LUNCH & LEARNING

During lunch, you may discuss topics of current interest with the researchers identified below. There is a $65 USD fee to cover the cost of lunch and attendance will be limited to 10 persons per table, including the speaker. Assignments will be processed on a first-come, first served basis. All Lunch & Learning sessions will take place in the

THURSDAY, JUNE 20, 2019
12:30 p.m. – 1:45 p.m.

Table #1: Clinical Use of Silver Diamine Fluoride for Caries Management
Speaker: Shiqian Gao (The University of Hong Kong, SAR China)
Sponsoring Group/Network: Cariology Research

Description: Silver diamine fluoride (SDF) has been used for arresting early childhood caries and root caries. It is a non-invasive, simple and low-cost strategy to treat dental caries. A number of clinical studies using SDF for caries management were performed.

Table #2: Current Understanding of Accelerated Orthodontics Techniques
Speaker: Edmund Khoo (New York University, N.Y., USA.)
Sponsoring Group/Network: Orthodontics Research

Description: Accelerated Orthodontics is a new controversial topic in Orthodontics. This session will focus on different challenges on the path of accelerated Orthodontics. The biological need for accelerated orthodontics will be discussed and all accelerated techniques that are available will be compared from the biological standpoint of view.

Table #3: Designing Scaffolds for Regenerative Dentistry
Speaker: Xiaohua Liu (Baylor College of Dentistry, Dallas, Texas, USA)
Sponsoring Group/Network: Dental Materials

Description: Scaffold-based tissue engineering is a promising approach to replacing damaged/missing dental and craniofacial structures and restoring their biological functions. A scaffold is an artificial extracellular matrix (ECM) and serves as a template to guide cell growth and tissue regeneration. Due to the unique anatomy of a tooth and its surrounding tissues, designing a scaffold for dental tissue
regeneration is different from many other tissues. In this Lunch & Learning, I will first present the general principle of scaffolding design for regenerative dentistry. Next, two types of injectable scaffolds and their fabrication techniques will be introduced. Lastly, Recent advances of bio-inspired scaffolds that truly mimic the architecture of dental tissues and provide unique biophysical and biochemical cues to induce stem cells to regenerate functional 3D dental tissues will be discussed.

**Table 4:** New Insights on Host-bacterial Interaction: Learning From Experimental Gingivitis  
**Speaker:** Martin Levine (University of Oklahoma HSC, Oklahoma City, USA)  
**Sponsoring Group/Network(s):** Periodontal Research, Microbiology/Immunology, Clinical and Translational Science Network

**Description:** Traces of gingival crevicular fluid (GCF) in the crevice increase substantially during experimental gingivitis (EG). GCF increases after only a week of EG, but biofilm dysbiosis and gingivitis require 3 weeks. We will discuss new evidence that clarifies how GCF enhances dysbiosis and promotes rather than protects from gingivitis.

**Table #5:** Management of the Patient with Dentin Hypersensitivity  
**Speaker:** Amal Noureldin (Texas A&M University, College of Dentistry, Dallas, USA)  
**Sponsoring Group/Network:** Cariology Research

**Description:** Dentin hypersensitivity should be considered a quality of life issue, impacting a significant number of individuals. Left untreated, it creates suffering for the patient and risk for further deterioration of tooth structure. Dental professionals who provide effective treatment for dentin hypersensitivity, and who focus on providing dental experiences customized to each patient, have a better chance to develop strong patient relationships resulting in higher patient satisfaction, increased case acceptance, fewer cancellations, and more referrals. This Lunch and Learning session is planned to discuss the mechanism and contributing factors for dentin hypersensitivity and thoroughly clarify the effective differential diagnosis of the very commonly mis-diagnosed hypersensitivity. This session will cover therapies that the clinician should initiate to manage hypersensitivity with conservative approaches progressing to more aggressive, time-consuming or costly procedures if they are unsuccessful.

**Table #6:** Pain Measurement: Making Visible the Invisible  
**Speaker:** Marc Heft (University of Florida, Gainesville, USA)  
**Sponsoring Group/Network:** Behavioral, Epidemiologic, and Health Services Research

**Description:** Pain reports are viewed by many as 'subjective assessments of otherwise unmeasurable experiences'; however, various strategies have been developed to provide reliable and valid measures of clinical pain. Pain is a multidimensional experience that can be described in terms of both sensory intensity and unpleasantness qualities and can be further characterized physiologically and psychologically.

