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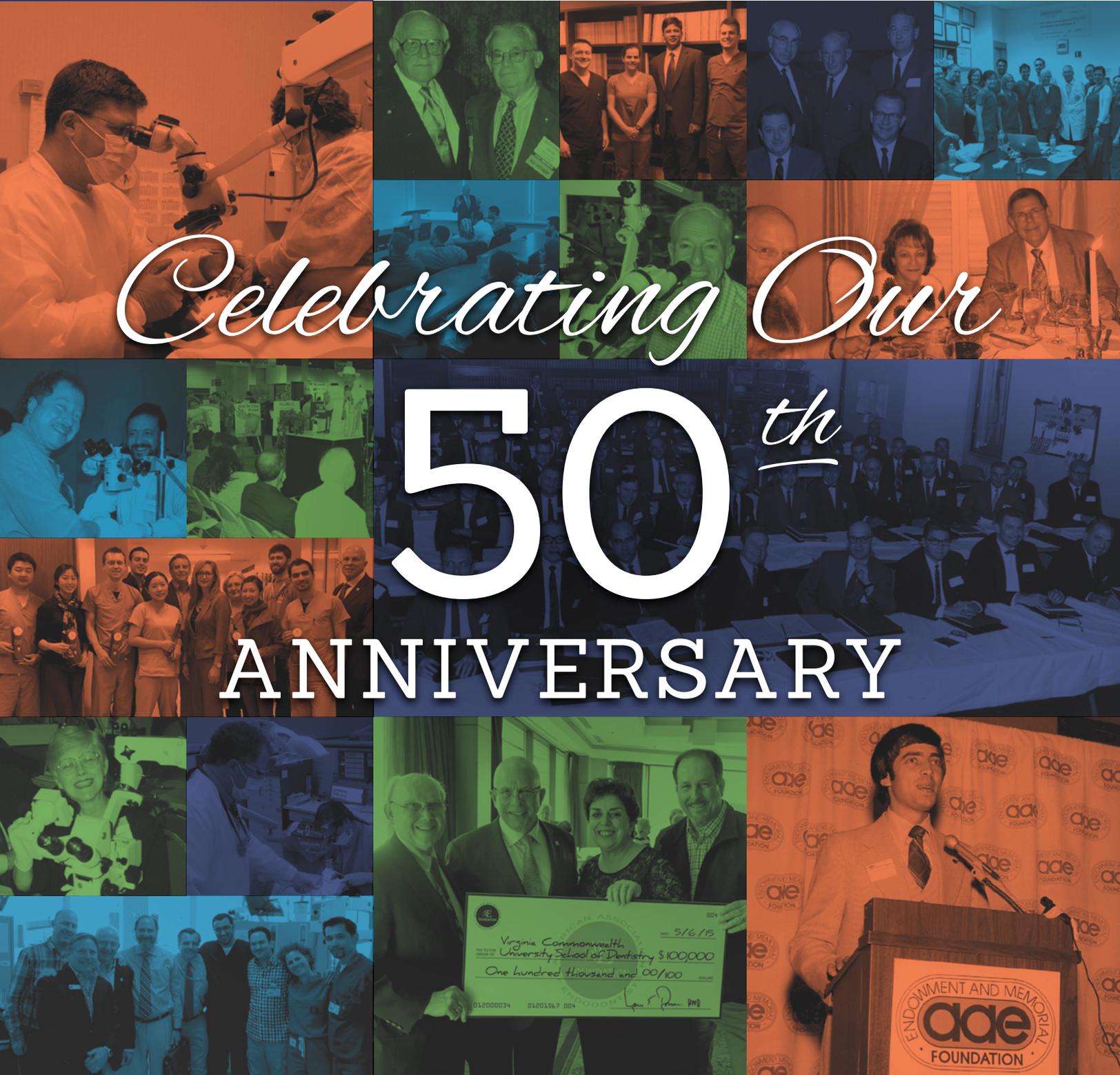


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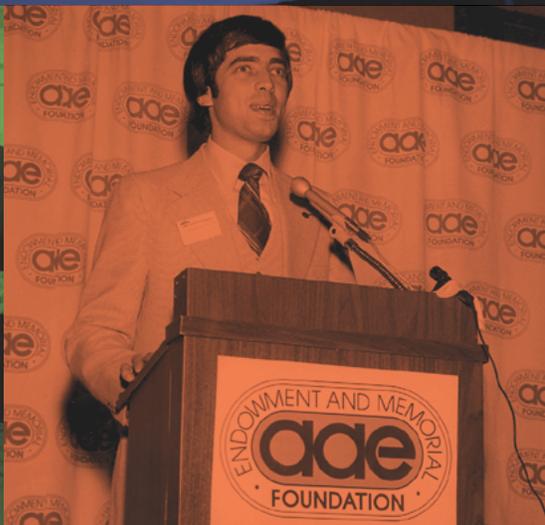
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Celebrating Our

50^{*th*}

ANNIVERSARY



Dear Colleague:

2016 marks the Foundation's 50TH ANNIVERSARY!

