Oral and Craniofacial Biomedicine
Annual Newsletter

UNC School of Dentistry

Academic Year 2016 - 2017
Greetings from the Director

2017 has arrived! And surprise ... we’re changing our name! This decision has been in the making for several years and is finally coming to fruition. The goal of the University of North Carolina at Chapel Hill School of Dentistry is to educate individuals to become clinically competent oral health providers (general dentists, dental specialists, dental hygiene and dental assisting), educators and scholars. In order to meet this goal, the School has a responsibility to train oral/craniofacial/dental researchers. In 2012, the Biomedical Workforce Working Group Report (A Working Group of the Advisory Committee to the Director NIH)\(^1\) identified the need to improve attracting individuals to become PhD students in biomedical research. Soon after, the National Institute of Dental and Craniofacial Research (NIDCR) in its NIDCR Strategic Plan 2014-2019 emphasized a goal to “ensure that a strong research workforce is dedicated to improving dental, oral, and craniofacial health.”\(^2\)

Attention in dental research and practice is now focusing on the dynamics of oral disease and prevention and treatment at the earliest stages of development, including research on risk factors for disease as well as the cellular and molecular events in disease pathogenesis. Modern biomedical research is also identifying systemic relationships between oral conditions, health status, and diseases such as atherosclerosis, diabetes, cystic fibrosis, HIV and cancer. The oral cavity also offers an ideal model to study biological structures and cellular mechanisms important throughout the body and important in immune responses. Our request for the change in the academic and degree name reflects that, as the evidence for the oral-systemic connection has grown, our students have increasingly conducted research on the basic mechanisms that underlie the relationship between oral and systemic health and pathology. I hope you approve!

I hope you enjoy our newsletter! More details on the “happenings” in the program can be found inside. Please visit soon and often!

—Ceib Phillips

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\(^1\) https://acd.od.nih.gov/biomedical_research_wgreport.pdf

\(^2\) https://www.nidcr.nih.gov/research/ResearchPriorities/StrategicPlan/StrategicPlan14/
Welcome, New Students!

2016

**Michael Zhe Miao** earned his dental degree in a combined Bachelor of Science and Master of Science in orthodontics from Shanghai Jiao Tong University in China. He served as Student Editor of Chinese Journal of Stomatological Information from 2011-2013 and was awarded the President Award of Shanghai Jiao Tong University in 2015. Michael is fond of traveling and photography.

**Lufei Wang** joins us from Chengdu, China, where he worked as an orthodontist in a dental clinic. He completed his Bachelor of Medicine and Master of Stomatology from West China School of Stomatology, Sichuan University. Lufei enjoys bike riding and singing.

PhD Student Accomplishments

**Dr. Kevin Byrd** has been awarded an NIH/NIDCR Mentored Clinical Scientist Research Career Development Award (Parent K08). Quite an accomplishment! Dr. Byrd also received the Turner Award at the 2016 Dental Research in Review Day for his poster presentation, “Dorsal Tongue Epithelia Require Oriented Cell Divisions to Organize Filiform Papillae” and won first place at the Annual CGIBD Scientific Research Symposium for his poster presentation, “Identification of Label Retaining Cells and Intestinal Stem Cell Markers in Upper Aerodigestive Tract Epithelia.” In 2016, Dr. Byrd received the Patrick Flood award for peer leadership in the OBIO program. Dr. Byrd is mentored by Dr. Scott Williams, an assistant professor in the School of Medicine’s Department of Pathology and Laboratory Medicine.

**Dr. Ning Cheng** received the Freedland Advanced Dental Education Fellowship. Dr. Cheng is mentored by Dr. Jenny Ting, a professor in the School of Medicine’s Department of Genetics.

**Dr. Steven Kim** received a Doctoral Dissertation Completion fellowship in 2016 from the UNC Graduate School for his project, “Effects of IL-37b single nucleotide polymorphism on its anti-inflammatory function”. Dr. Kim is mentored by Dr. Steven Offenbacher, Kenan Distinguished Professor in the School of Dentistry’s Department of Periodontology.
Dr. Sehrish Javaid joined the Der Lab in May 2016. She is mentored by Dr. Channing Der, Kenan Distinguished Professor in the School of Medicine’s Department of Pharmacology, and Dr. Adrienne Cox, associate professor in the School of Medicine’s Department of Radiation Oncology. The lab is located in the Lineberger Comprehensive Cancer Center.

