



## Detailed conference program:

### Day 1 - May the 12th

#### AM

9.15 AM - 10.45 AM Plenary session 1: **Market, Strategy and Contract manufacturing issues**

Chairman: Ali Madani, General Manager, Avicenne Développement

#### **Ali Madani, General Manager, Avicenne Développement**

Orthopaedic market and Contract Manufacturing trends

- 2010 Orthopaedic market overviews: hip, knee, shoulder, trauma, spine
- Trends by 2015 and 2020
- Contract manufacturing strategy and heavy "trends"

#### **Jean-Louis Colders, Chief Executive Officer, LISI Aerospace**

Added-value of a contract in the relationship OEM-Contractor

- Today's business relationship
- Expectations of the parties
- Limitations and opportunities
- Content of the contract

Key note speaker - to be announced

#### Coffee Break

11.15 AM - 12.30 AM Plenary session 2: **Orthopaedic International Markets**

Chairman: Ali Madani, General Manager, Avicenne Développement

#### **Jitendra M. Hegde, Managing Director, Biorad Medysis PVT. LTD**

Indian Health care scenario in the following aspects

- Overview and trends (specific to orthopaedic industry)
- Market drivers
- Compliance issues

#### **Laurentiu Gogan, Vice President and Executive Director, Biotechnic Romania**

The Eastern Europe joint replacement market

- Short global overview
- Romanian market – history, key figures, products and major players
- Regulatory and reimbursement issues

#### Lunch

## PM

2 PM - 3.30 PM 2 Parallel Slots:

### Slot 1: **Reimbursement & Regulatory Issues**

Chairman: Laure Le Calvé, Avocat au Barreau de Paris, Beslay + Le Calvé AARPI

#### **Sylvia Germain, Director of Reimbursement/ Funding Department, MedPass International**

Market Access & Reimbursement overview in major countries in Europe

- Reimbursement environment in Europe for orthopaedics implants,
- Comparison and current situation in major countries in Europe,
- Strategies for maximising market access.

#### **Laure Le Calvé, Avocat au Barreau de Paris, Beslay + Le Calvé AARPI**

French rules concerning relationships between business and health care professionals and implants traceability

- Relationship between health businesses and health care professionals in the field of Implants development
- Ownership of the invention: what are the rules?
- Claims of ownership made by hospital: what are the principles?
- Traceability of implants: what is the liability of the manufacturer? Consignment agreements: what are the risks ?

#### **Tim Lawton, Director, C-REG Medical**

FDA changes have arrived and are still arriving !

- Changes and more changes ... what impact is it having on European Manufacturers
- Is it clearer now what is needed in the 510k ?
- So do we know what to do when a predicate device is not clearly available?
- Are the delays & costs increasing or maybe decreasing ?
- What remains to be done & what can we hope for ?

### Slot 2: **Coating**

Chairman : Pierfrancesco Robotti, R&D Manager, Eurocoating Spa

#### **Emanuele Magalini, R&D Project Manager, Eurocoating**

Additive Manufacturing Technologies for implants production

- Additive Manufacturing technologies can now be used for serial production.
- Eurocoating developed both the laser and EBM: material mechanical and biological behavior, design possibilities.
- A validation process of the two technology was done: optimize working parameters, define the post-treatments, cleaning and surface modifications

#### **Axel Baumann, Director of Innovation Management, DOT GmbH**

Antimicrobial coatings – A new approach to infection containment

- Increasing infection rates are becoming a major challenge for trauma and joint surgery
- DOT is in the process of developing different anti-microbial coatings for trauma and orthopaedic implants.
- The presentation will focus on current project results regarding the enhancement of anodized, hard ceramic and CaP coated surfaces with antimicrobial properties

**Aurélien Bignon, Directeur, Medical Lab (Medical Group)**

Participating in the elaboration of International Standards – a Vital issue for Implants Manufacturers. Example of our work on coating standards

- Why participating in the elaboration of standards is a strategic issue?
- How works the elaboration of standards?
- Our experience in the elaboration of standards: 3 future international standards on implant coatings

**Antonio Santana, Product Manager Medical Segment, Ionbond**

Thin Film Coatings: a smart way of tailoring surfaces of implants and instruments

- Role of Roughness prior for application of Diamond Like Carbon thin film coatings
- Relationships between scratch, tribo test and adhesion of thin film coatings.
- Choice of thin film coatings for implants in function of exposed loads and displacement cycles
- Color Coding news

**Coffee Break**

4.30 PM - 6 PM 2 Parallel Slots:

Slot 3: **Raw materials**

Chairman: to be announced

**Mark Brady, Product Development Project Manager, Invibio Ltd**

New Dimensions for PEEK in Implant Design:

- Lightweight radiolucent materials for trauma plates and intramedullary nails
- Thin walled acetabular cups
- Testing PEEK-based material suitability for hemiarthroplasty

**Marc Knebel, Global Market Development Medical, Evonik Degussa GmbH**

VESTAKEEP PEEK for implants, what is next?

