

Bates Andrews Research Day

Each year TUSDM holds the Bates-Andrews Research Day to honor George A. Bates, an alumnus who taught Tufts medical and dental students from 1896 until his death in 1925. “Bates Day” features poster presentations showcasing research conducted over the past year, commercial exhibitor displays, and a keynote speech. This year's Keynote will be delivered by Dr. Raul Garcia, Chair of Health Policy & Health Service Research, Director of the Center for Research to Evaluate & Eliminate Dental Disparities, and Professor of Health Policy & Health Services Research at Boston University Henry M. Goldman School of Dental Medicine. Students who are part of the Student Research Fellowship Program (SRFP), a Dean's Research Scholar, or participated in corporate-sponsored research will present at Bates Day as part of their fellowship/scholarship. Also this year, TUSDM staff members are invited to present research posters. The event allows presenters to share their research endeavors with the rest of the Tufts community and is an excellent opportunity to practice before presenting at national research meetings.

We are planning for an in-person Bates Day event this year, so please save the date for Wednesday, March 2nd, 2022.

To register to present at Bates Day, please follow this link; <https://forms.gle/3QUdbpcEjoEF3hsT8>.



Student Research Mentor Mixer



Image of a past Student Research Mixer, prior to the COVID-19 Pandemic.

DRA and the Bates Student Research Group hosted a Student-Faculty Research Mixer on Tuesday, November 16th in the 15th floor Alumni Lounge. Gift cards to Starbucks, Whole Foods, and Target were raffled off, and there was a great turnout of students. The mixer gave students the opportunity to get to know some research faculty members and ask questions about their research.

Research information available at the mixer was grouped into: Basic Science, Dental Materials, Clinical/Record Reviews, Educational Research, and Public Health Research. It was a wonderful in-person event that allowed for connections that many have missed due to the pandemic!

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ADEA 2022 Meeting

The American Dental Education Association (ADEA) Annual Session and Exhibition is meeting in-person this year, March 19-22, 2022 in Philadelphia, PA. Educational sessions, poster presentations, and ADEA



TechExpo presentations have already been submitted. Notifications of acceptance were sent out from ADEA.

DRA has poster and oral presentation templates available. The templates are based on Tufts visual identity standards and located on the [DRA website](#). Please make sure to view the presenter guidelines on the ADEA website when creating your oral or poster presentation (<https://www.adea.org/2022/Presenters/>). As a Tufts employee or student, you are able to obtain a free membership to ADEA, allowing you to view their online journal publication. Follow this [link](#) to become a member.



AADOCR 2022 Meeting

The American Association for Dental, Oral, and Craniofacial Research (AADOCR, formally AADR) annual meeting will be held as a hybrid meeting in March 21-26, 2022. The general session will be offering



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both virtual components and in-person events. Virtual features may include live stream presentations, simulcast presentations, pre-recorded presentations, or any combination. Acceptances to present at the conference have already been sent out to the presenters. In the next few weeks, the scientific program will be released listing all of the presenters.

years past in that the Interactive Talk presentations provide each speaker with 6 minutes to present their slides and 2 minutes for questions and transition to the next speaker. The Interactive Talks will be organized by topic into 90-minute sessions. This revised format allows both in-person and virtual presenters the opportunity to actively present their research to their peers. DRA has presentation templates available based on Tufts visual identity standards and located on the [DRA website](#). Please make sure to view the presenter guidelines on the AADOCR website when creating your oral or poster presentation (<https://www.iadr.org/events/aaam/information-interactive-talk-presenters-frequently-asked-questions>).