Dr. Aatish Thennavan joined the Perou Lab in May 2016. He is mentored by Dr. Charles Perou, The May Goldman Shaw Distinguished Professor of Molecular Oncology and professor in Genetics and Pathology & Laboratory Medicine in the School of Medicine’s Department of Genetics. The lab is located in Lineberger Comprehensive Cancer Center.

Dr. Sing Wai Wong was awarded the NIH/NIDCR Ruth L. Kirschstein Research Education Training Award (R90) to study the pathogenesis of Paget’s disease of bone using a novel rodent model. He is co-mentored by Dr. Ching-Chang Ko, Hale Distinguished Professor in the School of Dentistry’s Department of Orthodontics, and Dr. Jennifer Martinez, tenure-track investigator at NIH/NIEHS.

Congratulations to Curriculum in Oral Biology Graduates!

2016

Dr. Brittney Ciszek (Pain Neurobiology; mentor Dr. Andrea Nackley) is currently a student in the Doctor of Dental Surgery (DDS) Program at the UNC School of Dentistry. She was awarded the William Gies Fellowship, which is given to first year dental students pursuing research at UNC. She plans to pursue a career that allows her to be both a clinician and researcher.

Dr. Shijia Hu (mentor Dr. Tim Wright) is an assistant professor in the Department of Orthodontics and Pediatric Dentistry at the National University of Singapore where he practices pediatric dentistry at a hospital based clinic and teaches dental students “the art of sticking needles in the faces of little children”. He recently received a grant: “Exploring the oral microbiome in Crohn’s Disease”. In 2016, Dr. Hu married UNC Pediatric Dentistry alumna, Dr. Bien Lai.
Dr. Christine Kim (Host-Pathogen; mentor Dr. Robert Tarran) is a postdoctoral fellow with Sara Wickstrom’s Lab at the Max Planck Institute of Biology of Aging in Cologne, Germany. In her spare time, she enjoys visiting other European countries.

Dr. Lin Lin (Host-Pathogen; mentor Dr. Zhi Liu) is now a scientist at Sorrento Therapeutics in San Diego, CA.

Recent Student Publications

2016 Journal Articles


2016 Abstracts – Published


Alumni News

Dr. Melanie Alazzam (2014) is an assistant professor of oral biology at Jordan University of Science and Technology. She teaches basic dental sciences for second-year dental students. In 2015, Dr. Alazzam was assigned the position as assistant dean of academic affairs. In 2016, she was appointed as the School of Dentistry quality assurance and control officer of academic affairs. Her current research interests are oral clefting in humans, biology of oral cancer, and dental education. She enjoys life with her husband, Mohammad Atieh, an adjunct faculty member at UNC School of Dentistry, and her five-year-old daughter, Mariam, who is active in gymnastics. Dr. Alazzam and Mariam visited Chapel Hill this holiday season and discovered a new hobby--painting pots! Dr. Alazzam says she is blessed to have been part of the UNC family and is grateful for the mentors, supervisors, and colleagues who greatly impacted her training.

Dr. Sompop Bencharit (2003) recently became the first director of digital dentistry Technologies at the Virginia Commonwealth University. He is appointed as associate professor in the Department of General Dentistry, School of Dentistry; the Department of Oral and Maxillofacial Surgery, School of Dentistry; and in the Department of Biomedical Engineering, School of Engineering. Dr. Bencharit’s current research includes implant dentistry, 3D printing applications in dentistry, salivary changes associated with e-cigarette, as well as oral and gut microbiomes. His wife, Dr. Escher Howard-Williams, is currently a clinical assistant professor, hospitalist and associate director of quality care improvement at UNC Hospitals. His 10 year-old son, Niko, is a fourth grader at Mary Scroggs Elementary School.
Dr. Leo Yu Lei (2011) began his position at the University of Michigan School of Dentistry and the University of Michigan Medical School in 2015. He holds joint appointments with the Graduate Program in Immunology, Translational Oncology Program, and the U-M Comprehensive Cancer Center. Dr. Lei serves on the editorial board of a number of journals, including *Oral Surgery Oral Medicine Oral Pathology Oral Radiology*. He serves on the nomination committee of the American Academy of Oral and Maxillofacial Pathology. He is currently a councilor of the IADR Clinical and Translational Science Network (CTS-Net). Dr. Lei’s research team is a translational immunology group that is primarily interested in studying the immunologic basis for oral diseases.

