

# **ESE ROME 2011**

## **NOT ONLY ROOTS**

**15<sup>TH</sup> BIENNIAL CONGRESS  
OF THE EUROPEAN SOCIETY  
OF ENDODONTOLOGY**

**ROME - 2011, SEPTEMBER 14<sup>TH</sup> - 17<sup>TH</sup>  
ROME CAVALIERI HOTEL**

## **FINAL PROGRAMME**





# ESE ROME 2011 NOT ONLY ROOTS

## WELCOME LETTER

**Dear Colleagues,**

on behalf of SIE, the Italian Society of Endodontics which I will represent as President, I am proud to inform you that Italy and by the way Rome will be the site for the 15th Biennial Congress of the European Society of Endodontology (ESE) in September 2011.

The meeting will cover research as well as clinic, there will be hands-on workshops and multidisciplinary sessions.

On the other hand, Rome's historical monuments and sightseeing are going to fascinate not only participants but companions as well.

The time of the year supposes the best weather conditions for visiting the city and the surroundings.

Rome is looking forward to seeing you in 2011.



**Dr. Marco Martignoni**  
Congress President

A handwritten signature in black ink, appearing to read 'M. Martignoni', with a long, sweeping horizontal line extending to the right.

# COMMITTEES

## ESE EXECUTIVE BOARD

**President:** Prof. Claus Löst  
**Secretary:** Prof. Paul Dummer  
**Assistant to the Secretary:** Sue Bryant  
**Treasurer:** Dr. Hakki Sunay  
**Editor:** Dr. John Whitworth  
**Congress President:** Dr. Marco Martignoni  
**Congress President Elect:** Prof. António Ginjeira

## LOCAL ORGANISING COMMITTEE

**Congress President:**  
Dr. Marco Martignoni  
**Honorary Presidents:**  
Dr. Andrea Gesi, Prof. Livio Gallottini

## SCIENTIFIC COMMITTEE

Prof. Giuseppe Cantatore, Prof. Gianluca Gambarini, Dr. Marco Martignoni  
**Reviewers Coordinator:**  
Prof. Gianluca Gambarini  
**Reviewers:**  
Prof. Elisabetta Cotti, Dr. Cristiano Fabiani, Dr. Nicola Maria Grande, Dr. Gianluca Plotino, Dr. Silvio Taschieri

## FUND RAISING

Prof. Massimo Gagliani

## SOCIAL EVENTS

Dr. Pio Bertani,  
Dr. Massimo Giovarruscio, Dr. Luigi Scagnoli

## WEB MASTER

Dr. Augusto Malentacca

## CONGRESS SECRETARY

Dr. Vittorio Franco

## SECRETARIAT

Lorenza Dall'Oglio & Gaia Garlaschè  
Via Pietro Custodi, 3 - 20136 Milan (Italy)  
Ph. +39 02 8376.799  
Email: [info@deserome2011.com](mailto:info@deserome2011.com)

## PROFESSIONAL CONGRESS ORGANISER



AIM GROUP INTERNATIONAL

Rome Office

Via Flaminia, 1068 - 00189 Rome (Italy)

Ph. +39 06 33053.1

Email: [eserome2011@aimgroup.eu](mailto:eserome2011@aimgroup.eu)

### PRE-CONGRESS COURSES

**WEDNESDAY, SEPTEMBER 14<sup>TH</sup>**

#### **STERILE RECIPROCATING SINGLE FILE NITI INSTRUMENTATION: WAVEONE™**

*Sponsored by Dentsply Maillefer*

Room San Giovanni

**Lecture / Workshop – 9.00 / 13.00 hrs and 14.00 / 18.00**

Dr. Wilhelm Pertot – Dr Clifford Ruddle

Participants are required to take with them, for the workshop, extracted teeth (premolar) already opened till the canal entrance.

#### **CLINICAL BENEFITS OF INNOVATIVE CROSS SECTION FILES**

*Sponsored by MICRO-MEGA*

Room Rodi

**Lecture and workshop – 14.00 / 17.00 hrs**

Dr. Jean Philippe Mallet

Participants are required to bring the following:

- two single or bi-rooted premolars not mounted with straight line access cavities prepared
- two multi-rooted molars not mounted with straight line access cavities prepared

All other supplies will be provided during the course.

#### **ROOT CANAL PREPARATION HIGHLY EFFICIENT BUT STILL RESPECTING ANATOMY (LIVE DEMO)**

*Sponsored by SybronEndoEurope*

Room Malta

**Lecture and workshop – 9.00 / 13.00 hrs**

Dr. Carsten Appel

Participants are required to bring their work blouse and pre-accessed extracted fully developed teeth soaked in full strength bleach for 24 hours.



EXCLUSIVE TO  
SATELEC®

3 - 6 - 9 mm

# A giant step for Apical Surgery

With the unique 3 - 6 - 9 protocol, micro-apical surgery treatments are more precise, better controlled and preserve more bone ... now that really is a giant step!

Silver Sponsor ESE  
Booth n° 17



P5 Newtron line

### MEETINGS (INVITATION ONLY)

#### WEDNESDAY, SEPTEMBER 14<sup>TH</sup>

##### ESE General Assembly Meeting

Room Ellisse - 9.00 / 17.00 hrs

##### German Association of Endodontics Dgendo Meeting

Room Caravaggio - 14.00 / 17.00

##### SIE Assembly

Room Leonardo - 13.00 / 14.00

##### ESE Postgraduate Students Members Meeting

Cavalieri Hall IV - 15.00 / 17.00

#### THURSDAY, SEPTEMBER 15<sup>TH</sup>

##### ESE Certified Members Lunch

Room Belle Arti - 12.00 / 14.00 hrs

#### FRIDAY, SEPTEMBER 16<sup>TH</sup>

##### ESE Postgraduate Students Members Lunch

Room San Giovanni - 12.00 / 14.00 hrs

# TIMETABLE

## WEDNESDAY, 14<sup>TH</sup> SEPTEMBER 2011

Time	
17.30 - 19.30	Welcome reception in the foyer

## THURSDAY, 15<sup>TH</sup> SEPTEMBER 2011

08.00 - 09.00	REGISTRATIONS (Garden Lobby)
---------------	------------------------------

Time	CAVALIERI HALL IV	CAVALIERI HALL I - II
09.00 - 10.00	OPENING CEREMONY (hall 3/4)	
10.00 - 11.00	Coffee Break	Coffee Break
11.00 - 13.00	<b>CLEANING AND DISINFECTION</b> Chairperson: Claus Löst  Irrigation and biofilms in endodontics: on the flooding edge. Markus Haapasalo (Canada)  Endodontic disinfection: the conventional approach versus photo (dynamic) - disinfection and a look into the immediate future. Roeland De Moor (Belgium)	<b>SCIENCE</b> Chairperson: Antonio Ginjeira  Mechanisms and management of inflammatory pain. Ken Hargreaves (USA)  Outcome of non-surgical root canal treatment. A systematic review. Yuan-Ling (Paula) NG (UK)
13.00 - 14.30	Lunch / Poster discussion (13.30)	
14.30 - 16.30	<b>CLEANING AND DISINFECTION</b> Chairperson: Paul Dummer  Dance with chance: a clinician's journey through endodontic microbiology. Francesco Mannocci (UK)  Advancements in debridement and disinfection of the root canal system. Ben Johnson (USA)	<b>SCIENCE</b> Chairperson: David Jaramillo E.  Methodological issues in endodontic research. Lise Lotte Kirkevang (Denmark)  Systemic health, periapical inflammation and root canal treatment outcome. Juan Jose Segura-Egea (Spain)
16.30 - 17.00	Coffee Break	Coffee Break
17.00 / 19.00	<b>CLEANING AND DISINFECTION (16.30 - 18.30)</b> Chairperson: José Figueiredo  Actions and interactions of endodontic irrigants. Matthias Zehnder (Switzerland)  How to disturb a calcium driven biofilm with EDTA and ultrasound. Luc van der Sluis (The Netherlands)	<b>SYMPOSIUM:</b> Dental pulp tissue regeneration: visions and challenges. Chairperson: Gunnar Bergenholz (Sweden)  "Irreversible pulpitis" in pulp regeneration: how many biologically based therapies link to the cariously exposed pulp. Lars Bjørndal (Denmark)  Regenerative endodontics: from chair to the bench. Stephane Simon (France)  The pivotal role of progenitor/stem cells in dentin/pulp tissue regeneration: advancement in recent research. Imad About (France)  Current advancement of experimental and clinical regenerative endodontics. George Huang (USA)



# ESE ROME 2011

## NOT ONLY ROOTS

CAVALIERI HALL III ORAL PRESENTATION ON FREELY CHOSEN SUBJECT	ROOM ELLISSE ORAL PRESENTATION ON FREELY CHOSEN SUBJECT	ROOM LEONARDO ORAL PRESENTATION ON FREELY CHOSEN SUBJECT
	<p><b>Chairperson: Emanuele Ambu</b> A novel and modern approach to treat curved root canals  <b>Enrico Cassai</b> Root canals deformation with PathFile® system  <b>Ferrero Marquez Patricia</b> Root canal shaping without manual instruments: a real possibility or just a dream?  <b>Alessandra D'Agostino</b> The challenge of the necrotic open apex  <b>Chaniotis Antonis</b> Canal transportation of Ni-Ti rotary pathfile-protaper with a new protocol in simulated S-shaped canals  <b>Baser Elif Derve</b></p>	<p><b>VLADIMIR ADLIVANKINE PRIZE</b> 10.45 / 12.45</p>
Lunch / Poster discussion (13.30)		
<p><b>Chairperson: Zvi Metzger</b> Traumatized teeth and resorption: What do I tell the orthodontist?  <b>Guido Aesaert</b> Antimicrobial, tissue dissolution and stability of an electrochemically activated solution (Aquatine, Sterilox)  <b>Giampiero Rossi-Fedele</b> Self-Adjusting File (SAF) in re-treatment: effective removal of material left by the ProTaper re-treatment files  <b>I Abramovitz</b> Evidence based endodontics: myths and facts  <b>Ahmed Abdel Rahman Hashem</b> Clinical evaluation of Biodentine in apical surgery: a 12 month follow-up study  <b>Francois Bronnec</b> A 7-year follow-up of patients with atypical odontalgia (AO)  <b>Maria Pigg</b></p>	<p><b>Chairperson: Augusto Malentacca</b> The use of cone beam computed tomography and digital periapical radiographs to diagnose root perforations  <b>Roberto Cristescu</b> Dynamics of periapical lesions in endodontically treated teeth left without intervention: a longitudinal study  <b>Tomer Goldberger</b> Endodontic treatment of periapical lesions: two visits evidence based approach  <b>Ekaterina Boteva</b> The five year survival and success rate of endodontic treatments performed by undergraduate students  <b>Marie Georgelin-Gurgel</b> Study of the internal anatomy of upper molars different from populations representing 4 continents  <b>Topham Alvarez Guillermo</b> A new method for diagnosis of atypical root resorptions and anatomical abnormalities using CBCT enhanced by 3D video imaging  <b>Kfir Anda</b></p>	<p><b>Chairperson: Caterina Ricci</b> Dentin strain produced by root-end cavity preparation using Er: YAG laser  <b>Watanabe Satoshi</b> New approach to retrograde root canal treatment: tubes guiding Ni-Ti instruments in retroshaping  <b>Kayahan Mehmet Baybora</b> Endodontic-periodontal lesions: new approaches  <b>Francesc Abella Sans</b> Surgical treatment of lateral lesions using chairside-customized ultrasonic tips  <b>Amir Weissman</b> The way (not) to do endodontic micro-surgery. Mistakes and mishaps in the procedure. Their causes, consequences and ways to avoid them.  <b>Amir Weissman</b> Aesthetic considerations in periapical surgery  <b>Charalampos Beltes</b></p>
Coffee Break	Coffee Break	Coffee Break
<p><b>Chairperson: Luigi Scagnoli</b> (17.00 / 18.40) The evaluation of the cracks on resected root surfaces and apical leakage in various retro-preparation techniques  <b>Aydemir Seda</b> Myths and facts of thermoplastic gutta-percha  <b>Benjamin Briseño Marroquin</b> Ultramicroscopic study of the interface, sealing ability and nanofiltration of four different techniques for root canal obturation  <b>Pablo Castelo Baz</b> Microsurgical endodontics: clinical-biological approach  <b>Christos Sykaras</b> C-shaped mandibular second molars. The clinical challenge.  <b>A Mandas Theodoros</b></p>	<p><b>Chairperson: Antonio Bonaccorso</b> Prognosis of endodontic microsurgery: an evidence based approach  <b>R Kohli Meetu</b> In vivo study: location and negotiation of the second mesiobuccal canal of maxillary second molars  <b>Davide Mancino</b> Assessment by cone beam computed tomography scans of the effectiveness of endodontic treatment  <b>Rifat Ozok</b> Patient referred to Endodontist: diagnostic and operative concerns  <b>Maria Veronica Orsi</b> Reciproc (VDW, Germany) in clinical use in molars- the relationship between preparation form and disinfection  <b>Monica Daniela Chiperi</b> Successful use of high frequency ozone generator and bio-oxidative therapy in endo-restorative treatment  <b>Pavelic Bozidar</b></p>	<p><b>Chairperson: Damiano Pasqualini</b> From broken file retrieval to periradicular lesion removal and bone regeneration. Video case presentation.  <b>Chaniotis Antonis</b> Endodontics versus implantology: the rationale for a correct choice  <b>Lorenzo Comin Chiaramonti</b> Maxillary sinus vascularisation and endodontic surgical approach for periapical lesions involving the sinus cavity  <b>Gabriele Rosano</b> Fiber post adhesion: new protocols offer predictable results  <b>Riccardo Rota</b> The root resorption. Surgery.  <b>Massimo Calapaj</b> Detection of vertical root fractures with the use of cone beam computed tomography scans  <b>Maria Elisavet Metska</b></p>

# TIMETABLE

**FRIDAY, 16<sup>TH</sup> SEPTEMBER 2011**

Time	CAVALIERI HALL IV	CAVALIERI HALL I - II
08.30 - 10.30	<b>ROOT CANAL PREPARATION</b> Chairperson: Cecilia Bourguignon  Ability of different root canal hand instruments to maintain the original canal anatomy. <b>Edgar Schäfer</b> (Germany)  Apical root canal preparation: a conflict between science, philosophy and industry. <b>Carsten Appel</b> (Germany)	<b>ANATOMIC AND DIAGNOSTIC CHALLENGE</b> Chairperson: Anthony Hoskinson  The effect of cone beam computed tomography on endodontic outcome results and its impact on endodontic treatment planning. <b>Paul Wesselink</b> (The Netherlands)  The mandibular first molar: an example for a critical anatomical and diagnostic challenge in endodontics. <b>Ove Peters</b> (USA)
10.30 - 11.00	Coffee Break	Coffee Break
11.00 - 13.00	<b>ROOT CANAL PREPARATION</b> Chairpersons: Marco Martignoni, Francesco Riitano  A critical approach to mechanical glide path. <b>Giuseppe Cantatore</b> (Italy)  Single file shaping technique. <b>Cliff Ruddell</b> (USA)	<b>ANATOMIC AND DIAGNOSTIC CHALLENGE</b> Chairperson: Anders Molander  Three Canal Premolars: diagnosis and treatment strategies. <b>Sashi Nallapati</b> (Jamaica)  Adventure to discover the anatomic, radiologic and histological complexity of external cervical resorption. <b>Paul Lambrechts</b> (Belgium)
13.00 - 14.30	Lunch / Poster discussion (13.30)	
14.30 - 16.30	<b>ROOT CANAL PREPARATION</b> Chairperson: Massimo Gagliani  Mechanical instrumentation controlling intra-canal infection. <b>Gilberto Debelian</b> (Norway)  Shaping root canals in 3D. <b>Gianluca Gambarini</b> (Italy)	<b>SURGICAL ENDODONTICS</b> Chairperson: Dag Ørstavik  The use of cone beam computed tomography in surgical endodontics. <b>Shanon Patel</b> (UK)  New ultrasonic tips for surgical endodontics. <b>Bertrand Khayat</b> (France)
16.30 - 17.00	Coffee Break	Coffee Break
17.00 - 19.00	<b>ROOT CANAL PREPARATION</b> Chairperson: Benjamin Briseño Marroquin  Evolution of instrument's cross section in root canal preparation. <b>Bettina Basrani</b> (Canada)  From rotary to Self-Adjusting Files: a new era of mechanized 3D root canal preparation. <b>Zvi Metzger</b> (Israel)	<b>SURGICAL ENDODONTICS</b> Chairperson: Aviad Tamse  Bone regeneration and bone preservation in endodontics and endodontic surgery: a new approach. <b>Jean Yves Cochet</b> (France)  Problem solving in surgical endodontic retreatment. <b>Arnaldo Castellucci</b> (Italy)

