Dental researchers share how their work could impact clinical practice of dentistry

BY MARY BETH VERSACI

Dentists have many career paths they can follow, and one with the potential to impact dentistry now and in the future is dental research. From evaluating the behavior of materials used in dentistry to studying the development of craniofacial mineralized tissue to examining oral diseases at the cellular and molecular levels, researchers ask the questions and do the work to inform how dentists care for their patients every day.

Read ahead to learn more about three researchers and the ways their work could affect dentists in the clinic.

Continued on Page 4
All credit products are subject to credit approval.

IMPORTANT INFORMATION: The U.S. Department of Education recently announced a student loan debt relief plan which includes forgiveness of up to $10,000 for qualifying federal student loans and up to $20,000 for qualifying Pell Grant recipients. For more information, please visit www.studentaid.gov/debt-relief-announcement.

Please note that if you refinance qualifying federal student loans with Laurel Road, you may no longer be eligible for certain benefits or programs and waive your right to future benefits or programs offered on those loans. Please carefully consider your options when refinancing federal student loans and consult www.studentaid.gov for the most current information.

1. The 0.25% ADA member interest rate discount is offered on new student loan refinance applications from active ADA members. The ADA discount is applied to your monthly payment and will be reflected in your billing statement. The ADA member discount is only available at loan origination and at no other time, and will go into effect on the date the loan funds are disbursed. This offer cannot be combined with any other discounts from Laurel Road affiliated partners or employers.

2. Checking your rate with Laurel Road only requires a soft credit pull, which will not affect your credit score. To proceed with an application, a hard credit pull will be required, which may affect your credit score.

At Laurel Road, we recognize the dedication it takes to be a dentist. That’s why we’ve created an easy online experience with low rates, personalized service, and technology that makes refinancing student debt easier – so you can focus on the future, not your past.
As a new employee dentist or partner in an established practice, you may be looking for the right time and right way to advocate for incorporating new technologies in the office. Nicholas Riccio, D.M.D., an orthodontist at Hinsdale Ortho in Hinsdale, Illinois, said a discussion with an established partner can be productive and fruitful if the new dentist focuses on listening and understanding the older dentist’s point of view.

“The key is listening well, especially when working with a boss or partner who probably has more experience than you and certainly a viewpoint with a boss or partner who probably has more experience than you and certainly a viewpoint of their own on each matter,” Dr. Riccio said. “In situations where you are trying to incorporate new technologies into the practice, you actually might know a lot about it compared to the senior partner. But it is still important to seek first to understand, before being understood. And as you listen, be thinking of ways your progressive ideas can be of service to them, not in service of your own agenda.”

Talking tech:

Dr. Riccio and his wife, Susan Blair, D.D.S., a specialist in pediatric dentistry and orthodontics, joined an established practice in Hinsdale and purchased it from the original owner. He said the owner’s dedication to helping his patients make the transition and the couple’s mission to continue to provide the highest level of care and customer experience patients expected led to a fairly seamless transition.

“Dentists are usually natural-born leaders and practice owners even more so,” Dr. Riccio said. “If you approach the senior dentist in a respectful way, it’s a win–win. You will have no problem advocating for the new tech you are confident in but doing so in a way that best appeals to your partner’s interests. After all, when you productively communicate with your partner, not just the two of you potentially win, the patient is the real winner, benefiting from more than one great mind working their hardest to deliver the best care to them.”

Clarification: In the August issue of the New Dentist News, it could be inferred that Willamette Dental Group is a dental support organization, when in actuality, it is a privately owned, multi-specialty group dental practice.

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BMO
residency program and director of the division of biomaterials at the University of Alabama at Birmingham School of Dentistry

Research focus: Dental materials

Why is your research significant? Our research lab is an applied materials science lab. What I mean is that we test new dental materials as they come to market, but we typically perform tests that are specific for dental materials rather than run-of-the-mill materials properties. For example, we test crown fracture and retention for new dental ceramics and cements. And we test properties such as shrinkage stress, radiopacity and polishability of dental composites. Aside from the materials themselves, we are also trying to find out the best way to use the materials we have (i.e., how to bond to 3D-printed resins, how to cut off zirconia crowns, etc.).

Why is your research significant? As a pediatric dentist-scientist, I have seen firsthand how invasive surgeries and exposure to adverse childhood experiences can have a negative impact on the physical and mental health of children. Therefore, my lab addresses two core areas of research: to identify novel molecular-based therapies that can regulate jaw bone growth and development and to determine the impact of adverse childhood experiences on the emergence and development of teeth.

How could your research affect the clinical practice of dentistry? If the timing of tooth eruption can be used to identify children who are negatively impacted by adverse childhood experiences, dentists and other health care providers will be able to use tooth eruption as a minimally invasive screening tool to direct early intervention resources to those children who need them. Additionally, our novel molecular-based therapies to modulate jaw bone growth could serve as alternatives to surgical treatments for craniofacial malformations and other mandibular injuries.