**Table #7:** Oral Microbiome in Complications Of HIV Latency: is it the Chicken or the Egg?  
**Speaker:** Bruce Paster (The Forsyth Institute, Boston, Mass., USA)
**Sponsoring Group/Network:** Periodontal Research

**Description:** Periodontal disease may play a role in HIV latency as oral bacteria that produce short chain fatty acids can reactivate latent HIV virus in the oral cavity. Furthermore, periodontal disease, a bacterial-induced, chronic inflammatory disease has been implicated a major risk factor for cardiovascular disease, especially in HIV infected patients.

**Table #8:** Peri-implantitis and Treatment Options: Could Lasers Enhance Clinical Endpoints?  
**Speaker:** Jamil Shibli (University of Guarulhos, Brazil)  
**Sponsoring Group/Network:** Periodontal Research

**Description:** In the treatment of peri-implantitis, physical methods using lasers have been employed in both anti-infecive and detoxification methods in the past decades. Anti-infective therapy using photodynamic therapy (PDT) as well as sterilization and cleaning/decontamination of dental implant surfaces by means of high and low-intensity laser therapy using Er:YAG, Er, Cr:YSGG and GaAlA have been also employed.

**Table #9:** Periodontal Regeneration: From the Lab to Clinical Application  
**Speaker:** Anton Sculean (University of Berne, Switzerland)  
**Sponsoring Group/Network:** Periodontal Research

**Description:** The aim of the session is to discuss the steps needed from preclinical studies involving in vitro and animal experiments to clinical application of various biomaterials used in periodontal regeneration. Based on various examples, pitfalls and limitations of translational research in periodontal regeneration will be highlighted.

**Table #10:** Radioprotection and Regeneration of the Salivary Glands  
**Speaker:** Catherine Ovitt (University of Rochester, N.Y., USA)  
**Sponsoring Group/Network:** Salivary Research

**Description:** Radiation therapy used to treat head and neck cancers results in the gradual loss of secretory acinar cells, but the mechanisms underlying radiation damage are not well understood. The discussion will review the effects of radiation, various means of radioprotection, and the role of salivary gland regeneration.

**Table #11:** Reparative Potential of Modern Restorative GIC-based “Bioactive” Materials  
**Speaker:** Salvatore Sauro (CEU Carndenal Herrera University, Valencia, Spain; King's College London, England)  
**Sponsoring Group/Network(s):** Dental Materials, Cariology Research, Mineralized Tissue

**Description:** Dental adhesive/composite restorations are still characterized by shortcomings such as post-operative sensitivity, bond degradation and secondary caries. Modern GIC-based materials doped with bioactive may interact therapeutically with dental hard tissues and repair, or prevent the
degradation of bonded-dentine interface when employed as restorative materials after conventional or selective caries removal.

**Table #12: Research Review on the Single Mandibular Midline Implant**  
**Speaker:** Matthias Kern (Christian-Albrechts University, Kiel, Germany)  
**Sponsoring Group/Network(s):** Implantology Research, Prosthodontics Research, Geriatric Oral Research

**Description:** Many edentulous patients have severe problems with their mandibular prosthesis stability, but cannot afford multiple implants to improve prosthesis stability. They have a severely reduced quality of life. Research has demonstrated that a single mandibular midline implant can stabilize a mandibular full prosthesis in elderly patients who cannot afford more implants.

**Table #13: RNA-sequencing Technology Driven Discoveries in Periodontics**  
**Speaker:** Fatemeh Momen-Heravi (Columbia University College of Dental Medicine, New York, N.Y., USA)  
**Sponsoring Group/Network:** Periodontal Research

**Description:** RNA-sequencing (RNA-Seq) is a powerful approach to study transcriptomic changes that can aid in understanding molecular changes responsible for the initiation and progression of periodontal disease. In this session, we will explore the RNA-Seq approach, the experimental and bioinformatic workflow, and the advances made so far in characterizing the transcriptomic changes in periodontitis.

**Table #14: Role of Genetics in Dental Caries: Review of Current Status**  
**Speaker:** John Hicks (Baylor College of Medicine, Dallas, Texas, USA)  
**Sponsoring Group/Network:** Cariology Research

**Description:** Dental caries is a multifactorial disease that affects a large proportion of the population and tends to affect certain subpopulations to a greater extent than others. The role of micro-organisms, host (tooth structure) and substrate (diet), as well as time, as factors in caries development is well known. However, the effects of genetic alterations that affect tooth structure, host factors (taste, immunity, saliva composition) and the oral microbiome are not well known. But in this age of molecular inquiry, certain genetic alterations that affect dental caries are being discovered and linked to susceptibility, with the potential for multigene test development for analyzing dental caries risk in the individual. This Lunch and Learn Session will review the current status of the role of genetics in dental caries.

