éric Aubin

17:00-17:15 IS-180 BIOMECHANICAL MODEL INTEGRATING VERTEBRAL GROWTH MODULATION AND MUSCLE FOR THE STUDY OF SPINAL DEFORMITIES IN DUCHENNE MUSCULAR DYSTROPHY, Carl-Éric Aubin

18:30-22:00 **Conference Banquet – “Le Cabaret du Roy”**

Wednesday April 6th 2005

8:00-8:30 **Keynote Speaker:**
IS-242 THE BIO-ARTIFICIAL ENDOCRINE PANCREAS: CHALLENGES AND PROMISES, J. P. Hallé

8:30-9:00 **Keynote speaker:**
IS-XXX MICRO-ENCAPSULATION OF ISLETS OF LANGERHANS : BIOCOMPATIBILITY AND BIOPERFORMANCE, P. De Vos

9:00-10:30 **Parallel Sessions Ambassadeur C, Ambassadeur A and Senateur**

Room Ambassadeur C
Orthopaedics biomaterials II
(Osteointegration, evaluation and processing)

9:00-9:15 IS-216 ORTHOPAEDIC SURGERY UTILIZING THE COMBINATION OF REVERSE ENGINEERING AND RAPID PROTOTYPING, Dong-Gyu Ahn

9:15-9:30 IS-126 DIRECT FABRICATION OF CUSTOM DESIGNED ORTHOPEDIC IMPLANTS USING ELECTRON BEAM MELTING TECHNOLOGY, Ola L.A. Harrysson

9:30-9:45 IS-26 POLYMERIZATION OF PMMA OF AN IDEALIZED HIP IMPLANT: EXPERIMENTAL RESULTS, Dominic Plamondon

9:45-10:00 IS-21 EVALUATION OF BONE CEMENT INFILTRATION WITHIN VERTEBRA USING MORPHOLOGICAL PARAMETERS, Florent Chandelier

10:00-10:15 IS-233 BIOMECHANICAL ANALYSIS OF DIFFERENT OPERATIVE TECHNIQUES FOR COMPLETE ACROMIOCLAVICULAR JOINT DISRUPTIONS, Christian Fialka

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Room Sénateur

Tissue engineering and regeneration III (Scaffold processing)

9:00-9:15 IS-156 SOLID FREEFORM FABRICATION OF BONE AND VASCULAR TISSUE USING DROP-ON-DEMAND PRINTERS, Thomas Boland

9:15-9:30 IS-172 RAPID PROTOTYPING OF BIOLOGICAL MATERIALS FOR IN-SPACE APPLICATIONS, Nathalie C. Frazier

9:30-9:45 IS-119 CUSTOMISED TISSUE SCAFFOLDS USING INTEGRATED CAD SYSTEM, May Win Naing

9:45-10:00 IS-178 FABRICATION AND PERFORMANCE MODELLING OF 3D PLOTTED OSTEOCHONDRAL SCAFFOLDS FOR TISSUE ENGINEERING, Caroline Auclair-Daigle

10:00-10:15 IS-83 FABRICATION OF POROUS SCAFFOLDS BY A COMBINATION OF CO-CONTINUOUS BLEND OF TWO BIODEGRADABLE POLYMERS AND SALT PARTICULATE LEACHING, Joël Reignier

10:15-10:30 IS-94 DEVELOPMENT OF BIOACTIVE SURFACES TO CONTROL ENDOTHELIAL CELL BEHAVIOUR, Emmanuelle Monchaux

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Room Ambassadeur A

Bioceramic materials

9:00-9:15 IS-41 COMPARISON OF THE IN VIVO BONY REMODELLING OF TWO SYNTHETIC BIOMATERIALS : ARAGONITE 55% AND ARAGONITE 55% WITH ACTIVE SUBSTANCE, Hassane Oudadesse

9:15-9:30 IS-245 RANDOMISED TRIAL COMPARING ALUMINA-ALUMINA TO METAL-POLYETHYLENE BEARING SURFACES IN TOTAL HIP ARTHROPLASTY, Pascal-André Vendittoli

9:30-9:45 IS-222 CALCIUM PHOSPHATE THIN FILM FOR BIOMEDICAL APPLICATIONS, Ari Ide-Ektessabi

9:45-10:00 IS-102 THE USE OF ZEOTILE-4 AS A NEW EXCIPIENT IN THE FORMULATION OF SOLID DISPERSIONS TO IMPROVE THE DISSOLUTION PROPERTIES OF POORLY SOLUBLE DRUGS, Jan Van Humbeeck

