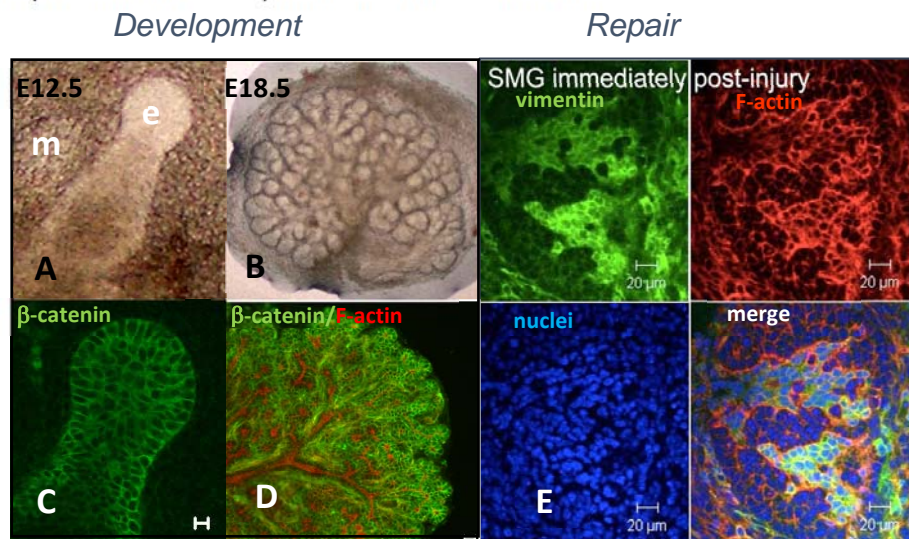


Undergraduate Research at Boston University Henry M. Goldman School of Dental Medicine (GSDM)

The scope of research at the GSDM encompasses thematic clusters of research excellence spanning areas of basic, clinical, public health and translational research. Teams of GSDM investigators work in state-of-the-art laboratories, as well as community and clinical settings, supported by the most advanced research resources and infrastructure. The GSDM offers students training opportunities in a wide variety of research areas and settings, pairing them with faculty mentors who are at the top of their respective fields and dedicated to improving treatment technologies and patient care. For instance, investigators in the Department of Restorative Sciences & Biomaterials carry out translational research aimed at discovering novel biomaterials for application to dental medicine. One major success includes the development of Enamic, a novel biomaterial that combines the best properties of polymer and ceramic, already in use by dental professionals. Another notable area of excellence is in the Department of Health Policy and Health Services Research, which houses the Center for Research to Evaluate and Eliminate Dental Disparities, a multimillion-dollar federally-funded program. A number of investigators work in the Center for Anti-inflammatory Therapeutics, with a focus on periodontal disease in inflammatory disorders and obesity, while others investigate potential therapeutic significance of salivary proteins in Celiac disease or mechanisms of bone remodeling. Much of the School's most innovative research is clinically-based and takes place in the Center for Clinical Research, as well as in the Departments of Periodontology, Orthodontics & Dentofacial Orthopedics, Endodontics, General Dentistry and Oral & Maxillofacial Surgery. Further, in the Department of Molecular and Cell Biology, nationally and internationally renowned investigators focus on uncovering the basic mechanisms underlying cell and tissue function in health and oral health disorders, such as cancer and autoimmune diseases. This work has led to the establishment of two major multidisciplinary research collaboratives at the GSDM. The Oral Cancer Research Initiative (OCRI), established in 2011, focuses on basic, epidemiological and translational research in oral cancer, and the Norwegian-US Initiative on Sjogren's Syndrome (NUSISS), investigates the etiology of this autoimmune disease that affects salivary glands and lacrimal glands and is associated with high morbidity and an increased risk of B cell lymphoma. These diverse multidisciplinary and collaborative research activities provide an excellent platform for the training of college students in research and for augmenting their knowledge and experience with relevance to educational and professional development and future career choices.



Embryonic development and injury repair of the mouse salivary submandibular gland (SMG) ex vivo. (A-B) Light microscopy of an epithelial SMG bud (e) with a surrounding mesenchyme (m) at embryonic day 12.5 (E12.5), which develops into a highly branched cytodifferentiated structure at E18.5. (C-D) Immunofluorescence staining of the SMG for β -catenin (green), counterstained for filamentous actin (red) at E12.5 (C) and E18.5 (D). (E) Injury to E13.5 SMG triggers expansion of vimentin-positive repair cell progenitors (green) that function in wound healing. Injured SMGs were counterstained with filamentous actin (red) and nuclei (blue). *Images courtesy of the Kukuruzinska's laboratory.*

For more information on GSDM Undergraduate Research contact the Research office at gsdmr@bu.edu and/or visit: <http://www.bu.edu/dental-research/student-research/undergraduate-research/>