Dear Members of the Class of 2021:

In an effort to provide expanded opportunities in research and scholarship to our student body, I invite you to apply for the 2017-2018 Dean’s Research Honors Scholarship. This highly competitive honors scholarship will be awarded to five incoming students who have superior academic records and whose applications indicate a strong interest in developing skills in basic science, clinical, or public health research. Recipients of the Dean’s Research Honors Scholarship will receive a $3,000 merit award that will be credited to their second semester student account. In addition, participation in the Research Honors program will be recorded on student transcripts.

This initiative will give incoming students the opportunity to meet on a regularly scheduled basis in the coming academic year with an individually assigned research faculty mentor. The research scholar and mentor will meet monthly at mutually agreeable times for a one-on-one discussion of assigned research readings. In the spring semester, these regular meetings will continue, with the faculty mentor guiding the research scholar through the conceptualization and development of a research proposal. It is our expectation that research scholars will conduct their proposed research in the summer of 2018 and present their work at the Bates-Andrews Student Research Day in spring 2019. Students who successfully complete their first year as a Dean’s Research Honors scholar will also have the opportunity to reapply for the program in the second, third, and fourth years of their dental school experience.

Advancing basic science, clinical, and public health research is central to the dental school’s mission because we understand that deepening our knowledge in these areas ultimately leads to better patient care. Furthermore, we are committed to supporting and expanding interdisciplinary research, as evidenced by our ongoing collaborations with the Tufts University Schools of Engineering and of Medicine and with the Bioengineering Center. Current basic science research initiatives at TUSDM include projects focused on tissue engineering, bone remineralization, and Sjögren’s syndrome, while clinical and public health research include studies of periodontal disease, caries, and temporomandibular joint syndrome.
A partial listing of dental research faculty and their areas of specialization is attached for your information. Research mentors will also be drawn from the faculty of the Sackler School of Graduate Biomedical Sciences, located on the Tufts Health Sciences campus. Research faculty at the Sackler School may be viewed by following links at the Sackler School web site (http://sackler.tufts.edu/Faculty-and-Research/Sackler-Program-Faculty). If you are a student with a strong interest in integrating research activities and scholarship with your dental school curriculum, please complete the attached application in the format outlined. The application should be submitted as a Word document or .pdf file to Professor Eileen Doherty via email no later than June 30, 2017. Professor Doherty’s email is: Eileen.Doherty@tufts.edu.

Sincerely,

Gerard Kugel, D.M.D., M.S., Ph.D.
Associate Dean for Research

CC: Huw F. Thomas, B.D.S., M.S., Ph.D., Dean, Tufts University School of Dental Medicine
    Naomi Rosenberg, Ph.D., Dean, Sackler School of Graduate Biomedical Sciences
    Tufts University School of Medicine
TUFTS UNIVERSITY SCHOOL OF DENTAL MEDICINE

DEAN’S RESEARCH SCHOLARSHIP
2017-2018
APPLICATION

STUDENT NAME: _____________________________

STATEMENT OF INTENT

In four to six paragraphs, address the following points:

- Describe your past research experience and activities.
- Explain why you are interested in continuing and expanding your research activities in dental school.
- Articulate your future goals with regards to research.
Research faculty and staff at
Tufts University School of Dental Medicine...

**Basic Science Research**

- **Addy Alt-Holland, Ph.D.** – Assistant Professor, Department of Endodontics. Dr. Alt-Holland’s research goal is to understand the molecular mechanisms that are involved in tumor-microenvironment interactions and regulate critical events that occur during the early stages of skin squamous cell carcinoma development. Contact Dr. Alt-Holland at addy.alt_holland@tufts.edu or 617-636-2478.

