

CURRICULUM VITAE

UNIVERSITY OF ALABAMA AT BIRMINGHAM SCHOOL OF DENTISTRY

ASHRAF F. FOUAD, B.D.S., D.D.S., M.S., (FACD, FDS RCSEd)

ACADEMIC POSITION

Rank: Professor
Title: Chair and Program Director
Department: Department of Endodontics
Business Address: 1919 7th Avenue South – SDB 609
Birmingham, AL 35294-0007
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PERSONAL INFORMATION

Nationality and/or Citizenship: USA
Language(s): English
Home Address: 4013 Alston Way
Vestavia Hills, AL 35242
Phone: (443) 838-9276

CURRENT APPOINTMENTS:

December 1, 2022 – Present: Interim Director of Health Information and Business Systems (HIBS),
SOD, UAB
October 15, 2022 – Present: Senior Scientist, UAB Heersink School of Medicine Immunology Institute
December 1, 2021 – Present: Senior Scientist, UAB Global Center for Craniofacial,
Oral and Dental Disorders
January 8, 2021 – Present: Professor, Graduate School
University of Alabama at Birmingham
September 28, 2020 – Present: Professor and Chair
Department of Endodontics
UAB School of Dentistry
Birmingham, AL 35294
September 28, 2020 – Present: Postdoctoral Program Director
Department of Endodontics

UAB School of Dentistry
Birmingham, AL 35294

HOSPITAL AND OTHER (NON-ACADEMIC) APPOINTMENTS:

November 2020 – Present	Clinical Privileges Appointment	Department of Dentistry Children’s of Alabama Hospital Birmingham, Alabama
October 2016 – 2020	Clinical Privileges Appointment	Department of Dentistry UNC HealthCare UNC Hospital
October 2011 – December 2015	Clinical Privileges Appointment (Without Compensation)	Division of Dentistry Veterans Admin. Medical Center Baltimore, Maryland
June 2006 – December 2015	Adjunct/Courtesy Faculty Member with Clinical Privileges	Division of Dentistry Department of Otolaryngology Johns Hopkins Medical Center Baltimore, MD

PROFESSIONAL CONSULTANTSHIPS:

2019 – Present	Consultant to the Written Examination Committee of the American Board of Endodontics
2018 – 2020	Consultant to the Council on Scientific Affairs of the American Dental Association
2020 – 2021	Consultant to the Council on Scientific Affairs of the American Dental Association

GOOGLE SCHOLAR PROFILE: <https://scholar.google.com/citations?hl=en&user=AqGS3ucAAAAJ>

PubMed Library: <https://www.ncbi.nlm.nih.gov/myncbi/ashraf.fouad.1/bibliography/public/>

ORCID ID: <https://orcid.org/0000-0001-6368-1665>

EDUCATIONAL HISTORY:

EDUCATION:

July 1990 - June 1992	Advanced Standing D.D.S. Program	University of Iowa College of Dentistry
July 1988 - June 1990	Master of Science	University of Iowa Graduate College
July 1988 – June 1990	Certificate of Endodontics	University of Iowa College of Dentistry
December 1984 – December 1985	Higher Dental Diploma in Endodontics and Restorative Faculty of Dental Medicine Dentistry	Cairo University, Egypt
September 1978 - May 1982	B.D.S.	Cairo University, Egypt Faculty of Dental Medicine
September 1976 - June 1978	General Certif. of Education Advanced Level, Biology Nuffield Chemistry and Nuffield Physics	Victoria College, Jersey Channel Islands, U.K. University of Cambridge Board
POSTDOCTORAL TRAINING:		
July 1988 - June 1990	Graduate College	University of Iowa College of Dentistry
July 1988 - June 1990	Endodontic Resident	Veterans Administration Medical Center Iowa City, Iowa
July 1988 - June 1990	Teaching Assistant	Department of Endodontics Junior Clinic and Lecture, Preclinical Laboratory College of Dentistry University of Iowa
September 1987 - June 1988	Research Fellow	University of Iowa

Department of Endodontics
College of Dentistry
University Hospital
Faculty of Dental Medicine
Cairo University, Egypt

November 1982 – October 1983 General Practice Residency

LICENSURE:

2020 -Present Alabama Dental License # D-7825-C (Credential Number D-0006825-C)
2016 – 2023 North Carolina Instructor’s License # 00168
2004 – 2022 Maryland License # 13569 (2004 – 2021 Active; 2021 – Present Inactive)
1992 – 2023 Connecticut License # 007822
1992 – 2008 Iowa License # 07572

BOARD CERTIFICATION/STATUS:

Board Certified Diplomate of the American Board of Endodontics (1995)
Certificate #1023

PROFESSIONAL HISTORY:

ACADEMIC APPOINTMENTS:

September 2020 – Present	Professor and Chair	Univ. of Alabama at Birmingham School of Dentistry Department of Endodontics
September 2020 – Present	Program Director	Univ. of Alabama at Birmingham School of Dentistry Department of Endodontics Postgrad Program in Endodontics
July 2019 – September 2020	Freedland Distinguished Professor with Tenure	Adams School of Dentistry UNC at Chapel Hill
July 2019 – Present	Vice Chair Division of Comprehensive Oral Health	Adams School of Dentistry UNC at Chapel Hill
August 2016 – Present	Faculty Member of the Curriculum in Oral Biology	Adams School of Dentistry UNC at Chapel Hill
May 2016 – June 2019	Freeland Distinguished Professor With Tenure and Chair	School of Dentistry Department of Endodontics

January 2016 – May 2016	Professor and Chair	School of Dentistry Department of Endodontics UNC at Chapel Hill
August 2015 – December 2015	Interim Chair	School of Dentistry Department of Endodontics Periodontics and Prosthodontics University of Maryland
October 2008 – December 2015	Full Professor with Tenure	Baltimore College of Dental Surgery Department of Endodontics, Prosthodontics and Operative Dentistry School of Dentistry University of Maryland
October 2005 – December 2015	Faculty Member	Molecular Microbiology and Immunology Graduate Program Department of Microbiology School of Medicine University of Maryland
May 2005 – December 2015	Member, Graduate Faculty	Graduate School University of Maryland
May 2005 – June 2015	Chair	Department of Endodontics, Prosthodontics and Operative Dentistry (EPOD) School of Dentistry University of Maryland
July 2005 – September 2013	Director	Advanced Specialty Education Program in Endodontics Baltimore College of Dental Surgery School of Dentistry University of Maryland
August 2004 – April 2005	Head, Associate Professor with Tenure	Division of Endodontics Department of Endodontics and Periodontics Baltimore College of Dental Surgery

March 2000 – 2004	Faculty Advisor	University of Maryland Graduate School University of Connecticut Health Ctr
July 1998 – 2004	Associate Professor with Tenure	Department of Endodontology School of Dental Medicine University of Connecticut
July 1992 – 1998	Assistant Professor	Department of Restorative Dentistry and Endodontology School of Dental Medicine University of Connecticut
July 1991 - May 1992	Adjunct Assistant Professor	Department of Endodontics College of Dentistry University of Iowa
July 1990 - June 1991	Clinical Assistant Professor	Department of Endodontics College of Dentistry University of Iowa

OTHER ACADEMIC APPOINTMENTS:

July – September 1982	Research Associate	Dental Department Naval American Medical Research Unit-3 Cairo, Egypt
July – September 1981	Research Associate	Dental Department Naval American Medical Research Unit-3 Cairo, Egypt

NON-ACADEMIC APPOINTMENTS:

Jan. 2016 – September 2020	Dental Faculty Practice-Endodontics Adams School of Dentistry University of North Carolina at Chapel Hill
August 2004 – December 2015	Dental Faculty Practice-Endodontics Baltimore College of Dental Surgery School of Dentistry University of Maryland

August 1992 – July 2004 Faculty Practice-Endodontics
University Endodontists
School of Dental Medicine
University of Connecticut Health Center

July 1990 - May 1992 Faculty Practice-Endodontics
Department of Endodontics
College of Dentistry
University of Iowa

November 1983 – August 1987 General Dentistry
Private Dental Office
Cairo, Egypt

SERVICE AND RECOGNITIONS

AWARDS/HONORS:

- Honorable Mention – Second place award, in the Journal of Endodontics Awards for 2023, in the category of Clinical Research) for article: Nosrat A, Valancius M, Mehrzad S, Dianat O, Verma P, Aminoshariae A, Fouad AF. Flare-ups After Nonsurgical Retreatments: Incidence, Associated Factors, and Prediction. J Endod. 2023 Jul 13:S0099-2399(23)00395-3. doi: 10.1016/j.joen.2023.07.004. Epub ahead of print. PMID: 37451334.
- Elected to Life Membership of the Alabama Dental Association. January 10, 2024
- Received the Louis I. Grossman's International Award, by the French Society for Endodontics, given to a recipient in recognition for all his involvement and contribution to the promotion of the endodontic specialty. Received at the AAE 2023 Meeting in Chicago, IL.
- Received the AAE President's Award at the AAE 2022 Annual Session of the American Association of Endodontists in Phoenix, Arizona. The president's Award honors exceptional members who work behind the scenes to promote and advance the association.
- Honorable mention award in the Journal of Endodontics, for second place in the Regenerative Endodontics Category of the paper: Yoo YJ, Perinpanayagam H, Choi Y, Gu Y, Chang SW, Baek SH, Zhu Q, Fouad AF, Kum KY. Characterization of Histopathology and Microbiota in Contemporary Regenerative Endodontic Procedures: Still Coming up Short. J Endod. 2021 Aug;47(8):1285-1293. Award announced at the AAE-22 meeting in Phoenix, AZ.
- Fellowship in Dental Surgery Without Examination in the Royal College of Surgeons of Edinburgh (April 26, 2019).
- Honorable mention award in the Journal of Endodontics, for second place in the Clinical Research Category of the paper: Alghofaily M, Tordik P, Romberg E, Martinho F, Fouad AF. Healing of Apical Periodontitis after Nonsurgical Root Canal Treatment: The Role of Statin Intake. J Endod. 2018 Sep;44(9):1355-1360. Award announced at the AAE-19 meeting in Montreal, Canada.

- Distinguished Scientist Award, Pulp Biology and Regeneration, International Association of Dental Research 2017, IADR Meeting, San Francisco, CA.
- Jacob Freedland Distinguished Professorship in Endodontics, School of Dentistry, UNC (May 2016-September 2020)
- Selected to be a Fellow of the American College of Dentists (October 2014)
- Selected to be School of Dentistry's Chief Marshall in School's Honors Convocation Graduation event, University of Maryland Baltimore (2014)
- Listed on the web site of the American Association of Endodontists as a recommended speaker in the area of pharmacology of antibiotics and endodontic microbiology <http://www.aae.org/speakers/>
- Voted among top Endodontists in Baltimore City, Baltimore Magazine, June 2012, p. 108
- Vice President, President Elect, and **President**, Omicron Kappa Upsilon Dental Honor Society, BCDS, University of Maryland, 2008 - 2011
- **Secretary**, Omicron Kappa Upsilon Honor Dental Society, BCDS, University of Maryland, 2004- 2007)
- **Vice President**, Phi Chi Chapter (University of Connecticut) of the Omicron Kappa Upsilon Dental Honor Society 2003-2004.
- Inducted into the Phi Chi Chapter (University of Connecticut) of the Omicron Kappa Upsilon Honor Dental Society March 2001
- University of Connecticut Health System: Achievement Award for 2000. In recognition of work and outstanding performance on the Y2K Team: May 2000
- Nominated by graduating Class of 1997 to be Floor Marshal during graduation ceremonies for that Class: May 1997
- Diplomate, American Board of Endodontics, May 2005
- Selected to represent the School of Dental Medicine, University of Connecticut in the First Career Development for Innovative Dental Educators Workshop, Sponsored by the American Association of Dental Schools, Ogunquit, Maine: July 1994
- Graduate Student Poster Presentations Award: American Association of Endodontics Meeting, Las Vegas, Nevada. Presentation entitled "The effects of selected electronic dental instruments on patients with cardiac pacemakers." April 1990
- Max Smith Award, Graduate Student Research, College of Dentistry, University of Iowa. Presentation entitled: "A study of the healing of induced periapical lesions following root canal treatment in ferrets.": February 1990
- First Prize, Annual Graduate Table Clinic Competition, College of Dentistry, University of Iowa Table Clinic entitled "The effects of selected electronic dental instruments on patients with cardiac pacemakers.": February 1990
- First Prize, Annual Graduate Table Clinic Competition, College of Dentistry, University of Iowa Table Clinic entitled "Electronic apex locators in endodontic therapy - an overview".: April 1989
- Graduate Scholarship, Rotary Foundation of Rotary International: September 1987 - June 1988.

PROFESSIONAL SOCIETIES AND MEMBERSHIPS:

2020-Present Alabama Association of Endodontists

2020-Present	Alabama Dental Association
2018 – Present	International Association of Dental Traumatology
2016-2020	Tar Heels Endodontics Association
2016-2020	North Carolina Dental Association
2014-Present	American College of Dentists
2004-2015	Baltimore City Dental Society
2004-2015	Maryland State Endodontics Association
2004-2015	Maryland State Dental Association
2001-Present	American Society of Microbiology
1992-Present	American Dental Association
1992-Present	American Dental Education Association
1992-2004	Connecticut Endodontic Association
1992-2004	Hartford Dental Society
1992-2004	Connecticut State Dental Association
1988-Present	IADR (Pulp Biology and Regeneration, and Microbiology/Immunology groups)
1996-Present	College of Diplomates of the American Board of Endodontics
1990-Present	American Association of Endodontists

EXTRAMURAL SERVICE:

- A. Professional Advisory Committees (with administrative offices held)

SERVICE FOR NATIONAL/INTERNATIONAL ASSOCIATIONS

1. **Member**, American Association of Dental Oral and Craniofacial Research (AADOCR) Annual Sessions Committee (2024 – Present)
2. **Vice Chair**, Council on Scientific Affairs, American Dental Association (2023 – 2024)
3. **Councilor**, Pulp Biology and Regeneration Group of the International Association of Dental Research (IADR) (2023 – Present)
4. **Associate Editor**, Dental Traumatology (DT) Editorial Board Committee (Jan 2023 – Present)
5. **Member**, Council on Scientific Affairs, American Dental Association (2021 – 2025).
6. **Chair**, Policies, priorities, and Standards Subcommittee of the Council on Scientific Affairs of the ADA (October 2022 – Present).
7. **Chair**, IADR Distinguished Scientist Awards Committee for Pulp Biology and Regeneration (2021 – 2022)
8. **Councilor**, Pulp Biology and Regeneration Group of the American Association of Dental Oral and Craniofacial Research (AADOCR) (2020 – 2023)
9. **Associate Editor**, Endodontics, Frontiers in Dental Medicine (2021 – Present)

10. **Consultant** to the Council on Scientific Affairs of the American Dental Association Guidelines for the Use of Revising the Oral Radiology Guidelines (2021 – present).
11. **Consultant**, American Board of Endodontics Written Examination and Examination Construction Committee (2019 – Present).
12. **Site Organizer and Co-sponsor**: College of Diplomates 9th Annual Board Review Course and Scientific Update Schedule, February 15- 17, 2019. Friday Center at the University of North Carolina, Chapel Hill, NC.
13. **Member**, Antibiotic Therapeutics Expert Panel and Consultant to the Council on Scientific Affairs of the American Dental Association (2018 – 2020).
14. **Member**, Committee on updating and revising guidelines for management of traumatic injuries, (**Chair**: Subcommittee on Avulsions). International Association of Dental Traumatology (IADT) (2018 – 2020)
15. **Chair**, Special Committee for Planning and Preparation for a Consensus Conference on Endodontic Outcomes (SCCEO. American Association of Endodontists (2018 – Present).
16. **Member**, IADR Distinguished Scientist Awards Committee, Pulp Biology and Regeneration (2017 – Present)
17. **Chair**, Committee on updating guidelines for antibiotic prescriptions in endodontics. American Association of Endodontists. (2016 – 2017)
18. **Chair**, Subcommittee JOE Editorial Board Committee on selection of annual awards for best published papers in the JOE (2013 – Present)
19. **Track Organizer** (Saving the Natural Tooth) at the annual meeting of the American Association of Endodontists (AAE17) in New Orleans, LA.
20. **Examiner**, Oral Examination, American Board of Endodontics (2013 – present)
21. **Associate Editor**, Journal of Endodontics (JOE) Editorial Board Committee (2009 – Present)
22. **Member**, AAE Committee on Feasibility of Consensus Conference on the decision making for implants vs. endodontic treatment (2011 – 2013)
23. **Councilor**, American Board of Endodontics (2012 – 2013)
24. **Site Visitor** for Advanced Endodontics Programs, Commission on Dental Accreditation (CODA) (2005 – 2013).
25. **Chair**: AAE Special Committee to Develop Researchers (2012)
26. **Director**, American Board of Endodontics (2006 – 2012)
27. **Treasurer**, American Board of Endodontics (2008 – 2010)
28. **President**, American Board of Endodontics (2010 – 2011)
29. **Track Organizer** “New Science and Regenerative Endodontics”. AAE Meeting, San Diego, CA 2010
30. **Member**, Symposium Organizing Committee: PBRG Symposium on Tissue Injury and Pulp Regeneration. Geneva, July 18 – 20, 2010
31. **Member**, Special Committee to investigate the feasibility of a mandatory 3 year program in endodontics, American Association of Endodontists (2009 - 2010)
32. **Member**, Special Committee on Integrating Regeneration in the Definition and Scope of Endodontics, American Association of Endodontists (2009 - 2010)

33. **Vice President, President Elect and Program Chair, and President** (2009-2010), Pulp Biology and Regeneration Group, International Association of Dental Research (2007-2010)
34. **Member**, Ad hoc Committee on Consensus Conference on Endodontic Diagnostic Terminology, American Association of Endodontists (2007 - 2008)
35. **Member**, Information Technology Committee, American Association of Endodontists: (2005 – 2008)
36. **Secretary**, Pulp Biology and Regeneration Group, International Association of Dental Research (2002-2007)
37. **Member**, Ad hoc Committee on Regenerative Endodontics, American Association of Endodontists (2006)
38. **Chair**: Oral, Poster and Table Clinic Presentations, Annual Session Planning Committee: American Association of Endodontists: (2005 Dallas Meeting)
39. **Member**, Committee on Clinical Research Initiatives, American Association of Endodontists (2004 – 2005)
40. **Member**, Implant Task Force, American Association of Endodontists (2004 – 2005)
41. **Consultant**, Evidence-Based Endodontics Ad Hoc Committee of the AAE (2004 – 2005)
42. **Chair**, Research and Scientific Affairs Committee, American Association of Endodontists (2004-2005)
43. **Member**, Research and Scientific Affairs Committee, American Association of Endodontists (2002 - 2005)
44. **Member**, Task Force on revising Endodontic Glossary, American Association of Endodontists (2002-2003)

CONTRIBUTIONS TO NATIONAL REVIEW COURSES FOR AMERICAN BOARD OF ENDODONTICS EXAMINATION

1. February 1, 2024: Endodontic Microbiology. 37th Annual Review of the Biologic and Clinical Aspects of Endodontology. University of Michigan Board Review Course, Ann Arbor, MI (Online Presentation)
2. September 30, 2023: Pulp Biology. In Grossman, Seltzer and Bender Board Review Course (Academic Review of Endodontology), Philadelphia, PA (Online Presentation)
3. February 16, 2023: Endodontic Microbiology. 36th Annual Review of the Biologic and Clinical Aspects of Endodontology. University of Michigan Board Review Course, Ann Arbor, MI (Online Presentation)
4. March 17, 2022: Endodontic Microbiology. University of Michigan Board Review Course, Ann Arbor, MI (Online Presentation)
5. September 18, 2021: Dental Pulp Response to External Irritation and Vital Therapy – Pulp Biology. Grossman, Seltzer and Bender Board Review Course, Philadelphia, PA (Online Presentation)
6. March 6, 2021: Preparation for Oral American Board of Endodontics Examination. University of Michigan Board Review Course, Ann Arbor, MI. (Online Presentation)
7. February 1, 2020: Endodontic Microbiology. University of Michigan Board Review Course, Ann Arbor, MI.
8. February 23, 2019: Endodontic Microbiology. University of Michigan Board Review Course, Ann Arbor, MI.
9. February 17, 2019: Endodontic Microbiology. Board Review and Scientific Update, College of Diplomates, University of North Carolina at Chapel Hill, NC.

