Dr. Satheesh Elangovan has received a two-year grant from the National Institute of Dental and Craniofacial Research. The project, “A Novel RNA-Based Biomaterial for Bone Regeneration”, is supported by a $406,285 award. Results from this study will provide critical information on the feasibility and effectiveness of cmRNA-based therapeutics for bone regeneration. New knowledge gained from the research will likely have implications in developing future bio-inspired materials for tissue engineering applications. Co-investigators on Dr. Elangovan’s research project include Dr. Liu Hong, Dows Research; Dr. Deborah Dawson, director of the Biostatistics Unit; and Dr. Aliasger Salem, College of Pharmacy. Drs. Georgia K. Johnson, Department of Periodontics; Clark M. Stanford, University of Illinois, Chicago); and Michael Kormann (University of Tübingen, Germany) are consultants on this project.

Dr. Gustavo Avila-Ortiz received a $40,000 grant from BioHorizons Inc. (Birmingham, Ala.) to conduct a study entitled “Comparison of the Efficacy of Two Different Surgical Approaches to Increase Peri-implant Mucosa Thickness: A Randomized Clinical Trial.” The purpose of this trial is to determine the clinical efficacy of a soft tissue allograft (i.e., acellular human dermal matrix) in the augmentation of facial mucosa thickness around a dental implants as compared to an autologous subepithelial connective tissue graft. Dr. Christopher Hutton, a second year resident in the Department of Periodontics, is the main co-investigator, and this project will be done in conjunction with his Master of Science degree in Oral Sciences. Other co-investigators include Dr. Georgia Johnson, DEO, Department of Periodontics; Dr.
Kelsey Tengan, first year resident, Department of Periodontics; Dr. Chris Barwacz, Dows Institute for Research; and Dr. Veerasathpurush Allareddy, Department of Orthodontics. This study is currently ongoing and is actively recruiting patients.

Dr. Kim Brogden, Periodontics and Director of Dows Institute for Dental Research, recently gave invited lectures at two conferences in London, England during November. The first conference, “Antibiotic Alternatives for the New Millennium,” focused on the rise of antibiotic resistance, the low rate of emerging clinically useful antibiotics, and the importance of finding alternatives to antibiotic treatments.

Dr. Brogden presented research that assessed the ability of HBD3, an antibiotic host defense peptide, to regulate matrix metalloproteinase production in human myeloid dendritic cells exposed to Porphyromonas gingivalis hemagglutinin B (HagB). Dr. Brogden’s work (below) was a collaboration with Cellworks,™ a therapeutics design company that uses simulation to screen studies and predict clinical outcomes:


The second conference Dr. Brogden attended, “2014 Innate Immunity Summit,” focused on innate immune interactions with pathogens, interactions between the innate and adaptive immune systems, and therapeutic applications of the innate immune system; the title of his presentation was “Modeling antimicrobial peptide-induced chemokine, cytokine, and biological mediator responses.”
The 62nd annual meeting of the Iowa Section of the American Association for Dental Research (AADR) was held February 10, 2015, at the UI College of Dentistry. Congratulations to all those who received awards.

Dr. Mitch Gubler, Periodontics resident, was presented the first place DENTSPLY Implants Oral Presentation Graduate Specialty Competition Award. Dr. Gubler’s mentor is Dr. Avila-Ortiz.