

The AAE is an ADA CERP-Recognized Provider.



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# DOWNLOAD THE MOBILE APP

- Quickly find sessions and browse complete course descriptions.
- Customize your itinerary, "favorite" sessions and schedule reminders.
- Get onsite notifications including changes and big announcements.
- Navigate the exhibit hall with the interactive floorplan.
- Plus, the customized schedule you created online will be automatically synced!

#### Sponsored by:







Scan the QR code or search your mobile device app store for AAE15.

Stop by the help desk located near registration for assistance.



Network = AAE15 Password = carestream

# Sponsored by Carestream



# Shop the AAE Store!

- Stock up on your favorite AAE scrubs and T-shirts!
- Find gifts for your family and staff, including AAE mugs and "Endodontist in Training" onesies
- Browse and order brochures and other patient education resources

Visit the AAE Store, across from the Carestream Attendee Lounge!



# **ONLINE CE VERIFICATION PROCESS**

The AAE utilizes an online CE verification and evaluation process. Attendees have the ability to complete this process from a personal computer at any time. Log in as often as you like, whenever you like.

# Follow these simple step-by-step instructions to log your CE hours:

- 1 Record the CE verification number announced at the conclusion of each session
- 2 Go to www.aae.org/CEcredit
- 3 Log in with your AAE username and password
- 4 Select the session you attended
- 5 Enter the corresponding CE verification number and complete an optional session evaluation
- 6 Submit the form
- 7 Once you are logged in, follow steps 4-6 to submit any additional CE hours
- 8 Log out when you are finished

The website will remain open until May 22, 2015.

After that date, contact the AAE at ceverification@aae.org, or by calling 800-872-3636 (U.S., Canada, Mexico) or 312-266-7255. A transcript will be sent to you within eight weeks of the meeting's conclusion.

# **RECORD YOUR CE HERE**

Session Number	<b>CE Verification Number</b>
PT (Poster/Table Clinics)	5200150590E



# SPECIAL EVENTS

## WEDNESDAY, MAY 6

9 - 10 a.m.	General Session with Michio Kaku Sponsored by DENTSPLY Tulsa Dental Specialties
4 - 5:30 p.m.	Exhibit Hall Opening Reception Sponsored by EdgeEndo
5:30 - 6:30 p.m.	Foundation Donor Reception (By Invitation) Sponsored by DENTSPLY Tulsa Dental Specialties
THURSDAY, MA	(7
8:30 - 10 a.m.	President's Breakfast Sponsored by DENTSPLY Tulsa Dental Specialties
Noon - 1:30 p.m.	Exhibit Hall Lunch Sponsored by DENTSPLY Tulsa Dental Specialties
12:30 - 1 p.m.	AAE Foundation Auction
4 - 5 p.m.	Louis I. Grossman Ceremony
5 - 6 p.m.	Louis I. Grossman Reception (Ticket purchase required)
5:30 - 6:30 p.m.	Professional Staff Reception (By Invitation) Sponsored by Brasseler USA and EndoVision

#### FRIDAY, MAY 8

6 - 7:30 a.m.	Fun Run/Walk Sponsored by Sonendo
8 - 9:30 a.m.	General Assembly Breakfast Sponsored by DENTSPLY Tulsa Dental Specialties
3 - 4:30 p.m.	Resident and New Practitioner Career Fair Sponsored by Radman, White & Associates, Inc.
4:30 - 5:30 p.m.	Exhibit Hall Closing Happy Hour Sponsored by Channels
4:30 - 5:30 p.m.	Resident Reception (By Invitation) Sponsored by Treloar & Heisel and MedPro
9 p.m Midnight	Celebrate Seattle!

#### **SATURDAY, MAY 9**

Noon - 1:30 p.m.	Edgar D. Coolidge Luncheon
	The AAE/DENTSPLY Resident Awards are
	sponsored by DENTSPLY International

# SPOUSE / GUEST ACTIVITIES

#### THURSDAY, MAY 7

#### **Pike Place Market Walk**

Depart Sheraton Lobby 8:30 a.m.

Join other guests and spouses for a walk to Pike Place Market. Grab a coffee and a stroll through this interesting and lively market. Return at your leisure.



#### FRIDAY, MAY 8

#### Chihuly Garden & Space Needle Tour with Lunch

#### 10 a.m. - 1:30 p.m.

A very special day has been planned, starting with a visit to the famed Chihuly Garden and Glass, followed by a private luncheon at the top of the Space Needle.

Please note that this is a ticketed event: \$90 per person. Space is limited.

Group will depart from Sheraton Lobby at 9:15 a.m.





## SATURDAY, MAY 9

#### Family/Guest Breakfast Open House

#### 8:45 - 11 a.m.

Meet and mingle with other guests and family members during a casual breakfast in the Alliance Suite.

Come and go as you please open house style.

No advance registration needed.



# LIST OF EXHIBITORS

Booth #

#### Company Name

3D Vision Systems LLC	332
AAE Member Center	601
Acadental	208
Accurate Manufacturing, Inc	224
ACTEON North America	625
Afiniti Medical	
Amalgam Separators, R & D Services	734
American Dental Partners, Inc	532
Amerinet/Health Resource Services	
ANGELUS	429
Aseptico, Inc	725
ASI Medical, Inc	
Aspen Dental	019
Avalon Biomed Inc	927
B & L Biotech USA	917
Benco Dental	227
BioMTA	109
Bisco Dental Products	633
Brasseler USA	311
CareCredit	333
Carestream Dental	
Carl Zeiss Meditec.	411
CEDR HR Solutions	635
CJ Optik	<b>635</b> 107
CJ Optik	<b>635</b> 107 928
CJ Optik	<b>635</b> 107 928 101
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#### Company Name Booth # Gendex/NOMAD/ Great Expressions Dental Centers. . . . . 125 Journal of Endodontics (JOE) . . . . . . . . . 711 JS Dental Manufacturing, Inc., . . . . . . 1021 Laschal Surgical Instruments, Inc. . . . . 206 Microsurgery Instruments, Inc. . . . . . 1017 Munce Discovery Burs Obtura Spartan Endodontics . . . . . . . . 717 Otto Trading Inc.....733 Patterson Dental Supply, Inc. . . . . . . . . 811