10. September 15, 2018: Endodontic Microbiology. Grossman, Seltzer and Bender Board Review Course, Philadelphia, PA
11. September 15, 2018: Pathogenesis of Bone Resorption. Grossman, Seltzer and Bender Board Review Course, Philadelphia, PA
12. February 24, 2018: Endodontic Microbiology. University of Michigan Board Review Course, Ann Arbor, MI.
13. February 25, 2017: Endodontic Microbiology. University of Michigan Board Review Course, Ann Arbor, MI.
14. February 11, 2017: Inflammation and Immunoregulation. Board Review and Scientific Update, College of Diplomates, Virginia Commonwealth University, Richmond, VA.
15. February 27, 2016: Endodontic Microbiology. University of Michigan Board Review Course, Ann Arbor, MI.
16. January 23, 2016: Inflammation and Immunoregulation. Board Review and Scientific Update, College of Diplomates and University of Tennessee, Memphis, TN.
17. October 31, 2015: Endodontic Microbiology; Academic Review of Endodontology, Organized by Albert Einstein Endodontics Program, Philadelphia, PA.
18. October 31, 2015: Pathogenesis of Bone Resorption; Academic Review of Endodontology, Organized by Albert Einstein Endodontics Program, Philadelphia, PA.
19. March 28, 2015: Inflammation and Immunoregulation. Board Review and Scientific Update, College of Diplomates and University of Missouri, Kansas City, MI.
20. February 26, 2015: Endodontic Microbiology. University of Michigan Board Review Course, Ann Arbor, MI.
21. September 13, 2014: Endodontic Microbiology; Academic Review of Endodontology, Organized by Temple University, Philadelphia, PA.
22. April 5, 2014: Inflammation and Immunoregulation. Board Review and Scientific Update, College of Diplomates and Indiana University, Indianapolis, IN.
23. February 27, 2014: Endodontic Microbiology. University of Michigan Board Review Course, Ann Arbor, MI.

These efforts have ceased from 2006 – 2013 due to conflict of interest because of my appointment as a Director on the American Board of Endodontics.

24. September 24, 2005: Endodontic Immunology: Academic Review of Endodontology, Albert Einstein Medical Center, Philadelphia, PA
25. September 23, 2005: Endodontic Microbiology: Academic Review of Endodontology, Albert Einstein Medical Center, Philadelphia, PA
26. October 1, 2004: Endodontic Immunology: Academic Review of Endodontology, Albert Einstein Medical Center, Philadelphia, PA
27. October 1, 2004: Endodontic Microbiology: Academic Review of Endodontology, Albert Einstein Medical Center, Philadelphia, PA
28. September 4, 2003: Endodontic Immunology: Academic Review of Endodontology, Albert Einstein Medical Center, Philadelphia, PA

29. October 4, 2003: Endodontic Microbiology: Academic Review of Endodontology, Albert Einstein Medical Center, Philadelphia, PA
30. September 21, 2003: Pulp and Periradicular Pathology: 20th Annual Review of Endodontic Biology, Loma Linda University, Loma Linda, California.
31. September 21, 2003: Host-Pathogen Relationship: 20th Annual Review of Endodontic Biology, Loma Linda University, Loma Linda, California.
32. September 29, 2002: Endodontic Immunology: Academic Review of Endodontology, Albert Einstein Medical Center, Philadelphia, PA
33. September 29, 2002: Endodontic Microbiology: Academic Review of Endodontology, Albert Einstein Medical Center, Philadelphia, PA
34. September 22, 2002: Pulp and Periradicular Pathology: 19th Annual Review of Endodontic Biology, Loma Linda University, Loma Linda, California.

Service on NIH Study Sections:

- ZDE1 CF (03) NIDCR Clinical Trials Planning Grants, June 2016
- ZDE1 GZ 06 (SEP) Special Emphasis Panel: R03 applications. National Institute of Dental and Craniofacial Research (NIDCR), October, 2015.
- ZRG1 MOSS-K(11) Special Emphasis Panel: Small Business: NIH Oral, Dental and Craniofacial Sciences, November 14 and 15, 2012
- ZDE1 JR (03) 1 Oral, Dental and Craniofacial Sciences (ODCS) Study Section, October 2, 2012.
- ZDE1 Oral, Dental and Craniofacial Sciences (ODCS) Study Section, February 2009
- ZRG1 MOSS-G (30)I National Institute of Arthritis, Musculoskeletal and Skin research, July 26, 2007.
- ZRG1 MOSS-G52 National Institute of Arthritis, Musculoskeletal and Skin research, July 10, 2007
- MOSS-G-53 National Institute of Arthritis, Musculoskeletal and Skin research, July 24, 2006
- MOSS-G-30 National Institute of Arthritis, Musculoskeletal and Skin research, July 24, 2006.
- ZDE1 RK52 applications for the National Institute of Dental and Craniofacial Research (NIDCR) February 28, 2006.
- ODCS Study Section of the National Institute of Dental and Craniofacial Research (NIDCR) (October 18 and 19, 2005).
- SBIR/STTR Special Emphasis Panel (ZRG1 ODCS (11)B) of the National Institute of Dental and Craniofacial Research (NIDCR) April 19, 2004.
- Reparative Medicine Study Section, NIH [ZRG1 SSS-M (01)] March 17, 2004.
- SBIR/STTR Special Emphasis Panel (ZRG1 ODCS (10)B) of the National Institute of Dental and Craniofacial Research (NIDCR) December 16, 2003.
- OBM-1 Study Section of the National Institute of Dental and Craniofacial Research (NIDCR) (June 17, 2003)
- OBM-1 Study Section of the National Institute of Dental and Craniofacial Research (NIDCR) SBBR reviews May 2003

B. Editorial Board Memberships

- **Associate Editor**, Dental Traumatology (DT) Editorial Board Committee (Jan 2023 – Present)
- **Associate Editor**, Endodontics, Frontiers in Dental Medicine (2021 – Present)
- **Associate Editor**, Journal of Endodontics (JOE) Editorial Board Committee (2009 – Present)
- Journal of Dental Research (2005- 2007) and (2012 – Present)
- Journal of Dentistry (2004 – 2011)
- Oral Medicine, Oral Surgery, Oral Pathology, Oral Radiology and Endodontics (1995- 2011)

Ad hoc reviewer for:

- Journal of Dental Research
- (former) Critical Reviews of Oral Biology and Medicine
- International Endodontic Journal
- Dental Traumatology
- American Journal of Dentistry
- Archives of Oral Biology
- FEMS Microbiology
- Infection and Immunity
- Journal of American Dental Association
- Journal of Bacteriology
- Journal of Clinical Microbiology
- Journal of Dental Education
- Clinical Oral Investigation
- Journal of Endodontics (Scientific advisory panel)
- Textbook reviews for Wiley/Blackwell Science
- International Journal of Oral and Maxillofacial Surgery
- Anaerobe
- BMC Genomics
- Frontiers in Craniofacial Biology
- Journal of Oral Microbiology
- Ad hoc reviews for several other journals

C. Offices Held (see above)

D. Professionally Related Community Service (see below)

E. Other

INTRAMURAL SERVICE:

A. Committees

COMMITTEE SERVICE AT THE UNIVERSITY OF ALABAMA AT BIRMINGHAM

- Member, Distinguished Professorship nomination Committee (2023)
- Member, School of Dentistry Dean's Search Committee (2023 – Present)

COMMITTEE SERVICE AT THE SCHOOL OF DENTISTRY, UNIVERSITY OF ALABAMA AT BIRMINGHAM

- Chair, Electronic Dental Record (EDR) Committee (2022 – Present)
- Member, Search Committee: Several Institute of Oral Health Research Faculty (2023)
- Strategic Planning and Assessment Committee (SPA) & Compliance and Risk Management Oversight Committee (2022 – Present)
- Member, Search Committee: Associate Dean for Research (2021 – 2022)
- UAB SOD CE Advisory Council (2021 – Present)
- UAB SOD Clinical Affairs Committee (2021 – 2024)
- Member Search Committee: Pediatric Dentistry Faculty Member (2021 – Present)
- Chair, Search Committee for Endodontics Faculty member (2021)
- Chair, Internal Review Committee for the Department of Oral and Maxillofacial Surgery, UAB (2021)
- Member, Committee for Evaluation of Graduate Fellowships (2021 – Present)
- Member of the Committee of Department Chairs (2020 – Present)

CAMPUS COMMITTEE SERVICE AT THE UNIVERSITY OF NORTH CAROLINA

- **Member** of UNC Campus Committee: Chairs of COI Committees (2019 – present)
- **Member** of the UNC Campus Appointments, Promotions and Tenure Committee (2019 – 2020)

COMMITTEE SERVICE AT THE ADAMS SCHOOL OF DENTISTRY, UNIVERSITY OF NORTH CAROLINA:

- **Chair**, Mentoring Committee Dr. Angela Broome (2019 – Present)
- **Member**, Academic Assessment & Accreditation Committee (2019 – 2020)
- **Member**, One Carolina Dentistry Implementation Team (2019 – 2020)
- **Member**, Pediatric Dental Trauma Team (2018 – 2020)
- **Chair**, Mentoring Committee Dr. Mauro Nunes (2019 – Present)
- **Member**, Task Force on Faculty Performance (2017 – 2018)
- **Chair**, Mentoring Committee Dr. Gustavo Oliveira (2018 – 2020)
- **Member**, Dean's Cabinet/Horizontal Leadership Team (2016 – 2019)
- **Member**, Committee of Department Chairs/Chairs' Council (2017 – 2019)
- Conflict of Interest Committee (2017 – Present)
- **Chair**, SOD COI Committee (2019 – Present)

- Quality Assurance Committee (2016 – 2019)
- Academic Performance Committee (2016 – 2019)
- Curriculum Committee (March 2018 – October 2018)
- Full Professors Advisory Committee (FPAC) (2016 – Present)
- Search Committee for Chair of Prosthodontics (2016 -2017)
- Standard 3 Accreditation Committee (2016 – 2017)
- Committee to Improve Student Performance on License Board examination (2016 – 2019)

COMMITTEE SERVICE AT THE UNIVERSITY OF MARYLAND

- UMB Campus Information Technology Stakeholders Committee (2014 – 2015)
- Department Chairs Committee (2005 – 2015)
- Faculty Council/Assembly (2004 – Present)
- UM FDSP (University of Maryland Faculty Dental Service Plan) Board (Corporation of Clinical Practice Administration in Dental School) (2005 – 2015)
President, UM FDSP Board (2007 – 2008)
- Editorial Board for Magazine: University of Maryland Baltimore (2007 – 2014)
- Advanced Program Directors Committee (2005 – 2014)
Chair, Advanced Program Directors Committee (2009 – 2010)
- **Chair**, Search Committee for Chair of Orthodontics (2011)
- Clinical Sciences Council (2005 – 2010)
- UMB Campus IT Steering Committee (2004 – 2007)
- BCDS New Building Move Committee (2006)
- BCDS IT Steering Committee (2005 – 2006)

COMMITTEE SERVICE AT THE UNIVERSITY OF CONNECTICUT

UCONN SCHOOL OF DENTAL MEDICINE COMMITTEES

CHAIR:

- Ad Hoc Committee for writing Information Technology Capital Budget Projects for the SDM, for FY01/02 and FY02/03 (Two projects funded in 2002)
- Oral Diseases and Infections Course committee (1999-2002). This course combines undergraduate courses in the disciplines of Endodontology, Periodontology, Cariology, Oral Maxillofacial Surgery and Prevention of Oral Diseases at the SDM, UCHC
- SDM committee for Year 2000 compliance of academic, research and clinical devices and programs
- Standard 3: Faculty and Staff, Accreditation Self-Study Preparation Committee (1999 - 2001)

MEMBER:

- SDM Continuing Education Committee (2001–2004)
- School Reorganization Task Force (2003-2004)
- UConn School of Dental Medicine Council, Steering Committee (2003-2004)
- Committee on implementation of the Robert Wood Johnson (Pipeline) project (2002-2004).
- Committee for Assessment and Planning (2001- 2004)
- UConn School of Dental Medicine Council, Clinical Science at-large Councilman (2000 – 2004)
- SDM Undergraduate Students Awards Committee (1997– 2004)
- Executive Committee of the Dental Staff (1997–2004)
- Committee on Undergraduate Dental Education (1997–1999 and 2001– 2004)
- Committee for selection and implementation of new Dental Management System for the SDM (2001-2003)
- Search committee, Head of Department of Periodontology (2002-2003)
- Curriculum Management Committee (2001–2002)
- Committee for Review of the Department of Periodontology (Fall 2001)
- Senior Appointments and Promotion Committee (1999-2000)
- **Substitute Chair**, review of one candidate.
- Standing Administrative Committee on Predoctoral Academic Affairs (PAAC) (1994-2000)
- SDM Faculty Enhancement Initiative Committee (1998–2000)
- Subcommittee of PAAC on writing competencies for SDM curriculum (2000)
- Accreditation Document Review Committee for Standard 6: Patient Care (1992-93)
- SDM Educational Technology Planning Committee (1995-1999)
- UConn School of Dental Medicine Council, Clinical Science Dept. Representative (1997 - 1999)
- UConn School of Dental Medicine Council, Clinical Science at-large Councilman (1994 - 1997)

MEMBERSHIP COURSE MANAGEMENT COMMITTEES

- Member, SDM Competencies Implementation Committee, (1999-2004)
- Dental Sciences Subject Committee, Regional Board Examination Preparation (1994 - 2004)
- Member, Dental Clinical Team Management Committee of Team B (1999-2003)
- Standing Administrative Committees on Academic Performance Classes of (1995 – 2002)
- Member, Task Force on Reorganization of the Dental Patient Record (2000-2001)
- Member, Critical Thinking in Dentistry Course committee (1999-2000). This is a Case-based Learning course that is given to undergraduate students in Years 2-4.

- Dental Sciences Subject Committee, Infection Control and Environmental Safety (1995-2000)
- Dental Sciences Subject Committee, Principles of Treatment Planning (1994 - 2000)
- Dental Sciences Subject Committee, Foundations of Dental Medicine (1994 - 2000)

UCONN HEALTH CENTER (CAMPUS) COMMITTEES

CO-CHAIR

- Computer User Advisory Committee (CUAC), Health Center Committee, advisory to the Associate Vice President for Information Technology (1996 - 1999)
- CUAC subcommittee for development of the University of Connecticut Health Center's Information Technology Policy (September 1997 - January 1998)

MEMBER

- Computer Security Assurance Team (CSAT) (2002-2004)
- Ad Hoc Member Health Center Appeals Committee (2003)
- Search committee for Faculty Education Resource Specialist (Fall 2001)
- Health Center Research Advisory Committee (1998- 1999)
- Computer User Advisory Committee (CUAC), Health Center Committee, advisory to the Associate Vice President for Information Technology (1995 - 1999)

B. Advisory Responsibilities (see each institution's entries)

C. Administrative Responsibilities (see each institution's entries)

D. Special Assignments (see each institution's entries)

E. Other

CONTRIBUTIONS TO INTRAMURAL CONTINUING EDUCATION COURSES:

1. June 15, 2023: Infection Control in the Dental Office: Basic requirements & recent updates. SOD UAB
2. April 18, 2023: An Update on the Diagnosis and Management of Traumatic Injuries to the Permanent Dentition. Association for Continuing Dental Education ACDE. Online webinar given to national dental school audience with over 200 attendees.
3. March 14 – 15, 2023: Two-day AGD Mastertrack Endodontics Hands-on Course, SOD UAB: 7 hours of hands-on workshop on root canal instrumentation and obturation and 2 hours of didactic lectures.
4. March 30, 2019, Directed Shankle Memorial Lecture and Course in Endodontics: Dr. Steven Niemczyk speaker.
5. December 14, 2018: Initiated and directed all-day hands-on Continuing Education course for general dentists in Endodontics.
6. June 29, 2018: Initiated and directed all-day Continuing Education course on diagnosis and management of acute and chronic orofacial pain.