# ESE ROME 2011

## NOT ONLY ROOTS

CAVALIERI HALL III ORAL PRESENTATION ON FREELY CHOSEN SUBJECT	ROOM ELLISSE ORAL PRESENTATION ON FREELY CHOSEN SUBJECT	ROOM LEONARDO ORAL PRESENTATION ON FREELY CHOSEN SUBJECT
<p><b>Chairperson: Matthias Zehnder</b> Microbiological implications in endodontic and dental implant failures <b>David E. Jaramillo</b> Quality of the root canal filling: validity of endodontic leakage methods <b>Mieke De Brune</b> Smart root filling materials - the way to go? <b>Dirk Mohn</b> Cold treated vs. Heat treated Ni-Ti alloy rotary instruments <b>Dina Al-Sudani</b> Effectiveness of the Erbium:YAG laser activation in removing the smear layer after root canal instrumentation, using PIPS technique <b>Olivi Giovanni</b> Influence of the taper and the material of gutta-percha thermocompactors on the sealer penetration in the dentinal tubules <b>Franck Diemer</b></p>	<p><b>Chairperson: Luc van der Sluis</b> Study of the extrusion of irrigant fluid based on the instrumentation method <b>Ana Antoranz Pereda</b> Photodynamic therapy as an alternative for root canal disinfection <b>Adriano Azaripour</b> SEM study on the effectiveness of a canal brush on the cleanliness of the root canals <b>Eleni Protogerou</b> Passive ultrasonic irrigation of the root canal system: safety and efficacy <b>David E. Jaramillo</b> SEM Study of Root Canal Debridement with the EndoActivator <b>Clauder Thomas</b> Influence of sodium hypochlorite in the dentine's resistance fracture <b>Novoa Valls Asahi</b></p>	<p><b>Chairperson: Lucio Daniele</b> Histological assessment of new endodontic cement after direct pulp capping on rats molars <b>Khalil Issam</b> The effect of EDTA and MTAD solution on the wettability of crown dentine surface <b>Emre Altundasar</b> Determining the corrosion rates of rotary Ni-Ti instruments in different irrigants <b>Dilek Dalat</b> In vitro evaluation of marginal leakage using various temporary filling materials <b>Bilge Akbulut Makbule</b> The effect of different root canal sealers on the bond strength of different fiber post systems <b>Nimet Gencoglu</b> A comparison of ex vivo cytotoxicity of two novel endodontic root canal sealers <b>Esra Guven Pamukcu</b></p>
Coffee Break	Coffee Break	Coffee Break
<p><b>Chairperson: Imad About</b> Canal configuration in the mesiobuccal root of the first maxillary molar using conventional computer tomography <b>Eder Andreas</b> Root canal shaping with only one instrument: continuous rotation or reciprocity? <b>Franck Diemer</b> Accumulated hard tissue debris during root canal preparation evaluated using high resolution micro-computed tomography <b>Frank Paqué</b> Medico-legal aspects of altered sensation following endodontic treatment: a retrospective case series <b>Eyal Rosen</b> New exciting challenges in modern endodontics <b>Raniero Barattolo</b> Achieving endodontic predictability in complex cases: techniques and technology <b>Filippo Santarcangelo</b></p>	<p><b>Chairperson: Francesco Somma</b> The effectiveness of enzymatic irrigation on the removal of an endodontic stressed multi-species model biofilm <b>Sadia Niazi</b> Effectiveness of Self-adjusting file on debridement when used under different operation times <b>Senem Yigit Ozer</b> New approaches on root canal debridement: a SEM study <b>Guldas H. Egemen</b> SEM evaluation of smear layer removal using microbrushes <b>Samuel Guez</b> Cleaning root canals: the role of low surface tension irrigants <b>Luciano Giardino</b> Bactericidal effect of gaseous ozone and octenidine dihydrochloride against Enterococcus faecalis: an ex vivo study <b>Unverdi Eldeniz Ayce</b></p>	<p><b>Chairperson: George Huang</b> Influence of calcium hydroxide on the root canal seal by means of capillary flow porometry <b>Moizadeh Amir Teymour</b> Analysis of temperature rise with and without water irrigation during metallic post removal <b>Carolina Villaseñin Sanchez</b> In vitro evaluation of the antimicrobial activity of several self-etching adhesive systems against Enterococcus faecalis <b>David Rubio Flores</b> Efficacy of Mineral Trioxide Aggregate in direct pulp capping on adult patients: clinical study <b>Lucio Daniele</b> Influence of powdered-dentin addition to primer or adhesive on shear-bond-strength of sealers to root dentin <b>Melek Akman</b> Influence of the final apical taper on the sealing ability of Real Seal1 v/s Thermafil: a three-dimensional in vitro study <b>Carla Zogheib</b></p>
Lunch / Poster discussion (13.30)		
<p><b>Chairperson: Francesco Mangani</b> Efficacy and safety of different irrigation and activation systems: a new ultrasonic irrigation system using aspiration <b>Umberto Uccoli</b> Endodontic treatment: saving the tooth, or implant insertion? The "middle ground" of modern dentistry <b>Francesco Pera</b> Improvements in NiTi alloys for the manufacturing of endodontic instruments <b>Nicola Maria Grande</b> A comparative study between manual and mechanized pre-filing techniques <b>Enrico Carmignani</b> Why our treatments should be aesthetics? <b>Canon Gregory</b> Endodontic treatment options of the immature root apex <b>Holly Matthias</b></p>	<p><b>Chairperson: Lars Bjørndal</b> Organic tissue dissolution capacity of octenidine dihydrochloride in comparison with contemporary irrigants <b>Burak Guner</b> Evaluating the effect of surfactant addition to EDTA on the microhardness of root dentine <b>Ilgin Akcay</b> Effect of different single-cone obturation techniques on vertical root fracture resistance <b>Handan Ersev</b> Push-out bond strength of Gutta-Percha/AH plus and Endorez systems following different irrigation protocols <b>Ureyen Kaya Bulem</b> Root canal treatment of elements with periapical cysts, MTA vs gutta-percha <b>Andreas Krokidis</b> Postoperative pain after the application of three different obturation techniques <b>Luis Oscar Alonso Ezpeleta</b></p>	<p><b>Chairperson: Marco Ferrari</b> Influence of image acquisition parameters on CBCT endodontic reconstructions <b>Jerome Michetti</b> Technological evolution of fiber posts <b>Giovanni Cavalli</b> Effect of ozone application on the shear bond strength of resin cements to nonvital bleached dentin <b>Eraslan Oznur</b> An in-vitro and in-vivo evaluation of a new calcium-silicate based dentine substitute <b>Giulia Ferrara</b> Mineralization of odontoblastic-lineage cells accelerated by enhanced expression of Mef2c <b>Nobuyuki Kawashima</b> SEM evaluation of the interphases between mineral trioxide aggregate and composite resin and silver amalgam <b>David Rubio Flores</b></p>
Coffee Break	Coffee Break	Coffee Break
<p><b>Chairperson: Fabio Gorni</b> (17.00 / 18.40) GTR improves the outcome of endodontic surgery in large and through-and-through lesions <b>Tsesis Igor</b> Drawing the line: detection of root canal filling interfaces by microscopy and tomography methods <b>Hagay Shemesh</b> The apical third: anatomy, literature review, clinical management. The role of instrumentation. <b>Marco Furri</b> The apical third: anatomy, literature review, clinical management <b>Carlo Tocchio</b> Ultrasonic aspiration technique in root canal irrigation <b>Chihiro Kobayashi</b></p>	<p><b>Chairperson: Unni Endal</b> (17.00 / 18.40) A new carrier-based obturation technique <b>Valentina Vincenzi</b> Cleaning ability of the SAF system with MTAD or Citric-acid <b>Özgür Genc</b> Effect of intracanal medication on the apical seal with MTA using radioisotope methods <b>Manuel Marques Ferriera</b> A comparison of flow capacity and filtration among different obturation materials in artificial lateral canals <b>Laura Sese Garcia</b> Glucose penetration of new, epoxy-, methacrylate-resin and silicon based root canal sealers <b>Betul Gunes</b></p>	<p><b>Chairperson: Eliso Berutti</b> (17.00 / 18.40) Direction of isolated dental pulp progenitor / stem cells to form dentine <b>Kostantinos Kodonas</b> Endodontic pathology and Actinomyces israelii: genomic diagnosis <b>Beatriz Vera-Sirera</b> An evaluation of a modified diametral compression test for intracanal post bond strength measurement <b>Huang Shih-hao</b> C-shaped canals. An old problem with an innovative solution. <b>Michael Solomonov</b> Modern clinical approaches to post-endodontic restorations <b>Gilbert Gallo</b></p>

# TIMETABLE

## SATURDAY, 17<sup>TH</sup> SEPTEMBER 2011

Time	CAVALIERI HALL IV	CAVALIERI HALL I - II	
08.30 - 10.30	<b>ROOT CANAL OBTURATION</b> Chairperson: Roland Weiger  Root canal obturation: expectations versus reality. Ashraf El Ayouti (Germany)  Treatment of large lesions: endodontic or surgical. Caterina Ricci (France)	<b>CHALLENGING ENDO AND RETREATMENT</b> Chairpersons: Pio Bertani, Gianluca Gambarini  Endodontic retreatment or implant: which is the best choice? Fabio Gorni (Italy)  Treatment planning choices. Surviving challenges in contemporary endodontics. James Gutmann (USA)	
10.30 - 11.00	Coffee Break	Coffee Break	
11.00 - 13.00	<b>ROOT CANAL OBTURATION</b> Chairperson: Elisabetta Cotti  Adhesive endodontic obturating materials and techniques. Frederic Barnett (USA)  Influence of the quality of root filling on apical periodontitis detected by CBCT. Min Kai Wu (The Netherlands)	<b>CHALLENGING ENDO AND RETREATMENT</b> Chairperson: Michael Hülsmann  Minimally invasive and easy technique to solve difficult cases. Elio Berutti (Italy)  Endodontic treatment in a CT-based world. L. Stephen Buchanan (USA)	
13.00 - 14.30	Lunch	Lunch	
14.30 - 16.30	<b>POST AND RECONSTRUCTION</b> Chairperson: Sandro Rengo  Predictable postendodontic restoration. Michael Naumann (Germany)  When, why and how to place a post. Marco Ferrari (Italy)  How to reduce stress and strain in your daily life. Sema Belli (Turkey)	<b>CHALLENGING ENDO AND RETREATMENT</b> Chairperson: Hideaki Suda  Complex retreatment: broken instruments. Augusto Malentacca (Italy)  MTA option in challenging endodontics. Mohammad Hossein Nekoofar (UK)	

# ESE ROME 2011

## NOT ONLY ROOTS

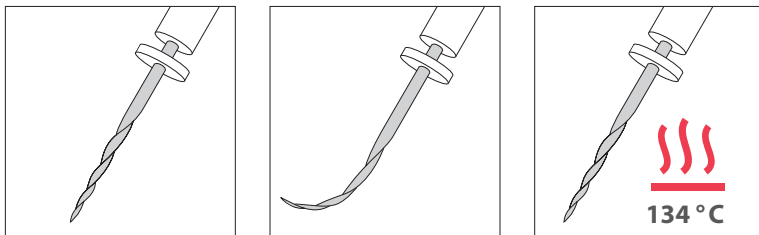
CAVALIERI HALL III ORAL PRESENTATION ON FREELY CHOSEN SUBJECT	ROOM ELLISSE ORAL PRESENTATION ON FREELY CHOSEN SUBJECT	ROOM LEONARDO ORAL PRESENTATION ON FREELY CHOSEN SUBJECT
<p><b>Chairperson:</b> Livio Gallottini</p> <p>Middle mesial canal in mandibular molars: a review of the literature and clinical cases</p> <p><b>Georgios P Dechouniotis</b></p> <p>Dentin conditioning co-determines cell fate in regenerative endodontics</p> <p><b>Galler M. Kerstin</b></p> <p>Root fillings performed with two root filling techniques, an in vitro study using micro CT</p> <p><b>Moeller Lis Birkdal</b></p> <p>Reciprocation: better, safer, faster, smarter?</p> <p><b>Cristiano Fabiani</b></p> <p>Operative strategies in non-surgical and surgical retreatments</p> <p><b>Francesco Maggiore</b></p>	<p><b>Chairperson:</b> Arnaldo Castellucci</p> <p>Root canal preparation with three different nickel-titanium rotary files evaluated with cross-sectional and x-rays images analysis</p> <p><b>Yolanda Custodio-Menendez</b></p> <p>IG-File: a new instrument for the evaluation of apical gauging</p> <p><b>Maria Patrizia Di Caprio</b></p> <p>Pro arguments for the importance of endodontic treatment in third molars</p> <p><b>Andrei Cristina Gabriela</b></p> <p>Root canal deformations with PathFile® system</p> <p><b>Patricia Ferrero Marquez</b></p> <p>Vertical root fracture resistance of teeth after ultrasonic and masseran retrieval of fractured instruments</p> <p><b>Muzeyyen Gerek</b></p>	<p><b>Chairperson:</b> Robert Love</p> <p>Assessment of combined articaine and ketamine for anesthetic efficacy in patients with irreversible pulpitis</p> <p><b>Hilal Erdogan</b></p> <p>Efficacy of supplemental intraligamentary fentanyl injection in patients with irreversible pulpitis when the inferior alveolar nerve block fails</p> <p><b>Keziban Celik</b></p> <p>The integrated use of new technologies improve the prognosis and the profitability of the endodontic treatment</p> <p><b>Roberto Sammarco</b></p> <p>New equipments and microscope reduce working time and increase safety of endodontic treatments</p> <p><b>Sergio La Rocca</b></p> <p>Size and location of access cavity in permanent incisors, canines and premolars</p> <p><b>Krapez Jana</b></p> <p>Stress analysis of different treatment options at hemisection of mandibular molar tooth</p> <p><b>Eraslan Oznur</b></p>
Coffee Break	Coffee Break	Coffee Break
<p><b>Chairperson:</b> Michele Barone</p> <p>The association between chronic apical periodontitis, oral health and coronary heart disease (chd)</p> <p><b>Damiano Pasqualini</b></p> <p>Canal preparation using a single RECIPROC instrument without glide path: research and clinical applications</p> <p><b>Ghassan Yared</b></p> <p>Light-Activated Disinfection: a new tool for improving quality of root canal therapy</p> <p><b>Gianluca Plotino</b></p> <p>Disassembling and canal orifices location in complex non surgical retreatments</p> <p><b>Mauro Cabiddu</b></p> <p>Outcome of Root-Canal Treatments performed before and after Education in Ni-Ti rotary Technique for GPs</p> <p><b>Margaretha Koch</b></p> <p>Lateral canals and apical ramifications. Tissue responses during the pulp degeneration process and their impact on the treatment outcome.</p> <p><b>Domenico Ricucci</b></p>	<p><b>Chairperson:</b> Massimo Giovarruscio</p> <p>A new sequence for shaping root canals: a more conservative and safer approach</p> <p><b>Giuseppe Squeo</b></p> <p>Debridement quality of single F2 file and Self-Adjusted File in oval-shaped canals</p> <p><b>Erick M Souza</b></p> <p>Root canal morphology of maxillary molar teeth and its impact on gauging and shaping</p> <p><b>Monika Marending Soltermann</b></p> <p>A new device for removing fractured instruments</p> <p><b>Martin Dominique</b></p> <p>The endodontic management of teeth with open apices</p> <p><b>Philip Mitchell</b></p> <p>The reciprocating motion: a new era in endodontic instrumentation?</p> <p><b>Nehme Walid</b></p>	<p><b>Chairperson:</b> Giuseppe Cantatore</p> <p>Correlation between gender and number of root canals in maxillary and mandibular premolars. Clinical study</p> <p><b>Marco Furri</b></p> <p>Radicular resorption: classification and therapies.</p> <p><b>Giovanni Schianchi</b></p> <p>Management of crown-root and cervical root fractured teeth: a follow-up case series</p> <p><b>Ceyhanli Kadir Tolga</b></p> <p>The open apex: how close to close?</p> <p><b>Abu Tahun Ibrahim</b></p> <p>The use of MTA as an apical plug in immature or resected teeth with periapical lesions</p> <p><b>Gozde Kandemir Demirci</b></p> <p>R phase advantages in shaping the curve canals</p> <p><b>Philippe Sleiman</b></p>
Lunch	Lunch	Lunch
<p><b>Chairperson:</b> Silvio Taschieri (14.30 – 16.10)</p> <p>MTA: clinical applications</p> <p><b>Massimo Giovarruscio</b></p> <p>The advantages of use of operative microscope in clinical and surgical endodontics</p> <p><b>Mario Lendini</b></p> <p>Historical and contemporary challenges to the management of the root apex</p> <p><b>James L. Gutmann</b></p> <p>Differential diagnosis and monitoring of periapical lesions using ultrasound and color power doppler or CT</p> <p><b>Kececi Ayse Diljin</b></p> <p>Treatment decision between endodontically treated tooth and dental implant</p> <p><b>C. Setzer Frank</b></p>	<p><b>Chairperson:</b> Cristiano Fabiani</p> <p>Shaping for cleansing: apical preparation size and preparation taper</p> <p><b>Flavio Palazzi</b></p> <p>Dentinal defects after root canal preparation with SAF and ProTaper</p> <p><b>Ellemieke Hin</b></p> <p>The effects of working length and canal preparation on development of dentine defects</p> <p><b>Miranda Stavileci</b></p> <p>A novel nickel-titanium reciprocating instrumentation technique: experimental and clinical evaluation</p> <p><b>Alessio Giansiracusa Rubini</b></p> <p>Access preparation: Operative Microscope and Ultrasonic</p> <p>Tips, indispensable technologies in order to have an excellent endodontic treatment</p> <p><b>Claudio Farnararo</b></p>	<p><b>Chairperson:</b> Gianluca Plotino</p> <p>The operative microscope: a comfortable and ergonomic approach to dental work</p> <p><b>Mauro Rigolone</b></p> <p>Deep carious lesions: when endodontic treatment is necessary</p> <p><b>Nicola Scotti</b></p> <p>Response of human pulps capped with PDGF. Pilot study.</p> <p><b>Gaia Pellegrini</b></p> <p>Current strategy in achieving success with endodontic treatment</p> <p><b>T Tsurumachi</b></p> <p>Pulse oximetry as a tool to assess pulp vitality in patients submitted to radiotherapy</p> <p><b>T Simony Kataoka</b></p>

The new generation of NiTi Files



Like a Phoenix from the ashes...  
...the regenerative NiTi File!

## HyFlex™ CM



- No shape memory + Extreme flexibility = Superior canal tracking
- Regains shape after heat treatment = Multi-use
- Up to 300 % more resistance to separation



**COLTENE® ENDO**



## GENERAL INFORMATION

### CONGRESS VENUE

The 15<sup>th</sup> Biennial Congress of the European Society of Endodontology is held at:

#### Rome Cavalieri Hotel

Via A. Cadlolo, 101  
00135 Rome (Italy)  
ph. +39 06 35091  
[www.romecavalieri.com](http://www.romecavalieri.com)

Located in highest residential area of Monte Mario Hill, the Rome Cavalieri Hotel, overlooking the city's monuments, is just 5 minutes from the Vatican and 10 minutes from the historic city centre. A 5 star hotel with a technological, sumptuous and functional conference centre.

**Leonardo da Vinci Airport:** 40 minutes

**Termini Central Train Station:** 15-20 minutes

Every hour a complimentary hotel shuttle bus service is at the disposal of the guests accommodated at the Rome Cavalieri Hotel to reach major city landmarks.

### REGISTRATION

#### Opening hours of the registration desk

Wednesday	September 14 <sup>th</sup>	h 15.00 - 18.30
Thursday	September 15 <sup>th</sup>	h 08.00 - 18.30
Friday	September 16 <sup>th</sup>	h 08.00 - 18.30
Saturday	September 17 <sup>th</sup>	h 08.00 - 16.00

#### Registration fees

CATEGORY	ON SITE REGISTRATION
ESE CERTIFIED *	€ 600,00
ESE MEMBERS *	€ 630,00
NON ESE	€ 680,00
STUDENTS	€ 400,00

\* 2011 membership fee up to date

All rates are VAT 20% included.

#### The registration fee entitles delegates to the following:

- entry to all Scientific Sessions and Exhibition Area
- admission to the Welcome Cocktail, Opening Ceremony, coffee breaks and box lunches
- scientific material
- certificate of attendance (pdf format on request)
- congress kit

### **Accompanying Persons**

With the aim of encouraging accompanying persons to attend the conference and enjoying what Rome and the surrounding countryside has to offer, we have offered two special package:

#### **1. Only social events**

Welcome Reception on Wednesday, September 14<sup>th</sup>  
Reception (Free evening) at [Villa Miani](#), September 15<sup>th</sup>  
**Euro 90,00 pp**

#### **2. Social events, coffee breaks and lunches**

Welcome Reception on Wednesday, September 14<sup>th</sup>  
Reception (Free evening) at [Villa Miani](#), September 15<sup>th</sup>  
Coffee breaks and lunches of the Congress  
**Euro 200,00 pp**

### **Cancellation policy**

Notification of cancellation must be sent by writing to the Organizing Secretariat and accepted within **August 13, 2011** with a refund of all paid fees, except for a 30% administrative charge. No refunds will be made for cancellations received after this date. All approved refunds will be processed and issued 60 days after the Congress

### **EXHIBITION AND SPONSORSHIP**

A technical and publication exhibition will take place in the Foyer throughout the scientific works.

#### **Exhibition opening hours**

Wednesday	September 14 <sup>th</sup>	h 16.00 - 18.00
Thursday	September 15 <sup>th</sup>	h 09.00 - 18.30
Friday	September 16 <sup>th</sup>	h 08.30 - 18.30
Saturday	September 17 <sup>th</sup>	h 08.30 - 16.00

### **CLOAKROOM**

A cloakroom is at the disposal of all participants at their charge. Delegates are requested not to leave their personal belongings after the closing-time.

### **BAR**

A bar located in the Exhibition area is at participants' disposal at their charge.

### **RESTAURANTS**

Two restaurants are located in the Congress Venue.

[La Pergola](#): award-winning roof garden restaurant overlooking the entire city, with St. Peter's dome prominently in view.

[Giardino dell'Uliveto](#): at garden level, overlooking the landscape park and the swimming pool, this restaurant, with his Mediterranean ambiance, offers the best of Italian and international specialties.

### **INSURANCE**

The congress organizers cannot accept liability for personal injuries sustained or for loss of or damage to property belonging to congress participants, either during or as a result of the congress. Please check the validity of your own insurance.



# ESE ROME 2011

## NOT ONLY ROOTS

### **NO-SMOKING**

For the comfort and health of all participants, smoking is strictly forbidden in any area of the Congress Venue. Thank you for your cooperation.

### **MOBILE PHONES**

Delegates are kindly requested to keep their phone in the off position in the Rooms where scientific sessions are held.

### **LANGUAGE**

The Congress language is English. No simultaneous translation is provided.

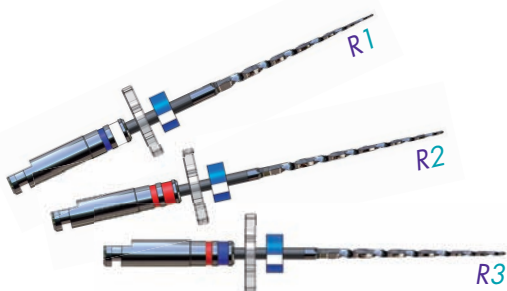
# TOOLS TO KEEP SMILING

No less than ...  
...4 top products

Get the  
latest news!  
[www.fkg.ch](http://www.fkg.ch)

*iRaCe*

*Only 3 instruments for most cases*



*Biological treatment*



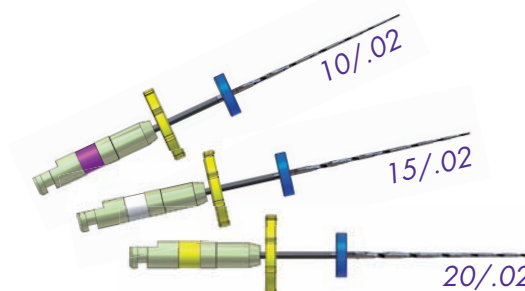
*D-RaCe*

*Desobturation made easy*



*Scout-RaCe*

*Mechanical scouting sequence*



[www.fkg.ch](http://www.fkg.ch)

**FKG**  
**FKG DENTAIRE**  
Swiss Dental Products



# ESE ROME 2011

## NOT ONLY ROOTS

### SOCIAL PROGRAMME

#### WELCOME COCKTAIL

The Welcome Cocktail takes place on Wednesday, September 14<sup>th</sup> evening at the Rome Cavalieri. Entrance is subject to registration and display of the congress badge.

The cocktail is free for participants and accompanying persons.