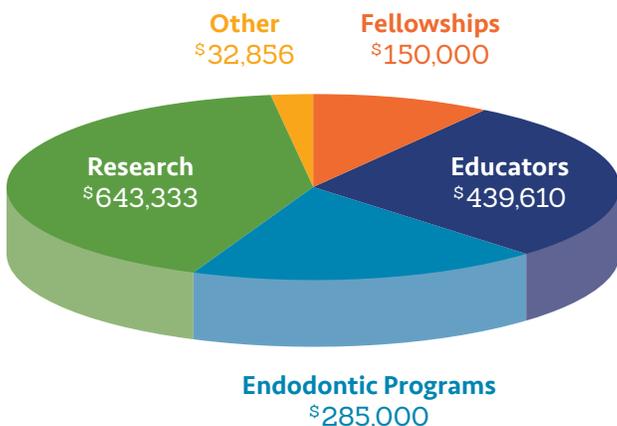
The organization, which was incorporated in 1966, held its first meeting on April 14, 1967, in St. Louis. My long-time mentor and friend, Jacob B. Freedland, was the organizer and chair for that event. Though our specialty and our world have changed a great deal since 1966, the vision and foresight of these early leaders continue to shape the Foundation today.

Dr. Freedland was a tireless champion for the endodontic specialty. In 1998, he wrote this in a letter to me:

“ It has long been my opinion that we have been short-sighted in our approach to the future of our specialty. There has been no attention to encouraging academic and research personnel. The future of all health care personnel are in for some predictable changes. There is no crystal ball to provide the direction. **NOT TO BE PREPARED CAN BE AN IRREVERSIBLE MISTAKE.** ”

Scholarship was a priority in Jake's life, and I am certain that he would be proud of how our Foundation is addressing his concerns. In 2016, we will invest about \$1.5 million in research and education. Foundation initiatives support AAE members throughout their careers.

Total Distribution of Grants \$1,550,799



Foundation Fellow Dr. Kathleen G. Neiva chats with AAE Immediate Past President Dr. Robert S. Roda at the Foundation's Leadership Donor Reception at AAETIS in Seattle. The reception honors all donors who have given at the Founder level or above.

Highlights of 2015 giving include:

- A \$50,000 AAE Foundation/DENSTPLY Innovation in Research Grant to West Virginia University to equip a new 4,000-square-foot laboratory.
- \$100,000 to endow the Neil Dodds Professorship at Virginia Commonwealth University, \$100,000 to endow the Buell Professorship at Loma Linda University and \$100,000 to endow the H. Robert Steiman Chair of Endodontics at University of Detroit Mercy.
- A \$250,000 Fellowship to Dr. Samantha H. Roach, University of Minnesota.
- Over \$300,000 in benefits to endodontic faculty.
- \$60,000 to resident research initiatives.

(Continued on next page)



In the new WVU Department of Endodontics research laboratory, Trustee Dr. David C. Funderburk, WVU Dean Dr. Anthony Borgia, Foundation Staff Ms. Aly Hall, WVU Associate Dean of Research of the School of Dentistry Dr. Richard Jurevic and DENTSPLY representative Mr. Terry Bennett pose with a check from the Foundation, which provided the funding to build and furnish the laboratory.

2015-2016
Executive Committee:

Louis E. Rossman
President



The Foundation for Endodontics 2015-2016 Board of Trustees poses for a group photo at their 2015 Annual Meeting.



In an attempt to capture the Foundation's message in video format, Dr. Peter Morgan interviews Dr. Mohamed Jamal at Boston University. Dr. Jamal received a grant from the Foundation in Spring 2014 to support his study, Directed differentiation of human induced pluripotent stem cells into pulp regenerating progenitors.

At the Interim Meeting, the Board agreed to honor our history and Dr. Freedland by creating a new legacy society. The Jacob B. Freedland Society recognizes members who make a bequest or deferred gift of \$25,000 or more. It's wonderful that our past can shape the future in this special way.

We are excited to explore growth and change in the coming years. The Board is preparing for a strategic planning session at our 2016 Annual Meeting. As part of the process, a survey was circulated to the membership, and interviews were conducted with individuals who could provide a variety of opinions about our activities. We hope to envision our future from multiple perspectives and arrive at a plan that is exciting, innovative and impactful. Dr. Peter A. Morgan, the Foundation's incoming president, will report the results of that session back to you.

We are celebrating this Golden Anniversary with the ambitious goal of raising \$1.35 million by the close of AAE16 in San Francisco. You can help us commemorate the Foundation's journey with a new pledge or an increase in your current giving. If you are a leadership donor who is close to the \$50,000 pledge level, now would be the perfect time to make the leap and celebrate 50 years with \$50,000!

The key to a successful future rests in not losing sight of the past. As we look forward we will also treasure the lessons learned from the many leaders and donors who have inspired our success.

With appreciation,

Louis E. Rossman, DMD
President



President Rossman speaks to residents at Boston University about the Foundation's importance to residents and to the future of the specialty. In response, 100% of residents at BU made pledges to the Foundation!



At the AAE15 Leadership Donor Reception, Dr. Rossman presented a \$100,000 check to Dr. Susan Paurazas from the University of Detroit Mercy for its recent Endowed Faculty Matching Grant.

JACOB B. FREEDLAND SOCIETY Honors

Ongoing COMMITMENT TO EXCELLENCE

Jacob B. Freedland was the Foundation's first chairman and a pioneer in promoting strong research and educational initiatives. His commitment to excellence is a continuous thread in the Foundation's history. On this 50th anniversary, The Jacob B. Freedland Society was created to honor his contribution to the Foundation's success and to recognize individuals making deferred gifts of \$25,000 or more. Deferred gifts are gifts that make an impact after the donor's lifetime, such as bequests, trusts and annuities.

One of the nation's first endodontists, Dr. Freedland was also the 22nd president of the American Association of Endodontists. He was involved in organized dentistry at the local, state and international levels throughout his long lifetime. He was convinced that encouraging talented educators was the key to a bright future for endodontics.