7. March 1, 2018, Directed Shankle Memorial Lecture and Course in Endodontics: Dr. Asgeir Sigurdsson speaker
8. December 1, 2017: Initiated and directed all-day hands-on Continuing Education course for general dentists in Endodontics
9. June 2, 2017: Initiated and directed all-day Continuing Education course on diagnosis and management of acute and chronic orofacial pain.
10. March 31, 2017, Directed Shankle Memorial Lecture and Course in Endodontics: Dr. Mahmoud Torabinejad Speaker
11. December 1, 2016: Initiated and directed all-day hands-on Continuing Education course for general dentists in Endodontics
12. July 8, 2009: Course Director: All-day hands-on course to general dentists on Endodontic Rotary Instrumentation and Thermoplasticized Obturation. Component of 2009 Academy of General Dentistry National Meeting—Baltimore, MD. BCDS, Dental School, University of Maryland.
13. December 8, 2007: Course Director: All-day hands-on course to general dentists on Endodontic Rotary Instrumentation and Thermoplasticized Obturation. BCDS, Dental School, University of Maryland
14. November 5, 2005: Contemporary topics in Endodontic Treatment: Academy of General Dentistry Mastership all-day course. Linthicum, Maryland.
15. October 14, 2000: The Nature of Periapical Lesions. Sixth International Symposium on Endodontic Biology, Farmington Connecticut.
16. Participated in the organization and administration of the Annual Symposium on Endodontic Biology, held in Farmington CT, in 1994-1995 and 1997-2004.
17. January 25, 1993: Restoration of Endodontically Treated Teeth. Comprehensive Course in Endodontology. (School of Dental Medicine, University of Connecticut)
18. January 25-27, 1991 (College of Dentistry, University of Iowa) Academy of General Dentistry Course in Endodontics.

TEACHING

TEACHING EXPERIENCE:

University of Alabama at Birmingham:

Postgraduate Course Directorship (2020 – Present):

Fall Semester:

- Advanced Endodontics Clinic – PG 798
- Fundamentals of Endodontics - PG 611
- Advanced Endodontics Seminar I – PG 585
- Practice Management/Case Review Endo – PG 588
- Endodontic Research Seminar – PG 610

Spring Semester:

- Advanced Endodontics Clinic – PG 798
- Advanced Endodontics Seminar II – PG 586
- Practice Management/Case Review Endo – PG 588
- Endodontic Research Seminar – PG 610

Other annual postgraduate teaching:

- One Seminar to Pediatric Dentistry Residents (Jackson)
- One Seminar to the Orthodontics Residents (Vlachos)
- Two seminars to AEGD Residents (Blass)
- Introduction to Electronic Health Records (Salud and MiPACS Operations) (2023 – Present): Residents from Oral and Maxillofacial Surgery, Orthodontics, Periodontology, Endodontics, Prosthodontics and AEGD.

Predoctoral Teaching (2020 – Present)**Fall Semester:**

- 3525-VT Endodontic Clinic D3 (Coble)
- 4525-VT Endodontic Clinic D4 (Coble)
- 4120-VT Advanced Endodontics D4 (**Course Director in 2021**, otherwise 2-3 lectures) (Marker)
- 3130-VT Operative Dentistry D3a (Robles)
- 1135-VT Entry Level Clinical Skills (ELCS) (Dengler)

Spring Semester:

- 2270-VT Preclinical Endodontics (Coble)
- 3525-VT Endodontic Clinic D3 (Coble)
- 4525-VT Endodontic Clinic D4 (Coble)
- 3225-VT Endodontics D3b (Coble)
- D1, D2, D3, D4 and IDP Students 5-7 hours on Introduction to Electronic Health Records, Treatment Planning, (Salud and MiPACS Operations) (2023 – Present)

University of North Carolina:**Predoctoral:**

July-August 2020	Lecturer and Preceptor	DENT 220 (3CH preclinical course)
Spring 2020	Lecturer	DENT 116 Dentin Pulp Complex 2HR (1)
Fall 2019	Lecturer	DENT 209 Treatment Planning in Endodontics 2HR (1)
Fall 2019	Lecturer	DENT 208 (pathogenesis, microbiology, diagnosis in endodontics) 2HR (3)
Spring 2019	Lecturer	DENT 116 Dentin Pulp Complex 2HR (1)
Fall 2018	Lecturer	DENT 209 Treatment Planning in Endodontics 2HR (1)
Fall 2018	Lecturer	DENT 208 (pathogenesis, microbiology, diagnosis in endodontics) 2HR (3)
Spring 2018	Lecturer	DENT 116 Dentin Pulp Complex 2HR (1)
Fall 2017	Lecturer	DENT 209 Treatment Planning in Endodontics 2HR (1)
May-July 2018	Course Director	DENT 220 (3CH preclinical course)

Jan-March 2018	Lecturer (4) and Co-Director	DENT 316 (1 CH didactic course) (Developed module for evidence-based presentations by students, illustrated by their clinical cases to link didactic and clinical instruction).
May-July 2017	Course Director	DENT 220 (3CH preclinical course)
Jan-March 2017	Lecturer and Co-Director	DENT 316 (1 CH didactic course)
May-July 2016	Course Director	DENT 220 (3CH preclinical course) (Restructured entire course with new curriculum, teaching material, models and schedules)
Fall 2018	Lecturer	DENT 208 (pathogenesis, microbiology, diagnosis in endodontics) 2HR (3)
Spring 2018	Lecturer	DENT 116 Dentin Pulp Complex 2HR (1)
Fall 2017	Lecturer	DENT 209 Treatment Planning in Endodontics 2HR (1)
Jan 2016 – Present	Clinical Instructor	Endodontics Clinic
Clinical Teaching in Endodontics		
2016-2017:	Initiated the formulation of new expectations in Endodontics, defining competencies and designing online clinical forms in Endodontics	
2017-2018:	Initiated corrective actions following the failure to have students complete clinical competencies in Endodontics in 2017: Direct oversight, communication and administrative decisions resulted in correction of the problem in 2018. Formulated response to CODA recommendation on this issue.	
Postgraduate:		
2016-2020	Course Director	Current Literature Review Postgraduate Endodontics
2016-2020	Clinical Teacher	Surgical and non-surgical Endodontics for Residents
2016– 2020	Lecturer	OBIO 720 - Advanced Topics in Oral Biology course: Microbial factors and antimicrobial strategies in dental pulp regeneration
2016-2020	Lecturer	OBIO 722: Oral Biology of Host-Pathogen Interactions: Microbiology of Endodontic Infections
2016-2020	Lecturer	OBIO 722: Oral Biology of Host-Pathogen Interactions: Immunology of the Dental Pulp and Periapical Tissues
2106-2020	Lecturer	OBIO 723/732: Pain Neurobiology: Dental pain: etiology, modulation and treatment

School of Dentistry, University of Maryland:

2005 – 2014:	Course Director of All courses in the Advanced Endodontics Program	
2010-2015	Participator	Translational Case Conference for Microbiology course
2010-2015	Lecturer	Infectious Diseases – MICP521 Year 2; 2 lectures
2009-2015	Lecturer	Neurobiology of Pain-NPSC 521A Year 2; 1
2004-2015	Lecturer (Annual)	Advanced Specialty Programs in Pediatric Dentistry and Prosthodontics
2005-2006	Lecturer	Oral Microbiology DBMS 512M
January 2006	Demonstrator	Selective on Endodontic Rotary Instrumentation Manual, demonstrations, CD including slides, video clips and instructions provided to 21 fourth year students.
February 2005	Demonstrator	Selective on Endodontic Rotary Instrumentation Manual, demonstrations, CD including slides, video clips and instructions provided to 21 fourth year students.

2004 – 2015 Endodontics, second, third and fourth year predoctoral courses (total 12 lectures + lab and clinical teaching)

University of Connecticut Health Center:

Predoctoral Education:

1999-2002	Course Director	Oral Diseases and Infections
1993-2004	Director	Predoctoral endodontics clinical curriculum
1993-2004	Course Director	Endodontology 2
1993-1997	Course Director	Endodontology 1

Problem-based learning: training for and participation in the Correlated Medical Problem

Fall 1998 (Class of 2001)	PBL Facilitator	Solving I Course
Fall 1997 (Class of 2001)	Substitute PBL Facilitator	Solving I Course
Fall 1996 (Class of 2000)	Substitute PBL Facilitator	Solving I Course
Fall 1995 (Class of 1999)	PBL Facilitator	Solving I Course

Participation in Postgraduate Endodontics courses:

- Endodontics Classic Literature Review
- Endodontics Current Literature Review

Participation in other Postgraduate courses:

1997-2004	Prosthodontics Seminar Restoration of Endodontically-Treated Teeth Digital Radiography Endodontic Treatment Outcome
1999-2004	Pediatric Dentistry Seminar: Endodontics for the Pediatric Dentist
2002-2003	Oral Microbiology for Postgraduate Students: Core course given to postgraduate students clinical disciplines: Microbiology of Endodontic Infections
2002	Contemporary Topics in Oral Biology (CTOB): Director, six-session module for Oral Biology Ph.D. students on Pathogenesis of Periradicular Lesions.

OTHER EDUCATIONAL ACTIVITIES**Mentorship of Student Research:****Postgraduate Students:****PhD. Dissertation Advisor:**

1. Adrienne Gomez-Rojas, DDS, MS: Microbiome analysis and antibiotic resistance in Endodontic infections. (2014 – 2016) Universitat Internacional de Catalunya, Barcelona, Spain. (Research performed at the University of Maryland). (dissertation currently incomplete)
2. Natalia Chalmers DDS: Multispecies Microbial Communities Studied at the Single Community Level as a Model System for Spatiotemporal Development of Biofilms and Interspecies Interactions. (2005 - 2009) Mentors: Dr. Paul Kolenbrander, Dr. Robert Palmer, Jr., OIIB, NIDCR, NIH

Ph.D. Dissertation Examiner:

1. Homan Zandi, DDS – Examination for the doctoral degree: “Antibacterial effectiveness and clinical outcome in retreatment of teeth with endodontic infection”. University of Oslo, Norway (2020).

Doctor of Clinical Dentistry (Thesis Examiner):

1. Yu-Ping (Kimmy) Lin: Immunohistochemical localization of TLR2, TLR4 and the OPG-RANKL-RANK system in inflammatory root resorption” University of Otago, New Zealand (2010)
2. Shalin V. Desai: Expression of Toll-like receptor-2 in periapical lesions of endodontic origin”, University of Otago, New Zealand (2009)

Master’s Thesis Advisor (Completed):

1. Sally Liu (UAB): Relative Efficacy of Innovative Endodontic Antimicrobial Agents (2021 – 2023)
2. Iryna Hryvenko Daline (UNC): TMD and Endodontic Odontalgia: Screening and Comorbidity Assessment (TOSCA) (2019 – 2022) (Winner Yamauchi Grant Award for Endodontic Research, UNC Foundation), and grants from the Foundation for Endodontics of the AAE, and the American Association of Pain.
3. Feifei Huang (UNC): The accuracy of computer assisted detection software (Dent.AI) in the detection of apical radiolucencies in panoramic radiographs (2019 – 2022).

4. Krista Andersen Strange (UNC): Long-term outcome assessment and treatment of Resilon obturation system compared to gutta percha (2016 – 2018)
5. Lesleigh Payne (UNC): Resilon retreatment: degradation and other findings (2016 – 2018)
6. Maha AlGhofaily (University of Maryland): Effect of Statins on Healing of Periapical lesions Following Non-surgical Root Canal Treatment (2015 – 2017)
7. Tontesh Tawady: The Relationship between Short-Term Healing of Periapical Lesions and Glycemic Control. (2013 – 2016).
8. Turkey Al Saeed: Investigation of a Novel Intra-Canal Antibiotic Dressing. (2012 – 2015)
9. Brynne Reece: Advanced glycation end-products in the dental pulp. (2012 – 2015)
10. Arabella Christian: The relationship of endodontic disease and cardiovascular disease—a systematic review and meta-analysis (2012 – 2015)
11. Ali Nosrat: The effects of residual bacteria on dental pulp regeneration. (2012 – 2015)
12. Prashant Verma: An in vivo Investigation of Dentin-Pulp Regeneration. (2011 – 2014) University of Maryland.
13. Trevor Blattner: Systemic Response to Chronic Endodontic Pathogens as a Risk Factor for Atherosclerosis. (2011 – 2013) University of Maryland
14. Jared Seltzer: Detection of Endodontic Pathogens in Atheromatous Plaques. (2010 – 2012) University of Maryland.
15. Adam Orgel: The effects of microbial and clinical factors on long term healing of endodontic infections. (2010 – 2012) University of Maryland
16. Joshua Fein: Endodontic healing in diabetic patients: the relationship between diabetic control and periapical lesion resolution. (2010 – 2012) University of Maryland
17. Ian Bennett: The Effects of Local Antibiotic Administration on Endodontic Treatment Outcomes. (2009 – 2011) University of Maryland
18. Peter Bellingham: Clinical Evaluation of Contemporary Endodontic Antimicrobial Procedures. (2009 – 2011) University of Maryland
19. Derek Ego-Osuala: Masters of Science Thesis: The evaluation of systemic inflammation in patients with localized vs. spreading endodontic infections. (2008 – 2010) University of Maryland
20. Felicity Shelton: Masters of Science Thesis: The effects of bisphosphonate treatment on the prevalence and pathogenesis of endodontic pathosis (2008 – 2010) University of Maryland
21. Maheeb Jaouni: Master of Science Thesis: Penetration of systemic antibiotics into necrotic pulp space (2008 – 2010) University of Maryland
22. Anastasia Mischenko: Master of Science Thesis: Comparison of long-acting local anesthetics on pain and inflammatory regulation following endodontic surgery (2007 – 2010) University of Maryland.
23. Dominick Alongi: Master of Science Thesis: Effect of inflammation on pulp stem cell potency (2007 – 2009) University of Maryland.
24. Yelena Kholodenko: Master of Science Thesis: The effect of endodontic instrumentation techniques on post-operative local and systemic responses (2007 – 2009) University of Maryland.
25. Jessica Russo: Master of Science Thesis: The relationship between chronic endodontic infection and the progression of systemic disease in a mouse model (2007 – 2009) University of Maryland.

26. Gretchen Dalrymple: Master of Science Thesis: Identification of Antibiotic Resistance Genes in Primary and Persistent Endodontic Infections (2007 – 2008) University of Maryland.
27. Payman Kakoli DDS. Master of Science Thesis: The Effect of Age on Physical Properties and Bacterial Penetration of Radicular Dentin. (2006 – 2008) University of Maryland
28. Afua Mireku DDS. Master of Science Thesis: An In Vitro Investigation of the Influence of Age, Root Morphology, Dentin Thickness and Tubular Orientation on the Incidence Vertical Root Fractures. (2006 – 2008) University of Maryland
29. Tawana Feimster DDS. Master of Science Thesis: Satisfaction outcomes and quality of life comparing endodontic treatment and implant placement. (2005-2006) University of Maryland
30. Blythe Kaufman DMD. Master of Dental Science Thesis: The Relationship of Enterococcus spp. and Endodontic Treatment Failure (2003-2005). University of Connecticut
31. Lester Reid DMD. Master of Dental Science Thesis: The use of Ceramic and Fiber Reinforced Composite Post Systems In The Intraradicular Restoration of Endodontically Treated Teeth. 1999-2001. University of Connecticut
32. Howard Levinbook DMD: Master of Dental Science Thesis The biological relevance of lipids to periodontal disease. 1997-2000. University of Connecticut

Master's Thesis Advisor (In Progress):

1. Jonathan Gordon: Comparative effectiveness in the treatment of irreversible pulpitis
2. Swati Gupta: Comparative effectiveness in the treatment of irreversible pulpitis

Supervised Fellows in Endodontics Department or Volunteer Dentists

1. Gurmukh Dhaliwal: Molecular Characterization of Irreversible Pulpitis (Jan 2020 – June 2020)
2. Mohamed Akram: Efficacy of a novel endodontic topical antimicrobial agent (Jan 2019 – July 2019)
3. Dan Zhou (Lancy): Molecular markers of irreversible pulpitis. (2017-2018)
4. Ali Altinchi: Bacterial extrusion from infected root canals during masticatory function (2016-2018)
5. Firas Mourad: Using CBCT to assess endodontic instrumentation efficacy (2013)
6. Shilpi Gupta: The efficacy of local Tigecycline on endodontic microflora and its effect on tooth color. (2011-2012)

Pre-doctoral Students at the University of Alabama at Birmingham:

1. Cody Santora (Class of 2022): Antibacterial modifications of predicted microbiome functionality in immature necrotic teeth. **(Winner of the first place position in predoctoral clinical research at the 2022 Scholars Symposium at UAB.)**

Pre-doctoral Students at the University of North Carolina:

1. Babak Yousefi (Class of 2022): Molecular Characterization of Irreversible Pulpitis: a Pilot Study (Hinman Research Symposium Award at Research Day in February 2020)

2. Coco Roening (Class of 2021): Geographical Variations in Microbiota from Immature Teeth with Necrotic Pulp (awarded First Place for the Derek T. Turner Student Research Award at Research Day in February 2020)
3. Nathan Yip (Class of 2020): Association of Apical Periodontitis and Diabetes in a Large Hospital Network (awarded First Place for the Derek T. Turner Student Research Award at Research Day in February 2019)
4. Yiing-Shiuan (Lily) Huang (Class of 2020): Prevention of Coronal Discoloration with Novel Topical Endodontic Antimicrobial Agents
5. Damian Slaczka (Class of 2020): Association of Endodontic Disease and Cardiovascular Disease: A Systematic Review and Meta-Analysis of the Role of Study Design
6. Zack Mohorn: (Class of 2018): Prevention of Bismuth Oxide-containing Tricalcium Silicate Discoloration of Dentin.

Pre-doctoral Students at the University of Maryland:

1. Salar Sanjari (Class of 2014): Resistance to microbial passage of novel fluorapatite (FA)-forming calcium phosphate cement and EndoSequence Root Repair Material compared with MTA in apexification and perforation repair applications.
2. Joon Park (Class of 2012): Antimicrobial properties of novel fluorapatite (FA)-forming calcium phosphate cement and EndoSequence Root Repair Material compared with MTA.
3. Tierney Winberg (Class of 2011): Molecular detection of bacteremia following endodontic procedures
4. Marc Toso (Class of 2011): Periapical invasion of bacteria inoculated in root canals of a murine model
5. William Dailey (Class of 2010) The utility of quantum dots for non-invasive imaging of endodontic microbial biofilms.
6. Adam Orgel (Class of 2009): Correlation of microbial status of root canals with treatment outcomes
7. Mohammad Tofigh (Class of 2010): Sources and elimination of enterococci in endodontic infections.
8. Justin Whiting (Class of 2009): Chlamydia pneumonia in endodontic infections.
9. Erin Cox (Class of 2005): Endodontic microbial analysis using specific versus universal PCR primers.