#### FREE EVENING

On Thursday September 15<sup>th</sup> there is a special free evening at the beautiful Villa Miani. A cocktail is offered to all the participants and accompanying persons and there will be music and fireworks.

Entrance is subject to registration and display of the invitation.

The evening is free for participants and accompanying persons.



#### GALA DINNER

The gala Dinner takes place on Friday September 16<sup>th</sup> at Spazio 900, Via G. Marconi 26/b – 20.30 hrs.

Entrance is subject to registration and display of the invitation.

The Gala Dinner is at charge for participants and accompanying persons (euro 100,00 each).





## Getting to the root of the problem.

As a world leader in the micro-design of Endo instruments, precision is our business. Our Revo-S™ NiTi rotary system takes precision to new levels. With an easy 1-2-3 sequence, the Revo-S™ NiTi system features a finely crafted, asymmetrical cross-section for increased flexibility. The snake-like movement of the instrument within the canal reduces the stress on the file and minimizes the risk of separation. Easy, effective and unlike anything else.

**MICRO-MEGA® Revo-S™**

Join the REVOLUTION at [www.revo-s.com](http://www.revo-s.com)

*Your Endo Specialist™*



## LOCAL INFORMATION

### ABOUT ROME

Rome is a city rich in monuments, artistic places and other beauties. Most of these are located in the historical centre. The best way to visit Rome is on foot: churches, squares and monuments are easily reachable. There are 3000 restaurants, including pizzerias, taverns, exotic places, picture-galleries, ice-cream shops. Rome is the capital of the religious art and in the historical centre there are more than 400 churches rich in paintings and frescoes. As regards to the culture, there are 50 museums and picture-galleries, 200 contemporary art galleries, 42 public and private libraries, 80 theatres or theatrical clubs and more than 140 cinemas.

### PUBLIC TRANSPORTATION

The cost of the surface and underground transportation is the same.

Tickets of different time limit and itinerary are available at ATAC counters, news-stands, tabacconists and automatic ticket dispensers, but not in buses. All tickets must be validated at the beginning of the first trip either at underground station or on buses.

Please note that tickets must be bought before boarding on the bus.

### UNDERGROUND

The 2 line system has an X shape, with both lines meeting at the Central Railway Station Termini.

The first line, line B south, goes from Laurentina to Rebibbia.

Line A links Anagnina, in the south, with Battistini, in the northwest.

The metro operates from 5:30 until 23:30 hrs. (0:30 hrs. on Saturdays) every 3-4 minutes during rush hours, every 5-6 during the day and every 8-10 minutes early morning and late evening.

### TAXI

Licensed taxis are white, have a name, an identification number, and are equipped with a taxi-meter.

Do not trust people who approach you offering private taxi service. In the city centre there are a number of taxi-ranks, like for example in Piazza della Repubblica, Piazza Venezia and Largo Argentina. A taxi can be called at the following telephone numbers: +39 06 3570, +39 06 4994, +39 06 5551.

Please remember that in this case the taxi-meter is turned on when the taxi picks up the call. Because of the frequent changes made to the rates, you should read carefully the information shown inside the taxi.

### CURRENCY

According to the Monetary Union, the official currency is the Euro.

### BANK AND EXCHANGE

Banks are open from Monday to Friday, from 8.30 to 13.30 hrs. and some of them again in the afternoon from 14.45 to 15.45 hrs. (afternoon opening may vary depending on the bank).

Banks are closed on Saturday and Sunday. Many banks have automatic currency exchange machines that also take credit cards. Most hotels, restaurants and shops accept foreign currency and major credit cards.

### POST OFFICES

The opening of the post offices are:

Monday to Friday from 08.30 to 15.30 hrs., Saturday from 08.30 to 12.00 hrs

### WEATHER

August and September weather in Rome is generally hot. The temperature can rise over 35°.

### ELECTRICITY

Voltage in Italy is mostly 220 volts - 50 Hz. Foreign appliances could require an adapter.

### **TIPPING**

Service is usually included in the bill in bars and restaurants, but tips are welcome.

### **SHOPPING**

The streets of the historical centre of Rome, like the Spanish Steps area - Via Borgognona - and the tree-lined Via Veneto, host the Ateliers of Italy's foremost and world renowned fashion creators along with glamorous shops offering marvellous products, all bearing the unmistakable stamp of "made-in-Italy". The city centre abounds also in privately owned artists' studios and restoration workshops, as well as jewellers' shops.

Galleries can be found almost everywhere in the bordering streets, like Via Margutta and Via dei Coronari, one of the most picturesque streets in Rome, which contains numerous antique dealers. Other shopping areas are: Via del Corso, Via del Tritone, Via Nazionale, Via Cola di Rienzo.

Shops are open from 9.30 to 13.00 hrs. and from 15.30 to 19.30 hrs. Major credit cards are accepted by hotels, restaurants and most shops.

### **Local colour**

Porta Portese flea market every Sunday morning.

Via Sannio casual and old clothes street market on week days.

Borghetto Flaminio garage sale every Sunday.

Hunting for antiques? Via Margutta - Via Borgognona , Via dei Coronari.

### **Exclusive shopping**

Via Condotti, Via Borgognona and around the Spanish Steps.





# Hypoclean

Medical Device CE 0123

The new generation of root canal irrigants

Low surface  
tension

Low surface tension  
More wetting ability

More wetting ability

More organic tissue dissolution

More organic tissue dissolution



OGNA Laboratori Farmaceutici Via Figini, 41 - 20853 Muggiò (MB)  
Tel. +39 039 2782954 fax +39 039 2782958 e-mail: [ogna@ogna.it](mailto:ogna@ogna.it) [www.ogna.it](http://www.ogna.it)

# Everything Endo.

## Every step of the way.



**Diagnostics > Shape > Clean > Obturation.**  
**Everything endo from SybrionEndo.**

SybrionEndo Europe, Basicweg 20, 3821 BR  
 Amersfoort, The Netherlands  
 Tel: +31 33 4536 159 fax: +31 33 4536 153  
 email: [endo@sybrondental.com](mailto:endo@sybrondental.com)



# SCIENTIFIC PROGRAMME





# ESE ROME 2011

## NOT ONLY ROOTS

**CAVALIERI HALL IV**  
**MAIN SESSION**

**THURSDAY, 15<sup>TH</sup> SEPTEMBER 2011**  
**11.00 / 19.00**

### **CLEANING AND DISINFECTION**

**11.00 / 13.00**

**Chairperson: Claus Löst**

**11.00 – 12.00**

Markus Haapasalo (Canada)

**Irrigation and biofilms in endodontics: on the flooding edge**

#### **Abstract**

Microorganisms, existing mostly as biofilms in the necrotic root canal space are the cause of apical periodontitis. Therefore, elimination of these microbes (biofilms) is one of the main goals of successful root canal treatment. There is a general consensus that irrigation with solutions with antibacterial and other useful properties of the root canal is one of the most important parts of the treatment. While the importance of irrigation has been recognized throughout the history of endodontics, recent developments in research, materials (solutions) and equipments have helped us to better understand the true nature of the challenges and how to optimize the effectiveness of irrigation.

This presentation focuses on the core challenge, the biofilm, and presents the latest advances in endodontic biofilm research, and how this understanding can be translated into successful irrigation. The presentation will include the effect of irrigants on the various parts of the root canal system (main canal, ramifications, fins etc.) and also root surface. Cutting edge published and "in press" research including the new "dentin superinfection" and "apical pressure" models will be shown to back up the claims: how can we irrigate effectively and safely. The optimal use of each irrigant, old and new, separately and combined with other irrigating solutions will be discussed, not forgetting potential harmful effects of irrigation/irrigating solutions. Finally, the role of irrigation in comparison to other components of the treatment (instrumentation, materials, root filling) will be summarized.

#### **Curriculum**

Markus Haapasalo, DDS. Dr. Odont., FRCDC  
Professor and Chair, Division of Endodontics  
Head, Department of Oral Biological & Medical Sciences  
University of British Columbia  
Vancouver, BC  
Canada

Dr. Markus Haapasalo (DDS, PhD, Fellow of RCDC (endodontics)) received his dental degree from the Faculty of Dentistry of the University of Helsinki, Finland in 1978. From 1995 to 2004 he was a Professor of Endodontics in Oslo, Norway and from 2004 professor and chair of the Division of Endodontics at UBC, Vancouver, Canada. He is also the head of the Department of Oral Biological and Medical Sciences.

Dr. Haapasalo has authored or co-authored ca 120 scientific peer reviewed articles. He is the editor-in-chief of "Endodontic Topics", a former associate editor of "Journal of Endodontics", Editorial Board member of "International Endodontic Journal", and editor of "Visual Endodontics 2011" multimedia. In clinical endodontics his areas of special interest include instrumentation, irrigation, persistent infections, and resorptions. Dr. Haapasalo has received several teaching awards including the Louis I. Grossman International Award by the French Endodontic Society in 2007. He is actively lecturing about endodontics world-wide.

**THURSDAY, 15<sup>TH</sup> - CAV. HALL IV**

**12.00 – 13.00**

Roeland De Moor (Belgium)

**Endodontic disinfection: the conventional approach versus photo (dynamic) - disinfection and a look into the immediate future**

**Abstract**

There is considerable international attention focused on methods to improve endodontic disinfection within the complex anatomical root canal space and to interfere with endodontic biofilms. Microcomputed tomography scanning has demonstrated that proportionally large areas of the root canal wall remain untouched by the root canal instruments, emphasizing the importance of chemical means of cleaning and disinfecting in addition to root canal preparation. It is also clear that no single irrigating solution sufficiently covers all the functions required from an irrigant.

Success of root canal treatment is now estimated at 85% where failing treatment is related to (1) inaccessible or unreachable areas such as isthmus, anastomoses, cul de sacs and fins, ... (2) biofilm and therapy resistant micro-organisms and (3) extraradicular infection.

In order to improve effectiveness and penetration depth of irrigation the combined use of two or more irrigants, chemical modification of compounds of irrigating solutions, activation of the irrigant by means of mechanical devices have been proposed. It is the question if all these developments will enhance cleaning and disinfection of the root canal system.

Another approach is also to rely on light activated disinfection for the endodontic disinfection strategy. Where the use of lasers and light activation is well established in medicine, dentists appear to be have abundant prejudices against the use of lasers during dental treatment. Today there are quite a lot of evolutions in laser dentistry and light disinfection that will make this technology interesting for endodontic application.

With the introduction of nanoparticles which can also be light activated we have already entered a new era of disinfection. This technology may help to overcome the limitations of both conventional means and classic light activation for the disinfection of the root canal system.

**Curriculum**

Roeland J.G. De Moor, DDS, PhD, MSc

Professor of Restorative Dentistry, Endodontics and Dental Traumatology

Head of the Department of Restorative Dentistry and Endodontics

Director of the Dental Curriculum at the Ghent University

Director of the Ghent Dental Laser Centre

Ghent - Belgium

Dr. Roeland J.G. De Moor (DDS, PhD, MSc Paediatric Dentistry and Dental Traumatology, MSc Restorative Dentistry and Endodontology) received his dental degree from the Ghent University in 1984. Since 1998 he is Professor of Restorative Dentistry, Endodontics and Dental Traumatology in Ghent, Belgium. He is also the Head of the Department of Restorative Dentistry and Endodontics; former Dean of the Dental School; Programme Director of the Bachelor and Master in Dentistry and responsible for the 3-year specialisation programme in Endodontics at the Ghent University; and director and founder of the Ghent Dental Laser Centre.

Research in endodontics is focused on (1) the use of lasers in root canal sterilisation, root canal wall modification and pulp regeneration, (2) laser bleaching, (3) endodontic epidemiology, (4) the analysis of parameters determining the quality of conventional and surgical endodontic treatment, (5) the introduction of (light activated) nanotechnology in root canal treatment. He is author and co-author of more than 100 peer-reviewed international and national publications (most of them on endodontic and laser subjects).

He is editorial board member of the International Endodontic Journal, Journal of Endodontics, ENDO - Endodontic Practice Today, Journal of Adhesive Dentistry, Journal of Oral Laser Applications; founding member and president of BAET (Belgian Association for Endodontology and Traumatology) & SOLA (Society of Oral Laser applications)-BeNeLux; vice-president of SOLA-international; international lecturer at the SOLA Laser Academy; founding member of FES (Flemish Endodontic Society); founding member of the First World Congress of Microdentistry.

**13.00/14.30 LUNCH**

THURSDAY, 15<sup>TH</sup> - CAV. HALL IV

14.30 /16.30

**Chairperson: Paul Dummer**

14.30 – 15.30

Francesco Mannocci (UK)

**Dance with chance: a clinician's journey through endodontic microbiology**

### Abstract

General practitioners and endodontists often believe that the development of endodontic microbiology may be irrelevant for their clinical practice. Endodontic infections are polymicrobial and the chances to have in the future specific antibacterial agents more efficient than sodium hypochlorite and calcium hydroxide are minimal, what advantages can we obtain clinically from a more detailed knowledge of the bacteria that cause apical periodontitis?

In this presentation a clinician who had the opportunity to collaborate with microbiologists in the last 5 years will show how this experience has changed his approach to endodontic infections, in particular to those associated with failed endodontic treatments.

Clinical findings suggesting the existence of previously underestimated sources of endodontic infections will be presented. The analysis of cultivable microbiota from refractory endodontic lesions proved that bacteria such as *Propionibacterium acnes* and *Staphylococcus epidermidis* were amongst the most predominant organisms. Comparison of peri-oral isolates of these same species from the same subjects demonstrated that the endodontic and skin populations were different. *P. acnes* and *S. epidermidis* isolated from refractory endodontic infections are likely to be the result of nosocomial infections similar to those caused in other parts of the body by the same bacteria following different surgical procedures. The clinical implications of these findings will be discussed.

Experimental findings proving how difficult it is to completely remove artificially created bacterial biofilms from technically "easy" single rooted teeth will also be presented.

The use of new methods for the detection of endodontic infections and the use of new potential root canal irrigants will be discussed.

### Curriculum

Prof Francesco Mannocci MD, DDS, PhD, FHEA is Professor and Head of Endodontology in the Department of Conservative Dentistry at King's College London Dental Institute.

He has authored 90 publications including 64 scientific papers published in International peer-reviewed Journals, and invited reviews in International peer-reviewed Journals and several textbooks and textbooks chapters.

Prof Mannocci is running the Specialist Training Program in Endodontology at Kings College London.

15.30 – 16.30

Ben Johnson (USA)

**Advancements in debridement and disinfection of the root canal system**

### Abstract

In the classic article "Cognitive Dissonance in Endodontics", Seltzer and Bender stated "debridement is a prerequisite for wound repair anywhere in the human body". They went on to point out that we, as clinicians facing complex root canal systems are not effectively debriding the canals we treat. Without thorough debridement can intracanal medicaments sterilize the root canal system? Apparently not. A significant number of research papers have been published with contradictory results as to the efficacy of various agents such as CaOH and chlorhexidine. It is my belief that the variations were do to debris left in the root canals preventing the medicaments from reaching the bacteria, as opposed to the conclusions drawn in the articles. Little changed in the intervening 45 years since the article was published until recently.

Great progress has been made in the last 4 years in irrigation protocols and delivery methods which offer us the ability to "completely debride" canals regardless of the complexity of the system. Additionally a new material ,Q-mix™ has been introduced after extensive testing demonstrating the simultaneous ability of removing smear layer and elimination of 99.9% of viable bacteria.

We've known that bacteria is the cause of failure in endodontics for over 50 years. Finally,... "instead of just talking about it" we have the ability to debride and disinfect the root canal system. When these techniques are implemented into our clinical practice, I feel we can realistically expect our success rate to increase dramatically when treating necrotic teeth.

**THURSDAY, 15<sup>TH</sup> - CAV. HALL IV**

**Curriculum**

**Education:**

Doctor of Dental Surgery Degree, 1969 Baylor University  
United States Navy Dental Corps, 1969-1971  
Endodontic Certificate, 1973 Baylor University Graduate School of Endodontics

**Boards:**

Certified in Texas and Oklahoma  
Special certificate for Endodontics in Oklahoma

**Professional experience:**

Private practise, specializing in Endodontics – Tulsa, Oklahoma 1973 – 2002  
Clinical Professor – Louisiana State University School of Dentistry – New Orleans, Louisiana  
Clinical Professor – Baylor College of Dentistry – Dallas, Texas

**Selected achievements:**

Developed the Pro-File .04/.06 and ProTaper Rotary Nickel-Titanium Instruments for cleaning and shaping root canal systems.  
Developed a clinical method for obturating root canal systems. This led to the development of the Thermafil Endodontic Obturator.  
America College of Dentists.  
Pierre Fauchard Academy – International Honor Dental Organization  
International College of Dentists

**Honors and awards:**

American Association of Endodontists President's Award  
American Association of Endodontists Philanthropist of the Year Award  
Oklahoma Inventor of the Year Award  
French Society of Endodontists Louise I. Grossman Award  
University of Tulsa Distinguished Alumni Award

**16.30/17.00 COFFEE BREAK**

**17.00/19.00**

***Chairperson: José Figueiredo***

**17.00 – 18.00**

Matthias Zehnder (Switzerland)

**Actions and interactions of endodontic irrigants**

**Abstract**

After an initial hype related to the purported improved mechanical root canal cleaning capacity of rotary nickel-titanium instruments compared to conventional counterparts, it has become clear that chemical treatment is the core issue in root canal debridement. This lecture will cover technical, biological, and chemical aspects of root canal irrigation. The differences between primary root canal treatments and retreatments are explored in view of optimal disinfection of the root canal system. Ways of irrigant administration will be discussed. Furthermore, the optimal choice of irrigants for a given clinical situation, i.e. filled root canal system versus initial root canal treatment in a tooth with apical periodontitis, will be covered. Irrigant sequences will be proposed with respect to the chemical interactions of the involved substances.

THURSDAY, 15<sup>TH</sup> - CAV. HALL IV

### Curriculum

MATTHIAS ZEHNDER, DR. MED. DENT., PhD, PD  
University of Zürich  
Zürich  
Switzerland

Matthias Zehnder was born 1969 in St. Gall, Switzerland. He graduated from the University of Bern School of Dental Medicine in 1994, where he received his doctoral degree in dentistry (Dr. med. dent.) in 1996. Subsequently, he worked in private practice and part-time as a postdoctoral research fellow at the Department of Oral Cell Biology, University of Bern School of Dental Medicine. Between 1998 and 1999, he was employed at the Department of Oral Biology and Periodontology, Boston University Goldman School of Dental Medicine. He then took a specialist training in Endodontology at Columbia University, from which he graduated in 2001. In addition, Matt has completed a PhD at Turku University (Finland) in 2005, and has received a Docent title from the University of Zürich in 2007. Currently, he is the head of the Division of Endodontology at the Clinic of Preventive Dentistry, Periodontology, and Cariology, University of Zürich. Matt's main research interests are to develop dental biomaterials, diagnose pulpal disease using molecular markers, and to improve approaches to disinfect dental hard tissues. He is lecturing internationally on these topics, and has published over 70 papers in peer-reviewed journals. Matt is associate editor of the International Endodontic Journal and on the editorial board of some other dental journals.

18.00 – 19.00

Luc van der Sluis (The Netherlands)

### How to disturb a calcium driven biofilm with EDTA and ultrasound

#### Abstract

Apical periodontitis, periodontitis and caries are diseases caused by the specific reaction of the host to an oral biofilm. The approximately 500 different microbial species present in this biofilm community protect themselves effectively by their self produced shield, the extracellular matrix. Because of the enormous quantity of species and different conditions for each biofilm community, it is clear that the variety in biofilms is infinite. Calcium however, a divalent cation, is always present in the mouth and root canal, and supports and reinforces the extracellular matrix. We need to disrupt this extracellular matrix to attack the microorganisms. Until now, only repeatedly mechanical disturbance of this biofilm can control the disease, for example caries. In deep periodontal pockets or the root canal, where repeatedly mechanical disturbance is not possible, we are confronted with a recurrent or continuous low grade disease. Some of the reasons are the difficult root canal anatomy, the biofilm attachment to a porous substrate (dentin), and the stratification of the biofilm where the cohesion and attachment is the highest at the basal zone. Therefore, chemical combined with mechanical action is important. Ultrasonic activation of irrigants can enhance their chemical properties and at the same time provoke a mechanical effect. This mechanical effect could imply the disturbance or disruption of the biofilm which could enhance the chemical effect of the irrigant.

EDTA is a chelator and can disintegrate the structural cohesion bonds accomplished by calcium. Therefore, EDTA could help to destruct the calcium bonds in the biofilm and enhance the antimicrobial effect of NaOCl (synergistic effect). This synergistic effect of EDTA with antimicrobials to remove the biofilm is already described in the literature. Consequently, the dispersion of EDTA through the root canal system with help of ultrasound could be helpful. The concentration and time of application of EDTA seem to have an influence, the refreshment not.