Company Name	Booth #
PBSEndo	424
Phase II Associates, LLC	
PLANMECA USA, Inc,	924
Premier Dental Products Company	126
Prescott's, Inc.	114
ProTrain-Simit Dental Srl	832
Q-Optics & Quality Aspirators	
Quintessence Publishing Co., Inc	516
Radman, White & Associates, Inc.	226
ReferralWeb	929
RGP Dental, Inc.	225
Roydent Dental Products	217
Saeshin Precision Co., Ltd	735
Saeyang Microtech Co., Ltd	102
Schwed Co. Inc	1001
Scott's Dental Supply	732
Seiler Instrument Precision Microscope	904
Septodont	713
Sirona Dental, Inc.	301
SoFi	229
Sonendo, Inc.	133
SS White Dental	214
Surgitel/General Scientific Corp	926
SybronEndo/Kerr Corporation	617
TDO Software/EIE2	1005
TransFirst Health Services	807
Treloar & Heisel	801
TriHawk	428
U.S. Jaclean	134
Ultimate Dental - A Division of Endoco	417
Ultradent Products, Inc	416
Upholstery Packages & Services	112
Vista Dental Products	825
Wand Dental, Inc. (Milestone Scientific)	729
Wiley	805
Wykle Research	
XDR Radiology	1023
Zendo	
Zumax Medical Co., Ltd	432

Please thank the AAE15's PREMIER SPONSORS for their SUPPORT!

#### DIAMOND LEVEL





PLATINUM LEVEL

For better dentistry



**GOLD LEVEL** 





# EXHIBIT HALL MAP

# Corporate Workshops

Learn about innovations in treatments and technology through hands-on workshops. Advance registration is required (\$50) and CE is not awarded.

Look for the 🤤 icon in the schedule for complete event information.

#### POSTER RESEARCH AND TABLE CLINICS

Recognizing the innovative research occurring in endodontics, this area showcases member studies, encouraging discussion that strengthens and advances the specialty.



## Don't miss out on all the FUN in the Exhibit Hall!

#### WEDNESDAY, MAY 6

**Opening Reception** .......... **4 - 5:30 p.m.** Sponsored by EdgeEndo

#### THURSDAY, MAY 7

Lunch ...... Noon – 1:30 p.m. Sponsored by DENTSPLY Tulsa Dental Specialties

#### FRIDAY, MAY 8

**Closing Happy Hour** .... **4:30 – 5:30 p.m.** Sponsored by Henry Schein Dental/ EndoVision

Download and check out the interactive exhibit floor plan on the AAE15 Mobile App.

"Favorite" the companies you want to visit and take notes.



#### AAE MEMBER CENTER

Be sure to visit our booth and:

- Renew your AAE Membership.
- Make an AAE Foundation pledge.
- Purchase or renew your Live Learning Center subscription.
- Explore the new Career Center.
- Preview patient education videos.
- Browse publications and resources.
- Get to know the AAE staff.
- Visit AAE Endorsed Vendors.
- Learn about Board certification.



## SCHEDULE

#### KEY:

Session Number	Speaker(s)
Title	Room
Special Event	Room

- **Corporate Workshop** No CF Awarded
- Corporate Lecture No CE Awarded
- Not recorded for 18 Live Learning Center

For more information on corporate activities and special events, refer to the AAE15 Mobile App or visit www.aae.org/AAE15.

#### WEDNESDAY, MAY 6

8 a.m. - 5:30 p.m.

**Registration and** Information ..... Atrium Lobby

#### 9 - 10:30 a m

#### General Session with Michio Kaku.....Ballroom 6B Sponsored by DENTSPLY Tulsa Dental Specialties

10:30 - 11:15 a.m.

#### District Caucuses:

District I606	
District II 609	,
District III	3
District IV 612	2
District V 615	5
District VI 620	)
District VII6E	

#### 10:30 a.m. - Noon

#### OR01-OR06 Oral Research: Instrumentation

# RECHARGE & RELAX



Located on the 6th Floor

#### OR07-OR12 🕅

Oral Research: Regenerative 

PS-1	H. Levy
Successfully Treating	
ALL Anxious Patients	3A

10:30 a.m. - 5:30 p.m.

Exhibit Hall/ **AAE Member Center Open** 

Corporate Lecture 🔚 🕥

ll a.m. - Noon

M. Levin

CBCT: A Short Guide to Flatten the Learning Curve (Carestream Dental).....Exhibit Hall

11:15 a.m. - Noon

Affiliate Leadership Meeting.... 606

Noon - 12:30 p.m.

#### Break

#### 12:30 - 2:00 p.m.

10.00 0.00	p.m.
EP-1	A. Azarpazhooh, A. Diogenes, N. Flake
Grant Writ	ing Pitfalls
<mark>NS-1</mark> Micro CT a	<b>F. Paque</b> nd Anatomy 609
NS-2	G. Bruder
New Techn	What Matters: ologies and Approaches conservation 615
0-1	S. Kim
	nical Dilemma: ıs Implants6E
	.8 ऒ rch: Educational I Research604
	24 🕅 rch: Basic Science itional Research 613
PS-2	L. Talley
What the T Do to Enga	s No One Tells You: op 2% of Endodontists ge the Patient d!3A
S-1	T. von Arx
	of Orofacial Anatomy odontist606
SP-1	M. Okwen
Does Enterd	ow and When pcoccus faecalis rulent?
1 - 2 p.m.	
Picking Wir Proven Tec and Hiring	Lecture () K. Tullar nners, Not Whiners: hniques for Attracting the Best Employees Solutions)Exhibit Hall
1 4	

#### 1-4 p.m.

#### CW-1 🧿

#### F. Banchs

New File Advancement Technology for Root ZX II Low Speed Handpiece (J. Morita USA, Inc.).....Exhibit Hall

#### 2 - 2:30 p.m.

#### Break

2:30 - 4 p.m.

OR25-OR29 Oral Research: Basic Science Research ......604

#### OR30-OR35 🚷

Oral Research:	
Instrumentation	 613

BT-1 K. Galler
Scaffolds as Advanced Biomaterials
in Pulpal Regeneration606

#### EP-2 C. Delong, B. Douglas,

	к. пш, Ј. энш
Phasing Into a Practice	620

#### NS-3 E. Chugerman, M. Feldman Advanced Uses of CBCT

in	Endodontics	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	6	12	2

A.Law

A. Fakhrv

A. Azim

#### **NS-4**

Persistent Pain Following Endodontic Treatment: What Do We Know and What Can We Do About It? ..... 615

#### PS-3

L. Tallev It's Not What You Said. It's What You Didn't Say: The Secrets of Gestures and the Messages They Relay to Patients! ...... 3A

#### S-2

Orthodontic Extrusion: Therapeutic Applications and Clinical Considerations 6F

#### SP-2

Endo in the Time of Implants: Proper Understanding of 

#### 4 - 5:30 p.m.

#### Opening Reception.....Exhibit Hall Sponsored by EdgeEndo



#### **THURSDAY, MAY 7**

7:30 a.m. - 5 p.m.