Undergraduate Students:

1. Sonay Naqib (Towson University): Presence of *Candida* spp. in endodontic infections.
2. Paul Yoo: (with William Dailey, Dental Class of 2010) The utility of quantum dots for non-invasive imaging of endodontic microbial biofilms.
3. Krystal Burns (Stevenson's College, Class of 2009): The effects of endodontic treatment procedures on the presence of Antibiotic Resistance Genes in Primary and Persistent Endodontic Infections (work was eventually published in 2011)
4. Barbora Hnizda (Villa Julie College, Class of 2008): Phylogenetic analysis of bacterial diversity in endodontic infections.

Pre-doctoral Students at the University of Connecticut:

1. Tara Pimblett (Class of 2007) A Study of the Diversity of Microorganisms in Endodontic Infections

2. Mark Ludlow (Class of 2006) Case-control analysis of the effect of diabetes mellitus on endodontic treatment outcomes
3. Ben Jafarnia (Class of 2005) Molecular Detection of Bacteria in Necrotic Pulp using Restriction Fragment Length Polymorphism.
4. Christine Abenoja (Class of 2005) Molecular Determination of the Presence of Eubacterium sp. and Eggerthella lenta in Endodontic Infections.
5. Rachaele Carver (Class of 2003) Identification of endodontic bacterial pathogens in symptomatic and asymptomatic patients using molecular techniques. This project won the BioStructure and Function Departmental Award at the UCHC annual Student Research Day in February 2001.
6. Jessica Russo (Class of 2002) Size and cytokine content of periapical lesions in NOD mice.
7. Patty Berube (Class of 2001) Digital analysis of specimens from study completed by Steven Abbott DMD (Postgraduate Class of 1999): Histological Evaluation of NiTi Rotary Instrumentation and Hand Instrumentation in the Apical Third of Mesial Canals of Mandibular First and Second Molars.
8. Adrian Acosta (Class of 2001) IL-6, IL-11 and IL-4 expression in periapical lesions of normal and LPS hyporesponsive mice. This project won ADA Dentsply award, University of Connecticut Student Research Presentations February 1999, Student was sponsored to present paper at ADA meeting in Hawaii, in October 1999.
9. Alexander Ahn, Meharry Medical College, School of Dentistry. An In-vitro SEM Comparison of Rotary and Hand Root Canal Instrumentation Techniques. Summer 1999.
10. Federico Lago (Class of 2000) Non-specific periapical immune response in normal and scid mice. This project won ADA Dentsply award, University of Connecticut Student Research Presentations February 1998, Student was sponsored to present paper at ADA meeting in San Francisco, in October 1998.

RESEARCH:

MAJOR RESEARCH INTERESTS:

Pathogenesis of pulpal and periapical disease, association of systemic disease with apical periodontitis and with outcomes of endodontic treatment, dental pulp regeneration, vital pulp therapy, antibiotic resistance in endodontic infections and effectiveness of antimicrobial therapies in endodontics.

GRANT SUPPORT:

Active:

- | | |
|-------------|--|
| 2023 – 2024 | Comparative Effectiveness in the Management of Irreversible Pulpitis: Immunological Characterizations. Global Center for Craniofacial Oral and Dental Disorders (GC-CODED) Pilot & Feasibility Award.
A. F. Fouad P.I: \$25,000 with departmental matching of \$25,000 (\$50,000). |
| 2023 – 2024 | Outcomes of vital pulp therapy in a Dental School patient population.
Foundation for Endodontics of the AAE
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Chris Hawkins:
\$8,600 |
| 2023-2025 | Development of a Novel Bioactive Material for Dental Pulp Treatment.
Alabama Research and Development Enhancement Fund 1ARDEF23 02; |

K. Cheon (PI), Role: Fouad co-investigator

2023 – 2025 Targeting the AMPK pathway to enhance dentin repair with novel metformin-releasing dental cements
NIH/NIDCR: 5R21DE032139-02
Co-PIs: Abraham Schneider and Huakun Xu,
University of Maryland Baltimore. A. Fouad: Consultant

Pending:

2024– 2029 Comparative effectiveness in the management of irreversible pulpitis
NIH/NIDCR: UG3/UH3:
P.I.: Fouad, AF.

Completed:

2022 – 2023 Relative Efficacy of Innovative Endodontic Antimicrobial Agents.
Foundation for Endodontics of the AAE
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Sally Liu:
\$13,518
Grant deemed highest-scoring resident proposal by the AAE Foundation for Endodontics Research & Scientific Affairs Committee and awarded an additional \$500

2019 – 2021 **NIH/NIDCR: 1R41DE028475-01A1**
Coherence Gated Doppler for Dentistry
PI- Cha-Min Tang, University of Maryland Baltimore, A. Fouad Co-investigator (2%)
Budget period 9/16/2019 – 9/15/2020
(Delayed funding, likely to go into no cost extension till 2021).

2014– 2023 Regeneration of Pulp-Dentin Development in Teeth with Necrotic Pulps and Immature Roots, a multi-center clinical trial in three [four] dental schools.
American Association of Endodontists Foundation:
K. Hargreaves, P.I.
A. F. Fouad P.I. (10%) at University of Maryland Baltimore, the University of North Carolina at Chapel Hill, and the University of Alabama at Birmingham (Subcontract)
Total Award: \$1.7 million
UMB/UNC/UAB Award: \$530,000

2015– 2016 The Relationship between Short-Term Healing of Periapical Lesions and Glycemic Control
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Tontesh Tawady.
\$15,000

2014-2016 Magnetic Delivery of Therapeutic Nanoparticles to the Dental Pulp
NIH –NIDCR, 1R21DE024227
P.I.: R. Masri Co-investigator A. Fouad (3.33%)
Total Award: \$420,610
Total Direct Costs: \$275,000

- 2014– 2015 The effects of residual bacteria on dental pulp regeneration
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Ali Nosrat.
\$14,000
- 2013-2014 Dental Applications of Coherence Gated Doppler
TEDCO Maryland Technology Development Corporation
Co-investigator, A Fouad (7%)
PI: Cha-Min Tang UMMC, and Yu Chen at Bioengineering UMCP.
\$125,000
- 2012– 2014 Antimicrobial Therapy for Severe Endodontic Infections: The Role of Molecular
Microbiological Analysis
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Libertad Negrón
\$4,100
- 2012– 2014 An in vivo evaluation of novel intra- and extra-canal irrigation protocols in necrotic teeth
with apical periodontitis: A prospective, randomized outcome study
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Tierney Winberg
\$11,600
- 2011– 2013 Systemic Response to Chronic Endodontic Pathogens as a Risk Factor for
Atherosclerosis
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Trevor Blattner
\$14,000
- 2010-2012 Endodontic healing in diabetic patients: the relationship between diabetic control and
periapical lesion resolution
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Joshua Fein
\$13,420
- 2010-2012 Detection of Endodontic Pathogens in Atheromatous Plaques
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Jared Seltzer
\$7,255
- 2009-2012 The effects of microbial and clinical factors on long term healing of endodontic
infections
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Adam Orgel
\$9,900

- 2009-2011 The evaluation of systemic inflammation in patients with localized vs. spreading endodontic infections
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Derek Ego-Osuala
\$14,000
- 2009-2011 Metagenomic analysis of bacterial diversity during the development of an acute apical abscess
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Liang (Kevin) Li.
\$19,000
- 2009-2011 Clinical Evaluation of Contemporary Endodontic Antimicrobial Procedures
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Peter Bellingham
\$9,662
- Second phase of this grant was competitively funded for 2009-2010
\$11,516
- 2008-2010 Penetration of systemic antibiotics into necrotic pulp space
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Maheeb Jaouni
\$4,000
- 2008-2010 The effects of bisphosphonate treatment on the prevalence and pathogenesis of endodontic pathosis
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Felicity Shelton
\$11,580
- 2005-2010 Primary and Therapy-Resistant Endodontic Infections
NIH- NIDCR R01-DE015320-01A1
P.I. A. Fouad (30%)
Direct Costs: \$1,201,000
Total Award: \$1,511,000
- 2008-2009 Comparison of Bupivacaine vs. Lidocaine on Pain and Inflammatory Regulation Following Endodontic Surgery: a Double-Blind, Randomized, Controlled Clinical Trial
American Association of Endodontists Foundation
Advisor: A. Fouad on Grant submitted by postgraduate student Anastasia Mischenko (Mentor: Dr. Sharon Gordon) \$15,700

- 2008-2009 The Effect of Endodontic Instrumentation Techniques on Post-Operative Local and Systemic Responses
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Yelena Kholodenko \$10,090
- 2007-2009 The relationship between chronic endodontic infection and the progression of systemic disease in a mouse model
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student Dr. Jessica Russo. \$11,828
- 2007-2008 Identification of Antibiotic Resistance Genes in Primary and Persistent Endodontic Infections.
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student. G. Dalrymple. \$10,272
- 2006-2007 Mechanotransducers in Human Pulpal Afferents.
American Association of Endodontists Foundation
Advisor: A. Fouad on Grant submitted by postgraduate student. J. Melamed. (Other Mentor: Dr. M. Gold). \$17,000
- 2006-2007 An In Vitro Investigation of the Influence of Age, Root Morphology, Dentin Thickness and Tubular Orientation on the Incidence Vertical Root Fractures.
American Association of Endodontists Foundation
Advisor: A. Fouad on Grant submitted by postgraduate student. A. Mireku. (Other Mentor: Dr. D. Arola \$14,000
- 2006-2007 Are endodontic infections involved in the pathogenesis of atherosclerosis?
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student R. Mirchandani. \$20,000
- 2004-2005 The Relationship of *Enterococcus* spp. and Endodontic Treatment Failure
American Association of Endodontists Foundation
Senior Advisor: A. Fouad on Grant submitted by postgraduate student. Blythe Kaufman \$8,781
- 2001-2004 **NIH-National Institute of Dental and Craniofacial Research**
R21-DE014476
Endodontic infections in type 1 diabetic hosts P.I. (A. Fouad 20%)
Direct Costs: \$200,000
Total Awarded: \$249,000

2000-2001 Root canal bacterial flora: The effects of type 1 Diabetes Mellitus and deficiency in host innate immune response.
American Association of Endodontists Foundation
\$25,200

1997-2000 **NIH-National Institute of Dental Research**
R55-DE012037
Periapical lesions in Non-Obese Diabetic mice Shannon Award
P.I. A. Fouad 15%
Direct Costs: \$50,000
Total Awarded: \$62,500

1998 Equipment Grants Program
Health Center Research Advisory Committee (HCRAC)
\$5,500

1996-1997 The integration of an electronic patient record in undergraduate endodontic education
Kaiser Permanente Educational Grant
\$3,500

1996-1997 (Competitive renewal) Immunohistochemical investigation of the progression of periapical lesions in LPS hyporesponsive and *scid* mice.
American Association of Endodontists Foundation
\$10,681

1995-1996 Immunohistochemical investigation of the progression of periapical lesions in LPS hyporesponsive and *scid* mice.
American Association of Endodontists Foundation
\$10,981

1994-1996 Developing an Integrated Endodontics Multimedia Curriculum
University of Connecticut Teaching Institute
\$ 5,995

1993-1994 Endodontic Diagnosis and treatment planning computer simulation program.
Kaiser Permanente Educational Grant
\$3,300

1992-1995 Periapical osteitis experiments in pathogenesis and repair
Research Initiation and Support Grant, University of Connecticut Health Center
\$38,600

- 1989-1990 Healing of periapical lesions in the ferret model.
Dows Institute for Dental Research, College of Dentistry, University of Iowa
\$1000
- 1989-1990 Healing of periapical lesions in the ferret model.
Research and Education Foundation of the American Association of Endodontists
\$ 600

FUNDRAISING –Non-Research:

- UAB Endodontics: Alley-Elleazer Professorship. 2022 – Present.
- UAB Endodontics Alumni Professorship 2021: Principal Investigator on \$100,000 grant from the Foundation for Endodontics to supplement donations from the UAB Endodontics Alumni to the Department of Endodontics at UAB. The funds allowed the Department to exceed the minimum required by UAB, to establish the endowed professorship in the amount of \$500,000.
- Olmsted Professorship 2017: Principal Investigator on \$100,000 grant from the Foundation for Endodontics to supplement donation from Dr. and Mrs. John Olmsted to the Department of Endodontics at UNC. The funds qualified for matching from state of NC, to establish the endowed professorship in the amount of \$500,000.

PATENTS

1. Application Submitted: Tigecycline for topical treatment of root canal space. **Ashraf Fouad**. UNC Ref.: 18-0031, Attorney Docket No.: 5470-836PR, U.S. Provisional Application N. 62/615,561 filed on **January 10, 2018** in the United States Patent and Trademark Office.
2. Patent Received: Coherence Gated Doppler Motion Sensor and Medical Applications. Cha-Min Tang, Chia-Pin Liang, Yu Chen, **Ashraf Fouad** and Joseph Schmitt. Application number 13/962,450, filed on 8/8/2013 and published on 2/13/2014. Publication No. US-2014-0043618-A1.

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MANUSCRIPTS:

A. Manuscripts in Press:

B. Peer-Reviewed Manuscripts already published:

1. Nagendrababu V, Pigg M, Duncan HF, Abbott PV, **Fouad AF**, Kruse C, Patel S, Rechenberg DK, Setzer FC, Rossi-Fedele G, Dummer PMH. PRIDASE 2024 guidelines for reporting diagnostic accuracy studies in endodontics: A consensus-based development. Int Endod J. 2024 Apr 26. doi: 10.1111/iej.14075. Epub ahead of print. PMID: 38669132.
2. Nosrat A, Verma P, Dianat O, Ramzy N, Mehrzad S, Valancius M, Aminoshariae A, **Fouad AF**. Incidence of Middle Mesial Canals in Mandibular Molars during Root Canal Treatment and Non-

- Surgical Retreatment. *J Endod.* 2024 Mar 7:S0099-2399(24)00159-6. doi: 10.1016/j.joen.2024.02.024. Epub ahead of print. PMID: 38460881.
3. Sabeti MA, Nikghalb K, Pakzad R, **Fouad AF**. Expression of selected inflammatory mediators with different clinical characteristics of pulpal inflammation. *J Endod.* 2023 Dec 24:S0099-2399(23)00806-3. doi: 10.1016/j.joen.2023.11.016. Epub ahead of print. PMID: 38147909.
 4. Daline IH, Slade GD, **Fouad AF**, Nixdorf DR, Tchivileva IE. Diagnostic Accuracy of a Temporomandibular Disorder Pain Screener in Patients Seeking Endodontic Treatment for Tooth Pain. *J Endod.* 2024 Jan;50(1):55-63. doi: 10.1016/j.joen.2023.10.011. Epub 2023 Oct 29. PMID: 38379174.
 5. El Karim IA, Duncan HF, **Fouad AF**, Taha NA, Yu V, Saber S, Ballal V, Chompu-Inwai P, Ahmed HMA, Gomes BPF, Abushouk S, Cushley S, O'Neill C, Clarke M. Effectiveness of full Pulpotomy compared with Root canal treatment in managing teeth with signs and symptoms indicative of irreversible pulpitis: a protocol for prospective meta-analysis of individual participant data of linked randomised clinical trials (PROVE). *Trials.* 2023 Dec 15;24(1):807. doi: 10.1186/s13063-023-07836-6. PMID: 38102685; PMCID: PMC10722670.
 6. Altinchi A, Schweizer A, Dean K, Lawson N, Sulaiman T, **Fouad AF**. An ex-vivo model for investigating bacterial extrusion from infected root canals during masticatory function. *J Endod.* 2023 Aug 21:S0099-2399(23)00502-2. doi: 10.1016/j.joen.2023.08.008. Epub ahead of print. PMID: 37611655.
 7. Alhadainy HA, Abdel-Karim AH, **Fouad AF**. Prevalence of Fusobacterium Species in Endodontic Infections detected with molecular methods: Systematic Review and Meta-analysis. *J Endod.* 2023 Aug 21:S0099-2399(23)00501-0. doi: 10.1016/j.joen.2023.08.009. Epub ahead of print. PMID: 37611654.
 8. Nosrat A, Valancius M, Mehrzad S, Dianat O, Verma P, Aminoshariae A, **Fouad AF**. Flare-ups After Nonsurgical Retreatments: Incidence, Associated Factors, and Prediction. *J Endod.* 2023 Jul 13:S0099-2399(23)00395-3. doi: 10.1016/j.joen.2023.07.004. Epub ahead of print. PMID: 37451334. **(Received Honorable Mention – Second place, in the Journal of Endodontics Awards for 2023, in the category of Clinical Research).**
 9. Daline IH, Slade GD, **Fouad AF**, Nixdorf DR, Tchivileva IE. Prevalence of painful temporomandibular disorders in endodontic patients with tooth pain. *J Oral Rehabil.* 2023 Jul;50(7):537-547. doi: 10.1111/joor.13457. Epub 2023 Apr 14. PMID: 37021602.
 10. Nagendrababu V, Duncan HF, **Fouad AF**, Kirkevang LL, Parashos P, Pigg M, Vaeth M, Jayaraman J, Suresh N, Jakovljevic A, Dummer PMH. PROBE 2023 guidelines for reporting observational studies in endodontics: Explanation and elaboration. *Int Endod J.* 2023 Jun;56(6):652-685. doi: 10.1111/iej.13909. Epub 2023 Mar 20. PMID: 36851874.
 11. Nagendrababu V, Duncan HF, **Fouad AF**, Kirkevang LL, Parashos P, Pigg M, Vaeth M, Jayaraman J, Suresh N, Arias A, Wigsten E, Dummer PMH. PROBE 2023 guidelines for reporting observational studies in Endodontics: A consensus-based development study. *Int Endod J.* 2023 Mar;56(3):308-317. doi: 10.1111/iej.13873. Epub 2022 Dec 11. PMID: 36416192.
 12. Alghofaily M, **Fouad AF**. Association of Chronic Systemic Medications with the Incidence, Prevalence, or Healing of Endodontic Disease: A Systematic Review. *J Endod.* 2022 Dec;48(12):1458-1467. PMID: 36244516. **(Received Award for best article in the Journal of Endodontics in 2022, in the category of Systematic and Scoping Reviews).**
 13. Barrett B, McGovern J, Catanzaro W, Coble S, Redden D, **Fouad AF**. Clinical Efficacy of an Extraoral Dental Evacuation Device in Aerosol Elimination During Endodontic Access Preparation. *J Endod.* 2022 Dec;48(12):1468-1475. PMID: 36206990