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<https://sites.tufts.edu/dentalresearch/>

Researchers in the News



DRA staff and faculty have been busy publishing their research. **Dr. Yoon Kang, Dr. Britta Magnuson, Dr. Mabi Singh, Dr. Duong Tran, Dr. Sarah Pagni, Dr. Ronald Perry, and Dr. Gerard Kugel** published an article in the Journal of Dental Science titled, *18-Month Clinical Comparison of Giomer Based and Nano Technology Based Materials in Non-Carious Cervical Lesion Class V Restorations*. Here is a [link](#) to the publication. **Grace Call D23, Dr. Gerard Kugel, Dr. Shruti Jain, Dr. Duong Tran, Katie Dunn, and Dr. Aikaterini Pa-**

pathanasiou published an article titled, *Use of 9.3µm CO2 Laser for Removal of Zirconia Restorations*. Here is a [link](#) to the publication in the Journal of Dental Science. **Natasha Fansiwala D23, Binh Thanh Phan D23, Dr. Duong Tran, Katie Dunn, Dr. Yoon Kang, Joseph Cimmino, Tiffany Bairos, and Dr. Gerard Kugel** published an article in the Journal of Dental Science titled, *Wear Comparison of a Plain Toothbrush versus Eleven Commercial Toothbrushes*. Here is a [link](#) to the publication. **Dr. Britta Magnuson** published an article on the website Oral Health titled, *Dental Implant Self-Care: Implant Supported Dentures (Second in a Series)*. Here is a [link](#) to the article.

Congratulations to **Dr. Qisheng Tu**, Professor in the Department of Periodontology, who received NIH funding for his project, “Scaffolds with high oxygen content for mineralization”, a collaboration with Dr. Gulden Camci-Unal from the University of Massachusetts Lowell. Tufts University is a subaward for this 5 year project. Dr. Qisheng Tu will lead the in vivo evaluation of application of oxygen-generating scaffolds including research design, bench execution, technical supervision, results analysis and data interpretation. Under his supervision the team will review the therapeutic effects of oxygen-generating scaffolds on craniomaxillofacial repair and reduction in limitations of conventional bone grafting, including surgical procedures, gene expression analysis, histomorphometry, immunohistochemistry, and micro-computed tomography. Dr. Tu is currently the Co-Investigator on 3 federal NIH grants with **Dr. Jake Chen** and will be the subaward Principal Investigator for the new award. Great work Dr. Tu!!



In partnership with the Metropolitan District Dental Society, **Dr. Gerard Kugel** presented at the Met Gala on “Bonding Back Better” on Thursday November 11th from 6-9PM at the Pine Brook Country Club House in Weston, MA. For this Veteran’s Day event, funds were raised for [Service With a Smile](#), an organization dedicated to improving the oral health of our Veterans and started by two TUSDM alumni- **Dr. Brent Mullen (D20)** and **Dr. Keith Nguyen (D20)**. Please consider donating to the Service With a Smile [organization](#) directly or to the [TUSDM Chapter](#).



Highlighting the Department of Public Health and Community Service

A special shoutout to the Department of Public Health and Community Service who was recently awarded 6 grants under the leadership of Interim Chair **Dr. Karin Arsenault**. An overview of these high impact programs can be seen below. A HUGE congratulations to all and thank you for all that you do to fulfill the TUSDM mission of Care and Community through action, leadership, and community service!

Autism Smiles

Led by **Dr. Martha Forero**, Assistant Professor, the TUSDM Autism Smiles project provides children with autism spectrum disorder (ASD) the opportunity to be introduced to the dental provider, the dental chair, instruments, and all sensory stimulations (auditory, vision, gustatory, olfactory, vestibular, and tactile) that may occur on a typical dental visit. Simulated experiences help desensitize the children, leading to a more pleasant experience. Dr. Forero was awarded two grants to create sensory toolkits for families to use at home to further familiarize the child with oral health care, incorporate into their hygiene, and prepare for future dental appointments. Autism Smiles will occur virtually this year, engaging children and families through telehealth appointments and sessions. The program anticipates serving upwards of 90 children with ASD and their families this year!



A participant in the Autism Smiles program.

Dental Dictionary Initiative

Dr. Nicole Holland, Assistant Professor and Director of Health Communication, Education and Promotion, is leading the TUSDM Dental Dictionary Initiative, which seeks to increase the oral health literacy of the TUSDM patient community via the development and evaluation of an evidence-based, online dictionary that is both user-friendly and culturally and linguistically relevant to help inform optimal oral health-related decisions and actions. The team is made up of Assistant Professor **Kathryn Dolan**, and students **Mackenzie Stephens (D23)**, **Roshan Patel (D23)** and **Sarina Punia (D23)**.