10:00-10:15 IS-147 DAMAGE MODES IN ALL-CERAMIC CROWNS, Brian Lawn

WEDNESDAY

10:30-11:00 **COFFEE BREAK**

11:00-12:15 **Parallel Sessions Ambassadeur C, Ambassadeur A and Senateur**

Room Ambassadeur C
Locomotion system analysis

11:00-11:15 IS-89 IN VIVO MRI ANALYSIS OF THREE-DIMENSIONAL MENISCAL AND TIBIOFEMORAL KINEMATICS IN ACL-DEFICIENT KNEES, Sandra Shefelbine

11:15-11:30 IS-203 3D BIOMECHANICAL MEASUREMENT OF SHOCK LOADING DURING TREADMILL WALKING: RELIABILITY IN AN ELDERLY POPULATION, Katia Turcot

11:30-11:45 IS-148 GAIT PATTERN CLASSIFICATION OF HEALTHY SUBJECTS BASED ON KINEMATIC PARAMETERS, Yue Li

11:45-12:00 IS-205 COMPARING THREE ATTACHMENT SYSTEMS USED TO DETERMINE KNEE KINEMATICS DURING GAIT, Ingrid Südhoff

12:00-12:15 IS-201 REPRODUCIBILITY OF 3D KNEE KINEMATICS MEASURED BY A NEW THREE-DIMENSIONAL KNEE ANALYZER, Alexandre Fuentes Dupré

Room Sénateur
Neuroprosthesis and electronic devices

WEDNESDAY

11:00-11:15 IS-118 ELECTRODE-TISSUE INTERFACE (ETI): MODELING AND EXPERIMENTAL MEASUREMents, Yassir Laaziri

11:15-11:30 IS-226 MODELING INDUCTIVE POWER TRANSFER REQUIRED TO SUPPLY IMPLANTABLE DEVICES, Mohamed Sehil

11:30-11:45 IS-225 MODELING POWER BUDGET REQUIREMENTS TO DESIGN OPTIMIZED IMPLANTABLE STIMULATOR, Saeid Hashemi

11:45-12:00 IS-19 A BIOCOMPATIBLE PMMA ENCAPSULATED VISION PROTHESIS FOR A SILICON RETINA, Luis Nino-de-Rivera

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Room Ambassadeur A

Cell Encapsulation for medical applications

11:00-11:15 IS-12 BIOENCAPSULATED ANIMAL CELLS AND BIOPOLYMERS : PREPARATION AND APPLICATIONS IN BIOMEDICAL FIELDS, Elena Markvicheva

11:15-11:30 IS-35 MIN6 CELL ENCAPSULATION USING NOVEL THERMALLY-INDUCED GELLABLE POLYMERS, Hong Fang Lu

11:30-11:45 IS-169 A NEW ROLE FOR NOVEL MICROCAPSULES: PROTECTING THE HOST FROM THE RISK OF MALIGNANT TRANSFORMATION AND DISSEMINATION OF MODIFIED CELLS, Julie Dusseault

11:45-12:00 IS-173 NOVEL IMMUNOISOLATORY MEMBRANES FOR A BIOARTIFICIAL PANCREAS, Joseph P. Kennedy

12:00-12:15 IS-232 A PHYSICO-CHEMICAL MODEL OF ALGINATE-POLY(L-LYSINE) MICROCAPSULES USED FOR ISLET TRANSPLANTATION, Susan-Kimberly Tam

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12:15-12:30 STUDENTS AWARDS CEREMONY AND CLOSING REMARKS Room Ambassadeur B

WEDNESDAY

Poster Session

April 4th 2005 18:00-20:00

Room **Ambassadeur B**

#05 A BIOMECHANICAL STUDY: EFFECTIVENESS OF A TRABECULAR METAL AUGMENTED CONSTRUCT IN LATERAL TIBIAL PLATEAU DEPRESSED FRACTURES (AO TYPE B2.2), Fouad Zhim

#18 EXPERIMENTAL STUDY ON THE POLYMERIZATION OF BONE CEMENT: EFFECT OF CURING CONDITIONS, Agnieszka Madrala

#22 INJECTION BIOMECHANICS OF BONE CEMENTS USED IN VERTEBROPLASTY, Gamal Baroud

#23 INTRA-VERTEBRAL PRESSURE IN VERTEBROPLASTY, Gamal Baroud

#24 INVESTIGATION OF DIRECTIONAL PERMEABILITY OF HUMAN VERTEBRAL CANCELLOUS BONE FOR CEMENT INFILTRATION, Gamal Baroud

#28 BIOABSORBABLE RODS WITH ANTI-INFLAMMATORY DRUG RELEASE PROPERTIES, Nureddin Ashammakhi