14. **Fouad AF**, Diogenes AR, Torabinejad M, Hargreaves KM. Microbiome Changes during Regenerative Endodontic Treatment Using Different Methods of Disinfection. *J Endod.* 2022 Oct;48(10):1273-1284. doi: 10.1016/j.joen.2022.07.004. Epub 2022 Aug 27. PMID: 36030971. **(Received Honorable Mention in the Journal of Endodontics Awards in 2022, in the category of Regenerative Endodontics).**
15. Nosrat A, Yu P, Verma P, Dianat O, Wu D, **Fouad AF**. Was the Coronavirus Disease 2019 Pandemic Associated with an Increased Rate of Cracked Teeth? *J Endod.* 2022 Oct;48(10):1241-1247. doi: 10.1016/j.joen.2022.07.002. Epub 2022 Jul 12. PMID: 35835260; PMCID: PMC9273286. **(Received Honorable Mention in the Journal of Endodontics Awards in 2022, in the category of Clinical Research).**
16. **Fouad AF**. Molecular Characterization of Irreversible Pulpitis: A Protocol Proposal and Preliminary Data. *Front. Dent. Med.*, 10 May 2022 | <https://doi.org/10.3389/fdmed.2022.867414>
17. Nosrat A, Yu P, Dianat O, Verma P, Taheri S, Wu D, **Fouad AF**. Endodontic Specialists' Practice During the Coronavirus Disease 2019 Pandemic: 1 Year after the Initial Outbreak. *J Endod.* 2022 Jun;48(6):699-706. doi: 10.1016/j.joen.2022.03.004. Epub 2022 Mar 17. PMID: 35307515; PMCID: PMC8928705.
18. Nosrat A, Dianat O, Verma P, Yu P, Wu D, **Fouad AF**. Endodontics Specialists' Practice during the Initial Outbreak of Coronavirus Disease 2019. *J Endod.* 2022 Jan;48(1):102-108. doi: 10.1016/j.joen.2021.09.015. Epub 2021 Oct 6. PMID: 34626613; PMCID: PMC8493639..
19. Pigg M, Duncan HF, Nagendrababu V, Abbott P, **Fouad AF**, Kruse C, Patel S, Rechenberg DK, Dummer PM. Preferred Reporting Items for Diagnostic Accuracy Studies in Endodontics (PRIDASE): Guidance to improve manuscripts assessing the diagnostic accuracy of procedures, techniques and devices. *Int Endod J.* 2021 Jul;54(7):1005-1007. doi: 10.1111/iej.13539. PMID: 34089630.
20. Yoo YJ, Perinpanayagam H, Choi Y, Gu Y, Chang SW, Baek SH, Zhu Q, **Fouad AF**, Kum KY. Characterization of Histopathology and Microbiota in Contemporary Regenerative Endodontic Procedures: Still Coming up Short. *J Endod.* 2021 Aug;47(8):1285-1293.e1. doi: 10.1016/j.joen.2021.05.006. Epub 2021 May 25. PMID: 34044040. **(Winner Honorable Mention Award, Regenerative Endodontics category, Journal of Endodontics 2021).**
21. Yip N, Liu C, Wu D, **Fouad AF**. The association of apical periodontitis and type 2 diabetes mellitus: A large hospital network cross-sectional case-controlled study. *J Am Dent Assoc.* 2021 Jun;152(6):434-443. doi: 10.1016/j.adaj.2021.01.005. Epub 2021 Mar 29. PMID: 33795142.
22. Zhao D, Yu J, Zhang T, Du M, Yang Q, Li Z, **Fouad AF**. Impact of COVID-19 on advanced dental education: Perspectives of dental residents in Wuhan. *J Dent Educ.* 2021 Jun;85(6):756-767. doi: 10.1002/jdd.12570. Epub 2021 Feb 26. PMID: 33638235; PMCID: PMC8013597.
23. Nagendrababu V, Abbott P, Duncan HF, **Fouad AF**, Kruse C, Patel S, Pigg M, Rechenberg DK, Dummer PMH. Preferred Reporting Items for Diagnostic Accuracy Studies in Endodontics (PRIDASE) guidelines: a development protocol. *Int Endod J.* 2021 Jul;54(7):1051-1055. doi: 10.1111/iej.13497. Epub 2021 Mar 4. PMID: 33583062.
24. Weintraub JA, Quinonez RB, Smith AJT, Ciarrocca K, **Fouad AF**, Shazib MA, Kraszeski MM, Rankin DB, Matthews NS. Responding to a pandemic: Development of the Carolina Dentistry Virtual Oral Health Care Helpline. *J Am Dent Assoc.* 2020 Nov;151(11):825-834. doi: 10.1016/j.adaj.2020.08.003. PMID: 33121604.
25. Aminoshariae A, Kulild J, **Fouad AF**. The impact of cardiovascular disease and endodontic outcome: a systematic review of longitudinal studies. *Clin Oral Investig.* 2020 Nov;24(11):3813-3819. doi: 10.1007/s00784-020-03596-8. Epub 2020 Sep 23. PMID: 32965589.

26. **Fouad AF.** Contemporary Microbial and Antimicrobial Considerations in Regenerative Endodontic Therapy. *J Endod.* 2020 Sep;46(9S):S105-S114. doi: 10.1016/j.joen.2020.06.030. PMID: 32950182.
27. Yu J, Hua F, Shen Y, Haapasalo M, Qin D, Zhao D, Peng B, **Fouad AF.** Resumption of Endodontic Practices in COVID-19 Hardest-Hit Area of China: A Web-based Survey. *J Endod.* 2020 Aug 18;46(11):1577–1583.e2. doi: 10.1016/j.joen.2020.08.001. Epub ahead of print. PMID: 32818564; PMCID: PMC7431398.
28. Levin L, Day PF, Hicks L, O'Connell A, **Fouad AF,** Bourguignon C, Abbott PV. International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: General introduction. *Dent Traumatol.* 2020 Aug;36(4):309-313. doi: 10.1111/edt.12574. Epub 2020 Jun 22. PMID: 32472740.
29. Bourguignon C, Cohenca N, Lauridsen E, Flores MT, O'Connell AC, Day PF, Tsilingaridis G, Abbott PV, **Fouad AF,** Hicks L, Andreasen JO, Cehreli ZC, Harlamb S, Kahler B, Oginni A, Semper M, Levin L. International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 1. Fractures and luxations. *Dent Traumatol.* 2020 Aug;36(4):314-330. doi: 10.1111/edt.12578. Epub 2020 Jul 17. PMID: 32475015.
30. **Fouad AF,** Abbott PV, Tsilingaridis G, Cohenca N, Lauridsen E, Bourguignon C, O'Connell A, Flores MT, Day PF, Hicks L, Andreasen JO, Cehreli ZC, Harlamb S, Kahler B, Oginni A, Semper M, Levin L. International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 2. Avulsion of permanent teeth. *Dent Traumatol.* 2020 Aug;36(4):331-342. doi: 10.1111/edt.12573. Epub 2020 Jun 13. PMID: 32460393..
31. Day PF, Flores MT, O'Connell AC, Abbott PV, Tsilingaridis G, **Fouad AF,** Cohenca N, Lauridsen E, Bourguignon C, Hicks L, Andreasen JO, Cehreli ZC, Harlamb S, Kahler B, Oginni A, Semper M, Levin L. International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 3. Injuries in the primary dentition. *Dent Traumatol.* 2020 Aug;36(4):343-359. doi: 10.1111/edt.12576. PMID: 32458553..
32. Nagendrababu V, Duncan HF, **Fouad AF,** Kirkevang LL, Parashos P, Pigg M, Vaeth M, Jayaraman J, Dummer PMH. Preferred Reporting items for OBservational studies in Endodontics (PROBE) guidelines: a development protocol. *Int Endod J.* 2020 Sep;53(9):1199-1203. doi: 10.1111/iej.13318. Epub 2020 Jun 1. PMID: 32365401.
33. Baras BH, Melo MAS, Thumbigere-Math V, Tay FR, **Fouad AF,** Oates TW, Weir MD, Cheng L, Xu HHK. Novel Bioactive and Therapeutic Root Canal Sealers with Antibacterial and Remineralization Properties. *Materials (Basel).* 2020 Mar 1;13(5):1096. doi: 10.3390/ma13051096. PMID: 32121595; PMCID: PMC7084849.
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36. Lockhart PB, Tampi MP, Abt E, Aminoshariae A, Durkin MJ, **Fouad AF,** Gopal P, Hatten BW, Kennedy E, Lang MS, Patton LL, Paumier T, Suda KJ, Pilcher L, Urquhart O, O'Brien KK, Carrasco-Labra A. Evidence-based clinical practice guideline on antibiotic use for the urgent management of pulpal- and periapical-related dental pain and intraoral swelling: A report from the American Dental Association. *J Am Dent Assoc.* 2019 Nov;150(11):906-921.e12. doi: 10.1016/j.adaj.2019.08.020. PubMed PMID:

31668170.

The guideline has received the publicity in the following venues: [Reuters](#); [U.S. News and World Report](#), [HealthDay](#), [Drugs.com](#), [DrBicuspid](#), [Doctor's Lounge](#), [News-Medical.net](#)

37. Nagendrababu V, Segura-Egea JJ, **Fouad AF**, Pulikkotil SJ, Dummer PMH. Association between diabetes and the outcome of root canal treatment in adults: An umbrella review (PROSPERO # CRD42019141684) *Int Endod*; 2019 Nov 13. doi: 10.1111/iej.13253. PubMed PMID: 31721243
38. **Fouad AF**. Microbiological Aspects of Traumatic Injuries. *J Endod*. 2019 Dec; 45(12S): S39-S48. doi: 10.1016/j.joen.2019.05.011. Epub 2019 Oct 14. PubMed PMID: 31623904.
39. Fouad **AF**. Microbiological aspects of traumatic injuries. *Dent Traumatol*. 2019 Dec;35(6):324-332. doi: 10.1111/edt.12494. Epub 2019 Oct 14. Review. PubMed PMID: 31125490. (**Article reprinted in both journals, Proceedings of the World Dental Trauma Conference 2018**).
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41. Baras BH, Wang S, Melo MS, Tay F, **Fouad AF**, Arola DD, Weir MD, Xu HHK. Novel Bioactive Root Canal Sealer with Antibiofilm and Remineralization Properties. *J Dent* 2019: Apr; 83:67-76. Epub 2019/02/27. doi: 10.1016/j.dent.2019.02.006. PubMed PMID: 30825569.
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47. Gordon SM, Mischenko AV, **Fouad AF**. Effects of Bupivacaine versus Lidocaine on Inflammatory Regulation. *Appl Clin Pharmacol Toxicol: ACPT-106*; 2017 (01):1-8.
48. Qin W, Huang Q, Weir MD, Song Z, **Fouad AF**, Lin Z, Zhao L, Xu HH. Alcohol Inhibits Odontogenic Differentiation of Human Dental Pulp Cells by Activating mTOR Signaling. *Stem Cells Int*. 2017, <https://doi.org/10.1155/2017/8717454>. PubMed PMID: 29062364; PMCID: PMC5618757.
49. **Fouad, A.F**. Microbial factors and antimicrobial strategies in dental pulp regeneration. *J Endod* 2017 Sep; 43(9S):S46-S50. doi: 10.1016/j.joen.2017.06.010. Epub 2017/08/01. PubMed PMID: 28778502.
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53. Wang L, Xie X, Weir MD, **Fouad AF**, Zhao L, Xu HHK. Effect of bioactive dental adhesive on periodontal and endodontic pathogens. J Mater Sci Mater Med. 2016;27(11):168. Epub 2016/10/05. doi: 10.1007/s10856-016-5778-2. PubMed PMID: 27699574.
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C. Manuscripts submitted but not yet accepted:

1. Nunnelee N, **Fouad AF**. Assessing the Accuracy, Efficiency and Precision of Dynamic Guidance in Endodontic Microsurgery

D. Manuscripts in preparation

1. **Fouad AF**, Eid AA, Christian A, Slaczka DM, Macek MD, Gao F, Zeng D, Taylor F, Aminoshariae A. Association of Endodontic Disease and Cardiovascular Disease: A Systematic Review and Meta-Analysis of the Role of Study Design
2. **Fouad AF**, Roening C, Diogenes A, Torabinejad M, Hargreaves KM. Geographical variations in microbiota from immature teeth with necrotic pulp

E. Other Publications

1. Aminoshariae A, Azarpazhooh A, **Fouad AF**, Glickman GN, He J, Kim SG, Kishen A, Letra AM, Levin L, Setzer FC, Tay FR, Hargreaves KM. Insights into the July 2024 Issue of the JOE. *J Endod*. 2024 May 27:S0099-2399(24)00341-8. doi: 10.1016/j.joen.2024.05.017. Epub ahead of print. PMID: 38810929.
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62. P. Verma, **A.F. Fouad**. Assessment of endodontic components of access to care initiatives in the states of Maryland and Virginia. PR56; J Endod 2013: 39 (3):e34
63. J. Kim, W. Chiou, **A.F. Fouad**. Ultrastructural Examination of the Interface between root canal wall and calcium silicate-containing materials. PR28; J Endod 2013: 39 (3):e27
64. T.C. Blattner, B.A. Reece, E. Romberg, **A.F. Fouad**. Relationship between self-reported cardiovascular disease and the severity of endodontic pathosis. PR10; J Endod 2013: 39 (3):e23

65. Reece BA, Shuldiner A, Romberg E, **Fouad AF**. Identification of Diabetes using Dental Pulp Tissue: The relationship between advanced glycation end-products and HbA1c. *West Indian Med J* 2013; 62 (Suppl. 1): 23.
66. **Fouad AF**. Pulp regeneration in previously infected or uninfected root canal space, IADR Satellite Symposium on: "Pulp Regeneration - Translational Opportunities", San Francisco, IADR meeting in Seattle, Washington 2013.
67. P Verma, **AF Fouad**. What is the Public Health Need for Regenerative Endodontics? *J Endod* 2012: 38 (3): e47
68. JI Seltzer, **AF Fouad**. Is Endodontic Pathosis Associated With Cardiovascular Disease: A Systematic Review. *J Endod* 2012: 38 (3): e45
69. DC Ego-Osuala, L Negrón, S Gordon, **AF Fouad**. The Evaluation of Systemic Inflammation in Patients With Localized Versus Spreading Endodontic Infections. *J Endod* 2012: 38 (3): e42
70. JE Fein, DJ Caplan, ML Hicks, M Tolba, KD Silver, L Otis, **AF Fouad**. The Relationship Between Diabetic Control and Periapical Lesion Resolution. *J Endod* 2012: 38 (3): e37
71. MS Gomes, TC Blattner, **AF Fouad**, MA Reynolds. Can Apical Periodontitis Modify the Systemic Levels of Inflammatory Markers? Preliminary Results of a Systematic Review. *J Endod* 2012: 38 (3): e35
72. AW Orgel, P Chand, ML Hicks, R Nandakumar, M Tolba, H Chen, **AF Fouad**. Effects of Treatment, Microbial and Radiographic Variables on Endodontic Outcomes. *J Endod* 2012: 38 (3): e16
73. IGD Bennett, P Bellingham, LL Otis, TC Blattner, **AF Fouad**. The Effects of Local Antibiotic Administration on Endodontic Treatment Outcomes. *J Endod* 2012: 38 (3): e15
74. Hsiao WL, Li L, Liu Z, Jones C, Fraser CM, **Fouad AF**. Metagenomic study of the transformation of oral microbiome from normal oral cavity to acute endodontic infections. American Society of Microbiology Meeting, San Francisco, CA,
75. Gupta S., Hack G, **Fouad AF**. Effect of Tigecycline on tooth color. American Association of Dental Research Meeting, Tampa, FL, Abstract #661
76. Hsiao WL, Li L, Liu Z, Jones C, Fraser CM., **Fouad AF**. Transformation of oral microbiome from normal oral cavity to acute endodontic infections. International Human Microbiome Conference, Paris, France, March 2012; abstract #128, P. 96
77. P.J. Bellingham, I. Bennett, E. Romberg, **A. F. Fouad**. Influence of BioPure™ MTAD and Ultrasonic Irrigation on the Elimination of Bacteria From Root Canal Systems. *J Endod* 2011: 37 (3): e28
78. J.E. Fein, **A.F. Fouad**. Epidemiological and Diagnostic Variables Among Diabetics Within an Endodontic Patient Population. *J Endod* 2011: 37 (3): e30
79. J.I. Seltzer, M. Macek, **A.F. Fouad**. Feasibility Study of the Association of Endodontic Pathosis and Atherosclerosis. *J Endod* 2011: 37 (3): e37
80. T.C. Blattner, J.R. Revand, R. Nandakumar, **A.F. Fouad**. Relationship Between Periapical Lesion Size and the Development of Atheromatous Plaques in a Murine Atherosclerosis Model. *J Endod* 2011: 37 (3): e22
81. A.W. Orgel, P. Chand, M.L. Hicks, R. Nandakumar, S.M. Barbuto, B.J. Paster, **A.F. Fouad**. Effects of Treatment Factors and Residual Microbial DNA on Endodontic Treatment Outcomes at Two Years. *J Endod* 2011: 37 (3): e23
82. G. B. Jungermann, K. Burns, R. Nandakumar, **A.F. Fouad**. Antibiotic resistance in primary and persistent endodontic infections. *J Dent Res* 2011. Special issue. IADR Abstract #1383.