Dr. Suchaya Pornprasertsuk-Damrongsi (2003) is head of the Department of Oral and Maxillofacial Radiology at Mahidol University, Thailand. She and her family recently took a wonderful trip to Disneyland in Tokyo. *Pictured from left to right: Porsche, Suchaya, Nada, Moo (Postdoctoral student with Dr. Offenbacher 2001-2002).*

Dr. Patricia Miguez (2011) is assistant professor in the Department of Operative Dentistry at UNC School of Dentistry. Her laboratory focuses on bone and dentin biology, disease and regeneration. Dr. Miguez recently applied for several grants in the area of bone regeneration and disease. She will be presenting some of her data at IADR in San Francisco this March on the significant impact of certain dietary compounds in the healing of tooth extraction sockets (study in collaboration with the Federal University of Santa Catarina, Brazil). Additionally, she has written a new chapter in collaboration with Dr. Thiago Morelli entitled “Periodontology applied to Operative Dentistry” for the seventh edition of the top-selling dental textbook *Sturdevant’s Art and Science of Operative Dentistry*. Most recently, Dr. Miguez received the prestigious The Bud and Linda Tarrson Fellowship (2014) from the American Academy of Periodontology Foundation.

Dr. Ghadeer Thalji (2012) began a new position as clinical associate professor in the Restorative Department at University of Illinois at Chicago and director of the Advanced Prosthodontics Program Digital Center of Excellence. She teaches in the graduate prosthodontics program. Dr. Thalji was recently inducted as a fellow in the International College of Dentists. She is an author of a chapter, “Prosthodontic Considerations in the Implant Restoration of the Esthetic Zone” in *Evidence-based Implant Dentistry: Treatment Planning and Restorative Protocols* by Willey Publishing (ISBN: 978-1119080039). Two of her journal articles were recently published in *The International Journal of Oral & Maxillofacial Implants* (PubMed: 27228251; PubMed: 27228248).
Dr. Ro Shauna Rothwell (2008) recently began her position as protocol specialist at the National Institutes of Health, National Institute of Allergies and Infectious Diseases, Vaccine Research Center (VRC) in Clinical Protocol Operations. The VRC conducts research that facilitates the development of effective vaccines for human disease such as AIDS, Ebola and lately the Zika virus. As a protocol specialist, she aids in the design and development of clinical research protocols for the use of investigational new vaccines and related products such as monoclonal antibodies. She ensures that the advice and actions of VRC staff are consistent with Institute, NIH and the Department of Health and Human Services goals and policy as well as with applicable statutes, regulations, rules and directive. She recently purchased a home and lives in the suburbs of the District of Columbia.

Dr. Zhengyan (Maria) Wang (2004) recently co-authored a publication in December 2016 titled “Discoidin Receptor 2 Controls Bone Formation and Marrow Adipogenesis” in *Journal of Bone and Mineral Research* (PMID: 27341689). The work was conducted at University of Michigan. Dr. Wang is currently a pediatric dentist at RTP Pediatric Dentistry.

Dr. Sarah (Council) Windsor (2013) finished her postdoctoral fellowship at the North Carolina Museum of Natural Sciences. In May 2016, she began her new position as US2020 STEM Outreach Program Manager at The Research Triangle Foundation in Raleigh. Her group focuses on STEM outreach and mentoring to K-12 students who are underrepresented in the STEM workforce. She and David Windsor were married in Raleigh in October 2016 during Hurricane Matthew.

Dr. Ning Yu (2015) started her residency in periodontics at University of Michigan Ann Arbor in July 2016. On November 1, 2016, she gave birth to her daughter Emma. She keeps both Ning and her husband, Mao, both busy and happy. Congratulations Ning and Mao!

Dr. Lu Zhang (2014) is currently working as a postdoctoral scholar in Duke Molecular Physiology Institute studying pancreatic islet cell biology and mechanisms of diabetes. She was awarded a three-year postdoctoral fellowship from the American Diabetes Association. Dr. Zhang’s first author paper was published on molecular and cellular biology in *Immunity* (PMCID: PMC4011014). Her son, Brian, turned one year old in September.
Dr. Shaoping Zhang (2011) is a postdoctoral research associate in the Department of Periodontology at UNC School of Dentistry. In 2016, Dr. Zhang received the inaugural American Dental Association (ADA) Gold Medal Fellowship. The Gold Medal Fellowship is given based on the Gold Medal Award winner’s choice of a new dentist in a masters or doctoral program.