Oral Health and Interprofessional Community Program on Successful Aging

Dr. Karin Arsenault, Assistant Professor and Clinical Program Director for Geriatric Dentistry, will develop a community-based multidisciplinary care model focused on oral health and successful aging. This model will address the complex needs of vulnerable, marginalized, uninsured, and Medicaid adults age 50 and older by promoting their oral, physical, emotional, mental, and social well-being. The interdisciplinary team will be made up of faculty from the departments of Comprehensive Care, Diagnostic Sciences, and Public Health and Community Service.

This will be Dr. Arsenault's first grant awarded as a Principal Investigator (PI). Great Job!

Highlighting the Department of Public Health and Community Service

Service With a Smile for Veterans

Under the leadership of Assistant Professor **Kathryn Dolan**, the TUSDM Service With a Smile program received funding to continue their mission, to increase access to oral health care for veterans experiencing homelessness or living in Veteran homes that are not eligible for services elsewhere. The program pairs third and fourth year dental students at TUSDM with veterans who are in need of dental care; and gives first and second year dental students the experience of providing oral health education in a community settings. Since July 2019, over 100 veterans have been screened and TUSDM has provided more than 300 hours of volunteer time. **Dr. Gerard Kugel** assists Professor Dolan as a faculty supervisor for the program and **Russell Smith (D22)** is the chapter president and student leader for the project.

Tufts Dental Facilities

The Tufts Dental Facilities (TDF) program is a network of 7 dental clinics serving about 8,500 individuals with intellectual / developmental (I/DD) and acquired disabilities. While diagnostic x-ray imaging is vital to providing quality dental care, using wall-mounted or panoramic x-ray units poses challenges for patients in large wheelchairs or stretchers, and those with anxiety that require more reassurance and guidance.

Dr. Darren Drag, Assistant Professor and Director of the Tufts Dental Facilities was awarded seven grants, one for each TDF site, from the MassHealth Provider Access Improvement Grant Program (PAIGP). This grant allowed Dr. Drag and team to purchase a hand-held x-ray system. Hand-held x-ray systems allow the practitioner to remain next to the patient during x-ray imaging, allowing image capture without the delay encountered by leaving the room to press the x-ray machine exposure button. Having these new hand-held x-ray units will increase TDF's ability to provide diagnostic x-ray imaging to the I/DD patient population in the office setting while maintaining the safety of the patient and practitioner.

New Staff Assistant in Dental Research Administration



A warm welcome to **Christopher Magnarelli** to the Dental Research Administration (DRA) team! As a Staff Assistant, Chris provides administrative support and communications for Research Administration. He handles complex and confidential situations and requests. He often serves in a highly visible capacity as a resource for the department with students, staff, faculty, and other constituents. He oversees the daily operation of the office, evaluating workflow and productivity and providing directions and guidance to office staff. Chris coordinates the department's budget to include monitoring, tracking expenditures, troubleshooting problems and preparing reports. Last but not least he plans and coordinates meetings and special events, including contacting speakers, designing promotional material and coordinating support for speakers and presenters. Please welcome Chris by contacting him at Christopher.Magnarelli@tufts.edu or 617 636-4045.

Chewing Simulator

Tufts University Mechanical Engineering (TUME) professors reached out to DRA to see if anyone was interested in acting as a client for their upcoming Capstone Design course (ME0043). They were looking for potential clients to pose a research or a design problem that the TUME students could work to solve. **Katie Dunn**, Assistant Director of Predoctoral Research, **Dr. Cristiane Cornwell**, Research Associate, and **Dr. Gerard Kugel**, Professor in Comprehensive Care & Associate Dean for Research, all participated in working with the seniors on creating a chewing simulator.