83. W.L. Hsiao, K. Li, Z. Liu, C.M. Fraser-Liggett, **A.F. Fouad**. Microbial transformation from normal oral flora to acute endodontic infections. *J Dent Res* 2011. Special issue. IADR Abstract #3513.
84. Li L, Hsiao WWL, Nandakumar R, Mongodin EF, Fraser-Liggett CM, **Fouad AF**. Bacterial pyrosequencing analysis in endodontic infections and their treatment. *J Dent Res* 2010. Special issue. IADR Abstract #238
85. A. Mischenko, N. Letwin, H. Chen, K. Willis, M. Sheth, M.L. Hicks, **A.F. Fouad**, and S.M. Gordon. Bupivacaine Upregulates MMP-1 Gene Expression Following Endodontic Surgery. *J Dent Res* 2010. Special issue. IADR Abstract #153
86. J. Russo-Revand, J. Seltzer, E. Romberg, R. Nandakumar, J. Babus, **A.F. Fouad**. Endodontic Disease and the Progression of Atherosclerotic Disease in a Mouse Model. *J Endod* 2010; 36 (3): 575.
87. A.W. Orgel, P. Chand, M.L. Hicks, R. Nandakumar, S.M. Barbuto, B.J. Paster, and **A.F. Fouad**. Effects of treatment factors and residual microbial DNA on endodontic treatment outcomes at 1-year. *J Endod* 2010; 36 (3): 554.
88. M. Jaouni, M. Tolba, E. Romberg, N. Nemieboka, **A. Fouad**. Penetration of systemic antibiotics into necrotic pulp space. *J Endod* 2010; 36 (3): 558
89. Shelton F., Romberg E., **Fouad A. F.** The Effects of Bisphosphonate Treatment on the Pathogenesis of Endodontic Pathosis. *J Endod* 2010; 36 (3): 556
90. Mischenko AV, Letwin N, Wills K, **Fouad AF**, Gordon SM. Bupivacaine Increases PGE2 Expression In-Vitro. *J Endod* 2009; 35 (3): 451.
91. Alongi DJ, **Fouad AF**, Huang GT. Effect of inflammation on pulp stem cell potency. *J Endod* 2009; 35 (3): 428.
92. Bennett IG, Nandakumar R, Paster BJ, Barbuto S, **Fouad AF**. Microbial Changes in Endodontic Infections Following Treatment Procedures. *J Endod* 2009; 35 (3): 444.
93. Li L, Hsiao WWL, Nandakumar R, Barbuto S, Mongodin EF, Paster BJ, Fraser-Liggett CM, **Fouad AF**. New Bacterial diversity in primary endodontic infection revealed by high-throughput deep coverage pyrosequencing technology. *J Endod* 2009; 35 (3): 436.
94. Orgel A, Chand P, Hicks ML, Nandakumar R, Barbuto S, Paster BJ, **Fouad AF**. Effects of residual microbial presence and diversity on endodontic outcomes. *J Dent Res* 2009. IADR Special issue. Abstract #953
95. Li L, Hsiao WWL, Nandakumar R, Barbuto S, Mongodin EF, Paster BJ, Fraser-Liggett CM, **Fouad AF**. Operational Taxonomic Unit analysis of bacterial communities in endodontic infections. *J Dent Res* 2009. IADR Special issue. Abstract #196
96. **Fouad AF**. Characterization of Microbial Content of the Diseased Dental Pulp Perioperatively. Pulp Biology and Regeneration Symposium. *J Dent Res* 2009. Special issue. IADR Abstract #129
97. Nandakumar R, Madayiputhiya N, **Fouad AF**. Proteomic analysis of endodontic infections by liquid chromatography-tandem mass spectroscopy. ICAAC/IDSA Joint Meeting of ASM and IDSA, 2008. Abstract #B-3810, 304(B), 80.
98. **Fouad AF**, Paster BJ, Nandakumar R, Barbuto S. Microbial diversity in primary and therapy-resistant endodontic infections. *J Dent Res* 2008. Special issue. IADR Abstract #1525
99. Nandakumar R, Tofigh M, Paster BJ, Barbuto S., **Fouad AF**. Diversity and Sources of Enterococcus Spp in Endodontic Infections. *J Dent Res* 2008. Special issue. AADR Abstract #751
100. Russo JA, Mirchandani R., Nandakumar R, **Fouad AF**. Molecular identification of E. faecalis and other bacteria in periapical lesions. *J Endod* 2008; 34 (3): 353.

101. Kholodenko, Y., Nandakumar, R., Hnidza, B., **Fouad, AF**. The effect of endodontic instrumentation techniques on the amount of periapically extruded bacteria. *J Endod* 2008; 34 (3): 363.
102. Dalrymple, G.B., Nandakumar, R., **Fouad, AF**. Identification of antibiotic resistance genes in primary and persistent endodontic infections. *J Endod* 2008; 34 (3): 350.
103. P. Chand, R. Nandakumar, **Fouad AF**. Single vs. Multiple visits: A molecular analysis of persistent bacteria following single vs. multiple visit preparation. *J Endod* 2008; 34 (3): 349.
104. **Fouad AF**, Nandakumar R, Paster BJ. Diversity of endodontic microflora in patients with different clinical variables *J Dent Res* 2008; March Special issue. Abstract #565
105. L. Zhu, M. Tolba, D. Arola, M. Salloum, J. Alvarez, F. Meza, and **A. Fouad**. Theoretical evaluation of tissue damage using Er,Cr:YSGG Laser for root canal preparation. Proceedings of ASME 2008 Summer Bioengineering Conference (BIO2008) June 25-29, Marriott Resort, Marco Island, Florida, USA
106. Tolba MS, Nandakumar R, Venezia R, **Fouad AF**. Antibiotic Susceptibility of Bacteria Isolated from Primary And Persistent Endodontic Infections. *J Endod* 2007; 33 (3): 341
107. Mireku AS, **Fouad AF**, Ross AM, Reid JI, Arola D. An In Vitro Investigation of the Influence of Age on Root Fracture Resistance. *J Endod* 2007; 33 (3): 354.
108. Melamed J, Mok L, Gordon S, **Fouad AF**, Gold MS. Mechanotransducers in the Human Dental Pulp. *J Endod* 2007; 33 (3): 336
109. Kakoli P, **Fouad AF**, Parksae S, Bajaj D, Arola D. The Effect of Age on Physical Properties of Radicular Dentin. *J Endod* 2007; 33 (3): 352
110. Nandakumar R, Whiting J., **Fouad AF**. Detection of *Chlamydia pneumoniae* and *Streptococcus pneumoniae* in endodontic infections. *J Dent Res* 2007; March Special issue. Abstract #2263
111. **Fouad AF**, Paster BJ, Nandakumar R, Barbuto S. Effects of treatment procedures on microbial diversity in endodontic infections. *J Dent Res* 2007; March Special issue. Abstract #2518
112. **Fouad AF**, Paster BJ, Nandakumar R, Barbuto S. Clonal analysis of bacteria from preoperative and pre-obturation endodontic infections. *J Dent Res* 2006; June Special issue. Abstract #2058.
113. Cook J, Nandakumar R, Patel S, Rajaski J, **Fouad AF**. Molecular and culture-based analyses of the persistence of polymicrobial inoculum in infected dentinal tubules after obturation. *J Endod* 2006; 32 (3): 254.
114. Mirchandani R, Nandakumar R, **Fouad AF**. Primer sensitivity: Can it influence the results of *Enterococcus faecalis* prevalence studies? *J Endod* 2006; 32 (3): 258.
115. Skane TL, Bajaj D, Cox ME, Arola DD, **Fouad AF**. Fatigue resistance of human root dentin exposed to intracanal calcium hydroxide. *J Endod* 2006; 32 (3): 244.
116. Murtaza G, **Fouad AF**, Molecular Analysis of Persistent Endodontic Microflora and Their Effect on Treatment Outcome. *J Endod* 2006; 32 (3): 240.
117. Cox ME, Reprogel RK, Bajaj D, Skane TL, **Fouad AF**, Arola DD. Tubule Orientation, Calcium Hydroxide and the Fatigue Strength of Dentin. *J Dent Res* 2006, March Special issue. Abstract #2058.
118. **Fouad AF**. Bacterial Diversity in Endodontic Infections. Joint Meeting of the International Union of Microbiological Societies, IUMS. XI International Congress of Bacteriology and Applied Microbiology. 33:B-1012, July 24, 2005.
119. Kaufman BM, Spangberg LS, **Fouad AF**. Enterococcus spp. in endodontically-treated teeth with and without periradicular lesions. *J Endod* 2005; 31 (3): 217.

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121. Kaufman BM, Spangberg LS, Barry J, **Fouad AF**. Endodontic Failure: Correlation to Microbiological and Clinical Factors. J Dent Res 2005, March Special issue. Abstract #1592
122. **Fouad AF**, Romberg E, Jones OJ. Web-based faculty calibration in predoctoral endodontics. J Dent Educ 2005; 69 (1):148.
123. **Fouad AF**, Ludlow M, Spångberg L, Zhu, Q, Burleson J, Tomasi E. A preliminary case-control analysis of periradicular healing in type 2 diabetics. J Endod 2004: 30 (4): 269.
124. **Fouad AF**, Zerella J, Barry J, Spangberg LS. Enterococci in therapy-resistant endodontic infections from diabetic and non-diabetic patients. J Dent Res 2004, March Special issue. Abstract #288.
125. **Fouad AF**, Jafarnia B, Barry J. Cloning and sequencing in endodontic microbial identification. J Dent Res 2003; June Special Issue: Abst # 1386.
126. **Fouad AF**, Kum K-Y, Clawson ML, Barry J, Abenoja C, Zhu Q, Caimano M, Radolf JD. *Eubacterium* spp. and *Streptococcus* spp. in endodontic infections. J Endod 2003: 29 (4):314.
127. Jafarnia B, Barry J, **Fouad AF**. Analysis of endodontic infections using RFLP. J Dent Res 2003; March Special Issue: Abst # 1728.
128. **Fouad AF**, Barry J, Caimano M, Clawson M, Zhu Q, Carver R, Hazlett K, Radolf JD. Bacterial identification in necrotic pulp of diabetic and non-diabetic patients. J Endod 2002; 28(3) 238.
129. **Fouad AF**, Barry J, Caimano M, Clawson M, Zhu Q, Carver R, Hazlett K, Radolf JD. The use of species- and genus-specific PCR primers to identify bacteria in endodontic infections. J Dent Res 2002; Special Issue: Abst # 1790
130. Russo JA, **Fouad AF**. Size and cytokine content of periapical lesions in NOD mice. J Dent Res 2000; Special Issue: 171 Abst # 263
131. **Fouad AF**, Barry J. Periapical lesion induction in Non-Obese Diabetic mice. J Dent Res 2000; Special Issue: 157 Abst #107
132. **Fouad AF**, Acosta AW. Cytokine expression in periapical lesions of LPS hypo-responsive and normal mice. J Endod 1999; 25(4) 286
133. **Fouad AF**, Reid L. Effect of using apex locators on selected endodontic treatment parameters. J Endod 1998; 24(4):292
134. Lago F, **Fouad AF**. Non-specific periapical immune response in normal and *scid* mice. J Dent Res 1998; 77 Special Issue A: Abst #442.
135. Zhu Q, Safavi KE, **Fouad AF**, Spångberg LS. Identification of apoptotic cells in human dental pulp. Poster presentation, European Endodontic Society Meeting, June 1997, Göteborg, Sweden.
136. Johnson LA, Wilcox LR, **Fouad AF**. A Substitution of computer-based patient simulations for actual patient experiences. J Dent Res 1997; 76 SI:209 Abst #1566.
137. **Fouad AF**. Histomorphometric analysis of periapical lesions in LPS-hypo-responsive and C3H-*scid* mice. J Dent Res 1997; 76 SI:58 Abst #360.
138. **Fouad AF**, D'Ambrosio JA. Computer-assisted Problem-Based Learning as an introduction to clinical dental medicine. J Dent Educ 1997; 61(2): 209.
139. **Fouad AF**. Integration of an electronic patient record in undergraduate endodontic education. J Dent Educ 1997; 61(2): 223.

140. **Fouad AF.** Bone-resorptive cytokines in early periapical lesions of scid mice. J Endod 1996; 22(4): 201.
141. **Fouad AF,** Parolin K, Kreutzer D. Histometric Analysis of Periapical Lesions in an Immune Deficient Murine Model. J Endod 1995; 21(4): 229
142. **Fouad AF,** Vento J. Detection of Bone Activity in Periapical Lesions using Radioactive Bone Scans. J Endod 1995; 21(4): 232
143. **Fouad AF,** Rivera EM, Walton RE. Penicillin as a supplement in resolving the localized acute apical abscess. J Endod 1995; 21(4): 230
144. **Fouad AF.** Evaluation of the Endo Dx.: an endodontic computer simulation program. J Dent Educ 1994; 58(2):144
145. **Fouad AF,** Rivera EM, Walton RE. Penicillin as a supplement in resolving the localized acute apical abscess. J Dent Res 1994; 73 SI:216 Abst #920
146. **Fouad AF,** Safavi K, Spångberg L: Computer-Assisted Instruction of Endodontic Diagnosis and Treatment Planning. J Dent Educ 1993; 57(2): 158
147. **Fouad AF,** Rivera EM. An evaluation of the Endex Apex Locator, with variation in foramen size. J Endod 1991; 17(4):186
148. **Fouad AF,** Hopson R, Martins J, Krell KV, Drews T, Jensen M, Walmsley D. The effects of selected electronic dental instruments on patients with cardiac pacemakers. J Endod 1990; 16(4):188
149. **Fouad AF,** Rittman BR, Walton RE, Krell KV. A Study of the healing of induced periapical lesions following root canal treatment in Ferrets. J Endod 1990; 16(4):197
150. Walton RE, **Fouad AF.** Flare-ups: incidence and related factors. J Dent Res 1990 (Special issue) Abst#1530 70:300
151. **Fouad AF.** A clinical evaluation of five electronic apex locators. Abst #19. J Endod 1989; 15 (4):174.
152. **Fouad AF,** Newman D, Krell K. Quantitative analysis of dentinal tubule patency following root surface treatments. Abst #1246, J Dent Res 1989 (special issue) 68:337.
153. Krell K, **Fouad AF,** Newman D. Lp of radicular dentin scaled with two different instruments. Abst #502, J Dent Res 1989 (special issue) 68: 224.
154. Newman D, **Fouad AF,** Krell K. SEM analysis of planed roots with/without dietary acid exposure. Abst # 1826, J Dent Res 1989 (special issue) 68: 410.

POSTER EXHIBITS: (see abstracts)

ORAL PRESENTATIONS:

A. Scientific Papers and Invited Presentations presented at national and international meetings (other than abstracts)

National Presentation:

1. April 18, 2024: Role of Host Inflammatory Mediators in the Outcomes of Vital Pulp Therapy. Invited oral presentation/panel discussion AAE 2024 Meeting in Los Angeles, CA.
2. April 17, 2024: Role of Systemic Medications in the Pathogenesis/Healing of Endodontic Diseases/Conditions. Invited oral presentation AAE 2024 Meeting in Los Angeles, CA.

3. April 17, 2024: Endo Voices Podcast: Systemic Medications and Endodontic Outcomes: Invited AAE Podcast Interview, AAE 2024 Meeting in Los Angeles, CA.
4. March 15, 2024: Residual Microflora and Treatment Outcomes of Immature Teeth with AP. Invited Lunch and Learning Session, Session ID 0217; IADR Meeting, New Orleans, LA Table #4.
5. March 8, 2024: Novel Concepts and Changing Paradigms in Endodontics. The R. J. Shankle Memorial Lecture at the Adams School of Dentistry, University of North Carolina at Chapel Hill.
6. December 1, 2023: Contemporary Thoughts on Vital Pulp Therapy and Regenerative Endodontic Therapy. The John I. Ingle International Endodontic Symposium, University of Southern California, Live Online Webinar.
7. October 4, 2023: Assessing Pulp Health in Deep Caries & Efficacy of VPT with Tricalcium Silicates. American Academy of Cariology Annual Meeting: Biomaterials, Therapeutics in the World of Dental Caries, San Diego, CA.
8. May 6, 2023: Microbial Factors in Apical Periodontitis. Invited Presentation, AAE Meeting, Chicago, IL.
9. May 5, 2023: Contemporary Perspectives on Vital Pulp Therapy. Invited presentation on International Panel Presentation, AAE Meeting, Chicago, IL
10. May 4, 2023: Reconciling Advances in Non-surgical Endodontic Treatment with Sound Scientific Evidence. Submitted Presentation, AAE Meeting, Chicago, IL
11. August 19, 2022: The Annual Review Process and Succession Planning for Faculty. Presentation at the Educator's Workshop for Chairs of Endodontics Departments, sponsored by the American Association of Endodontists, Chicago, IL.
12. April 28, 2022: Submitted presentation: Does Microbiological Analysis reveal Treatment Efficacy and predict Treatment Outcomes? American Association of Endodontists AAE 2022 Meeting, Phoenix, AZ.
13. February 2, 2022: Invited presentation: Update on Dental Trauma, sponsored by the Colgate, Oral Health Network for Professional Education and Development and hosted by Dr. Ira Lamster, former Dean Columbia University and Professor SUNY Stony Brook. (Approximately 8,000 attendees).
14. November 5, 2021: Invited Presentation: Infection Control: Have there been any major changes with the COVID-19 pandemic? American Association of Endodontists' Insight Track Meeting. San Diego, California
15. April 24, 2021 Endodontic Outcomes What should we measure? (Panel discussion with Drs. Amir Azarpazhooh, Shannon Patel, and Domenico Ricucci). AAE 2021 Annual Session (Online Presentation)
16. April 23, 2021 Principles in Vital Pulp Therapy. (Panel Discussion with Dr. Domenico Ricucci) AAE 2021 Annual Session (Online Presentation)
17. April 22, 2021 Contemporary Microbial Analysis and Antimicrobial Considerations in Endodontic Therapy (Panel Discussion with Dr. Brenda Gomes). AAE 2021 Annual Session (Online Presentation)
18. April 15, 2021 Contemporary perspectives on vital pulp therapy and pulp regeneration. Penick Study Club, Washington, DC. Online Presentation

19. January 6, 2021 Effect of Dental Caries on the Pulp: National Presentation to all Advanced Endodontics Programs sponsored by the American Association of Endodontists.
20. August 10, 2019: Stand-alone versus Mega-departments. Invited presentation at the Educational Workshop for Chairs of Endodontics Departments, sponsored by the American Association of Endodontists, in Chicago, IL.
21. April 12, 2019: Preliminary Analysis of Microbiological Data in a Clinical Trial of Regenerative Endodontic Treatment. Annual Session of the American Association of Endodontists-AAE19, Montreal, Canada.
22. September 21-22, 2018: Five Invited presentations (one of two featured speakers), Annual session of the California State Association of Endodontists, Newport Beach, CA.
23. April 28, 2018: Antibiotics in Endodontics: Have the Recommendations Changed? Annual Session of the American Association of Endodontists-AAE18, Denver, CO.
24. March 23, 2018: Keynote Address: The Role of Infection and Disinfection in Dental Pulp Regeneration, AADR/CADR 47th Annual Meeting, Fort Lauderdale, FL.
25. April 29, 2017: Does the Study of the Endodontic Microbiome Provide any Clinically Relevant Information? Annual Session of the American Association of Endodontists-AAE17, New Orleans, LA.
26. November 19, 2016: Examining endodontic infections using contemporary microbiological technologies. 15th International Endodontics Symposium, University of Southern California, Los Angeles, CA.
27. August 17, 2016: Evaluation of Faculty and Staff. Invited presentation at the Educational Workshop for Chairs of Endodontics Departments, sponsored by the American Association of Endodontists, in Chicago, IL.
28. April 8, 2016: Endodontic Disease and Systemic Disease: Association versus Causation. Annual Session of the American Association of Endodontists, San Francisco, CA.
29. April 7, 2016: AAE-2016 Booth Topical Expert Review: Systemic health implications on endodontic disease and prognosis, San Francisco, CA.
30. November 6, 2014: Endodontics in the Digital Age: Basic Principles and Future Directions. Meeting of the American College of Prosthodontists, New Orleans, LA.
31. May 3, 2014: Endodontic Outcomes for Diabetic Patients: The Facts! Annual Session of the American Association of Endodontists, Washington, D.C.
32. May 1, 2014: Endodontic Microbiome: Contemporary Perspectives on Endodontic Microbiology. Annual Session of the American Association of Endodontists, Washington, D.C.
33. November 1, 2013: Myths and Realities: Antibiotic Prophylaxis. Represented the specialty of endodontics on a panel discussion at the ADA Meeting, New Orleans, LA.
34. August 16, 2013: How Changes in Compliance Impact Corporations: Academic Perspective. AAE Chairs of Endodontics in U.S. Schools Workshop, Chicago, IL.
35. August 16, 2013: Developing a Good Faculty Team. AAE Chairs of Endodontics in U.S. Schools Workshop, Chicago, IL.
36. August 1, 2013: Microsurgery Etiological Factors: Biofilm/Persistent Apical Periodontitis. Michigan Association of Endodontists, Summer Conference, Bay Harbor, Michigan.