Registration and Information ..... Atrium Lobby

8:30 - 10 a.m.

President's Breakfast ......6B Sponsored by DENTSPLY Tulsa Dental Specialties

#### Pike Place Market Walk

Departs from Sheraton Lobby. No registration needed.

#### 10 a.m. - 5 p.m.

#### Exhibit Hall / AAE Member Center Open

9 a.m. - 5 p.m.

S-3 🕅 A. Fakhrv, S. Niemczvk Microsuturing Workshop ...... 308 Advance registration required.

#### 10:15 - 11:45 a.m.

#### BT-2

**B.** Friedland

Impact of CBCT in Clinical Endodontic Practice: Advances. Limitations and Medical Legal 

FP-3 A. Goerig How to Find Peace. Jov and Success in Private Practice ...... 3A

0-2 A. Diogenes Regenerative Endodontics 

OR36-OR41 🕅 Oral Research: Outcomes ...... 604

OR42-OR47 🕅 Oral Research: Obturation ..... 613

PS-4 J. Berkhoff Why Do You Need That?: Helping Your Doctor Gather the Right Information for 

#### S-4

#### G. Bruder

When to Retain the Compromised Tooth: A Microsurgical Endodontic Perspective ......6E

#### SP-3

SP-4 🚷

K. Woodmansev

Your Psychic Power: The Value of Intuition in Endodontic Decisions 606

#### A. Azarpazhooh

Separating Fact From Fiction: Interactions Between Oral Health and General Health..... 609

#### SP-5

CW-2

R. Luciano

Thinking Outside the Box: Bevond Our Routine NSRCT, Retx and 

#### 10:15 a.m. - 1:15 p.m.

I. Reiss

3-D Imaging Hands-On Workshop (Carestream Dental).....Exhibit Hall

10:30 - 11:30 a.m.

**Corporate Lecture T**. *McClammy* Clincal Documentation With the Microscope: The Past, Present and Future (Zeiss) .....Exhibit Hall

Noon - 1 p.m.

OR48-OR51 Oral Research: Microbiology.... 604

Noon - 1:30 p.m.

#### Exhibit Hall Lunch Sponsored by DENTSPLY Tulsa Dental Specialties

12:30 - 1 p.m.

#### AAE Foundation Auction..... Atrium Lobby

1:30 - 3 p.m.

#### NS-5

O. Peters

Rationale for Contemporary Root Canal Treatment: Are We Overengineering the Task?.....6E

#### NS-6

#### R. Rubinstein

G. Glickman

Using Study Clubs to Better
Understand and Improve the
Referral Process 606

#### NS-8 🔀

#### O-3

J. Price

Assessing Endodontic Outcomes With CBCT...... 612

O-5

A. Law, D. Nixdorf

#### OR52-OR57 🕅

Oral Research: Materials and Clinical Practice ......604

#### OR58-OR63 🕅

Oral Resear	ch: Irrigation	
and Asepsis		613

#### SP-6 A. Gluskin, P. Sharma-Chand

#### 1:30 - 5 p.m.

**EP-4 B. Steinberg** Optimal Aging: Living to 100!.... 3A

#### 2 - 5 p.m.

#### **CW-3** 🥺

J. Reiss

3-D Imaging Hands-On Workshop (Carestream Dental) ....Exhibit Hall

#### 3 - 3:30 p.m.

#### Break

#### 3:30 - 5 p.m

3:30 - 5 p.m.		
NS-9 🕅 The Digital Endodontic		S. Buchanan
	etation of th Idodontists	B. Azevedo e Maxillary 
NS-11 Revised AA Trauma Gui	-	N. Cohenca
NS-12 🕅 NSRCT – Irr Past, Preser		B. Basrani
<mark>O-4</mark> Terminolog Outcome St	,	H. Messer
	rch: Local An	esthesia 604
	rch: Imaging	and 613
Dental Busi	Like Floss wi ness Nugget sy!	
SP-7	G. Gambari	ni, N. Grande, G. Plotino
Root Canal	nt and Future Instrumenta oints	
4 - 5 p.m.		

Louis I. Grossman Ceremony ...... Sheraton Grand Ballroom A

#### 5 - 6 p.m.

Louis I. Grossman Reception (Advance Ticket Purchase Required) Sheraton Grand Ballroom B

#### 5:30 - 6:30 p.m.

Professional Staff Reception (By Invitation)..... Sheraton Metropolitan A Ballroom

Sponsored by Brasseler USA and EndoVision



#### FRIDAY, MAY 8

6 - 7:30 a.m.

Fun Run/Walk ..... ..... Sheraton Diamond Room Sponsored by Sonendo

#### 7 a.m. - 5:30 p.m.

Registration and Information ..... Atrium Lobby

#### 8 - 9:30 a.m.

General Assembly Breakfast .....6B Sponsored by DENTSPLY

Tulsa Dental Specialties

9:30 - 10 a.m.

#### Break

9:30 a.m. - 5:30 p.m.

#### Exhibit Hall / AAE Member Center Open

10 - 11 a.m.

#### Corporate Lecture 🔭 🕥 J. Maggio

A New Paradigm in Endodontic Therapy: GentleWave™ (Sonendo) .....Exhibit Hall

#### 10 - 11:30 a.m.

BT-3

#### S. Simon

Current Status and Future Considerations in Clinical Regenerative Endodontics ..... 609

#### BT-4 🐰

T. Kawai

N. Cooper

W. Prescott

Strategies to Modulate the Host Immune Response in Endodontic 

#### EP-5

Marketing the Endodontic Practice to GPs and Patients ..... 603

#### FP-6

L. Colton Essential Digital Strategies for

#### EP-7

Entering Practice: Make the First Choice the Right Choice ...... 3A

#### NS-14 🐰

Clinical Applications of Bioceramic Materials in Endodontics 6F

M. Ree

#### NS-15 🕅 M. Drum, A. Reader

Tingle, Slur and Drool: Myths and Reality of Local Anesthesia and Pain 

NS-16 D. Miles Cone Beam 3-D Imaging...... 615

#### SP-8 C. Wenckus

Successful Strategies to Pass the ABE Case History Porfolio Exam ...... 604

#### J. Schweitzer

Evolution of a Contemporary 

#### 10 a.m. - 1:30 p.m.

#### **Guest Activity: Chihuly** Garden & Space Needle

Advance ticket purchase required. Departs from Sheraton Lobby at 9:15 a.m.