Why is your research significant? Our goal is to subclassify oral diseases through spatial immunophenotyping and to develop host-directed therapies to more precisely treat chronic oral inflammatory diseases. Our initial work has focused on gingiva (adult and juvenile periodontitis) and glands (acute and long COVID-19, Sjogren’s disease and graft-versus-host disease). In tandem, findings from this work will be critical to future understanding of the oral and overall health link at a cellular and molecular level.

How could your research affect the clinical practice of dentistry? We generated the first single-cell and spatial meta-atlas of human periodontal tissues, which revealed distinct immune phenotypes around the tooth that were not immediately explainable. Using a new tool to find microbes in tissues, we were able to find 37 bacterial species that were in the tissues at a single-cell level. When we used additional toolkits, we detected a new phenomenon that we are calling polybacterial intracellular pathogenesis of periodontal cells. Our current treatments are unlikely to clear these pathogens. We are now considering new ways to clear them using approaches such as host-directed therapies to support our own tissues and cells to clear periodontal microbes in new ways.
Are you Aware of Hypohydrotic Ectodermal Dysplasia?
A clinical trial is initiated in pregnant women who can transmit a rare and severe genetic disease, Hypohydrotic Ectodermal Dysplasia (HED).
Dentists are key to help identify these women when there is a dental abnormality (agenesis or abnormal morphology) that can allow them to be screened. These future mothers are sometimes unaware that they are affected and at risk of transmitting this disease to their future children.

We recommend that you kindly inform women of childbearing age affected by agenesis of the need to be screened by a simple blood test. Also, if one of your patients wishes to be screened, you can contact the genetics center:

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Hypohydrotic Ectodermal Dysplasia:

HED is a rare developmental disease, started from embryogenesis, due to the mutation of the EDA gene carried by the X chromosome and leading in most cases to dental agenesis and/or abnormal dental morphology. Dental agenesis is variable: from hypodontia to anodontia in temporary and permanent dentition; the temporary and permanent incisors and canines are often conoidal with size anomalies such as microdontia.

The diagnosis is clinical, it is based in particular on dermatological and dental examinations. The shape and appearance of the face are characteristic, they essentially correspond to hypoplasia of the mid face. The disease is often more severe in boys, a greater variability of symptoms is observed in girls. This is why the role of the dentist is key in the identification of future mothers who may have only dental malformations or agenesis, but who can transmit the mutated gene to their children.

Current treatment options are limited to managing the symptoms of the disease and preventing complications. The EspeRare Foundation and Pierre Fabre Médicament have developed a prenatal investigational treatment, a clinical trial has been initiated in France and in other European countries and in the USA.

Reference:
Ask the Expert: WHAT SHOULD I CONSIDER BEFORE MAKING A LARGE TECHNOLOGY PURCHASE?

BY DIANA TALPA — BMO

Dear Diana: I acquired my practice four years ago, and currently I am thinking of upgrading my dental clinic with a few large technology purchases. The thought of buying a new piece of equipment is exciting, but making a large purchase can also be intimidating. What are the main things I should keep in mind before making the leap? — Cautiously Curious

Dear Cautiously Curious: Certainly, keeping up with technology in your practice can help attract and retain patients, but be mindful about what sort of equipment you are planning to purchase and how it will help improve your services. You might want to consider a few things:

1. Your present financial situation: I am certain that you are aware of how much money you have in your bank account. Unless you are planning to take a loan from a financial institution, look at the whole picture. Are you paying any existing loans? Are you still paying for equipment that you purchased a while ago? How is the cash flow in your practice? Once you prioritize everything and still believe that you have enough money to spare to buy new equipment, consider this one last thing: What if the new equipment breaks down and the repair isn’t covered by the warranty? If this seems too much on paper, then it will be difficult to address in reality. If you are interested in taking out a loan, you can contact BMO or work with another loan provider to get capital financing to help make these big purchases possible.

2. Reasons for buying large technology: Really do the math and make sure that you believe that this purchase will boost your productivity and increase your earnings, not just because it would be fun to use or nice to have. Consider how the new equipment will help your practice and how much time your staff would need to learn this new technology. You might be able to save some money by just upgrading existing equipment. Speak to the company as they might be able to guide you through what an upgrade process would look like.

3. Research your options: If you have made the decision to purchase an expensive piece of equipment or system, then your next task is to make sure you’re working with a dental dealer who has a solid reputation for professionalism and quality service. Don’t just focus on getting a good deal, focus on a good dealer. Thoroughly explore your options with your chosen dealer. Do they offer to lease the equipment you’re interested in purchasing? If cash flow feels tight, leasing might be the right move.