- Biocompatibility
- Technologies
- Competencies

**Colin McCracken, Director – Product and Market Development, Reading Alloys Inc - an Ametek Company**

Production of Medical Grade Titanium Powders using the Hydride-Dehydride Process.

- Impact of raw materials on morphology/chemistry of Titanium powders, i.e titanium sponge, ingot and wrought feed stock.
- Manufacturing of medical grade titanium powder.
- Production of low oxygen Ti-6Al-4V medical grade titanium powders.
- Future developments in Titanium powder production

**Danie de Wet, Vice President Technology and Business Development, Deloro Stellite Group**

Newly developed CoCr alloys with improved wear properties

- Wear characteristics of CoCr alloys
- Metal-on-metal wear test results in simulated body fluid of the new alloys in comparison to the widely used F75
- Biocompatibility of metallic wear debris of these alloys utilizing an in-vitro model for the testing of particle induced inflammation

## Slot 4: **Manufacturing**

Chairman: Christopher Delporte, Group Editor, Medical Product Outsourcing | Orthopedic Design & Technology | MedicalDeviceNow

### **Fleurine Riou, Project Manager, Visuol Technologies**

Implants inspection: safety, productivity and money gains

- The end of the subjective control: be easy in your mind!
- The equipment: objective & automated control based on measurements
- The combine of the polishing process and the control: outlook

### **Benoît Julien, Vice-président R&D, Maetta Sciences**

A Novel Process for Rapid Prototyping and Scalable Manufacturing by Powder Injection Molding for Medical Applications:

- A manufacturing platform developed to suit the needs of the medical device market.
- Ideally suited to the production of small, complex shaped parts made of materials typically seen in implant and instrument applications.
- This scalable technology simplifies part qualification with rapid and functional prototypes that can be directly scaled to full production volumes.

### **Clémence Demangel , R&D on Biomaterials, CRITT-MDTS**

Innovative processes of manufacturing implants and surface post-treatments

- Metal Injection Moulding (MIM), a near-net shape technology
- Biofonctionnalisation treatments
- Biological and physico-chemical assessment

### **Peter Mercelis, Managing Director LayerWise NV**

Orthopedic Implants Using Additive Manufacturing

- What's in a name: Advantages and limitations
- Characterization of Additive Manufacturing products
- Hybrid technologies, the "best of two worlds"
- Adding functionality using Additive Manufacturing
- Design and production of custom implants
- Potential of Additive Manufacturing for production of standard implants and instrumentation:  
Selected case studies

**End of day 1 - 6:00 pm**

## Day 2 - May the 13th

### AM

9 AM - 10.45 AM Plenary session 3: **R&D, Tribology & Raw Materials**

Chairman: Amir Kamali, Research Manager, Implant Development Centre (IDC), Smith & Nephew Orthopaedics Ltd

#### **Amir Kamali, Research Manager, Implant Development Centre (IDC), Smith & Nephew Orthopaedics Ltd**

Hard-on-Hard Diffusion Hardened Oxidized Zirconium (DHOxZr) Bearings:

- What is DHOxZr?
- Advantages of hard-on-hard DHOxZr bearings
- Tribological performance of DHOxZr under various testing conditions

#### **David J. Langton, Orthopaedic Registrar, University Hospital of North Tees and Newcastle University**

Volumetric wear and adverse tissue reactions in metal on metal hip arthroplasty

- The wear mechanisms of metal on metal prostheses
- Investigating the link between metallic wear debris and the incidence of soft tissue/bony reactions

#### **Thomas Oberbach, Head of Research and Production Ceramics, Mathys Orthopaedie GmbH**

Aging of ZrO<sub>2</sub> - Al<sub>2</sub>O<sub>3</sub> Dispersion Ceramics ?