#### 11:45 a.m. - 12:45 p.m.

#### CLL

SP-9

Clinical Lunch-n-Learn

Sponsored by DENTSPLY Advance registration required.

#### FI L

Educator Lunch-n-Learn Sponsored by DENTSPLY Tulsa Dental Specialties ......6B

#### PML

Practice Management Lunch-n-Learn Sponsored by DENTSPLY 

#### 1 - 5 p.m.

#### NS-13 🕅 F. Barnett , T. Pannkuk

Resorption Workshop: Understanding Pathogenesis and Clinical Management ...... 308 Advance registration required.

#### 1:15 - 2:45 p.m.

BT-5	K. Hargreaves
Update on Pain	6E

#### BT-6 🐰

T. Pagonis

Current, Emerging and Future
Strategies in Endodontic
Disinfection 612

#### EP-8 F. Heppner Endodontic Practice Valuations:

Practice Value...... 3A NS-17 N. Cohenca

Vital Pulp Therapy Update ...... 606

NS-18 L.B	erman
Failing Before Starting: When	
NOTE D. F. L. L. V.	( 4 5

NOT to Do Endodontics ...... 615

PS-7 🕺	M. Altermatt
Secrets to the Team	Approach
to Profitability	

S-5	M. Fayad
3-D Imaging and Surger	y 609

#### Software User Group:

PBS Endo	 613
TDO	 604

2:30 - 3:30 p.m.

#### Corporate Lecture 🐂 🕥 👘 M. Levin

Using a New Biocompatible Polymeric Obturation Material That Expands on Water Sorption: How to Precisely Seal Round and Oval Shaped Canals in Three Dimensions Without Compaction (Endo Technologies) ......Exhibit Hall

#### 2:45 - 3 p.m.

#### Break

3 - 4:30 p.m.

#### Resident and New Practitioner Career Fair ... The Conference Center

Sponsored by Radman White & Associates

#### BT-7

#### E. Herbranson

Status and Future Impact of Advanced Technnology, Virtual Reality and Other 3-D Technology in Endodontics......609

#### BT-8 🕅

A. Kishen

G. Debelian

#### 

#### NS-19 A. Khan The Future of Pulpal Diagnosis:

#### 

S-6

Endodontic Microsurgery: Biological Principles, Treatment Decision-Making and Clinical Procedures ......6E

SP-11 M. Fayad, P. Ashkenaz Endodontics in the 21st Century:

What Is the Fourth Dimension? . 615

#### Software User Group:

EndoVision		 				 		 604
EndoTrak	• •	 	• •	• •	• •		• •	 613

4:30 - 5:30 p.m.

Closing Happy Hour....Exhibit Hall Sponsored by Channels

#### 

Sponsored by Treloar & Heisel and MedPro

#### 9 p.m. - Midnight

#### Celebrate Seattle!.....EMP Museum

Badge required for admittance. Follow signage and meet AAE staff in Sheraton, Grand Hyatt and Hyatt Olive 8 lobbies beginning at 8:30 p.m.



#### SATURDAY, MAY 9

8 a.m. - 5 p.m.

Registration and Information ..... Atrium Lobby

8:30 - 10:00 a m

#### Family/Guest Breakfast Open House.... Sheraton Suite TBD

No registration needed. 8:45 - 11 a.m..... Family/Guest Breakfast 8:30 - 10 a.m.....Sessions

#### EP-10 🚷 D. Harris How to Steal From an Endodontist..... 3A

NS-20 Z. Metzger Cracks and Fractures in Vital and Endodonticalv 

NS-21 🚷 C. Torneck Understanding and Managing 

#### B. Karabucak

**Bioceramic Root Repair Material:** Clinical Applications With an Evidence-Based Approach ..... 615

NS-23

NS-22

D. Ricucci

Apical Periodontitis and Bacterial Biofilms: A Strict Interrelationship ...... 620

D. Cook

Reconsidering the Focus of Outcomes Research in Education: A Cautionary Tale ... 609

**PS-9** 

S-7

**B** DesRoches

Dental Team Communication: The Two Essential Skills for Ensuring 

S. Niemczvk

Apical Surgery: What's Your Greatest Fear?.....6E

**SP-12** M. Okwen

The Affordable Care Act: How Does It Affect You? ...... 603

#### SP-13 🕅

R. Macedo

Cleaning Accessory Root Canal Morphology Through Activated Irrigation: Translating Lab Findings Into Daily Clinical Reality...... 613

10 - 10:15 a.m.

#### Break

#### 10:15 - 11:45 a.m.

BT-9 🐰 I Mao Stem Cell Homing in Dentin and Pulp Regeneration ...... 615 **EP-11 B. Rundquist** Debunking Root Canal Myths.... 3A NS-24 🕅 M. Ree Contemporary Restoration of Root Canal Treated Teeth ......6E W. Nudera Selective Root Retreatment..... 606 I. Tsesis Meta-Analysis: Surgical Outcomes With Modern Techniques ...... 609 **PS-10 B** DesRoches The Five Essential Skills for Engaging Patients: Enhancing Your Capacity to Involve Patients in the Treatment Process ....... 604 5-8 J. Cochet Bone Regeneration and Bone Preservation in Nonsurgical and Surgical **SP-14** S. Kim

Pulp Regeneration: Challenges 

#### **SP-15**

C. De Gregorio

Contemporary Tridimensional Irrigation of Root Canal Systems: What Are the Clinical Implications on Endodontic Outcome? ...... 613

#### SP-16

A Tamse The Evidence for Vertical Root Fracture Diagnosis in Endodontically Treated Teeth: 

NS-25

#### **O-8**

#### Noon - 1:30 p.m. Edgar D. Coolidge Luncheon.....6B The AAE/DENTSPLY Resident Awards are sponsored by DENTSPLY International 1:45 - 3:15 p.m. **EP-13** A. Goerig Survival for Success for the New Endodontic Practitioner.... 3A **NS-26** R. Schwartz **Clinical Management** of Resorption.....6E NS-27 🚷 M. Martignoni Retreatment and Broken Instruments Removal: Clinical Approach and Tools..... 606 **NS-28** T. Montagnese IV Sedation for S-9 🕅 B. Azevedo **3-D Interpretation Concepts** S-10 S. Niemczyk Implants: Incorporation Into the Modern Surgical Practice ... 615 SP-17 J. Small Line-of-Sight Leadership: Becoming the Leader SP-18 🕺 M. Kang Back to Basic: Strengthening the Foundation for Endodontic Research ...... 613 **SP-19** G. Huang Missing Concepts in De Novo 1:45 - 5 p.m. **EP-12** T. Harris OSHA/Infection Control

#### 3:15 - 3:30 p.m.

#### Break

3:30 - 5 p.m.