### Curriculum

Pr Luc van der Sluis DDS PhD

Luc graduated in 1985 at the Academic Centre Dentistry

Amsterdam (ACTA), the Netherlands, where he successfully completed the postgraduate endodontic program in 1993 under the guidance of Prof. Dr. P. Wesselink. Since 1993 until 2010, Luc worked in a practice limited to endodontics and held a position in research and teaching at the Department of Cariology, Endodontology and Pedodontiology of ACTA. He received his PhD degree for the thesis 'Passive ultrasonic irrigation of the root canal'. At the moment, Luc holds a position of associate professor at the University of Toulouse (France) where he continues his endodontic research combined with new research in the field of cariology. He has published many articles on endodontic topics in international journals. Furthermore, Luc is an international lecturer and gives hands-on seminars on a variety of endodontic topics. The current focus of his research is the disinfection of the carious lesion and root canal system, which he systematically investigates with specialists in biofilm research, fluid dynamics and (sono) chemistry.



FRIDAY, 16<sup>TH</sup> SEPTEMBER 2011 - CAV. HALL IV  
8.30 / 19.00

## ROOT CANAL PREPARATION

8.30 / 10.30

**Chairperson: Cecilia Bourguignon**

8.30 – 9.30

Edgar Schäfer (Germany)

**Ability of different root canal hand instruments to maintain the original canal anatomy**

### Abstract

This lecture provides a detailed overview of different features and properties of both stainless steel (Reamers, K-files, and Hedström files) and nickel-titanium hand instruments. Based on a critical evaluation of the relevant literature, differences in shaping of even severely curved canals between these different types of instruments will be pointed out. Based on the currently best available evidence, the impact of these instruments on the clinical outcome of root canal treatment will be discussed.

Moreover, the suitability of these different types of manual root canal instruments for the management of some usual clinical problems in order to preserve the original anatomy of the root canal (e.g., initial negotiating of sclerosed and/or severely curved root canals) will be assessed. Finally, a comparison of the pros and cons of hand instruments will be given to summarize the presentation.

### Curriculum

Prof. Dr. Edgar Schäfer

From 2002-2008 Professor at the Department of Operative Dentistry, University of Münster, Germany.

2006 call as chair of the Department of Operative Dentistry and Periodontology at the University of Leipzig

Since 2008 Head of the Central Interdisciplinary Ambulance in the School of Dentistry, University of Münster, Germany.

Between 1995 and 2005 executive board member of the German Association of Operative Dentistry (DGZ) and from 2004-2009 executive board member and since 2009 chair of the Study group for Endodontology and dental Traumatology (AGET) associated with the German Association of Operative Dentistry.

Certified specialist for Endodontology of the DGZ; active and certified member of the European Society of Endodontology (ESE); associate member of the American Association of Endodontists (AAE).

More than 180 publications and contributions to several textbooks; more than 300 lectures all around Europe and North-America. Editor of 3 textbooks.

Awards: 1994: Award for the best presentation during the annual meeting of the German Association of Operative Dentistry (DGZ); 1998: University-Award of Endodontology; 2000: Walkhoff-Award of the DGZ; 2002: University-Award of Endodontology; 2007: Walther-Engel-Award of the German Academy for Advanced Dental Education (Karlsruhe, Germany).

9.30 – 10.30

Carsten Appel (Germany)

**Apical root canal preparation: a conflict between science, philosophy and industry**

### Abstract

Eliminating infection from the root canal system is a prerequisite for success in root canal treatment. The mechanical preparation of the root canal is one component of this goal as it facilitates chemical disinfection through the use of irrigants. The literature confirms the complex morphology of root canal systems, which is difficult to shape effectively, especially in the critical apical region. In addition, awareness has grown on the resistance of bacteria within complex biofilms, which are formed within the canal. The detailed morphology of the so called 'apical constriction' has been of interest recently and the position where the root canal preparation should terminate apically has received considerable publicity. All these factors have an impact upon and create challenges for dentists when attempting to prepare root canals. Current instrumentation systems are becoming easier to use and involve only a small number of instruments or even only one. This trend is largely market-driven, where the goal appears to be to make everything simpler and quicker – maybe leaving the irrigant to work miracles. The aim of this lecture is to compare the demands of effective canal preparation with the performance of available file systems, including questioning their effectiveness. In conclusion, a concept for an effective apical root canal preparation will be proposed.



FRIDAY, 16<sup>TH</sup> - CAV. HALL IV

### Curriculum

Dr. Carsten Appel received his dental degree from the Faculty of Dentistry of the University of Bonn, Germany in 1993. He is working in private practice. Since 2001 he is lecturing on endodontics. He has limited his work to endodontics since 2004. He received the recognition as an endodontic specialist by the European Dental Association (EDA) in 2003 and by the German Society of Endodontology (DGEEndo) in 2006. He is a certified member of the ESE. Since six years he is the president of the German Society of Endodontology.

Dr. Appel authored several scientific articles in the field of endodontics and is co-author of an endodontic textbook. In clinical endodontics his areas of special interest include instrumentation strategies, apical anatomy and methodical aspects of root canal obturation. Beside his work in private practice he is lecturing on endodontics throughout Germany, is actually involved in endodontic research projects at the University of Bonn and is teaching in the post-graduate endodontic program of the University of Düsseldorf, Germany.

### 10.30/11.00 COFFEE BREAK

11.00 /13.00

**Chairpersons: Marco Martignoni, Francesco Riitano**

11.00 – 12.00

Giuseppe Cantatore (Italy)

### **A critical approach to mechanical glide path**

#### **Abstract**

NiTi instrument separation is a serious concern in endodontic therapy. The analysis of NiTi files after torsional fracture reveals that the majority of torsional separations occur in the last mm. of the files and in the files with lower taper and/or diameter. Consequently, the tip of the smaller files presents the higher risk of torsional fracture and should be protected using low torque motors, reducing axial pressure and avoiding the tip from engaging root dentin ("taper lock"). In contrast, flexural fractures occur after repeated subthreshold loads have led to metal fatigue. Numerous studies evaluated the causes of stress and separation of rotary NiTi files concluding that a significant reduction of rotary instrument separation could be obtained when use of rotary file was anticipated by an initial preflaring and glide path. A strong evidence supports the importance of preflaring and glide path to reduce the frequency of rotary file separation. The initial preflaring and glide-path are normally carried out using stainless steel hand files. Unfortunately these files presents several drawbacks because of their relative stiffness and aggressive tip that in curved and/or calcified canals can cause ledges or transportation. In addition SS manual files tend to accumulate and pack debris into the canal apical area, increasing the risk of canal blockages and apical extrusion of contaminated debris. More recently NiTi rotary instruments have been introduced for mechanical glide path and preflaring. These files show a low .02 taper, a square cross section and four cutting angles that should create a combination of flexibility and strength thus allowing a safer and faster use. The first part of the lecture, based on research studies and clinical cases, will compare advantages and limits of manual and mechanical glide path while the second part will examine the importance of preflaring and glide path when using the last generation reciprocating files.

**FRIDAY, 16<sup>TH</sup> - CAV. HALL IV**

**Curriculum**

Professor Giuseppe Cantatore graduated in Medicine in 1980 at the University of Rome "La Sapienza". In 1983 he specialized in General Dentistry at the same University. Dr. Cantatore taught Endodontic at the University of L'Aquila from 1987 to 1991 and of Rome "La Sapienza" from 1992 to 1998. From 2000 he is Associate Professor of Endodontics at the University of Verona-Italy. Dr. Cantatore is Author of more than 90 articles mostly related to Endodontics published on National and International Dental Magazines and of a book on the Endodontic Intermediate Medication. Furthermore Professor Cantatore is active member of the Italian Association of Endodontists (SIE), of the Italian Association of Restorative Dentistry (SIDOC) and of the Italian Association of Dental Microscopy (AIOM) and honorary member of the libanese society of Endodontics.; furthermore he is associate member of the European Association of Endodontists (ESE) and of the American Association of Endodontists (AAE). As an International Speaker Dr.Cantatore gave Precongress Courses, Workshop, and Presentations during many International Meeting; among them the American Association of Endodontists, the IFEA (International Federation of Endodontic Associations) and the European Association of Endodontists (ESE). At the present moment Dr.Cantatore is Past-President of the European Society of Dental Microscopy (EFAM) and Past-President of the Italian Society of Endodontists (SIE). Dr. Cantatore lives and works in Rome with clinical practice limited to Endodontics.

**12.00 – 13.00**

Cliff Ruddle (USA)

**Single file shaping technique**

**Abstract**

Clinical endodontics is confronted with a staggering number of different file brands and sequences for shaping canals. The most recent advancements in canal preparation methods have focused on the concept "less is more." Dr. Ruddle will describe a single-file technique for shaping virtually all canals, regardless of their length, diameter, or curvature. This presentation will describe how a new, unique instrument design, superior metallurgical technology, and a novel mechanical movement have converged to create a single-file technique for shaping canals. Emphasis will be placed on creating minimally invasive shapes that promote 3D disinfection and obturation.

**Curriculum**

CLIFFORD J. RUDDLE, DDS, FACD, FICD  
Santa Barbara, California, United States  
Brief Biographical Data

Dr. Clifford J. Ruddle is Founder and Director of Advanced Endodontics, an international educational source, in Santa Barbara, California. Additionally, he maintains teaching positions at various dental schools, is a Fellow in both the American and International Colleges of Dentistry, and has authored numerous articles and chapters for leading textbooks. As an inventor, Dr. Ruddle has designed and developed several instruments and devices that are widely used internationally. He is best known for providing superb education through his lectures, instructional DVDs, and "ONE-ON-ONE" training courses in Santa Barbara, California. To learn more about Dr. Ruddle, visit [www.endoruddle.com](http://www.endoruddle.com).

**13.00/14.30 LUNCH**

FRIDAY, 16<sup>TH</sup> - CAV. HALL IV

**14.30 /16.30**

**Chairperson: Massimo Gagliani**

**14.30 – 15.30**

Gilberto Debelian (Norway)

**Mechanical instrumentation controlling intra-canal infection**

### **Abstract**

Mechanical instrumentation is a critical step in the microbial control phase of root canal treatment. If performed correctly it will not only physically remove microbes from the canal wall but also facilitate and magnify the effect of irrigants and medications. The objective of this lecture is to present a clinical protocol based on available evidence to control intracanal infection during the instrumentation phase. The instruments, devices and the techniques necessary to achieve this goal will be presented and discussed.

At conclusion, participants should be able to:

1. Understand the role of mechanical instrumentation in the microbial control phase
2. Understand the role that mechanical instrumentation plays in facilitating the effects of irrigation and intracanal medication in disinfecting the root canal.

### **Curriculum**

Dr. Gilberto Debelian, DMD, PhD  
Oslo, Norway

Dr. Gilberto Debelian has received his DMD degree from the University of Sao Paulo, Brasil in 1987. He has completed his specialization in Endodontics from the University of Pennsylvania, School of Dental Medicine, USA in 1991 and received the Louis I. Grossman Postdoctoral Student Award in Endodontics. He has taught as a clinical instructor and associate professor at the post-doctoral endodontic program at the Department of Endodontics, University of Oslo, Norway from 1991 to 2001, and from 2006 to 2010. He has concluded his PhD studies at the University of Oslo, Norway in 1997 on bacteremia and fungemia on patients undergoing endodontic therapy, which gave him two scientific awards from the European Society of Endodontology (ESE) and from the Norwegian Dental Association both in 1997. His is an adjunct visiting professor at the post-graduate program in endodontics, University of North Carolina in Chapel Hill, and University of Pennsylvania in Philadelphia, USA. Dr. Debelian maintains a private practice limited to Endodontics in Bekkestua, Norway.

Dr. Debelian has authored 3 chapter books in Endodontics, one book in Endodontics and written more than 50 scientific and clinical papers. He is currently member of the scientific advisory panel for the Journal of Endodontics and Endodontic Practice Today. He is the director of the Oslo Endodontic Study Club and the vice-president of the Norwegian Endodontic Society. Dr. Debelian has lectured nationally and internationally on Endodontic Infections, Systemic Diseases Caused by Oral Microorganisms, Dental Traumatology, New Technological Aids in Endodontics including Nickel-Titanium instruments and instrumentation techniques and root filling materials and techniques. Dr. Debelian is also involved on hands-on courses on NiTi systems and operative dental microscopy both on conventional and surgical Endodontics and holds a instructor position at the Carl Zeiss Academy of Microscopy in Switzerland.

**15.30 – 16.30**

Gianluca Gambarini (Italy)  
**Shaping root canals in 3D**

### **Abstract**

The lecture will address the problem how to shape and clean canals in three dimensions. The anatomy of root canals, in fact, is mainly oval, while current instruments and techniques are designed to work ideally in round canals. Therefore some changes in the operative techniques and/or in the endodontic instruments must be done while preparing oval canals. Moreover the lecture will explain the need for increasing the amount of canal walls touched by the instruments, the importance of maintaining original path and avoid iatrogenic errors, and the correct selection of tapers and tip sizes. Following these principles, a novel approach root canal instrumentation will be presented, in attempt to optimize performance and simplify procedures.

**FRIDAY, 16<sup>TH</sup> - CAV. HALL IV**

**Curriculum**

Full-time Professor of Endodontics, University of Rome, La Sapienza, Dental School. Head of the Endodontic Department Vice Dean of Dental Hygienist School University of Rome, La Sapienza,

International lecturer and researcher, He is author of more than 450 scientific articles, three books and chapters in other books. He has lectured all over the world (more than 350 presentations) and has been invited as a main speaker in the most important international (AAE, IFEA, ESE) and national endodontic congresses in Europe, North and South America, Asia, Middle East, Australia and South Africa. He has also lectured as an invited speaker in many Universities worldwide.

During his academic career he gained many awards and recognition, and was responsible of many scientific projects with national and international grants.

He has focused his interests on endodontic materials and clinical endodontics. He is actively cooperating as a consultant with many manufacturers all over the world to develop new technologies, operative procedures and materials for root canal treatment.

Official member of ANSI/ADA and ISO Committees for Endodontic Materials. Active member of IADR, Italian Society of Endodontists (SIE) and European Society of Endodontology (ESE), Associate member of AAE. Former Scientific editor of the Italian Journal of Endodontics (G.It. Endo), official Journal of Italian Society of Endodontists (SIE), he is currently the Country Representative for Italy in the ESE. Member of the scientific committee and/or reviewer of the most important international endodontic and dental journals. He still maintains a private practice limited to Endodontics in Rome, Italy.

**16.30/ 17.00 COFFEE BREAK**

**17.00 /19.00**

***Chairperson: Benjamin Briseño Marroquin***

**17.00 – 18.00**

Bettina Basrani (Canada)

**Evolution of instrument's cross section in root canal preparation**

**Abstract**

The purpose of endodontic treatment is to prevent or eliminate infection of the root canal system by removing bacteria and their toxins. It is accepted that complete disinfection is impossible, and one of the aims of filling is to entomb the remaining bacteria/toxins with the filling material. Nevertheless, cleaning and disinfecting the canal system facilitates the eradication of as many micro-organisms and their toxins as possible so as to place the tooth in a favourable biological context necessary for peri-radicular bone healing. Nickel-titanium rotary instruments are important adjuncts in endodontic therapy. Many Nickel Titanium systems are available. This lecture will attempt to understand the evolution of the instrument design and explore the different file features and its influence in the canal preparation and future outcome.

**Curriculum**

Dr Basrani is a native of Argentina. She earned her DDS at the University of Buenos Aires in 1989 and a certificate in endodontics in 1998 and a PhD in 2001. A long-time educator and researcher, she taught at the University of Buenos Aires. She has been at Dalhousie University of Halifax, Nova Scotia, Canada, serving as Chair for 3 years and now as Assistant Professor and Program Co-director at the University of Toronto. Dr Basrani has published extensively in both the clinical and basic science literature and was a collaborator in the textbook Pathways of the Pulp, 10th edition. She has received teaching awards at her institution.

FRIDAY, 16<sup>TH</sup> - CAV. HALL IV

18.00 – 19.00

Zvi Metzger (Israel)

### **From rotary to Self-Adjusting Files (SAF): a new era of mechanized 3d root canal preparation**

#### **Abstract**

When rotary NiTi files are used by experienced operators they may result in beautiful x-rays. However, are beautiful 2D x-rays the real purpose of endodontic treatment or is it 3D cleaning, shaping and obturation of the root canal system? Root canals with oval or even flat-oval cross sections are quite common and in certain teeth they may represent more than 50% of the cases. Rotary NiTi file systems fail to adequately clean and shape such canals. Furthermore, microCT studies have established that even in simple curved root canals rotary NiTi files fail to adequately prepare the root canal walls and the thicker files tend to transport them.

The Self Adjusting File (SAF) represents a new concept. The SAF file adapts itself both to the cross section and the curvature of a given canal and removes a uniform layer of dentin from the entire circumference of the root canal. The hollow file also allows for continuous irrigation with fresh sodium hypochlorite throughout the procedure, with additional scrubbing effect, thus resulting in better cleaning and disinfection than ever possible with the current methods.

The final x-ray may look the same but what was achieved in front and behind this 2D projection makes all the difference. Endodontics is at last entering the era of 3D mechanized preparation of root canals.

#### **Curriculum**

Prof. Zvi Metzger graduated from the Hebrew University School of Dental Medicine in Jerusalem in 1970. Since 1973 he has been on the faculty at the Tel Aviv University School of Dental Medicine, where he served as Dean in the years 1987-1991. Prof. Metzger is specialist in Endodontics and was the Chairman of the National Board of Endodontics in Israel. He is an Associate Professor in Oral Biology and Endodontology at Tel Aviv University.

Prof. Metzger was a visiting fellow at the National Institute of Dental Research, NIH, Maryland (1978-1981) and a visiting professor at the University of North Carolina at Chapel Hill (1995-1996). He currently serves as Chairman of the Department of Endodontology and until recently served also as Director of Research Laboratories at the Tel Aviv University School of Dental Medicine. He retains a private endodontic specialist practice in Tel Aviv.

Prof. Metzger has published and lectured extensively in the fields of Oral Biology and Endodontics. He served on the Editorial Board of Endodontics and Dental Traumatology and of ENDO- Endodontic Practice Today and serves currently on the Scientific Advisory Panel of Journal of Endodontics and as a referee for International Endodontic Journal and Oral Surgery Oral Medicine Oral Pathology Oral Radiology and Endodontics. He was the President of the Israeli Division of the International Association for Dental Research (1987), Chairman of the Israeli Endodontic Society (2000-2002) and is a recipient of the Honorary Achievement Award of the Israel Dental Association (2003) for his contributions in dental research and education.

**SATURDAY, 17<sup>TH</sup> SEPTEMBER 2011 - CAV. HALL IV**  
**8.30 / 16.30**

**ROOT CANAL OBTURATION**

**8.30 / 10.30**

***Chairperson: Roland Weiger***

**8.30 – 9.30**

Ashraf El Ayouti (Germany)

**Root Canal Obturation: expectations versus reality**

**Abstract**

Cleaning and shaping have been identified to be the most influential treatment protocol achieving endodontic success. Root canal obturation, though eclipsed by canal preparation, is deemed to be crucial to the long term success by sealing the pulp space against microbial (re-)establishment. The debate about the ideal filling material/technique will remain unsettled, but there is a common consensus about the desirable biological and physical properties of obturation materials. Clinically, radiographic evaluation including CBCT remains the only possible method to assess obturation quality. A dense filling extending to the apex has been shown to be a predictor of successful treatment. However, healthy periapical findings are often observed in teeth having technically "unsatisfactory" root canal fillings. This presentation will address the quality of contemporary obturation materials/techniques and its impact on endodontic success.

**Curriculum**

Dr Ashraf ElAyouti received Bachelor degree in dentistry and doctor of dental surgery in 1988, Alexandria University. After serving 2 years in the Marine as a dental surgeon and another 5 years at the University of Hamburg, he received his doctoral degree, Dr. med. dent., in 1998. Subsequently he worked at the department of Conservative Dentistry, Division of Endodontology, Tübingen University. Since January 2005, he is holding a position of senior lecturer and supervisor of doctoral and research programs in Endodontology. His main research interests are physical properties of dentin and 3-D Dental Imaging.

**9.30 – 10.30**

Caterina Ricci (France)

**Treatment of large lesions: endodontic or surgical**

**Abstract**

Lesions are the result of the evolution of an Apical Periodontitis and are due to a bacterial proliferation. Sometimes, root canal disinfection allows, with endodontic treatment only, healing with suspension of clinical signs and complete tissue regeneration. Unfortunately, to have healing is not always possible without a surgical treatment. In such a case, it is necessary to evaluate the volume of the lesion and its relations with the anatomical structures. A precise analysis of clinical signs and X-Rays will be necessary. The CT Scan will give us valuable informations and allow us a safer approach to the surgical area.