The TUME students who took up on this challenging project were: **Tia Watts**, **Kamar Godoy**, and **Catherine Robbins**. They each came up with ingenious and extremely creative designs which all addressed the long list of requirements that go into developing a chewing simulator, in this case, in a matter of 2 months! The chewing simulators would be used to test wear of different dental materials and mimic what seems to be a simple daily human body action. It quickly became very clear that it is not. There's lots of moving parts, literally.

The students picked one of the 3 designs and developed a prototype which addressed some of the many requirements for this machine. One of the parameters the students delivered on their final product was a vertical force of 90 N powered by a motor. In real life, the chewing forces can go anywhere from 20-400 Newtons. Currently there are a few companies on the market which offer such a product, and they are highly priced.

The students delivered a detailed presentation during their final show, demonstrating the device as well as answering technical questions! They shared how much they learned during this collaborative experience. They also mentioned how many details go into a chewing simulator and how challenging it was to deliver all the aspects in a short period of time. Some of the students also seemed excited and interested in taking their prototype to the next phase which would be a fully working machine that could be used for research at the Gavel Center.



Dr. Cornwell with Tufts University Mechanical Engineering students with their chewing simulator design and final product.

Corporate and Foundation Relations Funding Database

Your Corporate and Foundation Relations team has developed a curated, [searchable database](#) as a resource to future and current Tufts community members to identify private funding support. Search by sponsor, program, topic or deadline. Contact [Tracy Schmidt](#), Director of Corporate and Foundation Relations for questions regarding finding corporate and foundation funding or specific funding opportunities you may be interested in.

Thank you for Donating Teeth!

Dental Research Administration would like to thank our neighboring dental practices for donating teeth. Many students utilize de-identified donated teeth to conduct bench top research studies. The Dr. J Murray Gavel Center is comprised of two laboratories dedicated to in-vitro research in restorative dental materials. The Center is located on the 8th floor of the dental school in room 833. We would like to give a special thanks to the following dental practices listed below for their kind donations. Their contribution to TUSDM will help students expand their knowledge base through insightful research. If you would like to donate please contact Dr. Cristiane Cornwell at Cristiane.Cornwell@tufts.edu.

Capeside Oral and Facial Surgery
Dr. Nathan Latimer
362 Gifford Street
Falmouth, MA 02540
Phone: 508-645-6576
info@capasideoralsurgery.com

Oral and Maxillofacial Surgery Associates
Dr. Andras Balint (Tufts Alumnus)
200 Boylston St Ste 305
Chestnut Hill, MA 02467
Phone: 617-731-8888
reception@oralsurgerychestnuthill.com

Community Health Center of Cape Cod
210 Jones Road
Falmouth, MA 02540
Phone: 508-477-7090
cweir@chcofcapecod.org

Brookline Periodontics and Oral Surgery
1842 Beacon St Suite 303
Brookline, MA
Phone: (617)734-9494
<https://www.periodonticsandoralsurgery.com/>

Cape Cod Center for Dental Implants
Dennis J. Jodoin, DMD CAGS
33 Edgerton Dr
North Falmouth, MA 02556
Phone: (508) 563-7000
capeperio@comcast.net

Osgood Oral & Maxillofacial Surgery
1060 Osgood St
North Andover, MA 01845
Phone: 978-655-4255
info@osgoodoralsurgery.com



Northeast Oral Surgery and Dental Implant Center
161 Ash St Suite A-1
Reading, MA 01867
Phone: 978-682-5255
<https://www.northeastoralsurgery.com/contact-north-andover-oral-surgeon.html>

Student Research Fellowship Program 2022 - Submission Process

Are you a student interested in research? Do you want to work with a faculty member to research a key area of dental health? TUSDM offers several opportunities for student researchers. The Student Research Fellowship Program funds students on faculty-mentored research projects. The research will culminate in a poster presentation at the annual Bates-Andrews Student Research Day, where you will be eligible to receive awards. In addition, all Student Research Fellowship participants are eligible for travel support if the abstract based on their research is accepted to be presented at a national dental research conference. Application to the Student Research Fellowship Program involves the submission of a complete research proposal that will be evaluated by members of the TUSDM Research Committee. Please see the important submission deadlines below. Additional information is available on the Student Research Fellowship [website](#).