3:30 - 5 p.m.
EP-14R. RubinBuilding a Solo EndodonticOffice: Case Report
NS-29 D. Landwehr Diagnostic Dilemmas: A Clinician's Perspective on Uncertainty 606
NS-30 A. Gluskin Can Endodontically Treated Teeth Last a Lifetime?
NS-31 N. Rhodus Oral Medicine: Complex Medical Patients
O-9 ऒ F. Setzer Meta-Analysis: Outcomes With and Without Magnification 609
SP-20 X J. West Three Guidelines for Becoming a Great Endodontist6E
SP-21 A. AbuMelha Coronal Restorations in
Relation to the Success and Survivability of Endodontically Treated Teeth
SP-22 A. Kfir The Impact of CBCT Imaging on Endodontic Treatment Decisions
SP-23 C. Bueno, M. Coelho Single-File Reciprocating Systems: From Treatment to Retreatment– Is the Clinical Experience Supported by Literature?



# ALUMNI AND AFFILIATE EVENTS

#### **TUESDAY, MAY 5**

Endodontic Standards Business Meeting ...... Sheraton Kirkland Noon - 5 p.m.

#### WEDNESDAY, MAY 6

Scientific Advisory Board Reception	Sheraton Jefferson 5:30 - 6:30 p.m.
University of Maryland Reception	Sheraton Medina 6-8 p.m.
University of Minnesota Reception	Sheraton Issaquah 6-8 p.m.
Army-Navy Reception	Rock Bottom Brewery <mark>6-9 p.m.</mark>
Lutheran Medical Center Reception	Sheraton Leschi 6:30-8 p.m.
Virginia Commonwealth University Reception	Sheraton Ravenna 6:30 - 8 p.m.
West Virginia University Reception	Sheraton Kirkland 6:30 - 8:30 p.m.
University of Missouri-Kansas City Alumni Dinner (By Invitation)	Sheraton Daily Grill 7-9p.m.
Texas A&M University Baylor College of Dentistry Reception	Sheraton Cirrus Ballroom 8-11 p.m.

#### THURSDAY, MAY 7

Tufts University Reception	Sheraton Issaquah 5:30 - 7 p.m.
University at Buffalo Reception	Sheraton Leschi 5:30 - 7:30 p.m.
University of Pennsylvania Reception	Sheraton Metropolitan B 5:30 - 7:30 p.m.
Case Western Reserve University Reception	Sheraton Boren 5:30 - 8:30 p.m.
Harvard School of Dental Medicine Reception	Sheraton Virginia <mark>6 - 7:30 p.m.</mark>
Marquette University Reception	Sheraton Greenwood 6-7:30 p.m.
Temple University Reception	Sheraton Medina 6-7:30 p.m.
Michigan Association of Endodontists Reception	Sheraton Willow A 6-8 p.m.
Saint Louis University Reception (By Invitation)	Offsite <mark>6-8 p.m.</mark>
University of Detroit Mercy Dinner (By Invitation)	Purple Cafe and Wine Bar 6-8 p.m.

University of Florida ReceptionSheraton Colu	umbia <mark>6-8p.m.</mark>
University of Iowa ReceptionSheraton B	allard <mark>6-8p.m.</mark>
University of Louisville Endodontics ReceptionLoulay Kitchen	& Bar <mark>6-8p.m</mark> .
New York University Reception Sheraton Cec	lar 6-8:30 p.m.
University of Nebraska Alumni DinnerFado Iris	h Pub <mark>6-9p.m.</mark>
University of North Carolina and Tar Heel Endodontic Association Reception Sheraton Cirrus Ball	room <mark>6-9p.m</mark> .
Albert Einstein University Reception Sheraton Kirkland	6:30 - 8:30 p.m.
Harry J. Healey Endodontic Study Club ReceptionSheraton Capitol F	Hill 6:30-9p.m.
Oregon Health & Science University ReceptionGordon Biers	sch 6:30-8p.m.
University of California at San Francisco ReceptionSheraton Seneca	6:30 - 7:30 p.m.
University of Illinois Dinner Offsite	6:30 - 9:30 p.m.
University of Texas at Houston ReceptionSheraton Ravenna	6:30 - 8:30 p.m.
Boston University DinnerSheraton Diam	nond <b>7 - 10 p.m</b> .
Ohio State University ReceptionSheraton Madro	na 7-9:30 p.m.
U.S. Air Force Association of Endodontists ReceptionO	ffsite <mark>7-9p.m</mark> .
University of Southern California ReceptionSheraton Jeff	erson <mark>7-9p.m.</mark>
University of Texas at San Antonio Reception Sheraton A	Aspen 7-9p.m.
University of Toronto ReceptionSheraton Jur	niper 7 - 10 p.m.
University of Michigan DinnerOf	fsite <mark>8 - 11 p.m.</mark>
French Society of Endontists ReceptionSheraton Metropolitan	A 8:30 - 10 p.m.
Nova Southeastern University Dessert ReceptionSheraton Willow	B 8:30 - 10 p.m.

#### SATURDAY, MAY 9

United States Navy Association of	
Endodontics Business Meeting	. Sheraton Issaquah 7 - 10 a.m.



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# **ORAL RESEARCH PRESENTATIONS**

A new oral research presentation starts every 15 minutes during these designated blocks; speakers are listed in the order of their presentations.

#### WEDNESDAY, MAY 6

#### 10:30 a.m. - Noon

OR01-OR06 🐰

A. Arias, O. Peters, N. Mohammadzadeh Akhlaghi, F. Iacono, T. Komabayashi & Y. Yahata, M. Roberts

Instrumentation and Obturation ......604

#### OR07-OR12 🔉 🔶

M. Hosking, J. Ball, S. Fayazi, M. Yadlapati, P. Verma, T. Al Saeed Regenerative Endodontics ..... 613

#### 12:30 - 2 p.m.

#### OR19-OR24 ₩ ♦ J. Adams, S. Shrestha, S. Lee, K. Maheshwari, A. Garraton, J. Galicia

#### 2:30 - 4 p.m.

#### 

#### OR30-OR35 🔣 🔶

#### THURSDAY, MAY 7

#### 10:15 - 11:45 a.m.

OR36-OR41 🕅 🔶
R. Hamedy, M. Alharbi, S. Bukhari,
R. Campbell, A. Rasmussen, F. Rumford
Outcomes 604

OR42-OR47 🕅 🔶

#### Noon - l p.m.

#### OR48-OR51 🔣 🔶

M. Kaiser, K. Nikdel, M. Okwen, A. Shrestha Microbiology .....604

#### 1:30 - 3 p.m.

OR58-OR63 X ♦ J. Parker, K. Charara, V. Nakamura, B. Molina, J. Cullen, S. Khaliq

Irrigation and Asepsis ..... 613

3:30 - 5 p.m.