Obviously, the microscope is an indispensable help to visualize the anatomical structures and the periapical environment. Also, it allows us to display cracks undiagnosed during clinical examination and during the analysis of the X-Rays. On important lesions, the periodontal attach could be completely removed and the surgery will not be a simple endodontic surgery, but will need to use periodontal techniques. We should be able to use absorbable membranes and to make a choice between a Vicryl mesh, which is a synthetic absorbable copolymer, or a regenerative material. This choice will depend on the extent of the lesion and the periodontal defect, and the presence or the lack of the periodontal attach. Those techniques mixed with endodontic surgery will allow us a long-term healing of important lesions, which would compromised the future of the tooth.

At the end of the presentation, practitioners will be able to make a precise diagnosis of the lesion and to decide what kind of treatment will be necessary to get healing. They also be able to manage a periodontal defect during the surgery.

SATURDAY, 17<sup>TH</sup> - CAV. HALL IV

### Curriculum

- Graduated at the University of Paris VII in 1983
- Post graduated in Endodontics at the university of Paris VII in the program of Professor LAURICHESSE in 1989
- Assistant professor from 1986 to 1990 at the university of Paris VII
- Member of the French Society of Endodontics since 1983, Past president of the French Society of Endodontics
- Co-Director at the post graduate program at the University of Nice, France
- National and International lecturer
- Regent-Director for Europe at the Board of IFEA from 2001 to 2010.
- Practice limited in Endodontics since 1987.

### 10.30/11.00 COFFEE BREAK

11.00 /13.00

**Chairperson: Elisabetta Cotti**

11.00 – 12.00

Frederic Barnett (USA)

### Adhesive endodontic obturating materials and techniques

#### Abstract

Lesions are the result of the evolution of an Apical Periodontitis and are due to a bacterial proliferation. Sometimes, root canal disinfection allows, with endodontic treatment only, healing with suspension of clinical signs and complete tissue regeneration. Unfortunately, to have healing is not always possible without a surgical treatment. In such a case, it is necessary to evaluate the volume of the lesion and its relations with the anatomical structures. A precise analysis of clinical signs and X-Rays will be necessary. The CT Scan will give us valuable informations and allow us a safer approach to the surgical area.

Obviously, the microscope is an indispensable help to visualize the anatomical structures and the periapical environment. Also, it allows us to display cracks undiagnosed during clinical examination and during the analysis of the X-Rays. On important lesions, the periodontal attach could be completely removed and the surgery will not be a simple endodontic surgery, but will need to use periodontal techniques. We should be able to use absorbable membranes and to make a choice between a Vicryl mesh, which is a synthetic absorbable copolymer, or a regenerative material. This choice will depend on the extent of the lesion and the periodontal defect, and the presence or the lack of the periodontal attach. Those techniques mixed with endodontic surgery will allow us a long-term healing of important lesions, which would compromised the future of the tooth.

At the end of the presentation, practitioners will be able to make a precise diagnosis of the lesion and to decide what kind of treatment will be necessary to get healing. They also be able to manage a periodontal defect during the surgery.

### Curriculum

#### Education:

University of Pennsylvania, School of Dental Medicine

1974-1978 Degree: D.M.D.

1979-1981 Degree: Certificate in Endodontics

1978-1979: Long Island Jewish-Hillside Medical Center Certificate: General Practice Residency

#### Faculty Appointments:

University of Pennsylvania, School of Dental Medicine:

1981-1985 Clinical Assistant Professor; 1982-1985 Assistant Director, Postdoctoral Endodontics; 1985-1986 Co-Director, Postdoctoral Endodontics; 1985-1988 Assistant Professor, Director, Postdoctoral Endodontics and Clinical Associate Professor; 2006-present Adjunct Associate Professor.

Temple University Dental School Department of Endodontology

1997-2000: Clinical Associate Professor

Albert Einstein Medical Center, I.B. Bender Division of Endodontics

1997-present Attending Faculty



**SATURDAY, 17<sup>TH</sup> - CAV. HALL IV**

**Administrative Appointments:**

The Louis I. Grossman Study Club, Philadelphia, PA.:

1999-present Scientific Program Coordinator and President from 2002 to 2006.

American Association of Endodontists: since 2003 member of the Editorial Board

Albert Einstein Medical Center, The I.B. Bender Division of Postdoctoral Endodontics.

2006-present Chairman and Program Director

Maxwell S. Fogel Department of Dental Medicine, Albert Einstein Medical Center

2009-2010 Vice-Chairman

2010-present Acting Chairman.

**Committee Memberships:**

American Association of Endodontics

2004-2007 Continuing Education Committee, 2005-2008 Research and Scientific Affairs; 2010-present Sub-committee, CBCT Guidelines in Endodontics.

Albert Einstein Medical Center: 2009-present Research Committee

**Specialty Certification:**

Diplomate - American Board of Endodontics - 1988

Awards and Honors:

Deans List, Queens College, 1971

Deans List and Honors List, Hofstra University, 1973

Honors in Oral Medicine, University of Pennsylvania School of Dental Medicine, 1978

**Memberships in Professional and Scientific Societies:**

American Dental Association, American Association of Endodontists, Philadelphia County Dental Society, Chester-Delaware County Co. Dental Society, International Association of Dental Research, American Association of Dental Research, New Jersey Southern District Dental Society, International Association of Dental Traumatology.

**Editorial Positions:**

Endodontics and Dental Traumatology, Editorial Board, 1985-2001

Practical Procedures and Aesthetic Dentistry, Endodontic Section Editor, 2002-2004

Oral Health Dental Journal, Consultant Editor, 2003-present

Dental Traumatology, Editorial Board, 2003-present

Journal of Endodontics: Current Literature Section, 1989-2002, Associate Editor, 2003-present

Private Practice Limited to Endodontics since 1981. He is author of 38 publication of Articles, Chapters and Texts and was invited as lecturer more than 60 times.

**12.00 – 13.00**

Min Kai Wu (The Netherlands)

**Influence of the quality of root filling on apical periodontitis detected by CBCT**

**Abstract**

The apical extension and the density of root filling significantly influence the outcome of root canal treatment. Two years after the treatment, cone-beam computed tomography (CBCT) was used to assess the quality of the root fillings and the outcomes. CBCT detected significantly more overextensions and root fillings with voids than radiographs. Analysis with CBCT data revealed that elimination of periapical radiolucency was highly quality-sensitive.

**Curriculum**

Dr Min-Kai Wu, MSD, PhD

Academic Centre of Dentistry Amsterdam (ACTA)

Amsterdam

Netherlands

Dr Min-Kai Wu received his PhD degree from the University of Amsterdam, Netherlands, in 1993. He is currently a senior scientist at ACTA, University of Amsterdam and VU University, Amsterdam, Netherlands and a guest professor at the Peking University School of Stomatology, Beijing, China. Currently, his h-index is 28.

**13.00/14.30 LUNCH**



SATURDAY, 17<sup>TH</sup> - CAV. HALL IV

### POST AND RECONSTRUCTION

14.30 / 16.30

*Chairperson: Sandro Rengo*

14.30 – 15.10

Michael Naumann (Germany)

#### **Predictable postendodontic restoration**

##### **Abstract**

The endodontic treatment in today's daily practice is very successful and its reliability is comparable to implant-based restoration. However, a key factor for the long-term clinical success of an endodontic treatment is the postendodontic restoration, which has to provide a bacterial tight seal and has to withstand functional forces as reliable abutment for a variety of prosthetic treatment options. Therefore, adhesive procedures for postendodontic restorations have become increasingly popular and clinical data support the recommendation to use adhesive core build ups with and without glass fiber posts.. Aspects as being metal-free, easy to remove, pleasant aesthetical appearance, application as one-stage procedure without the need of provisional restoration and easy abutment preparation after endodontic post placement are obvious advantages. However, adhesive restorations and post placements may be more technique sensitive than conventional protocols. Which materials provide a bacterial tight seal, which materials are compatible and in which indication is a post placement necessary are just a few questions. Therefore, this presentation will elucidate defect dependent solutions for a predictable post endodontic restorative treatment.

##### **Curriculum**

MICHAEL NAUMANN, DMD, Dr. Med. Dent., Prof.

Full professor, Center of Dentistry,

Department of Prosthetic Dentistry, University of Ulm 2010

Private practice in Berlin since 2009

Board certification in Implantology 2008

Associate professor,

Dept. of Dental Prosthodontics, Geriatric Dentistry and Cranio-mandibular Disorder, Charité – University Medicine Berlin 2007

Board certification in Prosthodontics 2005

Doctor medicinae dentariae (Dr. med. dent.) 2001

Board Certification and License to practice Dentistry at Dental School, Charité, Berlin 1999

**SATURDAY, 17<sup>TH</sup> - CAV. HALL IV**

**15.10 – 15.50**

Marco Ferrari (Italy)

**When, why and how to place a post**

**Abstract**

When, why and how to place a post is a common question that any practitioner has to answer after endodontically treating a tooth. During this presentation it will be explained why fiber posts are more indicated than any metallic posts for restoring endodontically treated teeth. Also clinical indications for selecting cases in which place or not posts will be considered and bonding procedures to fiber posts' surface will be shown. Bonding into root canal procedures will be examined deeply and then, clinical procedures for restoring endodontically treated teeth using fiber posts will be presented. The clinical procedures and materials available for building up endodontically treated teeth will be evaluated and presented. Finally, long term clinical results, success and failures of fiber posts and clinical cases will be reviewed following evidence base dentistry concepts and proposal of effective clinical protocol will be presented. The main aspects will be explained with videos.

**Curriculum**

Marco Ferrari, born in 1959, graduated at School of Surgery and Medicine, of University of Pisa in July 1983 with maximum score and he took his General Dentistry degree in 1987 at University of Siena with laude. Between 1987-88 he attended the PostGraduate Program in Prosthodontics at Tufts University di Boston. In 1995 he took his Ph D degree at University of Amsterdam, defending a thesis on Bonding to dental structures'. In the mean time he started his carrier at the School of Dental Medicine at Tufts University of Boston and he was appointed progressively from Clinical Instructor to Assistant Clinical Professor, Associate Clinical Professor and finally Research Full-Professor during the academic year 1999-2000. Between 1997 and 1999-2000 he was teaching Dental Materials at School of Dental Medicine of Siena University as Supplent Professor.

During October 2000 he was appointed Associate Professor at School of Dental Medicine, of Siena University. In June 2001 Prof. Ferrari proposed and implemented the Ph D program in 'Dental Materials and their clinical applications' at University of Siena. In June 2002, he was winner of national application of full-professor position and was appointed full professor at Siena University. Between 2002 - 2005 Prof. Ferrari was Dean of School of Dental Medicine. In October 2003 he was appointed "Vice Rector of International Relations" of University of Siena. In May 2005, he was also appointed Director of School of Ph D in 'Biotechnologies'. He recently was the founder and now is Coordinator of Tuscan School of Dental Medicine, merged School between Florence and Siena Schools of Dental Medicine (2010-present). Prof. Ferrari international recognition: Research Professor, Department of Restorative Dentistry and Fixed Prosthodontics, Tufts University, Boston (after being appointed assistant, and associate clinical professor, 2001-2010). Adjunct Professor, Department of Fixed Prosthodontics, University of Rochester (2008-present). Visiting Professor, Xi'an University, Department of Prosthodontics, China (2007-present). Visiting Professor, Belgrad University (2008-present). Prof. Ferrari was member of the Board of Accademia di Conservativa, and of Società di Odontoiatria Conservatrice, he was board member and President of Academy of Dental Materials (2003-10) and Member of the board, President of European Federation of Conservative Dentistry (2004-5). He is also board member (2008-present) and President Elect of IADR Central Europe Division. He is in the editorial board of some international dental journals with impact factor (such as International Journal of Prosthodontics, Journal of Adhesive Dentistry, American Journal of Dentistry, Dental Materials, Journal of Dental Research, Journal of Dentistry, J Endodontics and Editor of International Dentistry South Africa, referee of 10 additional international journals.) and he acts as referee of other 10 peer-reviewed impact factor dental journals. He is author of 290 international publications, of other 260 national publications and of 190 abstracts presented in international and national congress. His School has the highest impact factor of Italian School of Dental Medicine, among the best 3 of Europe and 4 of the World.

SATURDAY, 17<sup>TH</sup> - CAV. HALL IV

15.50 – 16.30

Sema Belli (Turkey)

### **How to reduce stress and strain in your daily life**

#### **Abstract**

Stress is defined as the consequence of the failure of an organism to respond adequately to mental, emotional or physical demands, whether actual or imagined. Signs of stress may be cognitive, emotional, physical or behavioral. The negative effects of stress which we experience in daily life can also be seen in oral environment as restorations are subjected to stresses from mastication action. Lack of resistance against to stress is one of the main reasons for the deformation of a dental restoration which can ultimately compromise its durability over time. Therefore considering the materials and restorations in a biomechanical aspect is important to predict the areas under risk of possible failures.

Endodontically treated teeth have a higher risk for biomechanical failure as a result of coronal and radicular tissue loss due to prior pathology, endodontic treatment and restorative procedures therefore restoration is challenging. Many options are available for the rehabilitation of those, but clinical decision is sometimes crucial. As the tooth structure loss is an important factor, special attention should be given to secure sufficient remaining tooth structure and roots during restoration procedures. Most of the detrimental effects produced during rehabilitative procedures are due to the lack of comprehension of biomechanical principles underlying the treatment. This presentation will focus on the treatment options for restoration of endodontically treated teeth, materials and techniques used to increase the strength of the tooth-restoration interface, to reduce stresses on remaining tooth structures and to reduce the risk of debonding due to polymerization shrinkage during direct composite resin restorations. In addition, biomechanical studies to highlight the behavior of endodontically treated teeth to functional forces and clinical outcomes will be discussed.

#### **Curriculum**

She graduated from Marmara University, Istanbul, Turkey with DDS, and received her PhD degree in Department of Operative Dentistry from Selçuk University, Konya, Turkey. Dr. Belli held the positions of chair and professor in Department of Endodontics, Selçuk University between. Her current position is Professor of Department of Endodontics at the same university. She was a visiting researcher at Tokyo Medical and Dental University and Medical College of Georgia. She has published and lectured extensively on dental materials including dental composites, adhesives, glass or polyethylene fibre reinforcement materials, conservative restoration of extensive cavities, restoration of endodontically treated teeth, post and cores, finite elemental analysis, composite polymerization, cuspal deflection, bond strength tests and leakage. Her current interest is biocompatibility of the dental materials.

**CAVALIERI HALL I-II  
MAIN SESSION**

**THURSDAY, 15<sup>TH</sup> SEPTEMBER 2011  
11.00 / 19.00**

**SCIENCE**

**11.00 / 13.00**

***Chairperson: Antonio Ginjeira***

**11.00 – 12.00**

Ken Hargreaves (USA)

**Mechanisms and management of inflammatory pain**

**Abstract**

Considerable research has resulted in a new understanding of peripheral and central pain mechanisms. This body of research has direct application in understanding novel analgesic drug development and in maximizing the effectiveness of currently available analgesics. To address this topic, this lecture will summarize major advances in pain biology and use this foundation knowledge to review optimal methods for the control of odontogenic pain.

**Curriculum**

Ken Hargreaves received his DDS from Georgetown University School of Dentistry, his PhD in physiology from the Uniformed Services University of the Health Sciences in Bethesda, MD, and his certificate in Endodontics from the University of Minnesota. He was a senior staff fellow at the Pain Clinic of the Neurobiology and Anesthesiology Branch of the NIDCR for five years, and then associate professor of Endodontics and Pharmacology at the University of Minnesota for seven years. He joined the University of Texas Health Science Center at San Antonio in 1997, as professor and Chair of the Department of Endodontics, with a joint position in the Departments of Pharmacology, Physiology and Surgery. He has maintained a private practice limited to Endodontics and is a Diplomate of the American Board of Endodontists. His area of research focuses on the pharmacology of pain and inflammation. Ken has received an NIH MERIT Award for pain research and two IADR Distinguished Scientist Awards. He has published more than 130 articles and, with Harold Goodis, co-edited Seltzer and Bender's Dental Pulp, and with Steve Cohen, co-edited Pathways of the Pulp. HE also serves as editor of the Journal of Endodontics.

**12.00 – 13.00**

Yuan-Ling (Paula) Ng (UK)

**Outcome of non-surgical root canal treatment. A systematic review**

**Abstract**

A number of quantitative and qualitative measures have been used to assess the outcome of non-surgical root canal treatment, including periapical health, tooth functionality and survival, patient satisfaction, and impact on quality of life. Periapical health measured radiographically has been used most frequently, whilst there had been increasing interest in assessing tooth survival following root canal treatment over the past decade. The qualitative measures have begun to attract researchers' attention more recently due to the increasing emphasis placed on patients' perspective by agencies funding National Health Systems.

Previous systematic reviews have reported complete periapical healing in 68%-85% of cases after one or more years after treatment, with four conditions (pre-operative absence of periapical radiolucency, root filling with no voids, root filling extending to 2 mm within the radiographic apex and satisfactory coronal restoration) improving the outcome significantly. This presentation will discuss the importance and relevance of each outcome measure. The best available evidence supporting the current ESE guidelines for root canal treatment will be reviewed and potential areas for guideline revision highlighted based on emerging information.

THURSDAY, 15<sup>TH</sup> - CAV. HALL I-II

### Curriculum

Dr. Yuan-Ling Paula Ng BDS MSc MRD RCS (Eng) PhD FHEA

Dr Ng is a Senior Clinical Lecturer in Endodontology at UCL Eastman Dental Institute; she is the Programme Director for the MSc in Endodontics and the MClindent in Endodontology. She is a UK General Dental Council registered specialist in Endodontics. She has lectured to both local and international professional bodies. Dr Ng's research interests are focused on the effectiveness and long-term outcomes of endodontic treatment, which also formed the basis for her PhD. She has published widely in international peer-reviewed journals with over 40 peer-reviewed articles and 60 research abstracts. She contributed a chapter on "Endodontic retreatment" in the Colour atlas and text of Endodontics (2004) (Elsevier: editors Stock, Walker & Gulabivala). Dr. Ng's other professional commitments include her membership of the scientific committee of the European Society of Endodontology and Associate editorship of the International Endodontic Journal.

**13.00/14.30 LUNCH**

**14.30 / 16.30**

***Chairperson: David Jaramillo E.***

**14.30 – 15.30**

Lise Lotte Kirkevang (Denmark)

### **Methodological issues in endodontic research**

#### **Abstract**

The primary goal of research is to improve the current level of knowledge, and in a perfect world prevention or treatment of a given disease would be based on high-level evidence obtained from high-level research – however a perfect world is still to come.

In endodontic research the primary disease is apical periodontitis (AP). Therefore, endodontic treatment may be viewed as procedures which either prevent or treat AP. Obviously we want to minimize the overall prevalence of AP. However, to be able to change the prevalence of AP, we need to study not only prevalence but also incidence and healing of AP, and to identify factors that may affect these parameters. This type of information may be obtained from longitudinal, observational studies of populations. Such studies may identify relationships between risks and outcome, which again may help to pinpoint potential causative associations or pathways, and form the basis for an intervention strategy.

The research should establish valid, precise and representative estimates of the relationships being studied, but observational studies are prone to biases related to different aspects of the study design. The choice of study population may introduce selection bias, the method used to obtain information on risk factors or outcome may result in information bias, and lack of correction for competing explanations may introduce confounding, which produce biased estimates.

Many of these problems may be anticipated when the study is planned. The lecture will focus on some of the methodological issues that complicate endodontic research and discuss approaches that may increase the chance of a successful study.

### Curriculum

Lise-Lotte Kirkevang, DDS, PhD.

Associated professor Dept. of Dental Pathology, Operative Dentistry and Endodontics

School of Dentistry, Faculty of Health Sciences Aarhus University - Vennelyst Boulevard 9 - 8000 Aarhus C, Denmark.

Dr. Lise-Lotte Kirkevang received her PhD degree from School of Dentistry, Aarhus University in 2001. During the period 2000-2007 she worked part-time in private practise. In 2003 she received a 4-year research scholarship from the Danish Agency for Science, Technology and Innovation, and worked from 2003-2007 as a research associate at the School of Dentistry, Aarhus University.

**THURSDAY, 15<sup>TH</sup> - CAV. HALL I-II**

Since 2007 she has been working full-time as an associate professor in Endodontology at Department of Dental Pathology, Operative Dentistry and Endodontics, Aarhus University. In 2006 she was awarded the Bagger-Soerensen Foundation talentprize for young reseachers. In 2009 she received the Hans Genet Award by European Society of Endodontology. Her main research area is endodontology and epidemiology.

She has authored or co-authored more than 25 papers in peer-reviewed journals and serves as a reviewer for several international journals. She has contributed to textbooks, and given lectures both nationally and internationally.