Making a large technology purchase can be overwhelming, but if you plan it out properly, then you can make a more informed decision. Analyze your needs and how the investment will benefit you in the long term. Always consider important factors before making a large or new technology purchase.

Ms. Talpa works with privately held companies to consistently deliver innovative, industry-specific financing and cash management solutions to meet their diverse needs. As a vice president in commercial banking at BMO, she leverages her background in business valuations, financial analysis and commercial credit underwriting to add value, foster long-lasting relationships and — above all — help dentists realize their vision for practice success. BMO is endorsed by ADA Member Advantage as the exclusive practice financing provider recommended for ADA members. Members receive an additional 0.5% rate reduction on practice loans.

ACE Panel report examines teledentistry use

Teledentistry has gained popularity in recent years, but it may be underutilized despite its potential to benefit patients, according to an ADA Clinical Evaluators Panel report published in the September issue of The Journal of the American Dental Association.

The report, which includes the responses of 244 ACE Panel member dentists, found 30% of respondents use teledentistry in their practices, and most adopted it within the last three years. More than 60% of teledentistry patients live within 20 miles of their dentist.

Dentists’ top reasons for using teledentistry were increased convenience for patients, COVID-19 and increased accessibility to providers.

To view the entire ACE Panel report or join the ACE Panel, visit ADA.org/ACE.
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What is your favorite dental technology?

BY DAVID BURGER

Dentists are surrounded by so many new technologies that promise to make their work more efficient than it was in the past. There are a number of examples, such as digital scanning, 3D printing, digital smile design, instant milling machines and curing lights, just to start.

The New Dentist News asked nine new dentists what their favorite dental technology is and how it enhances their practice of dentistry.

Kellie McGinley, D.D.S., Reno, Nevada

Soft tissue laser is my favorite. It is portable for when I have to go to the hospital for cases out of the office, multiple procedures for dental soft tissue release, whitening, photobiomodulation therapy and dental hygiene practices. It is easy to use and not too expensive compared to larger lasers.

Howard Kim, D.D.S., Los Angeles

Being able to digitally scan mouths and preparations with intraoral cameras and mill crowns in one day has increased patient satisfaction because they do not need to come back to deliver the crown. Dentistry has come a long way, and I look forward to integrating future innovations into my dental practice.

Kara Kramer, D.M.D., Atlanta

Cone-beam computed tomography. I can see and diagnose so much more with the imaging. I also use artificial intelligence for marketing materials and ideas for social media content. I am looking forward to integrating more AI into diagnostic tools like radiographs as an adjunct in the future.

Muhalab Al Sammarraie, D.D.S., El Cajon, California

Intraoral cameras are a useful patient education tool, not only for diagnosing but also for getting patients to visualize what we’re talking about in high definition. The patient’s reactions when they actually see caries, stains or plaque allow them to become more engaged with their dental treatment and care after they see their oral cavity closely. It’s rewarding for me every day.

Alex Mellion, D.M.D., Akron, Ohio

An orthodontic remote monitoring software and capture device. It is an app that allows us to monitor all of our patients weekly to track progress, fit and compliance. Patients utilizing this technology now receive better care and faster treatment as any issues or delays in treatment are spotted immediately.

Kayla Klingensmith, D.M.D., Manheim, Pennsylvania

Though I have a lot of favorites, the one that I think I get the most from for patient education is the intraoral camera. I have patients who have never seen their teeth before and the number of times patients look at the picture and say, “We gotta do something about this.”

ArNelle R. Wright, D.M.D., Orlando

Cone-beam computed tomography. I recently began placing implants, and the use of it allows me to plan for placement of the implant properly and for patient safety. Additionally, I use it to evaluate bone height and width availability, distance away from vital structures, to plan for implant size — diameter and width — and to evaluate for healing post-operatively.

Jennifer Keegan, D.M.D., Tinker Air Force Base, Oklahoma

One piece of technology that I use and love are isolation systems. I love this technology because it provides great isolation and is comfortable for the majority of my patients. It allows me to work more efficiently by not having to spend as much time isolating with a rubber dam. In addition, it allows for my assistant to complete other tasks since the isolite does the majority of the suctioning.

Emma Guzman, D.D.S., New York City

I love to use the intraoral camera. In practice, we use it at every new patient exam to assist with diagnosis and with patient demonstration. It is a great tool to show them exactly what is going on versus trying to explain it in a radiograph. This helps with explaining rationale for treatment to patients and can assist with insurance purposes and claims. There are so many ways to use the intraoral camera, and it absolutely changes the way we practice.
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Innovating Tomorrow’s Dentistry, Today™
ADA 10 Under 10 Awards honor new dentists for making a difference

BY MARY BETH VERSACI

The co-founder of an organization that aims to improve the oral health of the LGBTQ+ community, the youngest president-elect of the Maryland State Dental Association and an advocate for the Massachusetts Question 2 ballot initiative are among this year’s winners of the ADA 10 Under 10 Awards.