37. April 17, 2013: Could Endodontic Disease Contribute to Systemic Disease? Track keynote presentation at the Annual Session of the American Association of Endodontists, Honolulu, Hawaii.
38. October 14, 2012: University of Connecticut Symposium on Endodontic Biology: Contemporary Evidence for the Interrelationship of Endodontic Infections and Systemic Disease, Avon, CT.
39. May 24, 2012: The Relationship Between Endodontic Infections and Chronic Systemic Disease. Northern California Academy of Endodontics; San Francisco, CA.
40. April 21, 2012: American Board of Endodontics, Boardwalk Presentation. Annual Session, American Association of Endodontists, Boston, MA.
41. August 19, 2011: Education in Advanced Endodontics Programs: Panel 3: Impact on Practice. Panel Discussion Leader. AAE Endodontic Program Directors Meeting, Chicago, IL.
42. April 16, 2011: Teaching the Essence of Endodontic Microbiology: How is it Being Taught to Predoctoral Students. Annual Session, American Association of Endodontists, San Antonio, TX.
43. April 15, 2011: American Board of Endodontics, Boardwalk Presentation. Annual Session, American Association of Endodontists, San Antonio, TX.
44. April 15, 2011: Systemic Health Effects of Endodontic and Other Dental Diseases. Annual Session, American Association of Endodontists, San Antonio, TX.
45. October 29, 2010: Endodontic Microbial Analysis and Contemporary Clinical Outcomes. Gianelli-Schilder Symposium, Boston University, Boston, MA.
46. August 20, 2010: Challenges facing the American Board of Endodontics. AAE Chairs of Endodontic Departments Meeting, Chicago, IL.
47. August 20, 2010: Conflict of interest policies between corporations and educational institutions. AAE Chairs of Endodontic Departments Meeting, Chicago, IL.
48. August 16, 2010: Presentation on updates from the American Board of Endodontics--Meeting of Specially Organizations and Boards with Council on Dental Education and Licensure, Chicago, IL.
49. August 15, 2010: Recent changes and updates from the American Board of Endodontics—Annual Meeting of Dental Specialty Boards, Chicago, IL.
50. May 26, 2010: Endodontic treatment outcomes: clinical and microbiological factors. Meeting of the Michigan Association of Endodontists, University of Detroit Mercy, Detroit, MI.
51. February 21, 2010: Endodontic treatment outcomes: important microbial and clinical factors. Al Frank and Dudley Glick Study Club, UCLA, California.
52. February 19, 2010: Dental Pulp Infection and Disinfection: Current Thoughts and New Directions. 7th Annual Conference on Regenerative Biology, Nova Southeastern University.
53. November 21, 2009: The Interrelationship of Endodontic Pathosis and Systemic Disease. The USC 8th International Endodontic Symposium, University of Southern California, Los Angeles, CA.
54. November 12, 2009: Persistent Endodontic Disease: Microbial Analysis and Treatment Recommendations. Edgar Coolidge Endodontics Study Club, Chicago, IL.

55. May 1, 2009: State-of-the-Art Analysis of Endodontic Microflora: Does it Provide Valuable Clinical Insights? Annual Session, American Association of Endodontists, Orlando, FL.
56. April 2, 2009: Organized, and Presented in Symposium: Dental Pulp Degeneration and Regeneration, IADR Meeting, Miami, FL.
57. November 15, 2008: The Influence of Clinical and Microbial Factors on Endodontic Treatment Outcomes. Annual Meeting of the Institute of Oral Biology, Palm Springs, CA.
58. November 14, 2008: Endodontics: Its Relationship to Systemic Diseases. Annual Meeting of the Institute of Oral Biology, Palm Springs, CA.
59. August 9, 2008: Endodontic-Systemic Interactions. Meeting of the College of Diplomates of the American Association of Endodontists, Lenox, MA.
60. April 12, 2008: Computer Simulations in Endodontic Education. Annual Session, American Association of Endodontists, Vancouver, BC.
61. April 12, 2008: Is calcium hydroxide still necessary in the management of cases with lesions? Annual Session, American Association of Endodontists, Vancouver, BC.
62. March 1, 2008: Factors Affecting Endodontic Treatment Outcomes: Microbiological and Clinical Correlates. AAE District II Winter Symposium At the University of Medicine & Dentistry, New Jersey. Presentation and Webcast/Webinar.
63. April 28, 2007: Antibiotics, are they still necessary? An Evidence-based review. Annual Session, American Association of Endodontists, Philadelphia, PA.
64. April 27, 2006: Endodontic infections: current concepts and future directions. Levin-Melnick Annual Symposium, University of Connecticut Health Center, Farmington, CT.
65. March 30, 2006: Endodontic Disease and Systemic Disease: Is there a connection? Annual Session, American Association of Endodontists, Honolulu, Hawaii.
66. May 17, 2005: Endodontic microbiology and treatment outcome. Coolidge Study Club, Chicago, IL.
67. April 7, 2005: Endodontic microbiology from genomic research to the clinic: Annual Session, American Association of Endodontists, Dallas, Texas.
68. September 28, 2002: Endodontic Infections in Diabetic Patients. Grossman Endodontic Study Club, Philadelphia, PA.
69. March 4, 2002: The use of Computer Simulation Programs in Endodontic Education. Program Speaker: Endodontics Section of the American Dental Education Association Meeting, San Diego, CA.
70. March 30, 2001: Limited Attendance Seminar, Meeting of the American Association of Endodontists, New Orleans, LA: The use of an Endodontic Electronic Record system to document endodontic disease characteristics and treatment outcome.
71. March 1998: The pathogenesis of periapical lesions: Recent investigations using murine models. Lunch and Learning Presentation; AADR, Minneapolis, MN.

International Presentations

1. December 16, 2022: Contemporary Update on the Management of Dental Trauma, School of Stomatology, Wuhan University, China (online presentation with 3008 attendees)

2. May 27, 2022: Endodontics and Systemic Disease: Current Update. 50th National Congress, Mexican Association of Endodontics, Puebla, Mexico
3. May 27, 2022: Effectiveness of Contemporary Technologies in Endodontics. 50th National Congress, Mexican Association of Endodontics, Puebla, Mexico
4. May 27, 2022: Endodontic Diagnostic and Management Challenges. 50th National Congress, Mexican Association of Endodontics, Puebla, Mexico
5. May 6, 2022: Evidence for the effective usage of antibiotics in Endodontics. Ontario Dental Association Annual Spring Meeting, Toronto, Canada
6. October 12, 2021: Endodontic treatment and Dental Trauma: Critical treatment problems and their management. Symposium: Dental Trauma state of the art. Jens Ove Andreasen. IN MEMORIAM, organized by Dental Trauma Guide and IADT (Online Presentation).
7. September 22, 2021: Influence of the Microbiology of Traumatized Teeth on Endodontic Treatment Success. FDI World Dental Federation, and the Australian Dental Association, Sydney, Australia (Online Presentation)
8. August 5, 2020: IADT (International Association of Dental Traumatology) Webinar: Guidelines for the Management of Traumatic Dental Injuries – Avulsion.
9. March 6, 2020: Pathogenesis of Endodontic Disease, Differential Diagnosis and Endodontics-Systemic Link. Invitation to give an all-day course by the Danish Dental Association and Aarhus University, Denmark, as part of a mini residency in Endodontics to Danish Dentists.
10. December 12, 2019: Keynote Presentation: Endodontic antimicrobial strategies across the spectrum from Vital Pulp Therapy to Pulp Regeneration. PanEndo Conference, from Africa to the World, Cairo Egypt.
11. June 24, 2019: Keynote Speaker, Pulp Biology and Regeneration Satellite Symposium following IADR Meeting in Vancouver, CA: Contemporary Microbial and Antimicrobial Analysis in Regenerative Endodontic Therapy. Portland, OR.
12. August 17, 2018: Microbiological Aspects of Traumatic Injuries. Invited Keynote Presentation at the World Congress on Dental Traumatology, San Diego, California.
13. July 28, 2018: Systemic disease and endodontic outcomes: What do we know? Invited presentation at a symposium sponsored by the Pulp Biology and Regeneration Group, IADR Meeting, London, UK.
14. April 4, 2018: Pathogenesis of Endodontic Disease, Differential Diagnosis and Endodontics-Systemic Link. Invitation to give an all-day course by the Danish Dental Association and Aarhus University, Denmark, as part of a mini-residency in Endodontics to Danish Dentists.
15. December 7, 2017: “The role of Endodontic Infections in tooth health, systemic health and public health” at the Pan Arab Endodontics Conference in Cairo, Egypt.
16. November 24, 2017: “Antibiotics in Endodontics” Annual Meeting of the German Association of Endodontology and Dental Traumatology (DGET) meeting in Berlin, Germany.
17. November 23, 2017: “Endodontic Infections and Systemic Disease, can one influence the other?” Annual Meeting of the German Association of Endodontology and Dental Traumatology (DGET) meeting in Berlin, Germany.
18. September 14, 2017: Antibiotics in endodontic treatment? Invited Keynote presentation, European Society of Endodontology Meeting, Brussels, Belgium.
19. August 12, 2016: Keynote lecture: Regeneration or Repair: Treatment of the traumatized immature tooth with necrotic pulp. 19th World Congress on Dental Traumatology and the 5th Trans-Tasman Endodontic Congress.

20. August 12, 2016: Microbial factors and antimicrobial strategies in regenerative endodontic procedures. 19th World Congress on Dental Traumatology and the 5th Trans-Tasman Endodontic Congress.
21. June 27, 2016: Preclinical Strategies to Assess Infection and Disinfection for Pulp Regeneration. Pulp Biology and Regeneration Satellite Symposium in Nagoya, Japan, following IADR Meeting in Seoul, Republic of Korea.
22. February 21, 2016: Endodontic treatment outcomes: Microbiological and Clinical factors. 30th annual conference of the College of Endodontics of Guanajuato A.C., Guanajuato, Mexico.
23. February 20, 2016: Pulp Regeneration in Previously Infected and Uninfected Root Canal Space. 30th annual conference of the College of Endodontics of Guanajuato A.C., Guanajuato, Mexico.
24. February 19, 2016: The Association of Endodontic Disease and Systemic Disease. 30th annual conference of the College of Endodontics of Guanajuato A.C., Guanajuato, Mexico.
25. September 18, 2015: Could Endodontic Disease Contribute to Systemic Disease? Invited Keynote presentation, European Society of Endodontology Meeting, Barcelona, Spain.
26. March 14, 2015: Pulpal infection and its management for dental tissue regeneration. PBRG Symposium: Infection, Inflammation and Regeneration. International Association of Dental Research Meeting, Boston, MA.
27. August 20, 2013: Endodontic infections and systemic disease: Is there a bidirectional relationship? OMICS Group International Conference on Dental and Oral Health, Las Vegas, NV.
28. May 25, 2013: Effectiveness of Contemporary Technologies in Endodontic Therapy. Sixth International Congress on Dento-alveolar infections, Colombian Institute of Endodontics, Bogota, Colombia.
29. May 24, 2013: Endodontic Microbiology & Systemic Disease. Sixth International Congress on Dentoalveolar infections, Colombian Institute of Endodontics, Bogota, Colombia.
30. March 26, 2013: Pulp Regeneration in Previously infected or uninfected root canal space, IADR Satellite Symposium on: "Pulp Regeneration - Translational Opportunities", San Francisco, following IADR meeting in Seattle, Washington.
31. March 23-26, 2013: Participated in Organization of the IADR Satellite Symposium on: "Pulp Regeneration - Translational Opportunities", San Francisco, following IADR meeting in Seattle, Washington.
32. January 30, 2013: Effective Management of Endodontic Emergencies. Twenty fourth conference of the Saudi Dental Society, Riyadh, Saudi Arabia.
33. January 29, 2013: The Relationship of Endodontic Disease and Systemic Disease. Twenty fourth conference of the Saudi Dental Society, Riyadh, Saudi Arabia.
34. January 28, 2013: Concepts and Technologies in Endodontic Therapy. Six hour Continuing Education course at the 24th conference of the Saudi Dental Society, Riyadh, Saudi Arabia.
35. November 7, 2012: Contemporary Management of the Endodontic Patient: All-Day Course, The International Conference & Exhibition, Technological Advancement in Dentistry, Manama, Kingdom of Bahrain.
36. November 6, 2012: Endodontics & Systemic Disease: Current Concepts and Evidence: Keynote Speech: The International Conference & Exhibition, Technological Advancement in Dentistry, Manama, Kingdom of Bahrain.
37. January 21, 2012: Microbial Challenge for Pulp Regeneration, 20th Swiss Society of Endodontology Meeting, Lausanne, Switzerland.

38. October 18, 2011: Assessment of Endodontic Treatment Outcomes, The Third National Guard & First Saudi Endodontic Society Conference, Riyadh, Saudi Arabia.
39. October 17, 2011 Clinical Effectiveness of Contemporary Root Canal Preparation Technologies, The Third National Guard & First Saudi Endodontic Society Conference, Riyadh, Saudi Arabia.
40. July 19, 2010: Microbial Challenge for Pulp Regeneration, Satellite Symposium on Pulp Tissue Injury and Regeneration, Geneva, Switzerland.
41. July 18-20, 2010: Participated in Organization of the Satellite Symposium on Pulp Tissue Injury and Regeneration, Geneva, Switzerland, following IADR meeting in Barcelona, Spain.
42. August 17, 2008: Clinical, microbiological and systemic factors that affect endodontic treatment outcomes. Fourth International Dental Conference by Uniocompo, Campinas, Brazil.
43. September 7, 2007: Recent Advances in Endodontic Microbiology. European Society of Endodontology Meeting, Istanbul, Turkey.
44. October 29, 2005: Antibiotics: Do They Reduce Endodontic Pain? Danish Dental Association's Symposium of Endodontics, Aarhus, Denmark.
45. October 28, 2005: Electronic Apex Locators in Endodontic Treatment. Danish Dental Association's Symposium of Endodontics, Aarhus, Denmark.
46. February 8 - 10, 2001: Main Speaker in a three-day course at the annual meeting of the Endodontic Society of the State of Guanajuato, Guanajuato, Mexico. Topics covered included: Endodontic Prognosis, Management of Endodontic Emergencies, Effective Rotary Instrumentation, Digital Radiography and the Restoration of Endodontically Treated Teeth.
47. November 16, 2000: Current Concepts and Technologies in Endodontic Orthograde Treatment. Twelfth International Dental Congress, Alexandria, Egypt.
48. October 22 and 23, 1999: Main Speaker in a two-day course at the annual meeting of the Endodontic Society of the State of Jalisco, Guadalajara, Mexico. Topics covered included: Endodontic Pathology, Diagnosis, Technique, Prognosis, Retreatment and the Endodontic Digital Office.
49. October 12, 1996: Development of an Integrated Multimedia Curriculum, Interfaced with an Electronic Clinical Record, in Endodontics. International Meeting on Computer Applications in Dentistry and Dental Practice, Montreal, Canada.
50. July 1992: The use of Electronic Apex Locators. Invited Oral Presentation: Workshop on Measurement Techniques in Endodontics and Pulp Biology, Satellite Symposium of the IADR Meeting, Glasgow, Scotland.