**Table #15: Research Findings on the Role of Mechanical Compression on Bone Regeneration Around Particulate Bone Graft Material**  
**Speaker:** Georgios Romanos (Stony Brook University, N.Y., USA)  
**Sponsoring Group/Network:** Implantology Research

**Description:** The session presents the effects of mechanical forces and compression on particulate bone grafting materials in various studies and animal models. Different types of loading forces and
Compressive forces will be applied to evaluate new bone formation in a variety of bony defects using different types of grafting materials.

**Table #16: The Dark Art of Light Measurement**  
**Speaker:** Richard Price (Dalhousie University, Halifax, Nova Scotia, Canada)  
**Sponsoring Group/Network:** Dental Materials

**Description:** Do your readers know what “light” are you delivering to your specimens, or are they left guessing?

**Table #17: The New Classification of Periodontal Diseases: Rationale & Implementation**  
**Speaker:** Iain Chapple (University of Birmingham, England)  
**Sponsoring Group/Network:** Periodontal Research

**Description:** This session will discuss the 2017 World Workshop “Classification of Periodontal & Peri-Implant Diseases and Conditions”, including the objectives from the outset and future aspirations. It will explain the rationale for the step-change in approach and debate the complexities and practicalities of implementation for different stakeholders in different healthcare systems.

**Table #18: Thermal Behavior of Cortical Bone During Implant Bed Preparation**  
**Speaker:** Rafael Delgado Ruiz (School of Dental Medicine Stony Brook University, N.Y., USA)  
**Sponsoring Group/Network:** Implantology Research

**Description:** Bone osteotomy with rotary and ultrasonic instruments produces increment of the bone temperature. Uncontrolled over heating of the cortical bone can result in thermal necrosis. This session will discuss experimental and in vivo research related to osteotomy techniques based in frictional cutting.

**Table #19: Tips and Tools in Systematic Reviews**  
**Speaker:** Elena Figuero (Complutense University, Madrid, Spain)  
**Sponsoring Group/Network:** Periodontal Research

**Description:** Systematic reviews are secondary and critic studies that try to integrate the information coming from primary studies. Their quality depends on the existence of an adequate protocol, an effective search, an appropriate sheet for collecting information and correct meta-analyses. During this session, all these steps would be reviewed.

**FRIDAY, JUNE 21, 2019**  
12:30 p.m. – 1:45 p.m.

**Table #20: Design, Variable Selection and Interpretation of Data in Clinical Trials**  
**Speaker:** Andrea Mombelli (University of Geneva, Switzerland)  
**Sponsoring Group/Network:** Periodontal Research
Description: This session deals with study design and interpretation of outcomes of periodontal trials. Clinical studies have many aspects that can be assessed by various methods, such as probing, biomarkers, and microbiological analyses. Including multiple outcomes increases the risk of bias due to selective interpretation.

Table #21: Digital Dentistry and 3D Printing for Restorative Applications  
Speaker: Gustavo Mendonca (University of Michigan, Ann Arbor, USA)  
Sponsoring Group/Network: Dental Materials

Description: Digital technology is becoming more affordable in everyday dentistry. Combination of computed tomography and 3D scanning allows more advanced and predictable planning for treatment. These advanced tools have great application in clinical practice and research. This presentation will discuss use of digital technology in dental applications.

Table #22: Extra Short Dental Implants  
Speaker: José Luis Calvo Guirado (State University of New York at Stony Brook, N.Y., USA)  
Sponsoring Group/Network: Implantology Research

Description: The session discuss the potential applications of extra-short dental implants for supporting the prosthetic reconstruction of mandibles with severe atrophy. The results of systematic reviews and clinical multicentric research are presented.