#29 USE OF BIOABSORBABLE DEVICES IN HAND FIXATION, Nureddin Ashammakhi

#30 NEW SUTURE FOR REPAIR OF ACHILLES TENDON, Nureddin Ashammakhi

#31 DEVELOPMENT OF MULTIFUNCTIONAL ANTIBIOTIC RELEASING TACKS, Nureddin Ashammakhi

#32 RESULTS OF MULTICENTER EU STUDY ON USE OF BIOABSORBABLE DEVICES IN CRANIOFACIAL SURGERY, Nureddin Ashammakhi

#33 ADVANCED MULTIFUCNTIONAL DRUG RELEASING BIOMATERIALS, Nureddin Ashammakhi

#38 STERILIZATION BY O2 GAS PLASMA: A STUDY OF ITS EFFECTIVENESS AGAINST BACILLUS SUBTILIS VAR. NIGER ATCC 9372 SPORES INOCULATED IN MEDICAL DEVICES, Débora Cristina Oliveira

#42 MECHANICAL PROPERTIES, POROSITY AND AN IN VITRO STUDIES OF GEOPOLYMERS/CALCIUM-PHOSPHATES EXPERIMENTED AS BIOMATERIALS, Hassane Oudadesse

#46 RESIDUAL MONOMER RELEASE FROM DENDRIMER/METHYL METHACRYLATE/ACETOACETOXYETHYL METHACRYLATE COPOLYMER, Eeva K. Viljanen

#49 THE USE OF TIME-OF-FLIGHT SIMS TO IMAGE AND CHARACTERIZE SELDI PROTEIN CHIP SURFACE PREPARATION FOR SERUM PROFILING, Haijian Chen

#51 ACUTE KNEE DISLOCATION: 2 AND 7 YEAR FOLLOW-UP AFTER RECONSTRUCTION OF ACL AND PCL USING ARTIFICIAL LIGAMENTS, Eros De Oliveira Junior

#61 EXOTHERMAL CHARACTERISTICS OF FIBER-REINFORCED POROGEN FILLER MODIFIED ACRYLIC BONE CEMENT, Mervi Puska

#63 THE "IN VIVO" STUDIES OF GEOPOLYMERS/CALCIUM PHOSPHATE APPLIED AS BIOMATERIALS, Hassane Oudadesse

#69 SYNTHESIS AND RESEARCH OF IRON-OXYGEN NANOSTRUCTURES FOR THE DIRECTED TRANSPORT OF MEDICAL PREPARATIONS, Elena Zemtsova

#70 BMP-BIOCORAL IMPLANT IN THE TREATMENT OF ULNAR NONUNIONS, Jorma Ryhänen

#74 IN VITRO AND IN VIVO EVALUATION OF CHONDROITIN SULFATE-CHITOSAN COMPOSITE SCAFFOLDS FOR TISSUE REGENERATION, Chih-Kang Peng

#75 PREPARATION AND CHARACTERIZATION OF CHITOSAN/GELATIN/CTPP NANO-COMPOSITES FOR USED AS ARTIFICIAL EXTRACELLULAR ATRICES, Shin-Shing Shyu

#76 ANALYSIS OF THE MECHANICAL PROPERTIES OF A VASCULAR MEDIA RECONSTRUCTED IN VITRO BY THE SELF-ASSEMBLY APPROACH USING HUMAN MESENCHYMAL STEM CELLS, Robert Gauvin