B. Scientific Presentations at local and regional meetings

1. April 6, 2024: Pulpotomy as a definitive treatment for permanent teeth: Contemporary approach for the management of deep caries. PBRN 2024 Annual Meeting for the South-Central Region, Birmingham, AL
2. April 21, 2023: Contemporary Endodontic Concepts & Technologies. ALDA District 8 Presentation, Decatur, Alabama. (all-day presentation)
3. November 2, 2022: Contemporary Perspectives on Vital Pulp Therapy and Regenerative Endodontic Therapy. Minnesota Association of Endodontists, Minneapolis, MN.
4. June 16, 2022: New Technologies in Endodontics. Where is the Evidence? Northern California Academy of Endodontics, San Francisco, California

5. May 18, 2022: Contemporary Concepts and Technologies in Endodontic Diagnosis and Treatment. Saratoga Dental Congress, 2022, Saratoga Springs, New York.
6. February 5, 2021: Contemporary Concepts and Technologies in Endodontics. Alabama Association of Endodontists, Alumni Day, University of Alabama at Birmingham.
7. May 15, 2018: Maximizing Endodontic Treatment Outcomes: Concepts, Practices and Technologies. Raleigh-Wake County Dental Society, Raleigh, NC.
8. January 11, 2018: Novel topical antimicrobials in endodontic infections. Office of Commercialization and Economic Development (OCED) Presentation, UNC, Top of the Hill restaurant, Chapel Hill.
9. October 27, 2017: Effective Management of Endodontic Emergencies, The 6th Annual Matthew Wood Prosthodontics Symposium, UNC Chapel Hill, NC.
10. April 7, 2017: Microbiome analysis in endodontic infections. First Friday Microbiome Seminars, UNC, Chapel Hill, NC.
11. February 21, 2017: Pulp Regeneration: Old concepts or Paradigm shift. Durham-Orange Dental Society, Durham, NC.
12. September 20, 2016: The microbial challenge to pulp regeneration. Charlotte Dental Society Meeting, Charlotte, NC.
13. September 8, 2015: Primary Care in the Dental Office: The Case for Diabetes Mellitus. 2015 Maryland Chronic Disease Conference: Promoting Partnerships and Preventing Chronic Disease, Baltimore, MD. The conference was sponsored by the Maryland Department of Health and Mental Hygiene.
14. November 13, 2014: The Microbial Challenge to Pulp Regeneration. Penick Endodontics Study Club, Bethesda, MD.
15. October 15, 2013: Contemporary Endodontic Concepts and Technologies. Alpha Omega Dental Society, Bethesda, MD.
16. March 3, 2012: Influence of bacteria on Endodontic success. Second annual endodontic seminar; Columbia Country Club, Washington, DC.
17. February 8, 2011: Maximizing Endodontic Prognosis: Current Concepts and Strategies. District of Columbia Dental Society Meeting.
18. December 16, 2008: Recent Concepts and Effective Technologies in Endodontic Treatment. Dean's Faculty Presentation, Dental School, University of Maryland.
19. November 13, 2007: Factors affecting endodontic treatment outcomes. Putuxent Dental Society Meeting, Waldorf, MD.
20. November 6, 2007: Factors affecting endodontic treatment outcomes. Emmott-Hernandez Study Club, Towson, MD.
21. March 14, 2007: Endodontics and Implant Dentistry. Harford and Cecil County Implant Dentistry Study Club, Bel Air, MD.
22. February 15, 2007: Endodontic microbiology: Is it still relevant? Penick Study Club, Bethesda, MD.
23. April 24, 2006: Enhancing Endodontic Treatment Outcomes. Howard County Dental Society Meeting, Columbia, MD.
24. March 20, 2006: Enhancing Endodontic Treatment Outcomes. Harford County Dental Society Meeting, Bel Air, MD.

25. October 20, 2005: Endodontic treatment outcomes: microbiological correlates. Speaker for meeting of the Maryland State Endodontic Association, Baltimore, MD.
26. November 6, 2001: Endodontic treatment outcomes, digital radiography and rotary instrumentation. Department of Dentistry, New Milford Hospital, New Milford, Connecticut.
27. February 9, 2000: Endodontic Update for the Pediatric Dentist. Connecticut Society for Pediatric Dentistry.
28. May 1998: Dental Education and Practice in the Digital Era. Table Clinic: Connecticut State Dental Association Annual Meeting, Hartford, CT.
29. January 4, 1996: Update on modern endodontic practice. New Haven Dental Society Meeting. New Haven, CT.
30. January 11, 1995: Management of Endodontic Flare-ups. Part of an all day course sponsored by the Connecticut State Dental Association, entitled: Innovative Endodontics for the 90's. Cromwell, CT.
31. January 11, 1995: Principles of Endodontic Diagnosis. Part of an all-day course sponsored by the Connecticut State Dental Association, entitled: Innovative Endodontics for the 90's. Cromwell, CT.
32. November 1993: Electronic Apex Locators and Endosonics. Connecticut Association of Endodontists semi-annual meeting. Berlin, CT.
33. November 1992: Alternative methods of working length determination. University of Connecticut Endodontic Study Club, Farmington, CT.

C. Invited workshops, etc. at national postgraduate courses and meetings at other universities.

1. November 3, 2022: Endodontic Microbiology: Endodontics Postgraduate Program, University of Minnesota, Minneapolis, MN.
2. June 6-7, 2022: Postgraduate Endodontics Exit Oral Examination, University of California at Los Angeles, Los Angeles, CA.
3. May 4, 2022: Endodontic Microbiology, Endodontics Postgraduate Endodontics Program, University of Nebraska, Lincoln, NE (Online presentation)
4. April 16, 2021: Contemporary concepts and technologies in Endodontics. Presentation to the Naval Postgraduate Endodontics Program, Bethesda, MD as well as Advanced Programs at the University of Maryland and Virginia Commonwealth University.
5. March 9, 2018: Endodontic Infections and Systemic disease, Endodontic Treatment Outcomes. All Day Course U2 Endodontic Study Club to Endodontists, UCSF and UOP residents and faculty, San Francisco, CA.
6. September 21, 2015: Endodontic treatment outcomes: Microbiological and Clinical factors School of Dentistry, Universitat Internacional de Catalunya, Barcelona, Spain.
7. May 11, 2015: Future of Endodontic Education: Graduate & Undergraduate Education. University of North Carolina, Chapel Hill, NC.
8. April 30, 2015: Future of Cariology, Restorative Sciences & Endodontics. University of Michigan, Ann Arbor, Michigan.
9. March 17, 2015: The Endodontic Microbiome. Harvard School of Dental medicine, Boston, MA.

10. November 14, 2014: Presented a six-hour course on: Endodontic treatment outcomes in patients with complex medical history: Microbiological and Clinical factors. Naval Dental Postgraduate School, Bethesda, MD.
11. March 14, 2014: Endodontic Microbiology. A Four hour presentation to postgraduate program in Endodontics at Loma Linda University, Loma Linda, CA.
12. August 17, 2012: Endodontic Infections: Relationship to Treatment Outcomes & Systemic Health. Graduation Day Keynote Presentation, Endodontics Program, Department of Endodontics, University of Texas Health Sciences Center San Antonio.
13. October 29, 2011: Management of Sequelae Following Traumatic Injuries. 7th Distinguished Lecture Series, UCLA School of Dentistry, Section of Endodontics.
14. October 29, 2011: Significance of Traumatic Injuries in Endodontics. 7th Distinguished Lecture Series, UCLA School of Dentistry, Section of Endodontics.
15. May 25, 2011: Endodontic Disease and Systemic Disease: Is there a Connection? Department of Endodontics, University of Pennsylvania.
16. April 22, 2011: The Interrelationship of Endodontic Pathosis and Systemic Disease. Endodontics Program, University of Michigan.
17. April 22, 2011: Endodontic Infections: Recent Findings and New Directions. Faculty Noon Seminar, Dental School, University of Michigan.
18. February 22, 2010. Endodontic Microbiology: clinical relevance and new directions. UCLA, California.
19. May 22, 2009: Endodontic Microbiology: clinical relevance and new directions. Irving Naidorf Memorial Lecture, Columbia University, New York, NY.
20. March 27, 2009: Persistent and Recurrent Root Canal Infections. Advanced Endodontics Program, University of Toronto, Toronto, Canada.
21. January 18, 2008: Microbial and Clinical variables in Endodontic treatment. Army Endodontic Residency, Fort Gordon, Georgia. Simulcast to Army Residency in Fort Bragg, N.C.
22. October 18, 2007: Endodontic Treatment Outcomes: Microbiological and Systemic Correlates: All Day Course to Endodontists, UCSF Dental School, San Francisco, CA.
23. February 16, 2007: Clinical, Microbiological and Systemic Factors Affecting Endodontic Treatment Outcomes. Naval Postgraduate Dental School, all day course, Bethesda, MD.
24. September 29, 2006: Endodontic Treatment Outcomes: Microbiological and Systemic Correlates. All Day Alumni course: University of Nebraska, Lincoln, Nebraska.
25. February 22, 2006: Endodontic Treatment Outcomes: The Interaction of Microbial and Clinical Elements. Postgraduate Endodontics, University of Pennsylvania, Philadelphia, PA.
26. January 10, 2006: The Diversity of Endodontic Microflora and its Clinical Implications. Dean's Seminar, School of Dentistry, University of Medicine and Dentistry in New Jersey.
27. October 1, 2005: Endodontic treatment outcomes: Microbiological and other correlates. All Day Alumni course. University of Texas Health Sciences Center, San Antonio, Texas.
28. January 22, 2004: Endodontic infections in the post-genomic era. School of Dentistry, University of Maryland.
29. September 5, 2003: The Determination of Endodontic Treatment Outcomes. Lecture to Endodontics Department and Postgraduate Program, University of Texas Health Sciences Center, San Antonio, Texas.

30. November 4, 2002: Current Microbiology for the Endodontist. Lecture to Endodontics Postgraduate Program, University of Florida, Gainesville, Florida.
31. November 4, 2002: Pathogenesis of Periapical Lesions. Deans Seminar Series, University of Florida, Gainesville, Florida.
32. February 5, 2002: Lecture to Endodontics Postgraduate Program, UMDNJ, Newark, NJ: Digital radiography and rotary instrumentation in endodontics.
33. February 5, 2002: Pathogenesis of Periapical Lesions. Oral Biology Research Seminar, School of Dentistry, UMDNJ, Newark, NJ.
34. November 15, 2001: Dental Dean's Seminar, University of Connecticut Health Center: Endodontic infections in diabetic patients.
35. June 4-5, 2001: External Examiner, Postgraduate Endodontics Program, University of Iowa. Presentation: Current Concepts on the Pathogenesis of Periapical Lesions.
36. December 1999: Periapical lesions in non-obese diabetic mice; in Conference on Oral Disease and Diabetes Mellitus, organized by NIDCR/NIH.
37. December 1998: Dentin Hypersensitivity: Etiology, Pathogenesis and Management. Dean's Seminar Series, and Pulp Biology Postdoctoral course, New York University, School of Dental Medicine.
38. April 28, 1996: Recent innovations in the principles and practice of endodontics. Faculty Retreat, School of Dental Medicine, University of Connecticut, Southbury, CT.
39. October 10, 1995: Computer-Assisted Instruction in Endodontic Education. Dental Dean's Seminar Series, University of Connecticut Health Center.

ADDITIONAL FORMS OF SCHOLARSHIP:

A. Films

B. Educational Media

1. Endodontics Multimedia Curriculum: (1998)

(Joint authorship with Drs. Larz Spångberg and Kamran Safavi, Department of Endodontology, SDM, University of Connecticut).

A CD ROM-based multimedia program that combines an endodontics textbook with illustrative images, endodontic patient simulations, technique demonstrations and literature references. Program produced in July 1998, distributed to all third and fourth year students, endodontic residents, endodontic part-time faculty, department heads, the SDM administration and Information System administrators.

2. FDM/PBL (1995)

(Joint authorship with Dr. Joseph D'Ambrosio, Department of Oral Diagnosis, SDM, University of Connecticut).

This was a computer-based, problem-based learning program that was intended to introduce first-year dental students to a multi-disciplinary dental case. This program was used as a part of the Foundations of Dental Medicine course at the SDM, University of Connecticut from 1996 to 2000. It was written in Authorware Professional 3.5 for Windows and Macintosh. In the last two years that it was used, the program was used over the network such that five simultaneous classes could write the Learning Objectives to a central server.

3. Endo Lab Demos (1994)

Endodontic Preclinical Demonstrations in the form of images of endodontic access preparations for different teeth, video and audio segments on access preparation, canal preparation, calcium hydroxide placement, obturation and temporization. This program has been used as a part of the preclinical lab of the Endodontology I (D308) course at the SDM, University of Connecticut. This was written in Authorware Professional 3.5 for Windows and Macintosh.

4. Endo Dx. (1994)

Endodontic Diagnosis simulation program is similar to the previous program, but contains 15 illustrated cases. It requires that users make decisions on whether a problem is endodontic in origin, which tooth is affected and what are the pulpal and periapical diagnoses and the etiology. This program is used as a part of Endodontology I (D308) course at the SDM, University of Connecticut. The effectiveness of this program compared to a seminar with similar content or no instruction was investigated in a study that was published in the Journal of Dental Education (March 1997) (see "Manuscripts" for reference.)

This program has also been evaluated and/or used at the Endodontics Departments in the University of Iowa and the University of Minnesota, and was sent to the Endodontics Department at the University of Texas Health Sciences Center in San Antonio. A study evaluating the effectiveness of the program compared with clinical experiences was conducted at the University of Iowa, and presented at the IADR Meeting in March 1997.

5. Endo Dx & Tx.: (1993)

Endodontic Diagnosis and Treatment planning simulation program was written for the Macintosh OS platform. It consists of 5 illustrated cases. In each case, the user can obtain data on the Chief complaint of a patient and its history, the medical and dental history, the clinical examination, pulp testing and periodontal status of a group of teeth. The cases are illustrated with radiograph(s) and colored photographs. The user access the data in any order. The user is then requested to make decisions on the pulpal and periapical diagnoses of the tooth/teeth in question, on whether the condition is a true emergency, and on the immediate and definitive management of the patient. This program is used as a part of Endodontology I (D308) course at the SDM, University of Connecticut.

C. Software Packages

AUTHORSHIP OF EDUCATIONAL SOFTWARE PROGRAMS

1. **Endodontics Faculty Calibration Program (2001-2004):** A web-based program for teaching calibration of full-time, part-time and postgraduate student educators at the Department of Endodontology, University of Connecticut Health Center. (<http://155.37.8.69>).
2. **Contemporary Endodontology (2000-2004)** (Developed software, but content was joint authorship with Drs. Larz Spångberg, Kamran Safavi, and Qiang Zhu Department of Endodontology, SDM, University of Connecticut).
- This CD-ROM program was distributed to students in the Classes of 2002 and 2003, in July of their Junior year. This is a multimedia program developed using Authorware (Macromedia Inc.) as a reference textbook in Endodontics. The program consists of four modules: 1) Twenty text chapters (including some sub-topics) with hyperlinks to images and literature references at the end of each chapter. The last chapter is a glossary of endodontic terms. 2) Twenty two image chapters (including several sub-topics), that correlated with the text chapters and provide a fast review of the text topics, 3) Technique demonstrations that include an image and video clip library covering various endodontic techniques and 4) An Endodontic Diagnosis simulation program, that currently has only one active case. In all, the program contains over 600 referenced, hyperlinked text screens, 755 slide pages and 29 video clips. In addition it has several

PDF-packaged PowerPoint files, a notebook function that automatically opens a word processor, search capabilities and excellent searching capabilities.

- For students in the Classes of 2004 and 2005, the multimedia technique demonstration clips and images were distributed on a CD-ROM entitled: Endodontic Technique. The rest of the illustrated Contemporary Endodontology textbook is available online (<http://155.37.8.69/Education.html>).
- 3. **UConn Endo Web Site (<http://endo.uhc.edu>) (2000-2004):** A web site, primarily for alumni of the UConn Postgraduate Endodontology program, that includes searchable databases containing endodontic literature, interesting clinical cases, alumni contact information as well as news from the Department of Endodontology
- 4. **Competency Management Database:** Developed and maintains a school-wide database for collection and management of competency evaluations in different departments or disciplines. (2000-2003). The use of this program ended with the implementation of the Quick Recovery Information System in the School of Dental Medicine, in July 2003.
- Maintained web site for Department of Endodontics, Prosthodontics and Operative Dentistry, BCDS, University of Maryland (2005 – 2015)
(<http://www.dental.umaryland.edu/dentaldepts/EndoOperativePros/index.html>)
- Implementation and training on Planmeca digital Radiography system in the Endodontics Postgraduate program of the University of Maryland (2006 – 2014)
- Maintained web site for Pulp Biology Group of IADR (2002-2009)
(<http://cf.umaryland.edu/dentalschool/PulpBiology/index.html>)
- Implementation and training on Schick DICOM in the Endodontics Postgraduate program and Faculty Practice of the University of Maryland (2004-2006)
- Implementation, training, and maintenance of Schick CDR (now Schick DICOM) digital radiography system in the Endodontology Postgraduate program and Endodontic Faculty Practice of the University of Connecticut Health Center (1997-2004)
- 5. **Medical Emergencies in the Dental Office (2000-2002)**
Software program development of a computer program, the content of which was developed by Dr. Jeffery Bennett, Department of Oral and Maxillofacial Surgery. The program is designed to be an interactive annual training for clinical faculty in the School of Dental Medicine. The program was used since March 2000 by all full- and part-time faculty in the SDM, over the school's local area network, for their annual training in this area.
- 6. **School of Dental Medicine, Academic Grades and Transcripts Database (1999)**
Design and development of Y2K compliant database for academic grades and transcripts, as well as migration of data from old non-Y2K compliant system to new system.

AUTHORSHIP OF CLINICAL MANAGEMENT SOFTWARE PROGRAM

1. **Maryland Endodontics Electronic Record System (2004 - 2016):**

Connecticut EER was upgraded to Filemaker Pro 8.5-13 and to the unique environment at the University of Maryland. It is installed within the Health Zone of the Dental School and maintained by the School's IT Team.

2. Endodontics Electronic Record System (1995-2012):

A clinical relational database (using a client/server architecture) developed using FileMaker Pro (Macintosh and Windows 9x/ME/2000/XP compatible) for endodontic clinical, academic and educational information. The database is accessed over a network of about 25 computers in the Dental Clinics and the Departmental and Faculty offices. It accepts text as well as radiographic and photographic digitized images of endodontic cases. It is interfaced with the Schick DICOM, digital radiography system. It can be anonymously (i.e. without revealing patient or provider identity) accessed from computers in lecture rooms for case presentations. It has a multi-level security system. It consists of a repository of all clinical (endodontic data and medical histories) and academic data in the pre-doctoral, postgraduate and faculty endodontic clinics at the SDM, University of Connecticut. The system has been in use since September 1995, and currently contains data on over 12000 cases treated in the department.

D. Courses Developed

Curricular material, including syllabi, course manuals, electronic curricula, multimedia, interactive computer programs and clinical management systems for storage of student and resident case portfolios are described above.