Table #23: Hybrid-ceramics for implant-supported crowns: Laboratory vs clinical performance  
Speaker: Estavem Bonfante (University of São Paulo, Brazil)  
Sponsoring Group/Network(s): Dental Materials, Prosthodontics Research, Implantology Research

Description: The use of so-called hybrid ceramics, which are polymer-based restorative materials highly filled with ceramics, have gained interest due to its easiness of machining and repair-friendly features. Compositions vary where some present polycrystalline and others glass content embedded in their polymer matrices. In this Lunch & Learning, I will first present the rationale and indications for use of this class of material within the context of classic all-ceramic materials. Results from laboratory fatigue testing of hybrid ceramics compared to gold-standard materials, including their failure modes will be discussed. Lastly, one-year clinical and molecular results from a randomized controlled trial performed by our group where either hybrid ceramics or metal ceramics implant-supported posterior crowns were subjected to immediate functional loading will be presented.

Table #24: Implant-retained Overdentures Using Flapless Surgery and CAD/CAM Surgical Guide  
Speaker: Ilser Turkyilmaz (New York University College of Dentistry, N.Y., USA)  
Sponsoring Group/Network(s): Prosthodontics Research, Dental Materials, Implantology

Description: Implant-retained overdentures and implant-supported fixed dental prosthesis improve the quality of life of edentulous patients experiencing functional and esthetic issues. Success with flapless
implant placement and immediate loading has become more predictable by recent breakthroughs in dental imaging such as CBCT and 3-D implant planning software. Implants can be placed without any flap elevation by using CAD/CAM surgical guide. Implant-retained overdentures can be fabricated on the same day. Basic clinical and laboratory procedures for this approach will be discussed.

**Table #25: Long-Term Studies in Periodontology: Are They Feasible?**
**Speaker:** Christof Dorfer (Christian-Albrechts University, Kiel, Germany)
**Sponsoring Group/Network:** Periodontal Research

**Description:** Long-term studies are crucial for a gain in knowledge as in many chronic diseases. In this session the options of such studies as well as their limitations will be discussed. A focus will be set on the risks that will limit the validity of the data and the conclusions with respect to the effect of therapeutic measures and strategies to avoid them.

**Table #26: Multidisciplinary Observational Study Designs: Chronic Kidney Disease**
**Speaker:** Effie Ioannidou (University of Connecticut, Farmington, USA)
**Sponsoring Group/Network:** Periodontal Research

**Description:** This Lunch and Learn session aims to evaluate multidisciplinary study design in periodontal-renal observational and interventional studies. More importantly, this session aims to be interactive with productive discussion on ways to overcome barriers and avoid methodological bias with a goal to achieve high internal and external validity.

**Table #27: New Insights on the Individual and Combined Impacts of Smoking and Diabetes on Periodontal Tissues**
**Speaker:** Poliana Duarte (University of Florida, Gainesville, USA; Guarulhos University, Brazil)
**Sponsoring Group/Network:** Periodontal Research

**Description:** While great progress has been made in last years on the understanding of the mechanisms underlying the pathogenesis of periodontitis related to smoking and diabetes, studies on the impact of these two risk factors combined on periodontal tissues are still emerging. This session will focus on new insights on the individual and combined impacts of smoking and diabetes on periodontitis.

**Table #28: Novel Research Insights into the Etiology and Management of Peri-implantitis**
**Speaker:** Georgios Kotsakis (University of Washington, Seattle, USA)
**Sponsoring Group/Network(s):** Implantology Research, Periodontal Research

**Description:** The most recent studies on peri-implant disease have showed a high prevalence of peri-implantitis and the difficulties in finding the proper therapeutic management of the established disease. This discussion will provide the latest evidence-based information on peri-implant diseases with emphasis on novel insights into etiologic and contributing factors to peri-implant inflammation.
Table #29: Nutritional Assessment in Geriatric Oral Health Research  
**Speaker:** Paula Moynihan (Newcastle University, England)  
**Sponsoring Group/Network(s):** Geriatric Oral Research, Nutrition Research

**Description:** This session will provide an overall insight into the methods available for assessing dietary intake and nutritional status of older people, with a focus on application to oral health research. The application and limitations of methods of dietary assessment and anthropometric nutritional assessment will be discussed.

Table #30: Oral Hygiene Products Evaluation: Critical Aspects  
**Speaker:** Frédus (GA) van der Weijden (Academic Centre for Dentistry Amsterdam (ACTA), Netherlands)  
**Sponsoring Group/Network:** Periodontal Research

**Description:** For modern oral hygiene, various oral hygiene products are available. During an interactive ‘lunch and learn’, the effects of devices such as toothbrushes and interdental cleaning devices and ingredients in mouthwashes and toothpastes will be discussed, in relation to plaque removal and improving gingival health. The information should inspire the participants to provide an evidence-based advice to their patients.