Application Dates	D25	International Students, D24, or D23
Letter of Intent	Monday, January 24	Friday, February 18
Online Application	Monday, February 7	Friday, March 11
Research Proposal	Friday, February 25	Friday, April 29
Notifications Sent	Monday, March 28	Monday, May 23

NIH Deadlines

Please note these upcoming NIH Deadlines. If you wish to apply for any of these awards please contact your local Research Administrator as soon as possible.

Click [here](#) for a link to the NIH Deadlines.

	Receipt Cycle I	Receipt Cycle II	Receipt Cycle III
Research Grants – R01 (Investigator-initiated basic and applied research) <i>new</i>	February 5	June 5	October 5
Research Grants – R01 (Investigator-initiated basic and applied research) <i>renewal, resubmission, revision</i>	March 5	July 5	November 5
Research Grants – R21 (Exploratory/Developmental) <i>new</i>	February 16	June 16	October 16
Research Grants – R21 (Exploratory/Developmental) <i>renewal, resubmission, revision</i>	March 16	July 16	November 16
Career Development – K series <i>new</i>	February 12	June 12	October 12
Career Development – K series <i>renewal, resubmission, revision</i>	March 12	July 12	November 12
Conference Grants – R13 <i>new, renewal, resubmission, revision</i>	April 12	August 12	December 12
Academic Research Enhancement Award (AREA) – R15 <i>new, renewal, resubmission, revision</i>	February 25	June 25	October 25
SBIR/STTR Grants – R43, R44, R41, R42 <i>new, renewal, resubmission, revision</i>	September 5	January 5	April 5
AIDS and AIDS-Related Grants All mechanisms listed above <i>new, renewal, resubmission, revision</i>	May 7	September 7	January 7
Research Grant Supplements (Diversity, Re-Entry) <i>new</i>	No set deadline		

Recently Awarded Grants

Please see the list below of recently awarded grants and join us in congratulating the Principal Investigators and associated research team members for their accomplishments.

Principal Investigator	Funding Agency	Award Amount	Project Title
Addy Alt-Holland	Foundation	25,000.00	Metabolic Profiles of Salivary and Epidermal Biomarkers for Sjogren's Syndrome
Andre De Souza	Corporate	100,825.00	Piscine Soft Tissue Alternative
Darren Drag	Non-Profit	34,839.00	Tufts Dental Facilities- NOMAD Intraoral X-ray (Seven
Evangelos Papathanasiou	Foundation	107,817.00	The Therapeutic Impact of Specialized Pro-resolving Mediators (SPMs) on Peri-implantitis
Gerard Kugel	Corporate	47,984.00	An 18-month Extension to the Clinical Trial to Evaluate a Shofu Restorative System in Class V Restorations
Gerard Kugel	Corporate	187,018.70	Assessing plaque removal and gingival health in pediatric patients with a novel automated toothbrushing device compared to an ADA manual toothbrush
Karin Arsenaault	Foundation	190,000.00	Developing an Oral Health and Interprofessional Community Program on Successful Aging at TUSDM
Kathryn Dolan	Foundation	15,000.00	Tufts University School of Dental Medicine (TUSDM)- Service With a Smile Project
Khaled Shaikhi	Federal	84,912.00	Ryan White HIV/AIDS Program Part F Dental Reimbursement Program
Mabi Singh	Gift	50,000.00	Exploratory Study on Effect of Whitening (agent) with Emulsion Gel in Xerostomic Population
Mabi Singh	Corporate	190,361.50	Clinical Evaluation of MucoPEG for Xerostomia
Martha Forero	Foundation	8,220.00	Autism Smiles 2022
Martha Forero	Foundation	2,000.00	Autism Smiles
Nicole Holland	Internal	13,500.00	Dental Dictionary Initiative: Development and usability testing of a culturally and linguistically appropriate online oral health resource for dental patients
Qisheng Tu	Federal	391,875.00	Scaffolds with high oxygen content for mineralization