#87 PLASMA STERILIZATION AND SURFACE MODIFICATION OF THERMOLABILE MATERIALS, Helmut Halfmann

#93 SUBSTRATE EFFECTS ON THE CHARACTERISTICS OF FLUOROCARBON PLASMA?POLYMER COATING, Diego Mantovani

#97 A NEW APPROACH FOR MICROPATTERNING, Gaétan Laroche

#101 ROD BENDING TECHNIQUE AFFECTS THE FATIGUE PERFORMANCE OF TITANIUM SPINAL IMPLANTS, Hassan Serhan

#108 FIRST APPROACH OF A 3D MECHANICAL MODEL OF THE VAGINA, Patrick Dubois

#115 EVALUATION OF TIBIAL INCLINATION WHILE RUNNING AND WALKING WITH AND WITHOUT FOOT ORTHOTICS, Leslie-Ann Stewart

#117 BIOFILM FORMATION OF CANDIDA DUBLINIENSIS ON DENTAL ACRYLIC, Rosário Oliveira

#122 ENGINEERING POROSITY OF NITI - TIC COMPOSITES USING A COMBUSTION SYNTHESIS TECHNIQUE, Douglas E. Burkes

#124 NEW STRATEGIES FOR VASCULAR SUBSTITUTES: PRESSURE EFFECTS ON SMOOTH MUSCLE CELLS IN A THREE-DIMENSIONAL COLLAGEN MATRIX, Francesca Boccafoschi

#127 IRON-BASE ALLOY COULD BE A VALID CANDIDATE FOR BIODEGRADABLE STENT MATERIAL, Hendra Hermawan

#130 BIODEGRADATION, BONE-BONDING BEHAVIOR AND MECHANICAL RELIABILITY OF VARIOUS CALCIUM PHOSPHATE MATERIALS IN A PHYSIOLOGICAL ENVIRONMENT, Hyun-Seung Ryu

#137 BEHAVIOURS OF MC3T3-E1 CELLS ONTO B-GLUCAN-COATED PLGA FILMS, Jong-Chul Park

#138 EVALUATION OF GROWTH AND MIGRATION IN BETA-GLUCAN-TREATED HUMAN DERMAL FIBROBLAST, Jong-Chul Park

#139 STERILISATION OF BACTERIA AND YEAST USING ALTERNATING CURRENT, Jong-Chul Park

#140 STERILISATION EFFICACY OF MICROWAVE-INDUCED ARGON PLASMA SYSTEM AGAINST E. COLI AND MRSA, Jong-Chul Park

#141 THE EFFECT OF B-CALCIUM PYROPHOSPHATE CERAMICS (BONGROS®-CP) ON OSTEOGENIC ABILITY OF MG-63 CELL CULTURE IN-VITRO, Hyun-Seung Ryu

#142 CALCIUM PHOSPHATE CERAMICS POSSIBLE SCAFFOLD MATERIAL IN VIVO AND IN VITRO, Liga Berzina

#144 AMINOPROPYL-SILICATE/ALGINATE MICROCAPSULE FOR BIOARTIFICIAL PANCREAS, Shinji Sakai

#145 DEVELOPMENT OF SUBSIEVE-SIZE CAPSULES FOR CELL THERAPY, Shinji Sakai

#149 EFFECT OF MAGNESIUM ON THE SINTERING, PHASE TRANSITION, AND BIOACTIVITY OF WOLLASTONITE CERAMICS, Jun-Hyuk Seo

#154 USE OF NANOTECHNOLOGIES FOR SYNTHESIS OF DENS ALUMINA CERAMIC, Rudolfs Cimdins

#157 THE EVALUATION OF CARBOXYMETHYLAMYLOSE FOR ORAL DRUG DELIVERY SYSTEMS : FROM LABORATORY TO PILOT SCALE, Louis Cartilier

#164 POROSITY VARIATION IN NITI-TIC COMPOSITES PRODUCED BY COMBUSTION SYNTHESIS: EFFECTS ON APATITE FORMATION IN SIMULATED BODY FLUID, Guglielmo Gottoli

#167 LAGRANGEAN APPROACH IN HANAVAN BIOMECHANICAL MODEL, Paulo César Peirera

#168 SYNTHETIC BIOMATERIAL FOR MEDICAL APPLICATION, Fouad Dabbarh

#170 ALGINATE PURIFICATION AND IMMUNOISOLATING DEVICES: AN UNRESOLVED PROBLEM, Julie Dusseault

#181 BIOMECHANICAL STUDY OF PEDICLE GROWTH ASYMMETRY AS A CAUSE OF ADOLESCENT IDIOPATHIC SCOLIOSIS, Carl-Éric Aubin

#187 BIOMECHANICAL MODELING OF THE SCOLIOTIC DEFORMATION PROCESS IN THE PINEALECTOMIZED CHICKEN: A FEASIBILITY STUDY, Carl-Éric Aubin