#### OR64-OR68 🕅 🔶

J. Kung, J. Schellenberg, T. Harreld, R. Shurtz, R. Sebastian

Local Anesthesia and Emergencies ......604

OR69-OR74 🕅 ♦ A. Feuer, D. Buczak, T. Carroll, J. Eaton, M. Kruszewski, A. Bunes

Denotes resident session



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# POSTER RESEARCH PRESENTATIONS

All presentations will take place in the designated area of the exhibit hall.

#### THURSDAY, MAY 7 - 10:30 a.m. - 1:30 p.m.

#### **PR01**

O Abusteit

Outcomes of Sterile Saline Rinse in Endodontic Irrigation Protocol on Dentin Microhardness

#### **PR02**

M. Jamal

A Survey on Opinion and Practice of Regenerative Endodontics Among Endodontists and Dental Practitioners in North America

#### **PR03**

C. Beavers

Restorative Characteristics of Intrapulpally Cracked Teeth

#### **PR04**

#### J. Burley

The Effect of Human β-defensin-2 on the Expression of DSPP mRNA in an Odontoblast Cell Line: A Pilot Study

#### **PR05**

Y. Cao

Ionizing Radiation Triggers Premature Senescence and Inflammation Response in Dental Pulp Cells

#### **PR06**

D. Cecchin

Influence of the Different Auxiliary Chemical Substances on Mechanical Properties of Dentin

#### **PR07**

I Chinchilla

Analysis of the Diameter and Taper Standarization of Size #25/.04 NiTi Rotary Endodontic Files From Various Manufacturers

#### **PR08**

A Corden

A Comparative Study of the Fracture Resistance of Carrier-Based Obturators: GuttaCore<sup>®</sup>, EdgeCore<sup>™</sup> and Thermafil® Plus

#### **PR09**

#### S. Delgoei, F. Ali

Apex Proximity of Mandibular Posterior Teeth to the Inferior Alveolar Nerve Canal: A Cone Beam-**Computed Tomography Evaluation** 

#### **PR10**

The Effect of Nitrous Oxide and Oxygen on the Hypersensitive Gag Reflexes of Dental Patients in Endodontics

#### **PR11**

**Differential Scanning Calorimetric** (DSC) Study of New and Sterilized Nickel-Titanium Rotary Endodontic Instruments

#### **PR12**

#### Effect of Selective Serotonin Reuptake Inhibitors on Periapical Healing Following Nonsurgical Root Canal Treatment: A Retrospective Cohort Study

#### **PR13**

#### Y Eslami

C. Falcon

Evaluation of Bioceramic Sealer With Bioceramic-Coated Gutta-Percha Cone Filling Technique and Influence of Time on Sealing Properties

#### PR14 ♦

#### Outcomes of Referrals for Patients With Medicaid Insurance at the Rutgers School of Dental Medicine Endodontic Clinic

#### PR15 ♦

#### A. Farina, D. Cecchin

Influence of Grape Seed Extracts on the Bond Strength and Durability of the Adhesion of Fiber Posts to Root Dentin

#### **PR16**

#### A. Garcia-Godov

In Vitro Evaluation of the Efficacy of PIPS<sup>®</sup> Irrigation System on Disinfection of Type Two Canal Systems in Molars

#### **PR17**

J. Gardyn

The Incidence of Middle Apical Canals: A New Anatomical Description

#### 24

# M. Dvriw

A. Eid

C. DeVeaux

#### **PR18**

#### G. Geraets

Quantitative Analysis of LL-37 in the Inflamed Pulp: A Comparative Study

#### **PR19**

#### N. Ghanbaran

Tricalcium Silicate Cements Induce Migration of Selected Stem Cells From the Apical Papilla

#### **PR20**

#### C. Ghattas Ayoub

Comparison of IL-1 $\beta$  and TNF- $\alpha$ Expression in Human Dental Pulps of Smokers Versus Nonsmokers

#### PR21 ♦

#### C. Coston, A. Misra

A Multi-Centered Retrospective Evaluation of Clinical and Radiographic Outcomes of Revascularization/Revitalization Therapy in Immature Teeth: Study Design and Recruitment

#### **PR22**

#### M. Hall

PDL Cell Viability of Avulsed Teeth in Pool Water Solutions

#### PR23 ♦

#### C. Jin

Evaluation of Microfracture Using Extracted Teeth With and Without PDL Simulation: A Comparative Study

#### PR24 ♦ M. Jones S. Johnson

Outcome of Endodontic Treatment Compared With Buccal or Lingual Periodontal Probing Depths

#### **PR25**

#### F. Kan

Periapical Microsurgery: The Effects of Locally Injected Dexamethasone on Post-Operative Healing

#### PR26 ♦

#### D. Kellogg

Inflammatory Mediators in Isolated Pockets Associated With Vertical Root Fractures

#### PR27 ♦

#### L. Kerpel, A. Manesh

Retrospective Analyses of Endodontic Biopsy Specimens (2010-2013) and Evaluation of the Accuracy of Presurgical Diagnoses

#### **PR28**

S. Krygowski

The Prevalence of Intrapulpal Cracks in Maxillary Premolars Requiring Endodontic Treatment

#### PR29 ♦

#### P. Kulwattanaporn

Outcome of Tooth and Root Resection: A Systematic Review and Meta-Analysis of the Literature

#### PR30 ♦

Ameloblastin Makes a Unique Contribution to Enamel and Dentin

#### PR31 ♦

K.Lee

E Kwo

Lowering the Number of False Positive Responses to Electric Pulp Tests by Qualifying Patient Response

#### **PR32**

#### Z. Liang

Characterization of Mesenchymal Stem Cells Explanted From Human Dental Pulp

PR33 ♦

#### A Mehrotra

Effect of Autoclaving on Flexibility of Four Different Nickel-Titanium Files

#### PR34 ♦

#### **B** Mitchell

Making the Invisible Visible: A New **Diagnostic Tool in Endodontics** 

#### **PR35**

#### G Navarrete

Removal of Calcium Hydroxide from Weine Type II Systems Using PIPS®: A Micro-Computed Tomography Study