**15.30 – 16.30**

Juan Jose Segura-Egea (Spain)

**Systemic health, periapical inflammation and root canal treatment outcome**

**Abstract**

Apical periodontitis (AP) is an acute or chronic inflammatory lesion around the apex of a tooth caused by bacterial infection of the pulp canal system. AP is a remarkably prevalent problem. In Europe, the prevalence of AP rises 61% of individuals and 14% of the teeth, increasing with patients age. Root canal treatment (RCT) is the elective treatment for teeth with AP that must be preserved. In Europe, the prevalence of endodontic treatment is estimated around 30 - 50% of individuals and 2% - 9% of teeth, showing radiographic evidence of chronic persistent AP 30% - 65% of root filled teeth. AP may not exclusively be a local phenomenon. It is well known that in its nonbalanced acute stage, spreading of the infection and the inflammatory process to nearby tissue compartments is possible and may bring about severe, but fortunately rare, fatal inflammatory conditions. In addition, it has been suggested the existence of a connection between chronic AP and systemic health, which would be similar to the widely documented link between various systemic disorders and periodontal disease. Although some differences are evident between chronic periodontal and endodontic inflammatory processes, they also show major similarities: both are chronic infections of the oral cavity, sharing a common microbiota with predominance of Gram-negative anaerobic bacteria, and in both diseases elevated cytokine levels may be released systemically. Therefore, in the last years several epidemiological studies have investigated the relationship between periapical inflammation and some prevalent systemic status. Results have shown association between endodontic variables, i.e. AP and RCT, and diabetes, smoking, and coronary heart disease.

Furthermore, several data suggest a relationship between systemic diseases and RCT outcome. This lecture reviews the current state of knowledge regarding the connection between systemic health, periapical inflammation and root canal treatment outcome.

**Curriculum**

Prof. Dr. Juan J. Segura-Egea (MD, PhD, DDS). Degree in Medicine, 1982, University of Sevilla, Spain. PhD degree in 1991, Dpt. of Biochemistry and Molecular Biology, University of Sevilla, Spain. Degree in Dentistry at the same University in 1995. Professor of Endodontics at the University of Sevilla, Dental School. Author of 58 papers in international peer reviewed journals. H index = 14. Member of the editorial board and associate editor of the endodontic section of *Medicina Oral Patología Oral y Cirugía Oral* (included in JCR). Active Member of the Spanish Association of Endodontic (AEDE). Certified Member of the European Society of Endodontology (ESE).

**16.30/17.00 COFFEE BREAK**

THURSDAY, 15<sup>TH</sup> - CAV. HALL I-II

### SYMPOSIUM

### DENTAL PULP TISSUE REGENERATION: VISIONS AND CHALLENGES.

17.00 /19.30

**Chairperson: Gunnar Bergenholtz**

Lars Bjørndal (Denmark)

**“Irreversible pulpitis” in pulp regeneration: how may biologically based therapies link to the cariously exposed pulp?**

#### Abstract

Recent reviews on dental regeneration involving new approaches to vital pulp therapy that include pulp regeneration and revascularization announce feasible treatment modalities in the future for the impaired tooth. It is also expressed that the effectiveness of biological regeneration critically depends on the degree the pulp is inflamed. Hence, control of pulp infection continues to be a challenge in the clinic. Data indicates that the main reason for performing endodontic treatment is caries. Therefore, it is relevant to view these new biological approaches also in the context of the management of deep caries. No clinical consensus exists concerning the best treatment. Partial or stepwise excavation, complete excavation, pulp capping and pulpectomy are the options, but when one or the other should be designated is not based on solid clinical research. This presentation takes its stance in a recently conducted randomized multi-center trial, where a stepwise excavation approach was compared with a complete excavation procedure. In patients where pulp exposures had occurred the outcome of direct pulp capping was compared with partial pulpotomy. Both pulp capping procedures gave very low success rates after 1½-year of follow-up. It will be argued that before new regenerative pulp therapies are launched clinically, we should put more effort into developing methods to monitor pulp inflammation in the clinic, improve our disinfection protocols as well as choose treatments that are supported by the best evidence. The clinical trial results emphasize the importance of maintaining an unbroken dentin barrier against the pulp during deep caries excavation. Whether or not ‘direct’ or ‘transdental’ approaches will enhance preservation of pulp vitality long term remain to be elucidated.

#### Curriculum

Dr. Lars Bjørndal (born 1963) graduated in 1988 as a dentist from the University of Copenhagen. In 1992 he got his Ph.D. on the topic: Caries progression in enamel and the pulp-dentin organ using thin undemineralized tooth sections. From 1993-1998 he was assistant professor at the Department of Cariology and Endodontics, University of Copenhagen. In 1999-2001 Dr. Bjørndal received specific postgraduate endodontic specialist courses in collaboration with the universities in Copenhagen, Denmark, Malmö and Gothenburg, Sweden. At present, he is associate professor at the University of Copenhagen, Denmark, at the Department of Cariology and Endodontics. In addition, he works part time in a dental office treating endodontic referrals. He has been Secretary in the Scandinavian Endodontic Association from 1999-2001, and is past president of the board for the Danish National Endodontic Association. In 2011 he received his Dr. Odont degree by defending his dissertation, entitled: Endodontic treatment: reason, prevention and quality-shaping factors. He has presented lectures around the world, and been giving courses nationally and internationally, within the field of deep caries lesion pathology and factors concerning endodontic treatment quality among general dental practitioners. He has authored and co-authored many international and national articles, including book chapters and reviews covering the treatment dilemma of deep caries lesions. At present his research is focusing on endodontic treatment, reasons, prevention and quality shaping factors amongst general dental practitioners.



**THURSDAY, 15<sup>TH</sup> - CAV. HALL I-II**

Stephane Simon (France)

**Regenerative endodontics: from the bench to the chair**

**Abstract**

Endodontics in the past two decades has been characterized by the evolution of technologies and devices for disinfection and filling of the root canal system, resulting in clinicians' reaching higher standards of treatment quality. Evolving much slower, but with the potential for paradigm shifting, is the concept of connective/pulp tissue regeneration within the root canal.

Inducing growth of vital tissue within the root canal (also called "revascularization") has captured the imagination of clinicians and researchers, who currently propose it as an alternative to root canal filling in immature teeth. New data on pulp biology and especially on dental stem cells, as well as on the healing process, have been emerging from more and more research laboratories focusing on this subject. Another area of research is mostly focused on preserving the vitality of the pulp, even if it is deeply inflamed, in an effort to avoid conventional, invasive endodontic treatment procedures.

With the current tissue engineering concepts, vital pulp regeneration in vitro is already feasible with stem cell-based techniques or with cell homing concepts. With these approaches expected to develop and evolve, the orientation is likely to be more pharmacological and biological, and the procedures less invasive. Thus, in the endodontics of the future, these approaches are expected to complement the current treatment techniques.

Translation from laboratory to clinic is usually complicated, but a true translational approach bridging basic science and clinic is essential to understanding why and how endodontics needs to evolve. The aim of this lecture is to describe perspectives in modern endodontics and clinical applications in the near future.

**Curriculum**

Stéphane Simon born in 1971, graduated at Université de Reims Champagne Ardennes in 1995. In 2000 he received the Certificate of Conservative Dentistry and Endodontics – Université Paris 7.

in 2005 : Master of Sciences Santé et Applications, à finalité Recherche- Mention "Biologie ostéo-articulaire et crânio faciale – Biomatériaux et Biomorphologie - Spécialité "Biologie cellulaire, physiologie et Pathologie" (Mention Bien) – Université de Paris 7

November 2009: Doctorat d'Etat en Sciences Biologiques (Mention Très Honorable et Félicitations du Jury) - Université de Paris 7

February 2010 : Doctor of Philosophy degree (PhD) in Dentistry (Distinction Award) - University of Birmingham – (GB). from 2001 to 2005 was Assistant Professor at Université Paris Diderot Paris 7 in Conservative dentistry and Endodontics. between 2006-08 was Clinical Lecturer in Endodontics in the University of Birmingham, School of Dentistry and Associate consultant specialist (NHS) at the Dental Hospital of Birmingham.

Since September 2010 he is Senior Lecturer in Oral biology and Endodontics (UFR Odontologie Université Paris Diderot ,Paris 7)

From september 2011 he is the Director of the postgraduate program in Endodontics (Paris Diderot, Paris 7)

He is affiliated at the Laboratoire INSERM UMRS 872, équipe 5, Physiopathologie orale moléculaire. Centre de Recherche des Cordeliers 15 rue de l'école de Médecine 75006 Paris. Laboratoire dirigé par le Professeur Ariane Berdal and also at the Laboratory of Oral Biology, School of Dentistry – University of birmingham – Pr A.J Smith and Dr P.R Cooper (Associate researcher).

In this moment he is working at these project:

Transcriptomic analysis and molecular regulation of odontoblast in the dental pulp repair

Msx homeogenes and dentinogenesis.

Biotechnology and Tissue engineering of the Dental Pulp.

Molecular investigations of pulp disease

Investigation and implementation of new technologies to improve the pulp conservation treatments prognosis

Since 2000 he is lecturing on endodontics and has given over 90 presentations and lectures.

He is Member of many scientific societies: Société Française de Biomateriaux et de Biologie Orale , Association BIOMAT ,British Society of Endodontics – since 2007, International Association of Dental Research – since 2004 (Pulp Biology Research Group since 2004, et au British Research Group depuis 2008), Vice president of the pulp biology and regeneration group (IADR), Membre fondateur et Président de l'Association de formation en Endodontie Appliquée (AFEA), American Association of Endodontics (AAE), Société Française d'Endodontie, International Association of Dental Traumatology (IADT). He won the Annual research prize 2004 of European Society of Endodontology, Annual research prize 2004 of International Federation of Endodontics Association, Awards of Best speaker of the year 2006 (Société Odontologique de Paris), Annual research prize 2008 of British Endodontic Society, First prize of Oral Presentation of « Congrès des Jeunes Chercheurs CRC Paris 6 ». May 2009

THURSDAY, 15<sup>TH</sup> - CAV. HALL I-II

Imad About (France)

### **The pivotal role of progenitor/stem cells in dentin/pulp tissue regeneration: advancements in recent research**

#### **Abstract**

Adult progenitor cells are undifferentiated quiescent cells, residing besides differentiated cells within functional tissues. They exert their functional activity after tissue injury or under pathological conditions. Activation signals induce their division and differentiation into functional cells of several cell lineages capable of regenerating the altered tissue and maintain its functional integrity. Similarly, investigations on dental pulp progenitor cells revealed that they can give rise to several cell lineages including odontoblastic and endothelial cells. Under severe carious lesions, dental pulp progenitors can be activated by growth factors released from the dentin after an acidic dissolution at the carious site. Study models such as the entire tooth culture system and the co-cultures of pulp and endothelial cells added to our understanding that, after traumatic lesions, injured pulp fibroblasts also secrete growth factors which are involved in progenitor cells activation and differentiation. Furthermore, the injured cells provide neo angiogenesis signals which may pave pathways for progenitor cells migration for dentin-pulp regeneration.

At present, stimulating the pulp remaining progenitor cells can be achieved thanks to bioactive molecules/biomaterials such as Biodentine<sup>TM</sup>. This is of particular importance in immature teeth with thin walls which are subject to horizontal fracture. Direct pulp capping of such teeth allows completion both of horizontal and perpendicular root growth. However, replacing missing teeth with bioengineered teeth from isolated stem cells represents a real challenge. Indeed, this requires both epithelial and mesenchymal cell types. Recent works showed that epithelial-mesenchymal recombinations of dissociated cells lead to tooth germ development which, when engrafted into a mouse alveolar bone, lead to the development and eruption of a bioengineered tooth.

These data show the potential use of stem cells in future cell therapy for dentin pulp engineering and the promising missing teeth regeneration.

#### **Curriculum**

Imad ABOUT: Born in Nablus, Palestine in 1962.

Diploma: BSc in biology in 1984 from an-Najah National University, Nablus, Palestine; a Master's degree of biochemistry in 1987 and a PhD of Biochemistry in 1992 from the University of Aix-Marseille III, Marseille, France.

Professional experience: started the research career as a post doctorate at the National institute of health and medical research, Marseille, France in 1993 and the teaching career in 1994 at the university "la Méditerranée" as a lecturer at the faculty of dentistry of Marseille. This was followed by a nomination in the same faculty as assistant professor in 1996, associate professor in 2000 and as a professor of oral biology in 2002.

Research activities:

Director of the research laboratory: Interface Matrice Extracellulaire-Biomatériaux (IMEB), Faculté d'Odontologie, Université de la Méditerranée, Marseille, France.

Interest : Stem cells in dentin regeneration and early steps of pulp healing and the effects of biomaterials on these events  
Member of the Editorial Board of three reviews including the Journal of Dental Research. Member of the scientific committee of the faculty of Odontology

Member of the Université de la Méditerranée Committee of technology transfer from the research laboratories to the industrial application.

Expert in national and international research projects evaluation and funding.

Published 100 peer reviewed papers, abstracts and chapters in books.

Invited speaker in many specialized meetings.

Reviewer for several specialized reviews in the dental, scientific and medical fields.

Contact: imad.about@univmed.fr

**THURSDAY, 15<sup>TH</sup> - CAV. HALL I-II**

George Huang (USA)

**Current advancement of experimental and clinical regenerative endodontics**

**Abstract**

The presentation will overview the most updated progress in pulp and dentin regeneration. Currently, major breakthroughs have been demonstrated in animal models that the use of dental stem cells can regenerate the entire pulp in emptied root canal space and new dentin is deposited on the canal walls. The experimental procedures of the tissue engineering and regeneration and the implication of this technology in future clinical applications will be discussed. Additionally, clinical management of endodontically involved immature teeth using the paradigm shift concept – revitalization, will be described and evaluated.

**Curriculum**

George T-J Huang graduated at School of Dentistry, Taipei Medical College, in 1983. He is Doctor of Science (D.Sc.) in Oral Biology (Dept. of Oral Biology, Boston University Henry M. Goldman School of Dental Medicine, 1992) and Master of Science in Dentistry (M.S.D.) ( Department of Endodontics, Boston University Henry M. Goldman School of Dental Medicine, 1989). Dr. Huang is Associate Professor, Department of Endodontics, Boston University Henry M. Goldman School of Dental Medicine and was the Chair and Herbert Schilder Professor in Endodontics and Director, Postgraduate Program in Endodontics of Boston University Henry M. Goldman School of Dental Medicine from 2009 to 2011. He is member of the American/International Association of Dental Research (1990-present) and of the American Association of Endodontists (1986-present). He is the President of AADR/IADR Pulp Biology and Regeneration Group Dr. Huang has published more than 100 research articles, review articles, book chapters and abstracts including papers in Stem Cells and Development, Tissue Engineering, Regenerative Medicine, Infection and Immunity, Human Gene Therapy, Journal of Dental Research and Journal of Endodontics; book chapter in Principles of Regenerative Medicine, etc. His research has been funded by various sources including NIH and AAE Foundation. His current research interest is in the area of stem cells and regenerative medicine with particular emphasis on the generation and characterization of induced pluripotent stem (iPS) cells from dental stem cells, which may prove to be an indefinite cell source for tissue regeneration, and stem cell-based dental tissue regeneration utilizing adult stem cells and tissue engineering methods to regenerate lost tooth structure.

# ESE ROME 2011

## NOT ONLY ROOTS

FRIDAY, 16<sup>TH</sup> SEPTEMBER 2011 - CAV. HALL I-II  
8.30 / 19.00

### ANATOMIC AND DIAGNOSTIC CHALLENGE

8.30 / 10.30

**Chairperson: Anthony Hoskinson**

8.30 – 9.30

Paul Wesselink (The Netherlands)

**The effect of cone beam computed tomography on endodontic outcome results and its impact on endodontic treatment planning**

#### Abstract

Recently, cone-beam computed tomography (CBCT) has been introduced to the field of endodontics to supplement conventional two dimensional radiographic techniques. The three-dimensional CBCT has been found to be more sensitive than periapical radiography (PR) in detecting extra canals, special anatomical features, external cervical root resorption, vertical root fractures and post-treatment periapical lesions. These extra opportunities may have its implications in decision making, planning and evaluating root canal therapy. In all decisions as whether to use CBCT in endodontic therapy or not it is important to weigh the benefits of the extra information against the extra radiation and costs. Also the relevance of detecting pathologic lesions by CBCT that are not seen by PR may have an important impact on the decision whether or not to treat the accidental asymptomatic lesions with these sensitive techniques. These observations will be discussed in a clinical case presentation.

#### Curriculum

Wesselink Paul Rudolf

1973 Dental degree State University of Utrecht

1973-1975 Clinical teaching fellow at Harvard School of Dental Medicine receiving postdoctoral education in endodontology

1975 Member of the Faculty of Dentistry University of Amsterdam, nowadays known as ACTA (Academic Centre for Dentistry Amsterdam)

since 1979 Private practice limited to endodontics ( part time)

since 1993 Professor of Cariology and Endodontology at ACTA

Chairman of section of Cariology Endodontology Pedodontology and Oral Microbiology at ACTA

since 1987 Director of Postgraduate Programme in Endodontology

Furthermore past secretary of the European Society of Endodontology, former president of the Netherlands Society for Endodontology, former associate editor of the german journal Endodontie, associate editor International Endodontic Journal, member of the editorial of Endodontic Practice Today and of Das Deutsche Zahnärztliche Zeitschrift.

**FRIDAY, 16<sup>TH</sup> - CAV. HALL I-II**

**9.30 – 10.30**

Ove Peters (USA)

**The mandibular first molar: an example for a critical anatomical and diagnostic challenge in endodontics**

**Abstract**

Successful root canal therapy depends on many factors, among them the inherently complicated endodontic anatomy. Available only recently, cone beam tomography permits a three-dimensional analysis of anatomic features in the clinical setting. The operating microscope affords clinician direct observation at up to 25x magnification and coaxial illumination. However, it remains crucial to interpret the sum of clinical findings and to correlate those to findings visualized in vitro. This presentation focuses on anatomical and diagnostic challenges present during endodontic treatment of mandibular first molars. Number and arrangement of root canals vary significantly for this tooth. Moreover, in addition to the normal two-rooted arrangement, three-rooted configurations exist, known as radix entomolaris and radix paramolaris to detailed analyses. Also, a c-shaped cross-section has been described. In such cases, cone beam tomography and structured radiographic assessment help in diagnosis; the operating microscope is critical in treatment.

An order of magnitude finer in resolution, micro-computed tomography reveals strengths and weaknesses of particular preparation techniques. In mandibular molars, both mesial root canals, with an isthmus connecting them, and distal roots, with their often wide kidney-shaped canals, present unique anatomical challenges. Here a novel instrumentation technique, the self-adjusting file, may more adequately shape and debride root canal s.

Finally, again finer in resolution, histological detail is needed to assess the underlying cause of endodontic disease, i.e., microorganisms. It is a matter of debate which shaping parameters, such as apical dimension and canal taper, are associated with better disinfection and possibly better clinical outcomes. A brief synopsis of current disinfection methods to deal with particular anatomical challenges of mandibular first molars will close out this presentation.

**Curriculum**

Dr. Peters received his degree in dentistry (Dr. med dent) from the University of Kiel, Germany, in 1990. After spending two years in the Department of Neurophysiology at the University of Kiel, he has served as an Assistant Professor of Prosthodontics at the University of Heidelberg, Germany, from 1993 to 1996. Dr. PetersHe received post-graduate endodontic training at the Zurich University Dental School from 1997 to 2001. He was awarded the *venia legendi* at Zurich University (PhD) in 2002. He was Assistant and then Associate Professor as well as Head of the Faculty Practice in Restorative Dentistry before leaving Switzerland for San Francisco. Dr. Peters received an MS in Oral Biology (in 2004) and a certificate in Endodontics (in 2006) from UCSF; he is a Diplomate of the American Board of Endodontics.

Dr. PetersHe is currently Professor and Director of Endodontic Research in the Endodontic Department of the Arthur A. Dugoni School of Dentistry at the University of the Pacific, San Francisco and participates in faculty practice there.

His main scientific interests are: the performance of Nickel-Titanium rotary root canal instruments, the efficacy of antimicrobial regimes in root canal treatment and cellular events during pulpal/periapical healing. Dr. Peters has published more than 60 papers in peer-reviewed journals and has lectured both nationally and internationally. He has authored chapters in leading endodontic textbooks and serves on the review panels and editorial boards of several scientific journals. His favorite activities outside the endodontic world include traveling and all sorts of outdoor activities with his wife and two children.