"There has been no attention to encouraging academic and research personnel. The future of all health care personnel are in for some predictable changes. There is no crystal ball to provide the direction. Not to be prepared can be an irreversible mistake."

Since Dr. Freedland wrote those words, the Foundation for Endodontics has experienced impressive growth. The 2016 budget includes \$1.5 million to be invested in research and education, and the 2015-16 fundraising goal is \$1.35 million.

Founding members of the Jacob B. Freedland Society are:

Gerald Dietz, Jr.	John and Frankie Olmsted	Dr. Herbert Schilder
Scott Fehrs	Terryl Propper	Kenneth Thomalla
David Funderburk	Robert Roda	Patricia Tordik
Keith Krell	Louis Rossman	James Wolcott
Mark Odom		Darrell and Lauralee Zenk

TIME CAPSULE: 50 YEARS of the Foundation



- 1966** The American Association of Endodontists Endowment and Memorial Foundation is incorporated as a not-for-profit organization in the State of Illinois. The organization's primary activities were providing student loans and developing public education brochures.
- 1967** The Foundation's first recorded meeting is held at the Chase Park Plaza Hotel in St. Louis, Missouri, and chaired by Dr. Jacob B. Freedland. Trustees included Drs. John Pear, G.C. Stewart, William Walker and John Bucher.
- 1981** The first Donor Honor Roll is published in the Journal of Endodontics.

- 1988** The first long-range planning meeting is held in Chicago. The Board examines the Foundation's financial needs over the next five years.
- 1989** The Foundation's name is changed to the Research and Education Foundation to better emphasize the mission.
- 1991** The first full-time employee is hired.
- 1992** A fundraising consultant is hired to develop a long-range plan.
- 1994** The Foundation's name is changed to the AAE Foundation. The board is restructured to include the AAE president, president-elect, vice president and immediate past president. The goal is to create a partnership that will align the priorities of the two organizations.

Deferred gifts are gifts that make an impact after the donor's lifetime, such as bequests, trusts and annuities. Some examples of deferred giving opportunities are outlined below:



BEQUESTS are one or two sentences in your will or living trust that leave to AAE Foundation a specific item, an amount of money, a gift contingent upon certain events or a percentage of your estate.



TRUSTS give assets to a trust that pays our organization set payments for a number of years, which you choose. The longer the length of time, the better the gift tax savings to you. When the term is up, the remaining trust assets go to you, your family or other beneficiaries you select. This is an excellent way to transfer property to family members at a minimal cost.



ANNUITIES involve a simple contract between you and an organization in which you agree to make a gift and the organization, in return, agrees to pay you (and someone else, if you choose) a fixed amount each year for the rest of your life.

For specific information on deferred gifts, visit the estate planning section of the Foundation's website at <http://aaefoundation.planningyourlegacy.org>

“ DR. FREEDLAND
was one of my first
and most important
mentors. I am proud
that the Foundation
for Endodontics can
honor his legacy in
this special way. ”

— Louis E. Rossman, President



1996 The Friends of the Foundation volunteer fundraising network is established. The enthusiastic group includes endodontists from across the country who agree to educate their colleagues about the Foundation.

1996 Tulsa Dental Specialties makes the first \$1 million gift. This is followed by \$1 million gift from DENTSPLY International.

2001 The Endodontic Educator Fellowship Award Program is inaugurated, with a goal to improve faculty recruitment and retention through support to new educators. A total of 27 Fellowships have been awarded since.

2011 The first \$100,000 Endowed Faculty Matching Grant is awarded to University of Texas Houston to support the John R. Ludington Professorship. To date, seven Matching Grants have been awarded.

2012 As a result of a strategic planning session, a seat on the Board is created for a new practitioner Trustee.

2016 The Foundation celebrates its 50th anniversary. The Board initiates a strategic planning program to envision the future.





THE AAE FOUNDATION proudly acknowledges the following companies for their generous contributions to support endodontic research and education.

\$2,260,000	For better dentistry DENTSPLY INTERNATIONAL	\$75,000 Carl Zeiss Meditec, Inc. Global Surgical Corporation Obtura Spartan Quintessence Publishing Co., Inc.
\$375,000	 EDGEENDO	\$50,000 Acadental Aseptico, Inc. ASI Medical, Inc. EndoTechnologies, LLC Sonendo, Inc Ultradent Products, Inc.
\$325,000	Kerr ENDODONTICS	\$40,000 Charles B. Schwed Co., Inc.
\$300,000	 Carestream DENTAL	\$30,000 ColteneEndo
\$200,000	sirona.	\$25,000 American Dental Partners Aspen Dental Elsevier, Inc. Maruchi Patterson Dental Supply Phase II Associates Real World Endo SS White Dental TDO Ultimate Dental - A Division of Endoco Wells Fargo XDR Radiology
\$175,000	 PBS PBS Endo	\$5,000 Septodont
\$145,000	 HENRY SCHEIN ENDOVISION	
\$140,000	Treloar & Heisel, Inc.	
\$100,000	 BRASSELER USA	
\$85,000	 MORITA	

Planning for the FUTURE

As the Foundation for Endodontics enters its 50th year supporting the future of the specialty, the Board of Trustees is exploring new avenues to strengthen and re-envision the organization's path. Through a series of Board-level discussions revolving around the Foundation's initiatives, activities and goals, the Board has agreed to assume the responsibility of creating a long-term strategic plan that will allow the Foundation to achieve maximum results.