#189 REPLACEMENT OF SPHINCTERS USING SMA ACTUATORS, Yun Luo

#191 NOVEL TYPES OF SILK FIBROIN NONWOVENS AS POSSIBLE BIOMATERIALS: MECHANICAL PROPERTIES AND IN VITRO BIOCOMPATIBILITY, Maria Cristina Tanzi

#199 EFFECT OF TITANIUM SURFACE ROUGHNESS AND CELL MORPHOLOGY ON THE INITIAL OSTEOBLAST-LIKE CELL ADHESION ON GROUND TITANIUM, Her-Hsiung Huang

#202 GENDER DIFFERENCES IN THREE-DIMENSIONAL KNEE JOINT TRANSLATIONS DURING GAIT, Luis Fernando Requiao

#204 EFFECT OF FREEZING AND THAWING IN SHOULDER KINEMATICS ANALYSIS, Annie Levasseur

#206 OBSERVATION OF IN VITRO HUMAN OSTEOBLASTS AND CHONDROCYTES GROWTH ON BIOSILICON DISC, Ji Tuan Zhang

#208 OPTICAL PLANAR BIOSENSORS BASED SILICA/GOLD NANOSHELLS, Fatima Zohra Benkabou

#209 BIOFILMS INVESTIGATION: SURFACE CHARACTERIZATION OF STREPTOCOCCUS MUTANS GROWN ON POLYETHYLENE AND BETA-TITANIUM, E.S. Najar

#213 DEVELOPMENT OF PERSONALISED IMPLANT FOR HIGH TIBIAL OPENING WEDGE: COMBINATION OF SOLID FREEFORM FABRICATION WITH COMBUSTION SYNTHESIS PROCESSES, Fouad Zhim

#214 HUMAN MESENCHYMAL STEM CELLS CULTURED ON POLYMER SUBSTRATES SURFACE-MODIFIED BY GLOW DISCHARGE PLASMA: SELECTIVE INHIBITION OF TYPE X COLLAGEN, Fackson Mwale

#219 AEROSOL SYNTHESIS AND GROWTH OF MAGNETIC IRON NANOPARTICLES, Ivan Vahhi

#224 INFLUENCES OF MECHANICAL AND ELECTROMAGNETIC STRESSES ON SINGLE NEURONS, Ari Ide-Ektessabi

#227 PHOTO-POLYMERIZING STYRENATED GELATIN AS A SCAFFOLD FOR ARTICULAR CHONDROCYTES TRANSPLANTATION, Atsuoto Hoshikawa

#235 SURFACE MODIFICATION TO IMPROVE HEMO/TISSU COMPATIBILITY OF POLYLACTIC ACID CARDIOVASCULAR DEVICES, Tahmer Sharkawi

#237 FINITE ELEMENT ANALYSIS OF SHAPE MEMORY ALLOY BONE STAPLE, Kaouthar Saïdane

#238 STUDY OF NON STATIONARY MODE FLOW OF AN ABDOMINAL AORTIC ANEURYSM, Kaouthar Saïdane

#239 MECHANICS AND FINITE ELEMENT MODEL OF THE MIDDLE EAR, Franz K. Fuss

#246 SYNTHESE DE LA N-VINYLBENZYLIDENE-2-AMINO HIAZOLE ET L'EFFET DE SES COPOLYMERISATIONS AVEC LE N,N-DIMETHYLACRYLAMIDE SUR L'EFFET RETARD DU PRINCIPE ACTIF, Soumia Chirani

#254 CONSEQUENCES OF NON-THERMAL HUMID AIR GLIDING ARC PLASMA DISCHARGE ON PHYSICO-CHEMICAL PROPERTIES OF SURFACE MATERIALS AND ON BACTERIAL ADHESION AND DESTRUCTION, Jean-Omer Kamgang Noubissi

#255 RECONSTRUCTION OF THE ELASTICITY OF SOFT TISSUE TUMORS USING ANALYTICAL INCLUSION MODELS: THEORY AND SIMULATION, Eva Maciejko

#257 PBT MICROTUBES FOR MICRO-CATHETERS IN MINI-INVASIVE PROCEDURES, E. Locatelli

#258 COMPARISON BETWEEN EXPLANTED AND SIMULATOR-TESTED ARTIFICIAL LUMBAR INTERVERTEBRAL DISCS, Frank Chan

#259 A COMPARISON BETWEEN THE MECHANICAL PROPERTIES AND MICROSTRUCTURES OF CEMENT FORMED FROM PYROPHOSPHORIC AND ORTHOPHOSPHORIC ACIDS, Liam M. Grover