The awards recognize 10 early-career dentists who demonstrate excellence in the profession. The ADA New Dentist Committee chose the recipients for making a difference in science, research and education; practice excellence; philanthropy; leadership; and advocacy. All the winners are ADA members who graduated dental school less than 10 years ago. They received a $1,000 cash award and a plaque.

Below are the 10 Under 10 Award winners. To learn more, visit ADA.org/10under10.

Muhalab Al Sammarraie, D.D.S., El Cajon, California
Universidad De La Salle Bajio in Mexico — 2019
Dr. Al Sammarraie is a site dental director at AltaMed Health Services, one of the nation’s largest federally qualified health centers; a subject matter expert in law and ethics for the Dental Board of California; and an international lecturer at the Universidad de la Sale Bajo, where he teaches practice management.

Alex Barrera, D.D.S., Houston
University of Texas School of Dentistry at Houston — 2017
Dr. Barrera is the president and co-founder of the Houston Equality Dental Network, an organization that aims to improve the oral health of the LGBTQ+ community through awareness, education, advocacy and service, and a general dentist who practices at Legacy Community Health Center in Houston.

Aaron Bumann, D.D.S., Gladstone, Missouri
University of Minnesota School of Dentistry — 2013
Dr. Bumann is a public policy advocate for Missouri with the American Academy of Pediatric Dentistry, a pediatric dentist in Kansas City, Missouri, and a speaker at the University of Missouri–Kansas City on pediatric dentistry, personal finance and advocacy.

Alexandra Fitzgerald, D.D.S., Frederick, Maryland
University of Maryland School of Dentistry — 2018
Dr. Fitzgerald is the youngest president-elect of the Maryland State Dental Association and has served in numerous other positions and committee assignments at the local and state levels of organized dentistry.

Stephanie Ganter, D.D.S., Dallas
Texas A&M University College of Dentistry — 2016
Dr. Ganter is the co-creator of the YouTube channel Between Two Teeth and the co-owner of the first-of-its-kind combined periodontics and oral and maxillofacial surgery practice in Garland, Texas.

Sapna Lohiya, D.D.S., Hermosa Beach, California
University of California, Los Angeles School of Dentistry — 2013
Dr. Lohiya is an oral and maxillofacial surgeon in Los Angeles, a clinical instructor for the UCLA School of Dentistry and the president-elect of the Western Los Angeles Dental Society.

Sable Anne-Marie Muntean, D.M.D., Lake Erie College of Osteopathic Medicine School of Dental Medicine — 2018
Dr. Muntean is the co-founder of ignitePreDent, a mentorship organization that assists pre-dental students through their journey into dental school, and the first full-time female staff dentist at the St. Louis VA Medical Center.

Adam E. Saltz, D.M.D., South Portland, Maine
Nova Southeastern University — 2017
Dr. Saltz is the vice president of the Maine Dental Association, an assistant clinical professor at the University of New England and a faculty consultant at Kansas City University.

Saniya Setia, D.D.S., Mechanicsburg, Pennsylvania
University of Colorado School of Dental Medicine — 2016
Dr. Setia is one of the youngest recipients of an honorary fellowship in the Pierre Fauchard Academy and practices at Marysville Family Dentistry in Marysville, Pennsylvania.

Andrew Tonelli, D.M.D., North Reading, Massachusetts
Tufts University School of Dental Medicine — 2014
Dr. Tonelli served as the primary spokesperson for the Massachusetts Dental Care Providers for Better Dental Benefits campaign committee, which supported the state’s Question 2 ballot measure in the November 2022 election, and he is the immediate past chair of the Boston District Dental Society.
Code changes include:

- 15 additions, including a new category of service for sleep apnea
- 2 revisions

The new CDT 2024 Coding Companion helps you and your team find quick answers to tricky scenarios and has been updated to include 180+ coding scenarios, more than 250 coding questions and answers, and descriptions of coding changes for 2024.

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³ This example is for illustrative purposes only and is based on a hypothetical fixed interest rate of 8.11% discounted to 7.61% applying the 0.5% ADA member discount fully amortized over a 10-year period which would result in a total savings of $12,898.80. This example assumes payments are made as scheduled for the term of the loan and interest is computed on a 365/360 basis. The interest rate we offer to you may vary from the example rate used here based on your credit qualifications, loan characteristics, market conditions, and other criteria at the time of the offer. Example rate shown is as of January 20, 2023, and rates are subject to change without notice. Contact a BMO banker for current rates and more details.
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