At the Board of Trustees Interim Meeting, a motion was carried agreeing to hire Ms. Elizabeth Warshawer, a consultant who will work with a Special Committee and the Board of Trustees to envision the Foundation's future. Specifically, she will focus on:

- Best practices for the Foundation's future fundraising efforts,
- Strategies to grow the investments significantly in the next decade with specific tactics to help achieve the ambitious goals and
- A comprehensive campaign plan detailing roles, resources and suggested milestones and timeline.

Ms. Warshawer brings more than 30 years of successful experience leading and managing organizations in the Philadelphia area in the corporate, nonprofit and academic arenas. She has a track record of success creating and implementing strategic plans, improving organization success through effective and efficient human capital management, and working across constituencies to achieve outstanding results.

A Special Committee will begin to lay some of the groundwork leading up to a larger group work session in April. In place of the usual Annual Board Meeting, the Foundation's Board will dedicate the entire day to working directly with Ms. Warshawer as she facilitates the creation of new ideas, goals, plans and strategies for the organization moving forward.

Endodontists and constituents of the Foundation may be curious as to the thoughts and ideas that the Board hopes to glean from these planning sessions. Though, to date, the Foundation has been remarkably successful in terms of funds raised and the corpus grown, in order to grow an even healthier corpus, to provide more funding, the Foundation needs to refocus its goals, which are currently very internal. "If you really want to consider an organizational shift, then it will require a shift in the goals and some external support," said Ms. Warshawer.

Many of the strategies and tactics to be determined rest within the Foundation's mission, funding initiatives and fundraising goals. It is important to the Trustees that they regularly evaluate the sources of funding they are providing



In mid-February a working group of the Foundation's Board met in Chicago to begin laying the groundwork for a strategic re-envisioning session with consultant Ms. Elizabeth Warshawer.

to endodontists. Are they making a valuable impact? Are the current grants, fellowships and awards helping to advance the specialty and science of endodontics? Are there other ways the Foundation could distribute funds to achieve its mission? Are there interested constituents outside of the AAE membership and endodontic industry?

"We have so many new ideas and regularly hear suggestions for the types of initiatives the Foundation could offer," said Foundation President Dr. Louis E. Rossman. "It is our goal to make sure, in the future, we are able to run an organization that provides endodontists with what they need while improving their own and their patients' experiences."

An important feature of this shift is making sure the Foundation is telling its compelling story. As leadership, the Board must refine and define the message of the Foundation and the specialty; this must come from within. Understanding the organization's value proposition and why constituents value the Foundation is important for the participants. In order to better appreciate its own model, the Foundation often compares itself to similar organizations within the dental sphere. It will be challenged to look outside the world of dentistry to make links and comparisons.

"This is my first time participating in an organizational strategic planning session," said New Practitioner Trustee Dr. Melissa Marchesan. "I am looking forward to participating and contributing to the future of the specialty."

Ms. Warshawer plans to help the Special Committee and Trustees envision what they want the Foundation to be in 10 years and help determine how to get it there. The work that lies ahead is uncharted, but it is exciting!

NEW TRUSTEES in 2015



Kim Livesay
Sr. Industry Relations Manager,
SBU, Dentsply Endodontics

Kim Livesay began working for DENTSPLY Tulsa Dental Specialties in 1999 as a meeting planner in the Continuing Education department. In 2015, after several roles with DENTSPLY, Kim became the Global Sr. Industry Relations Manager, where she is expanding her current role beyond the borders of North America and hopes to continue to aid in the progression of the endodontic specialty, its leaders and its overall success. Kim enjoys the role she plays in endodontics, but her biggest and most rewarding challenge is being a mother to three active boys, Kade (15), Kale (12) and Kai (9). She enjoys experiencing life with them through their sports and travels.



Melissa A. Marchesan, DDS, MS, PhD

Dr. Melissa A. Marchesan graduated dental school from the University of São Paulo in 1998. She continued at the University of São Paulo by pursuing a Masters in Restorative Dentistry, with a focus in endodontics and lasers. In 2010, Dr. Marchesan was appointed Associate Professor in Endodontics at Nova Southeastern University. The Foundation for Endodontics awarded Dr. Marchesan the Endodontic Educator Fellowship Award in 2011, enabling her to complete her specialty training in the United States. Currently, Dr. Marchesan develops research and mentors postgraduate students in the Department of Endodontics at the University of Tennessee Health Science Center. She is also actively involved with didactic and lab training for predoctoral students and residents.

INCOMING TRUSTEES for 2016



Mary Conditt
Director of Industry Relations,
US&C Digital, Carestream Dental

Mary Conditt serves as the director of clinical affairs for Carestream Dental's U.S. digital business. She is responsible for all of

Carestream Dental's key opinion leader relationships in addition to maximizing corporate sponsorships, partnerships and other industry relationships. Mary joined Carestream Dental in early 2014, bringing with her 20 years of experience in the dental profession.



Patrick E. Taylor, DDS

Dr. Patrick E. Taylor has been in private endodontic practice with Bellevue Endodontic Associates in Bellevue, Washington, since 1998. Prior to that, he served in the U.S. Navy Dental Corps, last serving as the Executive Officer of Naval Dental Center, Pearl Harbor. He received his Certificate in Endodontics from the University of Washington in Seattle in 1988. An active member of his local and state dental societies, Dr. Taylor has been president of both the Washington State Association of Endodontists and the Seattle King County Dental Society. He is currently the AAE Vice President.



Cheryl Lang Ullman, DMD

Dr. Cheryl Lang Ullman has been a practicing endodontist since 1980 and has resided in Vermont since 1990. She received her dental degree from the University of Pennsylvania and completed her specialty training at Boston University.