- **Jinkun (Jake) Chen, DMD, MDS, PhD, FACD** – Professor and Director, Division of Oral Biology, Department of General Dentistry. Dr. Chen’s research interests lie in the following areas: 1. Gene expression and regulation in bone formation and tooth development using transgenics, conditional gene knock outs, transcription factors, signal transduction pathways and microRNA approaches; 2. Tissue engineering and regeneration of dental and craniofacial structures using adult stem cells, bone marrow stromal cells and induced pluripotent stem cells (iPSCs); 3. Translational studies including osteonecrosis of the jaw bones, osseointegration of dental implants and bone metastasis of breast cancer cells. 4. Epigenetic study of oral diseases including genetic and developmental abnormalities in the oral craniofacial region. Contact Dr. Chen at jk.chen@tufts.edu, or 617-636-2729. His lab is located on the 6th floor.

- **Jonathan Garlick, D.D.S., Ph.D.** – Professor, Department of Oral and Maxillofacial Pathology. Dr. Garlick’s work focuses on tissue engineering of stratified epithelium particularly as it relates to the oral mucosa, the mechanisms of epithelial cell-matrix interaction and the way these processes are subverted during disease, especially cancer. Email: jonathan.garlick@tufts.edu. Phone: 617-636-2444.

- **Behzad Gerami-Naini, Ph.D.** – Assistant Professor, Department of Oral and Maxillofacial Pathology. Dr. Gerami-Naini’s current research aims are to implement stem cell biology and bioengineering approaches in a 3D in vitro model for skin and retinal pigmented epithelium (RPE) regeneration. Email: Behzad.gerami_naini@tufts.edu Phone: 617-636-2478.

- **Qisheng Tu, Ph.D.** – Associate Professor, Biological Science Research. Dr. Tu’s research efforts focus on these areas: development of new therapies to bone-related diseases, including the application of stem cells, microRNAs, adiponectin; gene expression and regulation in bone formation and tooth development using mouse transgenic and conditional knockout models; bone metastasis of breast cancer cells. Email: qisheng.tu@tufts.edu Phone: 617-636-0341.
• **Pamela Yelick, Ph.D. - Professor, Department of Oral and Maxillofacial Pathology.** Dr. Yelick heads the division of Craniofacial and Molecular Genetics at Tufts University School of Dental Medicine. Research within the division focuses on the development and regeneration of craniofacial skeletal elements and teeth through tissue engineering and adaptation. Email: Pamela.yelick@tufts.edu Phone: 617-636-2430

• **Driss Zoukhri, M.S., Ph.D. – Associate Professor, Department of General Dentistry.** Dr. Zoukhri research focus is on understanding the cellular and molecular mechanisms involved in dry mouth and dry eye syndromes. Topics being currently investigated in the lab include understanding the impact of inflammation on lacrimal and salivary gland biology with emphasis on tissue injury and repair mechanisms, using adult mesenchymal stem cells (MSCs) to promote/accelerate tissue repair, and using MSCs to fabricate a tissue-engineered fluid secreting device. Contact Dr. Zoukhri at driss.zoukhri@tufts.edu or 617-636-3914.

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**Clinical Research and Dental Materials**

• **Yoon (Henry) Kang, D.M.D., Ph.D. – Assistant Professor, Department of Comprehensive Care.** Dr. Kang conducts clinical and bench experiments focused on dental materials and devices, biocompatibility of dental restorative materials, and biomaterials for craniofacial reconstruction. Bench studies include but are not limited to: development of new dental and biomaterials that withstand the oral environment; longevity, fatigue and effectiveness of dental materials; evaluation and interaction of the resin matrix/filler interfaces and tooth-dental material interfaces; fluoride release and recharge of materials; clinical correlation of dental materials. Email: yoon.kang@tufts.edu Phone: 617-636-3843

• **Gerard Kugel, D.M.D., M.S., Ph.D. – Professor, Associate Dean for Research.** Dr. Kugel does a wide variety of dental materials and cosmetic dentistry research. He designs bench-top projects studying the effectiveness of dental bonding and restorative materials. He also oversees many clinical studies involving tooth whitening products. Dr. Kugel has also investigated the reproductive hazards resulting from exposure of women of childbearing age to low levels of nitrous oxide. Email: Gerard.kugel@tufts.edu Phone: 617-636-0870.

