

ALL TIMES CENTRAL STANDARD TIME
Times, topics, and speakers are subject to change.
As of 12/05/2021

Monday, December 13, 2021	
9:00 am – 9:15 am	<p>WELCOME REMARKS Dr. Dan Colosi and Dr. Richard Duncan</p>
Session 1: Head and Neck Radiology	
<p>9:15 am – 10:45 am CE Credits: 1.50</p>	<p>Advanced Imaging in the Maxillofacial Region: Emerging CT and MR Applications and Machine Learning Approach, Part I Dr. Osamu Sakai</p> <p>A description of the course: Intraoral and panoramic radiographs are still the main stem of maxillofacial imaging. However, CT and MR imaging have recently been more utilized for diagnosis, treatment planning and assessment, and follow-up. Since its clinical introduction in the 70s, CT technology has been evolving dramatically. MR imaging was introduced in the 80s, and its role in maxillofacial imaging has been significantly expanded. PET/CT has been more recently clinically introduced and plays a significant role in oncologic imaging.</p> <p>With the advancement of hardware and software, numerous new image acquisition and reconstruction techniques have been introduced clinically. We can obtain thin section high-resolution images much quicker than before, generating numerous image data from each exam. Considering relatively expensive CT and MR imaging costs, it is fantastic to obtain a lot of information from one exam, which helps us make a more accurate diagnosis. Therefore, understanding and familiarity with new techniques are crucial to provide better interpretation and clinical service.</p> <p>In addition to new imaging techniques, advanced image analysis methods have been developed and recently more widely used in the clinical setting. These sophisticated image analysis applications allow us to analyze the massive data more quantitatively and accurately and access functional aspects of the lesion in addition to the morphological evaluation. We might be overwhelmed with enormous image data as well as clinical data. Thus, AI-supported diagnosis is anticipated to utilize such a large amount of data efficiently and wisely.</p>

	<p>This session will review the basic principles and concepts of emerging CT applications, including spectral CT, and emerging MR imaging applications for more detailed morphological and functional analyses with representative cases. Recently introduced image analysis methods will be reviewed, including texture analysis, radiomics, and other emerging analysis methods. The machine learning approach and AI-assisted diagnosis and outcome prediction will be discussed.</p> <p>Objectives of course: At the end of the course, the participant will be able to:</p> <ol style="list-style-type: none"> 1. List emerging CT and MR imaging applications available in the clinical settings. 2. Identify normal anatomic structures and lesions in the maxillofacial region, utilizing the new CT and MR imaging techniques. 3. Construct an appropriate imaging algorithm in the maxillofacial region, utilizing the emerging CT and MR imaging applications and machine learning approach.
10:45 – 11:00 am	BREAK
11:00 am – 12:30 pm CE Credits: 1.50	<p>Advanced Imaging in the Maxillofacial Region: Emerging CT and MR Applications and Machine Learning Approach, Part II Dr. Osamu Sakai</p>
12:30 pm – 1:00 pm	LUNCH & Exhibits Open
Session 2: Oral Pathology	
1:00 pm – 3:00 pm CE Credits: 2.00	<p>Curious Cases: Pathologic Insight in Diagnostic Imaging Dr. KC Chan</p> <p>A description of the course: This two-hour session will highlight the radiologic-pathologic correlation of unique conditions that can present in the maxillofacial region. Dr. Chan will share her experience in diagnostic imaging of maxillofacial diseases and review their imaging features alongside various aspects of their pathology, including pathophysiology, gross/surgical pathology, and histopathology. An overview of molecular genetics will be included when applicable, as well as evidence from authoritative texts and current literature. Each condition is selected to reflect common challenges that Dr. Chan has encountered during her journey in diagnostic imaging and pathology.</p> <p>Objectives of course:</p> <ul style="list-style-type: none"> • To define radiologic-pathologic correlation • To discuss the significance of linking current pathology

	<p>concepts to the practice of diagnostic imaging</p> <ul style="list-style-type: none"> To review the recent literature on certain maxillofacial diseases <p>At the end of this course, the participant will be able to:</p> <ul style="list-style-type: none"> Understand the importance of radiologic-pathologic correlation in diagnostic decision making Apply radiologic-pathologic correlation in formulating a differential diagnosis for specific lesions that present in the maxillofacial region Discuss current trends of specific diseases that can manifest in the maxillofacial region
3:00 pm – 3:15 pm	BREAK & Exhibits Open
Session 3: Gibbs Lecture	
3:15 pm – 4:15 pm CE Credits: 1.00	<p>Gibbs Lecture: Those Mysterious X-ray Precepts Dr. Roberto Molteni</p> <p>Course Description: This oration reviews the historical development of the international official guidelines and recommendations on ionizing radiation protection, particularly focusing on those from the International Commission of Radiological Protection (ICRP), and exposes the limitations, shortcomings, and incongruities internal to such recommendations, and their frequent misunderstanding and misapplication.</p> <p>Objectives of course: To clarify the limitations, weaknesses, uncertainties (and/or even outright inconsistency) of some of the basic science upon which the international Recommendations are built. To reveal mistakes that are often made in the interpretation and application of such Recommendations.</p> <p>At the end of this course the participant: Should better appreciate the conditional limitation upon which the recommendations for radiological protection are based, and avert making mistakes in their practical application.</p>
4:15 pm – 5:30 pm	ABOMR New Diplomate Recognition Ceremony
5:30 pm – 6:30 pm	ABOMR Director and OMR Program Directors Meeting <i>by invitation only</i>
5:30 pm – 6:30 pm	OMR Residents' Program