#### PR36 ♦

#### L. Nguyen

The Importance of Proper Endodontic Diagnosis Prior and Subsequent to Restorative Treatment

#### **PR37**

#### A. Nosrat

F. Perez

The Effects of Residual Bacteria on Dental Pulp Regeneration In Vivo

#### PR38 ♦

Comparison of Three Different Nickel-Titanium Endodontic Rotary Systems in Shaping Simulated S-Shaped Canals

#### PR39 ♦

K. Petkovich, J. Bleuel

Outcome of Nonsurgical Root Canal Therapy in Teeth Diagnosed With Pulp Necrosis and Chronic Apical Abscess



#### PR40 ♦

#### J. Platt, D. Abide

Outcomes of Endodontic Treatment in Teeth With Irreversible Pulpitis and Longitudinal Fracture

#### PR41 ♦

#### I. Pratt

Human  $\beta$ -Defensin-3 Downregulates DSPP in an Odontoblast Cell Line: An *In Vitro* Study

#### PR42 ♦

#### B. Reece

Advanced Glycation End Products in the Dental Pulp

#### PR43 ♦

#### M. Rizk

The Effect of Smoking on h $\beta$ D-2 and h $\beta$ D-3 in the Dental Pulp

#### PR44 ♦

#### B. Sarmiento

The Expression of the Human Cathelicidin LL37 In The Dental Pulp: An *In Vitro* Study

#### PR45 ♦

#### R. Shah

Comparison of Efficacies of QMix® and Benzalkonium Chloride-Containing Experimental Solution (Ds-X) Against Enterococcus faecalis Biofilm Disruption

#### PR46 ♦

K. Tavares

Evaluation and Comparison of Different Obturation Techniques Performed by Dental Students

#### PR47 ♦

T. Tawady

Volumetric Analysis of Residual Periapical Lesions in Diabetic and Nondiabetic Patients

#### PR48 ♦

#### C. Tyler, S. Lavasani

CBCT Measurements of Maxillary Posterior Teeth and Relation to the Buccal/Palatal Plate and Sinus

#### PR49 ♦

#### A. Xu

Residual Dentin Thickness of the Danger Zone in Mandibular Molar with Variable Size of NiTi

#### PR50 ♦

M. Yamaguchi

Spectrometric Analysis of Coronal Tooth Discoloration Induced by Various Bioceramic Endodontic Materials

#### PR51 ♦

Retreatability of CPoint<sup>™</sup> Obturation Material

#### PR52 ♦

Influence of Remaining Zinc Oxide Eugenol-Based Sealer on Bond Strength of Fiber Posts to Root Canal Dentin After Root Canal Retreatment

#### PR53

#### L. Aboud

K. Zand

J. Zimmerman

Conditions of Active Dissolution of Nickel–Titanium Endodontic Files in Simulated Root Canals

#### PR54

#### E. AlShwaimi

Comparing Betamethasone and Mineral Trioxide Aggregate as Pulp-Capping Material in Human Teeth

#### PR55

#### I. Barbosa

A New Method for Qualitative Surface Characterization of Endodontic Instruments Using Noncontact, 3-D Nanotechnology

#### PR56

#### E. Bohluli

Development of a Biodegradable Nerve Growth Factor-Loaded Fiber for Pulp Regeneration

#### PR57

#### Y. Joon Byun

A. Carvalho

Activation of AMPK Restores Chronic Inflammation-Induced Dental-Pulp Proliferation and Regeneration

#### PR58

Correlation Between Rotary Systems and Matching Standardized Gutta-Percha Points With the Aid of Micro-Computed Tomography.

#### PR59

#### A. Echenagucia

Apical Analysis of Mandibular First Premolars with Single Canals

#### PR60

L. Freire, M. Santos

Micro-CT Evaluation of Hard-Tissue Debris Removal After Different Final Irrigation Methods and Its Influence on the Filling of Curved Canals

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#### **PR61**

#### E. Iglecias

3-D Analysis of Voids in Oval-Shaped Canals Obturated With Single Cone and Continuous Wave of Condensation Techniques

#### **PR62**

#### C. Jung

The Origin of Tug-Back Sensation of Corresponding Gutta-Percha Cone after Rotary Instrumentation

#### **PR63**

J. Ha. H. Kim

Controlled Comparison of the Efficacy of Sonic Activated Irrigation and Passive Ultrasonic Irrigation

#### **PR64**

#### K. Yeon Kum

Comparing the Shaping Ability of Four Different NiTi Rotary Instruments Using Micro-CT

#### **PR65**

#### J. Seon Lee, K. Yeon Kum

The Effects of Two MTA-Dissolving Solutions on MTA. Dentin and Fibroblast

#### **PR66**

M. Luu

Patient Compliance With Endodontic Treatment of Immature Necrotic Permanent Teeth

#### **PR67**

M. Maeda

A Study on Radiopacity of New Root Canal Sealer Containing Mainly Oleic Acid, Eugenol and Zinc Oxide

#### **PR68**

#### B. Moldauer

Evaluation of the External and Internal Morphology of Mandibular Molars From a Peruvian Population: A CBCT Study

#### **PR69**

#### R. Ordinola Zapata

Micro-CT Study of Radix Entomolaris Mandibular Molars

#### **PR70**

#### E. Pedulla, G. Plotino

Canal Transportation and Centring Ability of Different Rotary Files in Continuous or Adaptive Motion: Micro-Computed Tomography Study.

#### **PR71**

**Biofilm Formation of Enterococcus** faecalis Clinical Isolates From Root Canal and Systemic Infections

#### **PR72** L. Roskamp, V. Westphalen

Evaluation of Avulsed and Replanted Teeth Following the 2012 IADT Guidelines After One-Year Period

#### **PR73**

G. Sas

Comparison of WaveOne® to BioRaCe<sup>™</sup> Files Using Micro-Computed Tomography to Evaluate Differences in Canal Transportation and Remaining Dentin Thickness

#### **PR74**

S. Shin

**Biologic Effects of Calcium Silicate** Sealers on Human Apical Papilla-Derived Stem Cells (SCAP)

#### **PR75** T. Tominaga, K. Takahira

EMAT (Electromagnetic Apical Treatment): Clinical Application of Pulsed Electric Current Energization for Root Canal Treatment

#### **PR76**

#### Calcium Channel-Mediated Signaling in Dental Pulp Proliferation and Differentiation

#### **PR77**

CBCT Study of Apical Surgery-Related Morphological Characteristics of Disto-Lingual Roots of Three-Rooted Mandibular First Molars in a Chinese Population

#### **PR78**

Y. Yoo

T. Tran

H. Wang

Biomineralization Ability of Pozzolan-Based MTA Material

#### **PR79**

#### J. Young Yoon

Surface Analysis of the Resected Root From Mandibular First Molars Failed After Nonsurgical Retreatment

#### **PR80**

#### M. Zaccaro Scelza

Bending Stress, Static and Dynamic Cyclic Fatigue Tests and Fractography of Reciproc<sup>®</sup> and WaveOne<sup>®</sup>

#### E. Pinheiro



# TABLE CLINIC PRESENTATIONS

All presentations will take place in the designated area of the exhibit hall.