• **Athena Papas, D.M.D., Ph.D. – Professor, Department of General Dentistry.** Dr. Papas’ research focus is to identify novel therapies for the treatment of high-risk patients, particularly those with medication-induced xerostomia or undergoing intensive cancer treatment. Dr. Papas has conducted clinical studies of the effectiveness of interventions (dentifrice, tooth brushing mechanisms), as well as longitudinal studies on the role of diet in the oral health of Sjögren’s and medication-induced xerostomia patients. Email: Athena.papas@tufts.edu Phone: 617-636-3932
- **Carroll Ann Trotman, B.D.S., M.S., M.A. – Professor & Chair, Department of Orthodontics.** The focus of the research conducted in the Facial Animation Laboratory is on the development and use of objective measures to assess outcomes of soft tissue surgeries. For over the past 10 years, we have developed 3 dimensional approaches to assess facial and circumoral soft tissue movements applied to patients with craniofacial deformities, e.g., cleft lip/ palate. Email: carroll_ann.trotman@tufts.edu Phone: 617-636-0846

- **Archana Viswanath BDS, MSD- Assistant Professor, Department of Oral and Maxillofacial Surgery**
  Dr. Viswanath is the Director of Clinical Research in the Department of Oral Surgery and oversees all research activities in the Department. She is a Diplomate of American Academy of Orofacial Pain. Her research interests are in preemptive analgesia, novel drug therapy for management of acute post-operative pain as well as chronic orofacial pain, with an emphasis on neuropathic pain and cancer-therapy induced conditions. Dr. Viswanath has conducted several clinical trials in understanding mechanisms of acute and chronic pain. Email: Archana.Viswanath@tufts.edu Phone: 617-636-3578.

**PUBLIC HEALTH RESEARCH**
- **John Morgan, D.D.S, Associate Professor, Department of Public Health and Community Service.** Dr. Morgan is in the Division of Special Care in Dentistry, which takes a proactive role in providing quality, locally-based clinical services and aggressive preventive education programs to underserved populations. Dr. Morgan’s research focuses on access to care issues and oral health status information for the developmentally disabled population. He is also actively promoting global oral health initiatives, and leads a dental project providing an improved oral health workforce and sustained oral health infrastructure to a community in Zambia. Email: john.morgan@tufts.edu Phone: 617-636-3899.

- **Ellen Patterson, M.A., M.D., Assistant Professor, Department of Comprehensive Care.** Dr. Patterson is the Director of Interprofessional Education at TUSDM, and is interested in developing and assessing innovative approaches to interprofessional education. She is looking to better understand which educational experiences lead to changes in attitudes and behaviors that facilitate team-based collaborative healthcare, and how to effectively teach the communication skills dental students need to practice collaboratively with professionals of other disciplines. Email: ellen.patterson@tufts.edu Phone: 617-636-3886.

- **Duong Tran, M.P.H., Ph.D. – Assistant Professor, Department of Public Health and Community Service.** Dr. Tran recently started with us from The University of Texas Health Science Center at Houston where he was a Postdoctoral Research Fellow. His Ph.D. dissertation was titled “Partial mouth
periodontal examination protocol for estimates of prevalence, severity and extent of periodontitis”. Dr. Tran received his M.P.H. in Epidemiology from The University of Queensland in Brisbane, Australia. His thesis title was “Implementation of multicultural policies in dental public health services for Vietnamese community at Brisbane South, Queensland”. Dr. Tran will teach Epidemiology this coming semester. Along with teaching, Dr. Tran’s oversees experiments regarding electronic health record databases. He works extensively with and mentors pre-doctoral, post-doctoral, and postgraduate students and is responsible for designing protocols, writing proposals, analyzing data, interacting with external research sponsors, presenting results, and publishing scholarly articles. Email: duong.tran@tufts.edu Phone: 617-636-3614.