**10.30/11.00 COFFEE BREAK**

FRIDAY, 16<sup>TH</sup> - CAV. HALL I-II

11.00 /13.00

**Chairperson: Anders Molander**

11.00 – 12.00

Sashi Nallapati (Jamaica)

**Three Canal Premolars: diagnosis and treatment strategies**

### **Abstract**

It's a well-known fact that mandibular premolars have some of the most complex root canal anatomy. Multiple root canal systems are frequently present in both maxillary and mandibular premolars. The most challenging aberrant feature in premolar root canal anatomy is the presence of three canals. This anatomy is more commonly seen in some ethnic groups. As clinicians we shall constantly be on the look out for this aberrant feature. Three canals in maxillary and mandibular premolars pose several challenges in their clinical management. Modifications in access design, utilizing 2 or 3 dimensional radiographic progression, using the surgical operating microscope for the whole treatment period and developing the hand to eye coordination to work in small spaces under a microscope are key aspects in the successful management of this entity. This presentation, with the help of high quality digital images and case reports, describes the two and three-dimensional clinical and radiographic anatomy of three canal premolars. This presentation also outlines the current clinical techniques employed for the predictable treatment of this challenging clinical entity.

At the end of this presentation the audience shall comprehend:

1. Clinical and radiographic features of three canal premolars
2. Types of clinical root canal anatomy seen in three canal premolars
3. Clinical techniques used to successfully treat this complex anatomy

### **Curriculum**

Dr. Sashi Nallapati obtained his dental degree from the Govt. Dental College and Hospital, Hyderabad, India. Dr. Nallapati completed his post-graduate training in the specialty of endodontics from Nova Southeastern University (NSU), Davie, Florida, USA. After his graduation, he set up a quality centered endodontic practice in Kingston, Jamaica. He is a specialist member of the American Association of Endodontists (AAE) and a member of Jamaica Dental Association. He serves on the faculty of Nova Southeastern University, college of dentistry as a visiting associate professor where he teaches post-graduate endodontic residents.

Dr. Nallapati authored several clinical articles that were published in both peer-reviewed and clinical journals. Dr. Nallapati lectures across the globe on the clinical management of complex endodontic anatomy, calcified teeth, the importance of case selection and how to build a quality centered endodontic practice. Dr. Nallapati practices yoga avidly and he likes to hike and read in his free time. He can be reached at [www.endojamaica.com](http://www.endojamaica.com).

**FRIDAY, 16<sup>TH</sup> - CAV. HALL I-II**

**12.00 – 13.00**

Paul Lambrechts (Belgium)

**Adventure to discover the anatomic, radiologic and histological complexity of external cervical resorption**

**Abstract**

External cervical resorption (ECR) is an aggressive form of root resorption of variable etiological origin, leading to a three dimensional loss of dental hard tissues (cementum, dentin and enamel as well). This is due to clastic action of hard tissue resorbing cells, activated by a damage of the covering cementum, and probably stimulated by infection. Clinically it is a challenging situation as it is characterized by a late symptomatology and misleading differential diagnosis. Cone beam CT increases significantly the diagnostic potential. Vitality is often preserved thanks to the pericanalar protection from a resorption resistance sheet (PRRS), not only composed by predentin but also by surrounding pericanalar dentin of about 200 µm thickness. Highly vascularised connective tissue, saturated with an inflammatory infiltrate is at one side lined by multinucleated clastic cells and on the gingival transition side lined by epithelial tissue. The clastic activity is often going together with an attempt to repair, seen by formation of osseoid tissue and osseodentin maturation, inducing the typically mottled radiologic appearance. Apparently the physiological addition of osseous tissue is not systematically observed and still needs further research.

The aim of the lecture is to present a 3-D view on external cervical resorption (ECR) with dental microscopy (ProErgo, Zeiss), stereomicroscopy (Wild), digital radiography (VistaRay, Durr), cone beam CT (3D Accuitomo 80, Morita), micro-focus CT (Skycan 1172) and scanning electron microscopy (Fe-SEM, Phillips XL30) in order to visualize the complexity of the protective resorption resistant sheet (PRRS) and the structure of osseodentin tissue apposition. The etiology, the clinical extension and the treatment strategy of several cases is presented based on the 3-D understanding of the pathology.

Research to etiologic factors and pathogenesis is highly important for better knowledge of the process in order to reach an efficient therapeutic policy. Clinically, early recognition of the pathology is only possible when as many as possible etiologic factors are known, in order to screen efficiently to ECR in every patient. This enables to stop the process at an early stage what subsequently increases the treatability and prognosis of the tooth with ECR.

**Key learning points**

- Cone beam CT is essential in the diagnosis of ECR
- Histological and histochemical imaging of the granulation tissue highlights the resorption process.
- SEM-analysis provides a better insight in activity of clastic cells and osteodentin formation.
- The root canal is surrounded by a pericanalar resorption resistant sheet (PRRS).
- Osseoid tissue formation and osseodentin apposition in a coral like manner makes the pathology even more complex.
- The outcome of the minimal invasive treatment is significantly enhanced by better diagnosis.

**Curriculum**

Paul Lambrechts is born in 1955. He followed Latin-Greek studies at the 'St. Jan Bergmanscollege' of Diest. He graduated as a dentist in 1978 at the Catholic University of Leuven (K.U.Leuven), Belgium and obtained his PhD at the same university in 1983 based on a thesis investigating dental composites: "Basic properties of dental composites and their impact on clinical performance". Today, he is Full Professor and Chair of the Department of Conservative Dentistry (K.U.Leuven), and also serves the dental school as Program Director of the dental Bachelor/Master and Master-after-Master programs at K.U.Leuven. He teaches cariology, oral aspects of nutrition and endodontics. During two tenth of his week time, he teaches pre-clinical and clinical conservative dentistry; 4/10 is spent to own clinical activity, primarily in endodontics, but also in aesthetic restorative dentistry; for the remaining 4/10, he conducts research in endodontics, more specifically focussing on the development of a concept of minimal-invasive endodontic research, using 3D X-ray Micro-CT scanning, Cone beam CT and Environmental SEM, towards new root-canal preparation and filling techniques. The photodynamic laser-activated disinfection (PAD) techniques are one of the new research challenges of his group, while the pathology of external cervical resorption is one of his favourite study topics. In addition, specific interest goes also to laboratory and clinical research on dental composites, actually focussing on 3D-laser-profiling of clinical wear phenomena and biotribo-corrosion. Together with Prof. B. Van Meerbeek, he became in 2003 co-holder of the Toshio Nakao Chair for Adhesive Dentistry. He is (co-)promoter of several doctoral dissertations, and (co-)author of numerous publications together with the Leuven BIOMAT Research Cluster. He gives scientific and post-academic courses all over the world.

**13.00/14.30 LUNCH**



FRIDAY, 16<sup>TH</sup> - CAV. HALL I-II

### **SURGICAL ENDODONTICS**

**14.30 / 16.30**

**Chairperson: Dag Ørstavik**

**14.30 – 15.30**

Shanon Patel (UK)

#### **The use of cone beam computed tomography in surgical endodontics**

##### **Abstract**

Radiographs are essential for the diagnosis and management of endodontic problems, in addition they are used to assess the outcome of treatment.

However, radiographs have several limitations.

This presentation will discuss the limitations of radiographs, and introduce the role of Cone Beam CT (CBCT) in the surgical management of endodontic problems, as well as how this exciting new imaging system may be used to accurately assess the outcome of surgical endodontic treatment.

##### **Curriculum**

Shanon Patel BDS, MSc, MCLinDent, MFDS RCS, MRD RCS

Shanon is a specialist endodontist, he divides his time between working in specialist practice in Central London and teaching in the Postgraduate Endodontic Unit at King's College London Dental Institute where his responsibilities include running the Consultant's clinic and supervising Master's research projects.

In 2005 he was the first endodontist in the UK to routinely use CBCT in endodontic practice. In 2008, much to his wife's frustration he embarked on a PhD assessing the potential applications of CBCT in the management of endodontic problems.

Shanon has published over 35 papers in peer reviewed scientific journals and co-edited 2 textbooks, *The Principle of Endodontics* (Oxford University Press 2005), and *Pitt Ford's Problem-Based Learning in Endodontology* (Blackwell-Wiley 2011).

**15.30 – 16.30**

Bertrand Khayat (France)

#### **New ultrasonic tips for surgical endodontics**

##### **Abstract**

Considerable advancements have been made in the recent years in endodontic surgery. In the constant search of preparing and obturating the remaining portion of the canal better, new ultrasonic tips have been developed. These long tips have radically changed our approach and enable us to perform procedures that were impossible in the past. Many teeth that are extracted could be preserved with this technique. The presentation will evaluate the current literature on the outcome of endodontic surgery compared to conventional retreatment and will focus on the use of the new ultrasonic instruments.

At the end of the presentation, participants should be able to:

- evaluate the potential and the outcome of endodontic surgery
- understand the use of the new ultrasonic instrument
- describe the concept of total surgical retreatment.

##### **Curriculum**

Education:

Doctor in Dental Surgery (DDS) University of Paris VII 1982

Certificate in Endodontics University of Washington 1987

Master of Science in Dentistry (MSD) University of Washington 1987

Private practice:

General Dentistry in the French Army December 1982 to December 1983

General Dentistry January 1984 to August 1985

Practice limited to Endodontics January 1988 to present

**FRIDAY, 16<sup>TH</sup> - CAV. HALL I-II**

Faculty appointments :

Assistant Professor of Endodontics University of Pennsylvania (Philadelphia)

Teaching Assistant of Endodontics at the University of Paris VII from 1982 to 1985

Teaching Assistant of Endodontics at the University of Washington in 1987

Memberships and offices:

Past President of the Paris Endodontic Study Club (C.P.E.A.)

Active member of the American Association of Endodontists (A.A.E.)

Active member of the European Society of Endodontists (E.S.E.)

Active member of the French Endodontic Society (S.F.E.)

Active member of the International Federation of Endodontic Associations (I.F.E.A.)

Active member of the French Dental Association (A.D.F. )

Active member of the American Dental Club of Paris (A.D.C.P )

Publications:

Dr Bertrand KHAYAT has published 24 articles in various journals including the Journal of Endodontics.

Presentations:

Dr KHAYAT has given over 200 presentations and lectured extensively in France, Belgium, Canada, England, Germany, Greece, Ireland, Israël, Italy, Japan, Lebanon, Morocco, Mexico, the Netherlands , Philippinnes, Spain, Switzerland, Thailand, Tunisia, Sweden and the United States of America, Argentina, Venezuela, China, Paraguay.

**16.30/17.00 COFFEE BREAK**

**17.00 / 19.00**

***Chairperson: Aviad Tamse***

**17.00 – 18.00**

Jean Yves Cochet (France)

**Bone regeneration and bone preservation in endodontic and endodontic surgery: a new approach**

**Abstract**

Endodontic lésions may result in significant bone destruction, depending on the etiological factors, e.g microbiological, trauma, foreign bodies, etc. Orthograde endodontic treatment, when done properly, will enable to regenerate and fill large bone defects. However, when an endodontic surgery is necessary, regenerating the initial bone volume become a real challenge. For long term unrestorable tooth why not imagine the endodontic treatment as a way to optimize bone préservation or regeneration in preparation for the future implant? This treatment modality is documented by 20 years of CT scans and more recently, the Cone Beam CT scan. It has to be seen as a new approach for bone régénération and préservation.

**Curriculum**

D.D.S. (DOCTEUR EN CHIRURGIE DENTAIRE 1984).

Oral Biological Certificate 1986

Restorative Dentistry and Endodontic Certificate (1986)

POST GRADUATE CERTIFICATE in Endodontic (1990)

Formerly Assistant Professor In University PARIS VII (1986-1990)

Teaching in the post graduate programm in PARIS VII (1990-1996)

Teaching in the post graduate programm of Endodontics of Florida Southern University (NOVA) since 1999.

VISITING PROFESSOR of Nova Southeastern University College of Dental Medicine since 2008

President of the French Endodontic Society (SFE) from 1998 to 2000.

Director of International Relationships of the SFE (2000-2002)

Director of Publications of the SFE since 2003

Treasurer of IFEA since 2005 till 2007

Member of the SFE since 1984

Member of the AAE since 1987

**FRIDAY, 16<sup>TH</sup> - CAV. HALL I-II**

Editorial board advisor for the Revue d'odontostomatologie( Chairman for Endodontic)  
Editorial board advisor for the Réalité clinique revue  
Editorial board advisor for Information dentaire

Numerous international presentations of Endodontics Traumatology, and Endodontic Surgery

**18.00 – 19.00**

Arnaldo Castellucci (Italy)

### **Problem solving in surgical endodontic retreatment**

#### **Abstract**

In the last 10-15 years several important developments have been introduced in surgical endodontics: the ultrasonic root end preparation, the surgical operating microscope and a new biocompatible material.

The introduction of the ultrasonic root end preparation made possible to obtain what is defined as the ideal retropreparation: a class 1 preparation at least 3 mm into the root dentin with walls parallel to an coincident with the anatomic outline of the pulpal space. In order to do this, special ultrasonic tips were developed to enable the clinician to reach every root in all clinical situations.

The introduction of the surgical operating microscope represents another important development in surgical endodontics as it has several advantages in surgical endodontics:

- a) better visualization of the surgical field
- b) better evaluation of the surgical technique
- c) better accuracy during the entire procedure
- d) better predictability of long term results

As far as the new materials are concerned, recently the Mineral Trioxide Aggregate became available. This is a revolutionary material, which is extremely biocompatible, is hydrophilic, and is capable of stimulating the healing processes and osteogenesis.

Thanks to all these revolutionary progresses, the long-term success rate of surgical endodontics is higher and endodontic therapy today is more predictable and even more fun!

#### **Curriculum**

Dr. Castellucci graduated in Medicine at the University of Florence in 1973 and specialised in Dentistry at the same University in 1977. From 1978 to 1980 he attended continuing education courses on Endodontics at Boston University School of Graduate Dentistry with Prof. Herbert Schilder. As well as running a practice limited to Endodontics in Florence, Dr. Castellucci is Past President of the Italian Endodontic Society, Past President of the International Federation of Endodontic Associations, an Active Member of the European Society of Endodontology and the American Association of Endodontists, and a Visiting Professor of Endodontics at the University of Florence Dental School. He is editor of The Italian Journal of Endodontics and of The Endodontic Informer, Editor in Chief of Endo Tribune International, Founder and President of The Warm Gutta Percha Study Club and The Micro-Endodontic Training Center. An international lecturer, he is the author of the text Endodonzia, now available in English.

He lives and practices in Florence, and can be reached at 39 055 571 114 or at castellucci@dada.it

**SATURDAY, 17<sup>TH</sup> SEPTEMBER 2011 - CAV. HALL I-II**  
**8.30 / 16.30**

**CHALLENGING ENDO AND RETREATMENT**

**8.30 / 10.30**

***Chairpersons: Pio Bertani, Gianluca Gambarini***

**8.30 – 9.30**

Fabio Gorni (Italy)

**Endodontic retreatment or implant: which is the best choice?**

**Abstract**

Nowadays, implant surgery has become more and more popular among practitioners: the dentist in clinical situations in which an endodontically treated tooth needs retreatment often prefers this solution, fast and reliable. In many cases, in fact, an endodontic retreatment can be extremely time-consuming, above all when the tooth presents endocanalicular obstructions (such as posts, filling materials or broken instruments) or perforations, and the experience and the equipment of the operator become key factors in achieving the clinical success.

Recent meta-analyses of the literature proved that both endodontic retreatment and implant surgery have high percentages of success, when correctly performed. The advantages of choosing endodontics seem to be that a smaller post-operative maintenance is required and that the patient has a further clinical option (implant surgery) in case of failure.

Nevertheless, independently on the option the operator applies, the first step to achieve the clinical success is to perform a correct diagnosis and treatment planning: discriminating whether a tooth can be painlessly maintained into the mouth, without developing lesions, is the first skill to be learnt by the practitioner.

Aim of this lecture is to suggest to the dentist how to formulate a correct statement of the problem, in order to propound to the patient the best clinical solution to its peculiar problem. Several clinical cases will be analyzed step by step, showing different solutions to similar problems, and explaining the reasons that brought to each choice, stressing where and why endodontic retreatment is preferable to implant surgery and vice-versa.

**Curriculum**

Graduated from the Milan Dental School in 1984.

Visiting professor for the dept of Endodontics of the S. Paolo Hospital in Milano.

Active member of the Italian Society of Endodontics, of the Italian Accademy of Microscopic dentistry, Specialist Member of the European Society of Endodontology and member of the American Association of endodontists, from 1994-1998 he was a member of the admission committee of the S.I.E. From 1998-2001 he was the cultural secretary of the Italian Society of endodontics, the president from 2003 to 2005. At the moment he is the past-president of the S.I.E. He has lectured on various endodontic topics all over the world he has also published on many national and international journals and he has also produces scientific videos.

With C.J. Ruddle he has published a series of videos called "The endodontic game" distributed in Europe, USA, Canada, Australia, and Asia.

He has his own private practice in Milan and he is specialized mainly in endodontics and surgical endodontics with particular focusing for the micro dentistry.

SATURDAY, 17<sup>TH</sup> - CAV. HALL I-II

9.30 – 10.30

James Gutmann (USA)

### **Treatment planning choices. Surviving challenges in contemporary endodontics**

#### **Abstract**

Prior to endodontic intervention, the challenges of tooth retention encompass pulpal diagnosis, restorability and periodontal status. These cases can be both straightforward or complicated and choices are often most challenging. However, following root canal procedures of all types, the clinician is often faced with reassessments that are less than favorable and may or may not include significant patient signs and symptoms. Tooth retention at this point requires greater scrutiny and various approaches to management must be considered, including at times tooth removal and replacement. Issues of importance include radiographic assessment, anatomical concerns, revision considerations and their approach, restorability, periodontal status, and in some cases orthodontic intervention. This presentation will address the wide range of challenges that today's endodontist faces in the presence of persistent persistent periradicular periodontitis prior to and following root canal procedures.

#### **Curriculum**

James L. Gutmann, DDS, PhD(honoris causa), FACD, FICD, FADI, Dip ABE  
Professor Emeritus Baylor College of Dentistry, Texas A&M Health Science Center

A native of Wisconsin, Dr. James L. Gutmann received his D.D.S. in 1970 from Marquette University School of Dentistry and his Certificate of Advanced Specialty Training in Endodontics from the University of Illinois College of Dentistry. After serving two years in the military at Ft. Lee Virginia, he spent one year in full-time private endodontic practice in Springfield Massachusetts. He entered academia as an Assistant Professor of Endodontics at the Medical College of Virginia in 1975. In 1976 he was appointed as Chairman of the Department of Endodontics at the Baltimore College of Dental Surgery, University of Maryland at Baltimore. In 1982, Dr. Gutmann was appointed as a tenured Professor and Chairman of the Department of Endodontics at Baylor College of Dentistry in Dallas Texas, and in 1992, Professor and Director of the Graduate Endodontic Program within the Department of Restorative Sciences at Baylor. Presently he is in private practice limited to Endodontics in Dallas, Texas. Dr. Gutmann is a Diplomate of the American Board of Endodontics, serves on the Editorial Board of the Journal of the History of Dentistry, and as Consultant Editor to the International Endodontic Journal. He served as President of the American Association of Endodontists from 2000-2001. He holds honorary memberships in dental societies in Colombia, Lebanon, Greece, Costa Rica, Mexico, Thailand and South Africa, in addition to memberships in Alpha Sigma Nu National Jesuit Honorary Fraternity, Omicron Kappa Upsilon Dental Honorary Fraternity and Delta Sigma Delta International Dental Fraternity. He has presented over 800 lectures, papers, and continuing education courses in the United States and 51 foreign countries on six continents. Additionally he has authored or co-authored over 275 articles in both dental journals and texts that address scientific, research, educational, and clinical topics. He is the senior author of an Endodontic text entitled "Problem Solving in Endodontics" to be published in its 5th edition in 2011. He is also the senior co-author of text entitled "Surgical Endodontics," published in 1991 and reprinted in 1994 and 1999, and co-author of the text entitled "The Clinician's Endodontic Handbook" published in its 3rd edition in 2009. In 1998 he was awarded an honorary Ph.D. from the University of Athens, Athens, Greece for his contributions to dentistry and endodontics. He received the Distinguished Dental Alumnus Award for 2000 from his alma mater Marquette University School of Dentistry. In 2002 in New Orleans, Dr. Gutmann received the Award of Distinction for Continuing Education Activities from the Academy of Dentistry International and was inducted as a Fellow of the Academy in 2003. He was named as one of the top dentists/endodontists in the greater Dallas/Fort Worth area in "D" Magazine for 2004 - 2010. In 2005 he was awarded an Honorary Professorship at the School of Stomatology, Wuhan University, Wuhan, China and in 2009 he received the Hayden-Harris Award from the American Academy of the History of Dentistry. In 2010 he received a lifetime Merit Award from his high school, Marquette University High School in Milwaukee, WI and in 2011 he received The I. B. Bender Lifetime Educator Award from the American Association of Endodontists.