Table #31: Prognostic Factors and Treatment Options in Periodontitis: Furcation Lesions  
**Speaker:** Luigi Nibali (University College London, England)  
**Sponsoring Group/Network:** Periodontal Research

**Description:** This Lunch & Learning session will discuss long-term prognosis of molars affected by furcation involvement. Indications for therapeutic options including conservative, resective and regenerative approaches will be discussed in light of the current evidence base.

Table #32: Quantification of Enamel Component Volumes in Dental Enamel  
**Speaker:** Frederico de Sousa (Federal University of Paraiba, Brazil)  
**Sponsoring Group/Network:** Cariology Research

**Description:** The component volumes of dental enamel (mineral, organic, and water) change during amelogenesis and development of many conditions (caries, fluorosis, etc), influencing optical and mechanical properties, and transport processes. Their quantification in vitro (lead by our group in dental literature) might provide new insights in the remineralization and resin-infiltration of enamel lesions.

Table #33: Scientific Discovery and the Translational Effort in Dentistry  
**Speaker:** Alexandre Vieira (University of Pittsburgh, Pa., USA)  
**Sponsoring Group/Network(s):** Clinical and Translational Science Network, Student Training and Research (STAR) Network, Women in Science Network

**Description:** An emphasis in translating to practice scientific discovery has left many “basic” scientists concerned regarding the focus of the research agenda, and these perceptions are also true for dental
scientists. This Lunch and Learning session is planned to discuss the current translational effort in several specialties of dentistry and reflect on outcomes chosen by scientists versus the ones that patients really care about, foreseeing a future that will combine patient-centered explicit outcomes with scientific discovery.

**Table #34:** Strategies to Explore, Manage and Utilize Oral Microbiome Genomic Data  
**Speaker:** Yaser Alsahafi (Taibah University, Medina, Saudi Arabia)  
**Sponsoring Group/Network:** Cariology Research

**Description:** Oral microbiome harbors diverse bacterial populations occupying various environmental niches. Understanding the oral bacterial populations role requires comprehensive investigations. Oral microbiome genome data is deposited to multiple repositories. Step-by-step strategies discussed in this session guide searching and maintaining oral genome data. An introduction to bioinformatic analyses will be discussed.

**Table #35:** The Nuts and Bolts of 3-D Bioprinting for Regenerative Medicine: Additive Manufacturing (3-D Printing): From Start to Finish  
**Speaker:** Lukasz Witek (New York University College of Dentistry, N.Y., USA)  
**Sponsoring Group/Network:** Dental Materials

**Description:** The term ‘3-D Printing’ has become ubiquitous over the 15 years. Since its inception in the early 1980s, additive manufacturing (AM), which has gone on to be referred to as 3-D printing (3DP), has had a significant impact on several industries. Of note, the dental and medical fields have utilized 3DP at a slower rate due to the meticulous standards necessary (e.g., performance, reproducibility, and safety) to bring products to market. Considering the rapid development of 3D printing technology in the dental and medical profession, including oral and maxillofacial surgery, this presentation details the current 3-D printing devices, the materials utilized, the design process, as well as the advantages, and limitations for users in the biomedical, dental and medical, discipline.

**Table #36:** Understanding the Role of Extracellular Matrix in Mineralized Tissue Homeostasis  
**Speaker:** Patricia Miguez (University of North Carolina, Chapel Hill, USA)  
**Sponsoring Group/Network(s):** Mineralized Tissue, Women in Science Network, Periodontal Research

**Description:** Research shows that extracellular matrix (ECM) plays a significant role in physiology and disease of mineralized tissues such as bone and dentin. This Lunch and Learning will explore ECM collagenous and non-collagenous proteins as well as glycosaminoglycans and how they regulate connective tissue maintenance.

**Table #37:** Why be an Advocate for Dental Research?  
**Speaker:** David Johnsen (University of Iowa, Iowa City, USA)  
**Sponsoring Group/Network:** AADR National Student Research Group
**Description:** This Lunch and Learn will be structured as an informal discussion with a guest speaker in our field. The guest speaker will be given the opportunity to briefly introduce his/her role in their respective discipline and their idea of advocacy in dentistry. The guest speaker will be asking open-ended questions to participants in the audience about the topic at hand. The following guest speaker has agreed to participate: Dr. David Johnsen (Dean, University of Iowa College of Dentistry and Dental Clinics and Chair of the Government affairs committee of AADR). Overall, the goal of this lunch and learn is to educate students on the importance of advocacy in dental research.