**President Elect
Mary T. Pettiette, DDS**

Dr. Mary T. Pettiette is a full-time associate professor in the Department of Endodontics at the University of North Carolina School of Dentistry and currently serves as the school's assistant dean for admissions and predoctoral education. She earned her dental degree and her Certificate of Endodontics from Louisiana State University. Dr. Pettiette became a Board-certified endodontist in 1989.

Introducing **REACH** — Resident Expert Advisory Council

In 2015, the Foundation inaugurated a new program to help engage the next generation of endodontists and understand how it can better serve their needs while giving residents opportunities to learn about organized dentistry and to develop their potential to become future leaders. Ten residents were selected in the spring to participate in an advisory council. The group met face-to-face during the APICES 2015 program. They had a dynamic discussion about the future of the specialty as well as their needs and interests. Two representatives from the council were selected to attend the Interim and Annual Board Meetings of the AAE Foundation Board of Trustees. Thank you to each member of REACH 2015—your contributions will serve the Foundation well!

REACH MEMBERS 2015-2016



Victoria J. Ball,
DDS

Medical University of South Carolina

DISTRICT 3



Matthew C. LeCheminant,
DDS

University of California at Los Angeles

DISTRICT 7



Craig D. Bellamy,
DDS

University of Toronto



Ryan B. McMahan,
DDS

University of Michigan

DISTRICT 4



Raven A. Drummond,
DDS

Rutgers School of Dental Medicine

DISTRICT 2



Kimberly A. Morio,
DDS

University of Iowa

DISTRICT 6



Robert J. Jensen,
DDS

Loma Linda University

DISTRICT 7



Kian Nikdel,
DDS

University of Texas at Houston

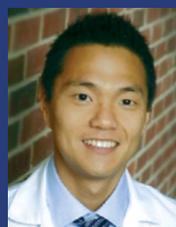
DISTRICT 5



Sung Woo Kang,
DDS, MS

Harvard School of Dental Medicine

DISTRICT 1



Juheon Seung,
DDS

University of Maryland

DISTRICT 1

Foundation Helps Fund WVU's Laboratory for **INNOVATIVE ENDODONTIC RESEARCH**



Associate Dean of Research of the School of Dentistry Dr. Richard Jurevic explains the new technology and equipment now available to endodontic residents and faculty at WVU.

With assistance from the Foundation for Endodontology and DENTSPLY, West Virginia University will equip a dedicated endodontic research laboratory that will be used by faculty and students to prepare experimental samples and specimens. In the spring of 2015, the university's Department of Endodontology was awarded the AAEF/DENTSPLY Innovation in Research Grant. The goal of the grant is to foster innovation and new directions in endodontic research as well as provide funding to support an institution's vision for developing an innovative or new research initiative.

The Foundation's Special Committee, which is composed of Foundation Trustees and representatives from DENTSPLY, deemed WVU's application so impressive that the entire \$50,000 allocation was made to the program, instead of selecting two programs to receive \$25,000 each. The committee reserves the right to decide on the number of grants based on quality of applications. With the funds, WVU developed, designed, built and furnished a 4,000-square-foot lab in collaboration with the West Virginia Clinical and Translational Science Institute, dedicated to studying a number of topics in endodontology.

In the past, WVU has had a limited history of conducting laboratory and basic science research, so the ability to create a legacy and new environment with the available funding was desired. The Department of Endodontology had no research facility of any kind. Endodontist and School of Dentistry Dean Dr. Anthony (Tom) Borgia believes that the funding will help establish a distinguished future facility, providing many contributions to endodontics. The new lab will primarily focus on the capability of preparing in vitro samples for state-of-the-art dental/endodontic/

biomaterial and bioengineering research. In turn, the research space will allow residents and faculty to complete research and present their work at national and international meetings. It will also allow the School to seek large-scale funding from the National Institutes of Health (NIH).

At a reception held in early November, representatives from the AAE Foundation and DENTSPLY, WVU faculty, residents and others celebrated in the new research facility. Dr. Borgia and Dr. David C. Funderburk, a Foundation Trustee and WVU alumnus, each spoke to the group about how the grant will benefit the Department of Endodontology and help get them on the research map. "The generous support of the AAE Foundation and DENTSPLY will greatly enhance our endodontics research program here at West Virginia University," said Dr. Borgia, "With this gift, residents and faculty will have new tools to advance our mission to address the present and future oral health needs of the citizens of West Virginia and beyond."

Associate Dean of Research of the School of Dentistry Dr. Richard Jurevic led attendees through the research laboratory facilities on a tour. During the tour, he was able to point out materials and equipment purchased with the grant funds. He also described how new equipment will be used to advance the Department's research.

The Foundation is honored to provide the AAEF/DENTSPLY Innovation in Research Grant to West Virginia University to further enable them to enhance the future of the endodontic specialty.



WVU faculty and residents, along with Foundation and DENTSPLY representatives, celebrate the \$50,000 the program received to help fund their new research laboratory.