Faculty News

On April 10, 2016, Dr. Robert F. Wright, professor and chair of the Department of Prosthodontics, passed away unexpectedly in his home at the age of 60. Wright joined the UNC School of Dentistry faculty in the summer of 2013.

New Dean & Faculty

Dr. Scott De Rossi has been named the new dean of the School of Dentistry. De Rossi held joint faculty appointments at Augusta University as professor of oral medicine in the department of diagnostic sciences at the Dental College of Georgia – the state’s only dental school – and professor of otolaryngology, head and neck surgery and dermatology at the Medical College of Georgia. He was an adjunct professor of oral medicine at the University of Pennsylvania’s School of Dental Medicine. He earned his doctor of dental medicine degree from the University of Pennsylvania School of Dental Medicine, graduating with highest honors, and a certificate in oral medicine from the Hospital of the University of Pennsylvania. He earned a bachelor of science degree from Providence College. He expects to receive a master’s degree in business administration from Augusta University’s Hull College of Business in December.

Dr. Rishma Shah joined the Department of Orthodontics in July 2016 as an assistant professor. Shah began her dental education at the United Medical and Dental Schools of Guy’s and St. Thomas’s Hospitals in London, from which she obtained her dental degree. She later earned her Master of Science in orthodontics from University College London in 2002, after which she received her membership in orthodontics from the Royal College of Surgeons in England in 2003. In 2006, she was awarded a fellowship in orthodontics by the Royal College of Surgeons, and in 2010 she completed her PhD at University College London in craniofacial skeletal muscle engineering. Prior to joining UNC, Shah was a senior lecturer and consultant in orthodontics at the University College London Eastman Dental Institute and Hospital.
Dr. Jennifer Martinez heads the Inflammation and Autoimmunity Group within the Immunity, Inflammation, and Disease Laboratory at NIEHS. Dr. Martinez earned her bachelor of science degree in Cellular and Molecular Biology from Tulane University in 2001 and her PhD in immunology from Duke University in 2010. She began her work on the autophagy machinery and its role in inflammation and host defense as a postdoctoral fellow in the laboratory of Douglas R. Green, PhD, at the St. Jude Children’s Research Hospital in Memphis, Tennessee. After completing her fellowship, she joined the NIEHS Immunity, Inflammation, and Disease Laboratory as a tenure-track investigator in 2015. Since 2016, she has acted as the NIEHS mentor for third-year student Sing-Wai Wong.

Message from Paul Gardner
Executive Director
Dental Foundation of North Carolina

We certainly have some of the best physical facilities for oral and craniofacial research, and now we need to make sure we can support our Oral Biology PhD students at the UNC School of Dentistry in acquiring new research skills, preparing for future careers, and occasionally celebrating accomplishments. To do that we need more than the generous funding provided each year by the School of Dentistry. We need your support for the Dental Foundation of North Carolina (DFNC).

Contributions to the Curriculum in Oral Biology fund will be most helpful because such gifts provide the most flexibility for the program director and the executive committee to support individual students and the program as a whole. “We’re grateful for the funding from the School of Dentistry and the State of North Carolina,” Dr. Ceib Phillips, program director of Oral Biology, says. “But private dollars will help us send our students to special research workshops and career and professional conferences, and, eventually, to provide a Dental Foundation Scholarship. Frankly, it’s almost impossible to do those things now as state and grant funding becomes more limited and constrained. We encourage alumni and friends to contribute to the Curriculum in Oral Biology Fund or any of the other DFNC funds that assist student researchers within the School of Dentistry.”

It’s very easy to make your tax-deductible contribution to the Curriculum in Oral Biology Fund. You can send a check to:

Dental Foundation of North Carolina
Campus Box 7450
1090 First Dental Building
Chapel Hill, NC 27599-7451
Or you can go to the school’s website and make a secure credit card gift:

https://secure.dev.unc.edu/gift/

We’ll also be happy to help you set up monthly or quarterly credit card charges or automatic bank drafts.

Private dollars are critical to ensure Carolina Dentistry remains one of the top dental schools in the United States. If you have questions or need additional information, please contact me or Dr. Ceib Phillips:

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Thank you in advance for your support of Oral Biology in 2017-18!