10.30/11.00 COFFEE BREAK

**SATURDAY, 17<sup>TH</sup> - CAV. HALL I-II**

**11.00 / 13.00**

***Chairperson: Michael Hülsmann***

**11.00 – 12.00**

Elio Berutti (USA)

**Minimal invasive and easy technique to solve difficult cases**

**Abstract**

Endodontists have to face difficult cases every day. During our work we must reach two goals: first to give a successful treatment and second to avoid problems such as instrument separation, apical transport, ledges, perforations, etc. The objective of my lecture will be to analyse, through a short review of literature, the elements that we must take into account to choose the instruments and the right sequences to ensure the best successful minimally invasive treatment.

Here a few easy-to-follow operative sequences will be presented: the rotary ProTaper and the reciprocating WaveOne.

**Curriculum**

Prof. Elio Berutti lives in Turin Italy.

1980 Degree in Medicine.

1985 Post Graduate Diploma in Dentistry.

He has worked as an Endodontist since 1985.

Prof. Elio Berutti holds the Chair of Endodontics at the School of Dentistry at the University of Turin.

He is Past President of the S.I.E. (Italian Society of Endodontics), Active Member of E.S.E. (European Society of Endodontics), Member of AAE (American Association of Endodontics).

He is author of many articles about Endodontics on the main Journals of the field.

He has been a speaker at many international congresses.

**12.00 – 13.00**

L. Stephen Buchanan (USA)

**Endodontic treatment in a CT-based world**

**Abstract**

The introduction of cone beam CT imaging to endodontic practice has changed virtually everything we do as endodontists, from diagnosis to treatment planning to the treatment itself. This presentation will illuminate the rationale for volumetric imaging through clinical case histories where CBCT was the difference between insurmountable difficulty and confident, pre-ordained success.

**Curriculum**

Dr. L. Stephen Buchanan, DDS, FICD, FACD

Dental Education Laboratories, Santa Barbara, CA, USA

Dr. L. Stephen Buchanan was valedictorian of his class at the University of the Pacific School of Dentistry, and completed the Endodontic Graduate program at Temple University in Philadelphia, Pennsylvania in 1980.

Dr. Buchanan began pursuing 3-D anatomy research early in his career, and in 1986 he became the first person in dentistry to use micro CT technology to show the intricacies of root structure. In 1989 he established Dental Education Laboratories, and subsequently built a state-of-the-art teaching laboratory devoted to hands-on endodontic instruction, where he continues to teach today. Through Dental Education Laboratories he has lectured and conducted participation courses around the world, published numerous articles, and produced an award-winning video series, The Art of Endodontics. In addition to his activities as an educator and practicing clinician, Dr. Buchanan holds a number of patents for dental instruments and techniques. Most notably, he was the first to introduce variably-tapered shaping instruments for use in endodontic therapy and pioneered a system-based approach to treating root canals.

He is a diplomate of the American Board of Endodontics and a fellow of the International and American Colleges of Dentistry. He also serves as an assistant clinical professor at the University of Southern California School of Dentistry and at the University of California, Los Angeles School of Dentistry. Dr. Buchanan also maintains a private practice limited to endodontics and implant surgery in Santa Barbara, California.



SATURDAY, 17<sup>TH</sup> - CAV. HALL I-II

13.00/14.30 LUNCH

14.30 / 16.30

**Chairperson: Hideaki Suda**

14.30 – 15.30

Augusto Malentacca (Italy)

**Complex retreatment: broken instruments**

### Abstract

In the past, the fracture of an instrument during a root canal treatment was a fairly rare event but today, with the extensive use of rotary instruments, the incidence of breakage is increasingly common. The majority of breakages occur when using rotary Ni Ti instruments: only 15.9 % of separated instruments are manual steel files, versus 78.1 % of separated Ni Ti rotary files.

The great improvements that have been achieved over the last years in the removal of separated instruments within canals are essentially due to the use of microscopes and ultrasonic devices.

The operating microscope provides us with an increased vision that is not comparable to any other form of magnifier mounted on glasses or head wear; the true advantage of the microscope lies in the illumination, that is coaxial with the field of vision. This allows us to see perfectly even within a tiny, long and narrow tube such as the root canal.

Ultrasonic devices for their part, with the utilization of very tiny tips, allow us to work in clear view of the object without any visual obstruction from other mechanical sections of the instrumentation, like the head of the handpieces.

In this lecture I will be dealing especially with the clinical and operative aspects of this difficult chapter in endodontic treatment. We will also face the problems related to the treatment plan and the importance of removing a separated instrument from the canal, reducing the risks of weakening the tooth.

### Curriculum

Dr Augusto Malentacca, D.D.S.  
Rome, Italy

Received his degree in medicine in 1976 and specialized in dentistry in 1979.

He has worked in his own office in Rome since 1980 practicing on the whole in restorative and endodontic dentistry but also dedicates his time to teaching, holding private courses at the office

He was president of S.I.E. (Italian Society of Endodontists) from 1999 to 2001

He is an active member of A.I.C. (Italian Academy of Restorative dentistry)

and was the founder member and president of A.I.O.M. (Italian Society of Microscopic dentistry)

**SATURDAY, 17<sup>TH</sup> - CAV. HALL I-II**

**15.30 – 16.30**

Mohammad Hossein Nekoofar (UK)

**MTA option in challenging endodontics**

**Abstract**

The ultimate goal of endodontic treatment is to conserve the integrity of the masticatory system by saving teeth at risk of developing pulp inflammation and those with established pulp and periradicular disease. Root canal treatment includes complete removal of the infected pulp and the micro-organisms that inhabit the canal system followed by the placement of a root filling. Filling the root canal system and restoring the tooth prevents re-infection by re-establishing the surface integrity of the body to prevent microbial ingress. Such treatments are not always straightforward and a number of complications can impede thorough shaping, cleaning and filling of the root canal system. One of the iatrogenic accidents that results in an unintended communication between the root canal system and periodontium is a perforation. Perforations can result in an inflammatory reaction within the periodontal tissues through infection that can then lead to bone loss. Perforation of the root canal walls or bifurcation region may jeopardise the outcome of the root canal treatment. Immediate repair of a perforation with a biocompatible material is recommended for achieving the optimum outcome. In addition to biocompatibility, an ideal root repair material should be antibacterial, be capable of close adaptation to root canal walls, be radiopaque and non-resorbable. Mineral Trioxide Aggregate (MTA), which was originally developed for the repair of root perforations, possesses most of the essential requirements of a root repair material and can be differentiated from other suggested materials by its additional ability to conduct cementum and bone formation over its surface. It can also set in a wet environment. These properties are also desirable for a root-end filling material, for pulp capping materials used during vital pulp therapies, for apexification of immature teeth with necrotic pulps, for the non-surgical repair of invasive cervical root resorption and for the repair of horizontal root fractures. Therefore, MTA is increasingly being used in a wide range of clinical treatments. More recently, a range of other MTA-based and related materials have been developed and marketed, e.g. Angelus® MTA (Angelus, Londrina, PR, Brazil), Biodentine® (Septodont, Saint-Maur-des-Fossés, France), CEM-cement® (BioniqueDent, Tehran, Iran), Biosealer® (Isasan, Rovello Porro, Italy) and DiaRoot® BioAggregate (Innovative BioCeramix, Vancouver, Canada). Various clinical applications of MTA including its use in regenerative endodontics and advantages and disadvantages of the new MTA-like products will be reviewed in this presentation. In addition, in view of its various applications, MTA may become contaminated by blood during placement or even incorporated into MTA during or after its placement; this contamination may have a detrimental effect on its physical properties. An ideal root repair and root-end filling material should not be affected by contamination of physiological solutions such as blood and/or saliva. The effect of human blood contamination on surface microhardness, compressive strength, surface microstructure, elemental analysis, phase composition, push-out strength and porosity of tooth-coloured ProRoot® MTA (Dentsply, Tulsa Dental, Johnson City, TN, USA) was evaluated and will be discussed in this lecture.

**Curriculum**

Mohammad Hossein Nekoofar DDS, MSc, MPhil, DoIBE

Current job and work history:

Clinical Lecturer in Endodontics, Division of Learning & Scholarship, School of Dentistry, Cardiff University, Cardiff, UK  
December 2005-Present

Honorary Visiting Lecturer: Dept of Adult Dental Health, School of Dentistry, Cardiff University, Cardiff, UK  
April 2004-December 2005

Assistant Professor of Endodontics: 1995-2005 Faculty of Dentistry, Tehran University of Medical Science, Tehran, Iran  
Research experience:

A member of "Endodontology Research Group", Department of Adult Dental Health, Cardiff University

Group Leader of Mineral Trioxide Aggregate study

Group Leader of Electronic apex locators study

Research Interests: Electronic root canal length measurement devices

Mineral trioxide aggregate (MTA), Post Operative pain in Endodontics, Treatment of immature root canals, Automated root canal preparation, Physiopathology of periapical lesions

Qualifications:

Date Degree Subject Awarding Body

2006 MPhil Dental Biomaterial Cardiff University

1994 Diplomate, Iranian Board of Endodontics Endodontics Ministry of Health & Medical Science, Tehran, Iran

1993 MSc Endodontics Faculty of Dentistry, Tehran University of Medical Science, Tehran, Iran

1989 DDS General Dentistry Faculty of Dentistry, Tehran University of Medical Science, Tehran, Iran

# RECIPROC®

*one file endo*



## Proficiency through Simplicity

- **Less work steps** ▶ one instrument prepares a root canal to a greater taper
- **Safe use** ▶ prepares even severely curved and narrow canals
- **Single use convenience** ▶ no cleaning and sterilising

Find more information about the RECIPROC® system on

▶ [www.RECIPROC.com](http://www.RECIPROC.com)

VDW GmbH  
Bayerwaldstr. 15 • 81737 Munich • Germany  
Tel. +49 89 62734-0 • Fax +49 89 62734-304  
[www.vdw-dental.com](http://www.vdw-dental.com) • [info@vdw-dental.com](mailto:info@vdw-dental.com)



Endo Easy Efficient®

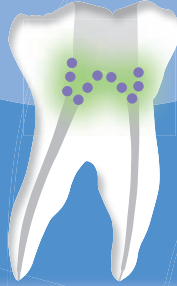


# The "App" to seal!

Root Canal Seal



Cleaning



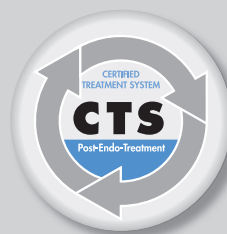
Coronal Seal



## DENTSPLY Endo-Resto System

For Immediate Post-Endodontic Restorative Treatment

- Sealed
- Safe
- Certified



For better dentistry

**DENTSPLY**

ACTIVE  
BIOSILICATE  
TECHNOLOGY

# *Bio dentine*<sup>TM</sup>



**Premier substitut dentinaire bioactif**  
en dentisterie restauratrice et en endodontie





# Do round burs lead you down the wrong path during endodontic access?



Round Bur  
Run-Off

## TAKE A STRAIGHT-LINE PATH TO CANAL ACCESS

*EndoGuide™ Burs patented<sup>1</sup> conical-shaped, micro-diameter tip acts as a self-centering guide to create precise endodontic access.*

Conventional Round Bur



Not actual size

EndoGuide™ Precision Guidance to Canal

EndoGuide™ Straight-Line Path in Canal

- **Tapered, Micro-diameter Tip:** Creates ideal guide-path for endodontic files
- **Funnel-shaped Bur Design:** Improves canal visualization
- **Precision Guidance:** For efficient identification of calcified/MB2 canals
- **Conserves Vital Peri-cervical Dentin:** To strengthen resistance to fracturing

*"EndoGuide™ Burs have eliminated my dependence on round burs and the ultrasonic tips. EndoGuide™ Burs offer greater precision and efficiency in creating straight-line access and identifying canals in molar teeth."*

– John A. Khademi, DDS, MS



- Maximize Treatment Efficiency
- Conserve Healthy Tooth Structure
- Reduce Procedure Time
- Reduce Instrumentation



EndoGuide™  
Molar Kit  
Order #18051

EndoGuide™  
Anterior/Bicuspid Kit  
Order #18052

PRACTICE INSPIRATION



1. U.S. Patent No. 6,257,889 B1

Clinical illustrations courtesy of Dr. Eric Herbranson and Dr. David J. Clark.

EndoGuide™ is a trademark of SS White Burs, Inc.  
SS White® is a registered trademark of SS White Burs, Inc.

800-535-2877 | [www.sswwhiteburs.com](http://www.sswwhiteburs.com)  
1145 Towbin Avenue Lakewood, New Jersey 08701



## ACKNOWLEDGMENTS

The ESE 2011 Scientific Committees would like to thank the following companies for their support to the Congress:

### PLATINUM SPONSOR



### SILVER SPONSOR



### BRONZE SPONSOR



### EXHIBITORS

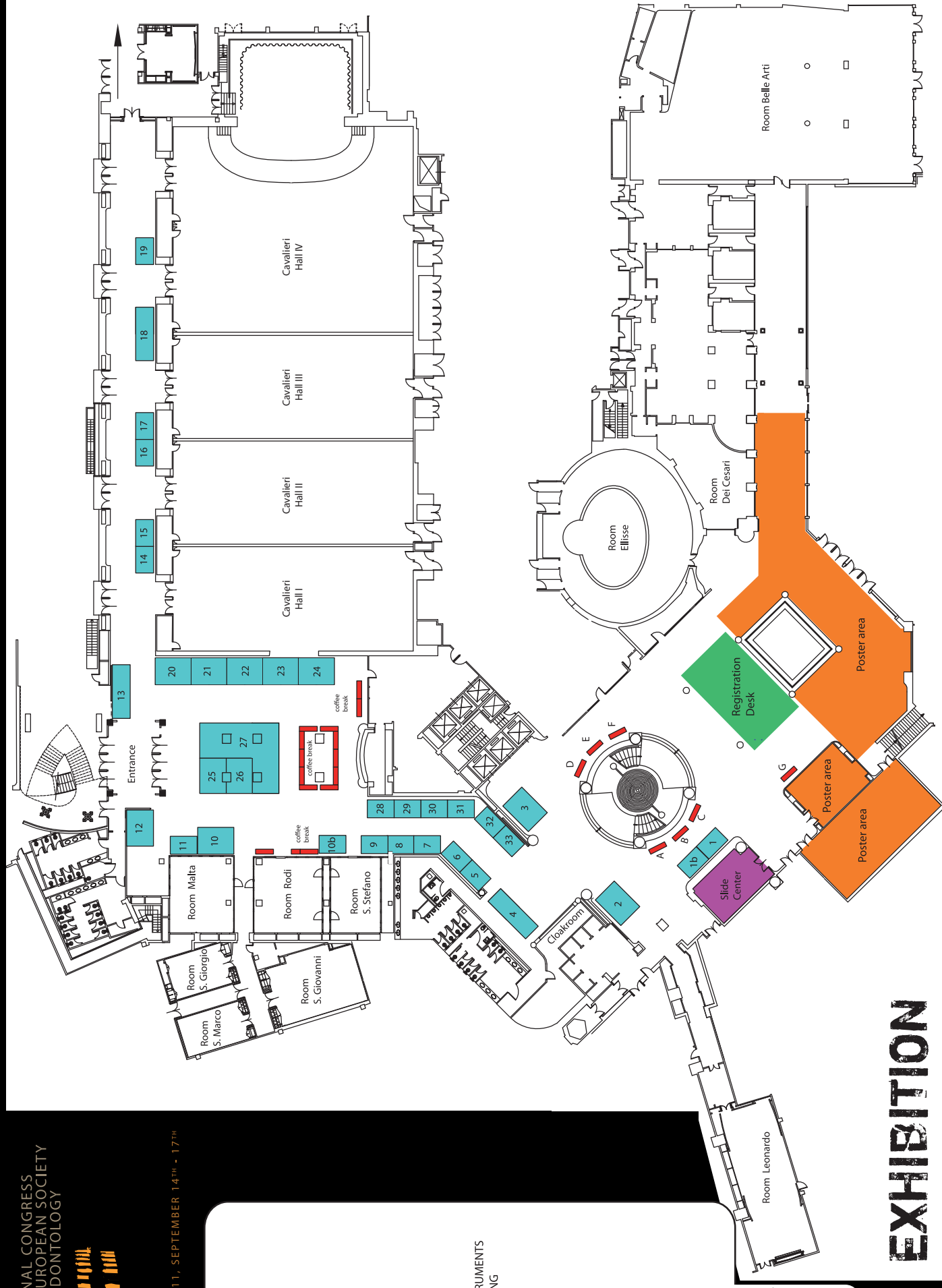
ACADENTAL  
B&L BIOTECH  
CARESTREAM HEALTH  
CARL ZEISS MEDITEC  
CMS DENTAL  
EDIZIONI MARTINA  
FV2000  
G.HARTZELL & SON  
J. MORITA EUROPE  
J. WILEY & SONS  
KARL KAPS  
KOMET ITALIA  
LASCHAL SURGICAL INSTRUMENTS

MANI  
NISSIN DENTAL PRODUCTS  
NORDISKA DENTAL  
OBTURA SPARTAN  
Q.E.D.  
QUINTESSENCE PUBLISHING  
REDENT NOVA  
RIDENT  
ROMIDAN  
SCHLUMBOHM  
SWEDEN&MARTINA  
ULTRADENT  
VISTA DENTAL PRODUCTS  
W&H SENDOLINE



1. DENTSPLY DETREY
- 1b. MANI
2. REDENT NOVA
3. SYBRON ENDO EUROPE
4. KOMET ITALIA
5. ROMIDAN
6. ORTURA SPARTAN
7. ULTRADENT
8. ACADENTAL
9. VISTA DENTAL PRODUCTS
10. CMS DENTAL
- 10b. AAE
11. SS WHITE
12. CARL ZEISS SURGICAL
13. COLTENE ENDO
14. EDIZIONI MARTINA
15. J. WILEY & SONS
16. LASCHAL SURGICAL INSTRUMENTS
17. QUINTESSENCE PUBLISHING
18. J. MORITA EUROPE
19. KARL KAPS
20. MICRO-MEGA
21. FKG DENTAIRE
22. ACTEON
23. J. MORITA EUROPE
24. B&L BIOTECH
25. VDW
26. SWEDEN & MARTINA
27. DENTSPLY MAILLEFER
28. FV 2000
29. CARESTREAM HEALTH
30. Q.E.D.
31. NORDISKA DENTAL
32. W&H SENDOLINE
33. G.HARTZELL & SON

- A. RIDENT
- B. NISSIN DENTAL PRODUCTS
- C. SCHLUMBOHM
- D. ESE 2013
- E. EUROPERIO
- F. IFEA
- G. PAEC



**EXHIBITION**

### INDEX OF CHAIRPERSONS AND AUTHORS

About I. 47  
Appel C. 30  
Barnett F. 37  
Basrani B. 34  
Belli S. 41  
Bergenholtz G. 45  
Bertani P. 56  
Berutti E. 58  
Bjørndal L. 45  
Bourguignon C. 30  
Briseño Marroquin B. 34  
Buchanan L.S. 58  
Cantatore G. 31  
Castellucci A. 55  
Cochet J.Y. 54  
Cotti E. 37  
De Moor R. 26  
Debelian G. 33  
Dummer P. 27  
El Ayouti A. 36  
Ferrari M. 40  
Figueiredo J. 28  
Gagliani M. 33  
Gambarini G. 33, 56  
Ginjeira A. 42  
Gorni F. 56  
Gutmann J. 57  
Happasalo M. 25  
Hargreaves K. 42  
Hoskinson A. 49  
Hossein Nekoofar M. 60  
Huang G. 48  
Hülsmann M. 58  
Jaramillo D. 43  
Johnson B. 27  
Khayat B. 53  
Kirkevang L.L. 43  
Lambrechts P. 52  
Löst C. 25  
Malentacca A. 59  
Mannocci F. 27  
Martignoni M. 31  
Metzger Z. 35  
Molander A. 51  
Nallapati S. 51  
Naumann M. 39  
Ng Y.L. 42  
Ørstavik D. 53  
Patel S. 53  
Peters O. 50  
Rengo S. 39  
Ricci C. 36  
Riitano F. 31  
Ruddle C. 32  
Schäfer E. 30  
Segura-Egea J.J. 44  
Simon S. 46  
Suda H. 59  
Tamse A. 54  
van der Sluis L. 29  
Weiger R. 36  
Wesselink P. 49  
Wu M.K. 38  
Zehnder M. 28

## NOTES

# III DICOPERTINA

all for **one**  
**one** for all



wave•one™

- Only one sterile NiTi instrument per root canal in most cases
- Decreases the global shaping time by up to 40%
- Reciprocating technology respecting the root canal anatomy
- Single use as new standard of care