2015 RESEARCH GRANT RECIPIENTS

NAME 	INSTITUTION 	PROJECT 	FUNDING 	
SPRING 2015	Ali Alaqla	University of Texas Health Science Center at San Antonio	Evaluation of Hypoxia-Induced Heat Shock Proteins in the Dental Pulp: Possible Endogenous Activators of the Innate Immune Response	\$ 19,492
	Craig Bellamy	University of Toronto	Effects of a Bioactive Scaffold Containing a Sustained TGF-β1 Releasing Nanoparticle System on SCAP Migration and Differentiation	\$ 15,990
	Darnell Kaigler †	University of Michigan	Cell Therapy for Dental Pulp Tissue Engineering	\$ 23,978
	Florence Kwo *	University of California at Los Angeles	Humanized Ameloblastin Knock-In Mouse Model for Dental Organization and Mineralization	\$ 8,125
	Mary Pettiette †	University of North Carolina at Chapel Hill	Investigating the Role of MicroRNA in External Root Resorption	\$ 20,894
	Brandon Pitcher	University of Texas Health Science Center at San Antonio	Differential Diagnosis Between Cysts and Granulomas with the Use of Cone Beam Computed Tomography: A Volumetric and Densitometric Analysis	\$ 5,800
	Renato Silva **,†	University of Texas Health Science Center at Houston	Metagenomic Assay for the Identification of Microbial Pathogens in Teeth with Apical Periodontitis	\$ 10,840
	Tontesh Tawady	University of Maryland	The Relationship Between Short-Term Healing of Periapical Lesions and Glycemic Control	\$ 14,200
	Karl Woodmansey †	Texas A&M University, Baylor College of Dentistry	The Impact of Obturation Material on the Outcome of Initial Root Canal Treatment	\$ 10,000
	SPRING 2015 TOTAL			\$ 129,319
FALL 2015	Lilley Gharavi	University of Texas Health Science Center at San Antonio	The Expression and Function of Transient Receptor Potential Channels on Stem Cells of Apical Papilla	\$ 22,000
	Nghia Huynh	University of Toronto	Impact of Bonding Pericervical Dentin on Root Fracture Resistance and Bimechanical Response to Simulated Functional Loading in Root-Filled Maxillary Premolars.	\$ 13,560
	Andrew Inaba *	University of California at Los Angeles	Investigation of Multipotency of Three-Dimensional Spheres Derived from Dental Mesenchymal Stem Cells	\$ 24,928
	Hyun Ji Sophia Kang	Loma Linda University	Efficacy and Biocompatibility and Epinephrine-Impregnated Polyurethane Foam	\$ 12,328
	Donald Nixdorf **,†	University of Minnesota	Development of Dental Magnetic Resonance Imaging: Reliability Assessment of Detecting Cracks in Teeth	\$ 20,000
	Nikita Ruparel †	University of Texas Health Science Center at San Antonio	Effect of Bacterial Biofilm on Differentiation of Stem Cells of Apical Papilla	\$ 15,346
	Frank Setzer †	University of Pennsylvania	Metagenomic Assay for the Identification of Microbial Pathogens in Teeth with Apical Periodontitis	\$ 18,500
	Juheon Seung	University of Maryland	Quaternary Ammonium and Nano Silver in Epoxy Resin-Based Endodontic Sealer	\$ 5,589
	Tanjit S. Taggar	University of North Carolina	Molecular Markers in the Gingival Crevicular Fluids of Teeth with Normal and Inflamed Pulp	\$ 14,000
	FALL 2015 TOTAL			\$ 146,251

* Indicates researcher who received \$500 for highest scoring proposal
 † Indicates non-resident status



WINNER'S CIRCLE



SPRING WINNERS



RESIDENT

Florence Kwo, DMD

University of California
at Los Angeles

Along with a research interest in enamel formation, Dr. Florence Kwo aspires to understand more about tooth regeneration and pulp revascularization. "I look forward

to learning more about the long-term clinical and histological results from regenerative endodontics."

Dr. Kwo submitted the highest-scoring resident research proposal during the spring 2015 cycle. Her project entitled, "Humanized Ameloblastin Knock-In Mouse Model for Dental Organization and Mineralization," stemmed from her interest in understanding the science behind tooth formation and regeneration, specifically in regards to enamel development. As Dr. Kwo explains, "Ameloblastin is the second most abundant enamel matrix protein and is also expressed in dentin and craniofacial bone. Learning more about the function of ameloblastin using transgenic mice will help to elucidate the importance of this protein in human enamel formation."

A novel, humanized, knock-in mouse to illustrate the role of ameloblastin in patterning the enamel matrix during tooth formation has been developed by Dr. Kwo and her team. She hypothesizes that knocking-in the human ameloblastin gene alters the enamel and dentin architecture, converting the rodent structure to a phenocopy of the human condition.

Dr. Kwo shares that, "this understanding may lead to novel ways of regenerating the pulp-dentin complex in cases of teeth that need repair, such as those affected by caries, internal and external resorption, and traumatic fracture. We have created an ameloblastin animal model that can be used to replicate disease conditions and test hypotheses relating to the pulp-dentin-enamel-bone complex."

Dr. Kwo says that she is very grateful for the family and friends who have supported her through the years. "I am especially thankful for the academic mentors that I have had in pursuing a career in endodontics, both at the Harvard School of Dental Medicine and the University of California at Los Angeles School of Dentistry. I am also grateful for the AAE Foundation in providing resident support and funding for research endeavors."



FACULTY

**Renato M. Silva,
DDS, MS, PhD**

University of Texas Health
Science Center at Houston

Dr. Renato Silva submitted the highest-scoring faculty research grant proposal in the spring of 2015.

As a clinician-scientist, Dr. Silva's research interests rely on understanding the cellular and molecular mechanisms during development, progression and healing of pulpal and periapical pathologies. "I am fortunate to serve as a research mentor to endodontic residents," said Dr. Silva. "The implementation of clinical research in the graduate program has been a constant challenge; however, the residents' motivation and enthusiasm towards their research has motivated me to continue pursuing further research endeavors."