#### THURSDAY, MAY 7 – 10:30 a.m. - 1:30 p.m.

#### TC01 ♦

V. Ball

Attitudes Regarding the Postgraduate Endodontic Application Process: A Survey Analysis of Current Endodontic Residents

TC02 S. B. Barborka, T. Huson Illuminate Your Crack

TC03 ♦ J. Batz Forced Eruption in Endodontic Practice

TC04 ♦ B. Behm Endodontic Management of Zirconia Posts

TC05 ♦ R. Brennan, Y. Benjamin Invasive Cervical Resorption: Shedding Some Light on This Enigma

TCO6 T. Bertrand, E. Shamoon C-Shaped Canals in Mandibular Second Premolars: A Review and Presentation on the Management of Unique Cases of C-Shaped Morphologies

TC07 ♦ S. Bjarnason Temperature Measurements of Three Popular Obturation Systems

TC08 ♦ B. Cheung, J. Stern Reciprocating File Systems: A New Twist to an Old Problem?

#### TC09 ♦

A. Christian

Intentional Replantation: A Predictable Alternative Treatment Among Treatments of Last Resort

#### TC10 🔶

T. Cooper

Painful Post-Traumatic Trigeminal Neuropathy (PTTN)

#### TC11 ♦

D. Dabiri

Investigation of Anatomical Spaces Involved in Subcutaneous Emphysema After Using an Air-Water Syringe in a Fresh Cadaver

#### TC12 ♦

#### M. Dang

Endodontic Regenerative Therapy: Inducing Root Formation With Revascularization

 TC13 ♦
 A. Desta

 Surgical Treatment Planning Using
 3-D Printed Models

TC14 ♦ D. Dow, K. Boonsirisermsook Evaluating Artifacts in CBCT Imaging

TC15 ♦ L. Gharavi, B. Pitcher Updated Medications Related to Osteonecrosis of the Jaw

TC16 ♦ M. Giron Cerrato Artifacts in CBCT

TC17 M. Goswami, H. Alhassany A New Multisonic Disinfection System: Does it Deliver What it Promises?

#### TC18 ♦

Medication-Related Osteonecrosis of the Jaw Updates

#### TC19 ♦

A. Hsin

**B**. Hill

Florid Cemento-Osseous Dysplasia: A Challenging Differential Diagnosis

#### TC20 ♦

#### D. Hwang

Alternative Method of Calcium Hydroxide Placement During Interim Root Canal Therapy Using Side-Vented Irrigation Needle

#### TC21 ♦

R. Gupta, H. Nada

Dissolution of Endodontic Files Via a Novel Electrochemical Process: A Systematic Review

#### TC22 ♦

TC23 ♦

#### P. Jalali, S. Tangredi

Renal Osteodystrophy of the Mandible: Diagnostic Challenge

#### J. Ha Jung, T. Oliveira

New Bioactive Membranes for Microsurgerv in Endodontic-Periodontal Lesions

#### TC24

S Kheirieh

Medication-Related Osteonecrosis of the Jaws: A Case Report and Update

#### TC25 ♦

Why All the Fuss About X-Ray Dose?

#### TC26 ♦

J. Koh

D Kim

Combined Internal/External Whitening Protocol For Nonvital Teeth

#### TC27 ♦

M. Leon Permanent Maxillary Central Incisor

Submersion for Ridge Preservation

TC28 R. Lewis, C. Savlor Treatment Decisions: Extrusion of Calcium Hvdroxide

TC29 ♦ M. Messing Intentional Replantation of Teeth With Failed Endodontic Retreatment

TC30 ♦ T. Olsson, R. Singh Making a Notch and Twisting the Gutta-Percha: A Step to Simplify Warm Vertical Condensation

#### TC31 ♦

J. Pack

Maxillary Sinus Changes With Odontogenic Infection

TC32 ♦ B. Penberthy, E. Van Gundy Tricks of Pulp Testing You May Not Have Thought About

#### TC33 ♦

N. Saoii

Properties and Design of Different NiTi File Systems and Their Effects on Clinical Performance

#### TC34 ♦

A. Sarhan

J. Seung

Endodontic Flare-Up: Factors to Consider and Prevention

#### TC35 🌢

**Knotless Suturing in** Endodontic Surgery

#### TC36 ♦

Enhancing Access to Evidence-Based Endodontics Utilizing an Internet, Mobile and Tablet Literature Resource

#### TC37 ♦ B. Studebaker, M. Soriano

Ease of Removal of Pigmented Versus Nonpigmented Orifice Barriers Upon Reaccess of Endodontically Treated Teeth

#### TC38 ♦

J. Talim Anatomical Structures Radiologically Mimicking Lesions Of Endodontic Origin: Literature Review and Case Reports

#### TC39 ♦

Undiagnosed Tooth Luxations and Alveolar Fractures Associated With Dento-Alveolar Trauma

TC40 ♦ D Tran G McMichael Heat-Induced Osteonecrosis in Endodontics: Prevention and Management

#### TC41 ♦ D. Whiting, P. Yamamura

The Utilization of a Light-Cured. Methacrylate-Based Resin for Improving Isolation During Root Canal Treatment

TC42 ♦ S. Wiswall, R. Finley Endodontic Length Control: Room for Improvement?

#### TC43

H. Aksel

Management of Different Failed Endodontic Treatment Cases

#### **TC44**

M Basso I Leibovitch

Endodontic Treatment and Documentation Using Microscope: Factors to Consider

#### C. Kobavashi, K. Toda

Nonsurgical Removal of Aberrant Gutta-Percha in the Periapical Tissue

#### **TC46**

**TC45** 

M Natera

Avoiding Crown Discoloration While Using Triple Antibiotic Paste

#### G. Smith

M. Toms



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