- Low temperature degradation
- Zirconia ceramics
- Dispersions ceramics
- In vitro aging simulation

#### **Zhongmin Jin, Professor of Computational Bioengineering, Institute of Medical and Biological Engineering, School of Mechanical Engineering, University of Leeds**

Tribology of Artificial Knee Joints

- Basic principles of tribology are outlined in terms of contact mechanics and wear of artificial knee joints
- Laboratory wear studies of artificial knee joints are summarized, together with development of computational wear models
- Important design and motion/loading considerations are addressed

### Coffee Break

11.15 AM - 12.30 PM 2 Parallel Slots:

Slot 5: **Quality/Testing, Clinical evaluation**

Chairman: Patrick Raugel, CEO and Founder, Meddeva

#### **Vincent Legay, Manager European Sales, NAMSA**

Cleaning validation for orthopedic implants: Updates on the experimental standard XPS 94 091

- Orthopedic implants
- Biocompatibility materials vs Biocompatibility process

- Process efficiency demonstration
- Limits of this approach

**Patrick Raugel, CEO and Founder, Meddeva**

Considering the one-stop-shop for outsourcing product development

- Key success factors in collaborative product development
- Managing risks and benefits for the patients throughout the entire development process
- Case study: the literature route in the clinical evaluation or how to make bibliographic searches more efficient

**Paolo Redaelli, Managing Director, Rollwasch Italiana S.p.a.**

Joint technologies to achieve high quality of surface finishing

- Quality of finishing in orthopedical parts manufacturing
- The requirements in femoral heads
- Drag finishing of femoral heads
- Ultrasonic cleaning of femoral heads
- Strategic synergy of two know-how in surface finishing

Slot 6: **Prospective R&D**

Chairman: Robert M. Streicher, Director Strategic Research, Stryker

**Marc Münchinger, Principal Engineer-Joint Biomechanics, Zimmer**

Virtual modelling of the human knee joint

- Virtual modeling of the human knee joint and its potential application
- The virtual modeling system
- Validation with in vitro data
- Outlook

**Robert M. Streicher, Director Strategic Research, Stryker**

Current issues in orthopedics and potential solutions:

- fixation
- bearings
- joint stability
- infection

**Pierre Layrolle, Directeur de Recherche, Inserm**

Biomaterials and stem cells for bone regeneration

- Bone tissue engineering consists of mixing stem cells and biomaterials to reconstruct bone defects.
- It is a possible alternative to autologous bone graft.
- Hybrid constructs made of bone marrow stem cells and calcium phosphate biomaterials induce ectopic bone
- They are potent in regenerating large bone defects in orthopaedic and spine surgeries

**Lunch**

## PM

2 PM - 3.15 PM Plenary session 4: **Spine & Trauma**

Chairman: Thomas Nydegger, Manager Spine Research EMEA, Zimmer

### **Thomas Nydegger, Manager Spine Research EMEA, Zimmer**

Porous Tantalum for Spinal Applications – More Than Just a Coating

- Trabecular Metal (TM) is an open porous tantalum structure with a poresize similar to bone.
- Stiffness of the structure is between the stiffness of cortical and cancellous bone, similar to subchondral bone
- Coefficient of friction is important for spinal applications in order to prevent implant dislocation
- Structure allows for osteoconductive characteristics across the entire device as shown in various animal experiments and clinical trials

### **Jasper van de Sande, Market Analyst, Business Development, Medtronic**

The need of innovation in Spine

- Economic impact of 'small' innovative changes
- Unmet clinical needs / - Technology needs / - Drug/device combinations

### **Philip Procter, Senior Director Biomaterials, R&D and Tech. Marketing, Stryker Osteosynthesis**

Implants designed to enhance the biological interface in fracture repair

- Interfacial engineering of screws to enhance their fixation in cancellous bone
- By design of the screw/surface/local bony environment

3.15 PM - 4.15 PM Plenary session 5: **Instruments / sterilization boxes**

Chairman: Christophe Pillot, Senior Consultant, Avicenne Développement

### **Christophe Pillot, Senior Consultant, Avicenne Développement**

Orthopaedic contract manufacturing market of Instruments, cases & trays

- Characteristics of the tripods Market: Implants Vs Instruments and Cases & Trays
- Market sizing and trends: Growth comparing with Implants contract manufacturing
- Competitor's position
- Major OEM Strategies: level of outsourcing, cycling effect, new projects frequency
- Drivers & limiters, dynamics of the market

### **Gildas Renault, Director Instrumentation Division Europe, Symmetry Medical**

Instrumentation and sterilization cases

- Design development center for the Instrumentation
- Manufacture Instrumentation specific and standard (customized and marking CE)
- Tray and cases (custom, design, with test and validation of sterilization)
- How have a good product at the best prices (quality, new design and the good price)

### **Gilles Daneyrolle, Directeur des Ventes, Ionis**

Sterilization of orthopaedics implants by gamma rays and e-beam: Principle and validation

- Presentation and differences between gamma rays and e-beam
- Validation of sterilization, notice about orthopaedics
- Requirements of the orthopaedics business

**End of the congress - 4:15 pm**