His project entitled, "Dental Pulp Regeneration Using a Vascular Endothelial Growth Factor-Loaded Bioresorbable Delivery System," will test the possibility of regenerating vascularized human dental pulp in a human emptied root canal space and producing new dentin on existing dentinal walls using a cell-mediated approach combined with a growth factor releasing system. "Treatment of immature necrotic teeth is still a challenge in endodontics. Current protocols for pulp regeneration show promising results; however, the science is only at its infancy and much more still needs to be explored," explains Dr. Silva. "Through this study, we also hope to better understand how the stem cell is regulated and then target therapies to encourage these cells to make the types of pulp cells needed for dental pulp regeneration."

In an attempt to promote cell viability and secure an adequate blood supply for the survival of SCAP cell transplants favoring tissue regeneration, Dr. Silva will be using a delivery system composed of a biodegradable, controlled-release VEGF fiber. "Endodontics is changing daily. Tissue engineering has become a viable option and an attractive strategy for dental pulp tissue regeneration through the combined use of cells, bioactive molecules such as growth factors, and a biomaterial support system or scaffold," said Dr. Silva.

In his free time, Dr. Silva enjoys traveling with his wife and two children.

During the fall and spring research grant cycles, the highest-scoring resident and faculty research grant proposals receive \$500 cash awards. The goal is to pay tribute to those applicants whose efforts reflect the highest-quality science.

FALL WINNERS



RESIDENT

**Andrew Inaba,
DDS**

University of California
at Los Angeles

Dr. Andrew Inaba graduated from Creighton University School of Dentistry in 2015 and is now a first-year resident at

UCLA. He has a strong interest in regenerative endodontics and biocompatible materials that can be used for sealers and pulp capping, among other things. In his highest-scoring resident research grant proposal entitled, "Investigation of Multipotency of Three-Dimensional Spheres Derived from Dental Mesenchymal Stem Cells," Dr. Inaba hopes to prove that dMSC spheres have more multipotency and pulp regeneration properties than those of the typical monolayer stem cells.

Dental pulp stem cell research is now at the forefront of regenerative endodontics and Dr. Inaba says he is very excited to be a part of it. "I love the concept of regenerative endodontics because it gives patients extra time instead of jumping straight into a root canal. I love doing root canals, but it's always sad to see a young kid needing a root canal when the tooth has barely been in the mouth long enough to enjoy the delicious food the world has to offer."

The findings of this study will be very significant as they will aid the field of regeneration. "We know that dental pulp stem cells hold the key to regenerating pulp tissue, but we have not quite found the optimal means of placing these stem cells within the root canal system," said Dr. Inaba. "These dMSC spheres are more representative of how the stem cells are found in vivo, and may be the key to unlocking the full potential of the stem cells."

Dr. Inaba grew up in Honolulu, Hawaii, and comes from a family of endodontists. His late grandfather (Dr. Carl Haga) started his own endodontic practice, which his uncle (Dr. Craig Haga) eventually took over. Dr. Inaba's brother (Dr. Adam Inaba) recently joined the practice. Dr. Inaba says, "I hope to move back home and work alongside my family."



FACULTY

**Donald R. Nixdorf,
DDS, MS**

University of Minnesota

Dr. Nixdorf's interests as a dentist focus on saving the natural dentition for the betterment of overall health, while his focus as an orofacial pain practitioner

is to address pain-related issues. "Cracks in teeth are often blamed as a cause of a person's pain complaint within the dentoalveolar regions, thereby being a real threat that leads to healthy teeth being extracted," explains Dr. Nixdorf. "On the other hand, if a crack in a tooth can be identified early and addressed quickly, patients would not have to suffer in pain needlessly."

Dr. Nixdorf's project, entitled "Development of Dental Magnetic Resonance Imaging: Reliability Assessment of Detecting Cracks in Teeth," was the highest-scoring faculty research proposal for the fall 2015 cycle. "At present, small cracks in teeth cannot reliably and accurately be detected," said Dr. Nixdorf. "With existing radiographic techniques, diagnostic imaging has high specificity – meaning when you see it, you can be pretty sure it is present. But low sensitivity – meaning detecting subtle changes – is often missed. These subtle changes can be clinically important. Increasing the sensitivity of detecting cracks should allow for more appropriate, possibly conservative and timely interventions. Furthermore, I am excited about the use of MRI in dentistry as a non-ionizing imaging technique; something that should result in increased safety for our patients."

The findings of this research are important because they will reveal the minimum crack size that can be detected using MRI in a "best case" scenario and will also assess how reliable clinicians are at recognizing cracks in MRIs. Dr. Nixdorf said, "What we think this will lead to, is the development of technology to reliably and accurately detect cracks in patients' teeth. If this is able to be translated into the clinical setting, it will then give dentists confidence in making a more accurate diagnosis and the ability to better care for their patients."

2015 Endodontic Educator **FELLOWSHIP AWARD**



The Foundation for Endodontics has long believed that educators are at the core of strengthening the specialty. To keep the specialty on the cutting edge, the Foundation is committed to making sure specialists are teaching endodontics at dental institutions across the U.S. and Canada. The Endodontic

Educator Fellowship is one way the Foundation is addressing this issue, head on. The award provides funding to individuals who commit a minimum of five years to a full-time* academic career in endodontics at a dental school that is accredited by or has a reciprocal agreement with the Commission on Dental Accreditation of the American Dental Association. Recipients receive \$50,000 a year, for five years; up to \$250,000 is available per recipient.

* Full-time as defined by the employer institution.

During the 2015 selection and interview process, Samantha Harris Roach, DDS, MS, clinical assistant professor and director of undergraduate endodontics at the University of Minnesota, impressed the committee with her poise and commitment. She has a passion for working closely with students and seeing their knowledge and enjoyment of endodontic theory and practice develop. "Working with dental students in the preclinical course and predoctoral clinic, I realized that, by teaching others, I solidified my passion for endodontics," she explained.

Teaching allows Dr. Roach to work with students and collaborate with faculty on research. The fellowship award will help Dr. Roach continue her pursuit of lifelong endodontic education without the burden of educational loans. With her heart set on constantly improving the specialty's future, Dr. Roach is, "committed to maintaining an endodontic program that evolves with current research and standards."

The Foundation for Endodontics is proud to name Dr. Roach the 2015 Endodontic Educator Fellow.

WE ARE the FOUNDATION

As Foundation activities and recent history have shown, the organization is working diligently towards engaging new generations of endodontists. The Foundation has more young board members, volunteers and participants than ever before. Following AAE15, Foundation staff got to work on revamping the website and growing its social media in order to attract new practitioners.

I Am the Foundation is a campaign dedicated to Foundation donors and beneficiaries alike. It allows endodontists at various stages in their career development to tell their stories. Each profile includes a personal story and video, so visitors can learn more about the individuals who have supported and benefitted from the AAE Foundation.

The Foundation launched this campaign in late summer 2015 and plans to rotate personal profiles throughout the year. This "choose your own adventure" concept allows visitors to browse various endodontists' stories while exploring the kinds of benefits and resources the Foundation provides for specific practitioners (educators, residents, private practitioners, etc.).

To learn more about these endodontists and the Foundation's resources, visit www.aae.org/foundation and view each of their full profiles.

Other areas of the Foundation's website have also been redesigned. The first thing you may notice is the header: Foundation for Endodontics. In spring 2015, the Special Committee on Marketing adopted this as an official nickname for the AAE Foundation. The name distinguishes the non-profit from its parent, the AAE, while still staying close to its roots. The nickname can be used in conjunction with, or in place of, the AAE Foundation. Throughout the rest of the website, visitors will browse information with greater ease as a result of the new, comprehensive navigation options. In addition, the Foundation has strengthened its social media presence on Facebook, Twitter and Instagram, in an attempt to add valuable content, provide a community forum and keep constituents up to date on Foundation news.



Q&A with EDGE ENDO

Edge Endo has been around for a few years, and since its inception, has been heavily involved with promoting excellence in endodontics. The company first exhibited with the Association in 2013; since then, Edge Endo has greatly expanded its offerings and attends all major events including the AAE's annual meeting and APICES. The Foundation has also been lucky enough to be on the receiving end of Edge Endo's generous support, thanks to its founder, Dr. Charles J. Goodis. At AAE15, Dr. Goodis signed a pledge form for \$375,000 to the Foundation for Endodontics, making Edge Endo the Foundation's second-largest corporate supporter!

As part of their gracious pledge, Edge Endo will be the sponsor of the 2016 Endodontic Educator Fellowship Award. A full-time educator, chosen by the selection committee, will be receiving \$250,000 over five years of full-time teaching.

Personally, Dr. Goodis has a long history of supporting the Foundation. He made his first pledge in 2004, and later increased his pledge to the Topaz Level (\$15,000). Dr. Goodis graduated from the University of Michigan School of Dentistry, and he received his Certificate in Endodontics from the University of Connecticut School of Dental Medicine.



Dr. Charles Goodis, Owner of EdgeEndo

Learn more about Edge Endo and Dr. Goodis's commitment to endodontic excellence:

Q: Why did you create Edge Endo?

A: Being an Endodontist, I wanted to create a better NiTi rotary file at half the cost for other endodontists. This could allow them to do better, safer root canals while saving \$10,000-\$30,000 per year. This could provide a return on investment of millions of dollars, allowing them to retire earlier, spend more time with their families, or just relax and work less.

Q: You are also an inventor of numerous endodontic products. How did you discover your passion for innovation?

A: My undergraduate major was mechanical engineering. With that background, I just knew I could design a better NiTi rotary file at half the cost, and it would be a game changer. That's exciting for everyone.

Q: As a relatively young company, Edge Endo made a tremendous commitment to the Foundation by making a \$375,000 pledge. What inspired you to make the pledge?

A: The AAE and Endodontics have been such a tremendous help to me that I more than wanted to help any way I could.

Q: How do you see the importance of full-time faculty shaping the future of the profession?

A: Endodontic faculty are the heart and soul of our future and success!

Q: As Edge Endo grows, what do you think the future holds?

A: We will develop the best endodontic files, by far, and continue to offer them at half the cost.



EdgeEndo Pack & Ship Fullfillment Team



EdgeEndo Customer Service Team

As Always, THANKS TO YOU!

The Foundation for Endodontics would like to thank the individuals who are making the 2015-2016 fundraising campaign a major success. Beginning with a strong goal of \$1.35 million, the Foundation gained momentum during the summer of 2015. At the beginning of

2016, there have been a number of contributions and strides towards the final campaign goal, but there is still more work to be done! Leading up to AAE16 in San Francisco, there is still time to make a difference. There are various ways to contribute to the Foundation,

and if you have questions about a contribution that fits your specific needs, staff is always available to discuss. It is the hope of the Foundation that all endodontists will join the cause to support the specialty in whatever capacity they can.

A special THANK YOU to those who have made contributions or new pledges, increased their pledges or become part of the Freedland Society during the 2015-2016 fundraising campaign.

Please note that this list includes donors that made a contribution between July 1, 2015 - February 24, 2016.

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