Tuesday, December 14, 2021

8:55 am – 9:00 am
CE Credits: 0.0

Exhibitor Presentations
J Morita USA

Session 4: Innovations in Artificial Intelligence and Quality Assurance

9:00 am – 10:30 am
CE Credits: 1.5

Surveying the Landscape of OMF Radiology’s Future: The Role of Artificial Intelligence
Dr. Don Tyndall

Course Description:

This presentation is designed to provide information, stimulate discussion, and generate research ideas, on the emerging technologies potentially shaping the future of oral and maxillofacial radiology and dentistry. Several technologies will be featured such as artificial intelligence (AI), more specifically deep learning, dental MRI, intraoral tomosynthesis and several improvements in established imaging systems. The role of artificial intelligence will be most emphasized in its current and future roles in augmenting the profession’s diagnostic acumen leading to better patient care.

The presentation will assess the current state of these emerging technologies focusing on deep learning research. Attention will be given to the role of AI as an adjunctive technology for present and emerging imaging systems and its usefulness in the interpretation of 2D and 3D images and other tasks related to radiological information. The focus will not be on the technical details of deep learning and its constituent components. Instead, the discussion will center primarily on deep learning as applied to radiological interpretation and image dependent tasks such as treatment planning and procedure risk assessment. In addition the presentation will briefly consider the possibility of using deep learning for the improvement of quality improvement protocols

For radiologic interpretation, research on dentoalveolar disease assessment and jaw lesion detection in 2D images and 3D volumes will be considered. Identification of potential lesions on 3D volumes is of considerable importance as CBCT usage is rising in many areas of the world. For this reason, deep learning is imperative, as most clinicians using 3D imaging are not sufficiently trained in interpretation. As men in identification of potential lesions in MDCT, MRI and intraoral

	<p>tomosynthesis will be considered as a component of maxillofacial radiology practice now and in the future.</p> <p>Deep learning research as applied to treatment planning, improved workflow and risk assessment will be presented and assessed. Benefits or threats because of deep learning applications to the practice of maxillofacial radiology and dentistry will also be weighed.</p> <p>Finally, consideration will be given to the most favorable means of conducting AI research and development. AI research based on ground truth is scarce as most standards consist of consensus panels, some with experts and some without. Most experts agree that optimum deep learning research will be based on studies employing ground truth, were practical, multiple imaging systems and collaborative institutions producing the most broadly generalizable results. Finally, consideration will be given to the best approach for facilitating such research amongst maxillofacial radiologists around the world.</p> <p>Objectives of Course:</p> <ol style="list-style-type: none"> 1. To overview three emerging technologies that have the potential to augment and improve radiologic diagnosis in dentistry: dental MRI, Intraoral tomosynthesis and artificial intelligence 2. To highlight the role of artificial intelligence in the interpretation of present 2D and 3D images and other tasks related to radiological information. 3. To consider the role of artificial intelligence in augmenting the emerging technologies of dental MRI and intraoral tomosynthesis. 4. To consider optimum methods for conducting artificial intelligence research as relates to current and emerging imaging systems. <p>At the end of this course the participant:</p> <ol style="list-style-type: none"> 1. Understand the basic principles of dental MRI, intraoral tomosynthesis, and artificial intelligence 2. Should be able to describe how artificial intelligence can potentially improve radiologic interpretation using current and emerging technology. 3. Should be familiar with the research supporting the potential of AI as a useful tool in augmenting diagnosis and treatment planning 4. Understand the principles guiding the development of a robust and generalizable AI system.
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<p>10:30 am – 11:00 am CE Credits: 0.5</p>	<p>ANSI/ADA Standard 1094 Quality Assurance for Digital Intraoral Radiographic Systems Dr. Peter Mah</p> <p>A description of the course: Quality assurance encompasses all of the practices instituted by the institution or clinic to assure that every imaging procedure is necessary and appropriate, the examination results in the highest image quality and lowest possible radiation exposure, cost and inconvenience to the patient and the recorded information is correctly interpreted. The relationship between diagnostic information and radiation to the patient is critically important. Decreasing the radiation dose to the patient resulting in the loss of diagnostic information is not a good practice. Inversely, increasing the radiation dose to produce a more esthetically pleasing image with little or no increase in diagnostic information is also not a good practice. Image optimization, a key aspect of quality assurance, creates a balance between these two factors: image quality and radiation dose.</p> <p>A review of recommendations by the state dental associations as well as the varied inspection requirements for digital intraoral radiography manufacturers and published literature, illustrate the lack of consensus on effective QA protocols for digital intraoral radiographic systems. Publication of AMERICAN NATIONAL STANDARD/AMERICAN DENTAL ASSOCIATION STANDARD NO. 1094 FOR QUALITY ASSURANCE FOR DIGITAL INTRA-ORAL RADIOGRAPHIC SYSTEMS (herein after referred to simply as Standard 1094) should assist in consolidating an effective quality assurance program nationwide as the ADA is the sole recognized dental standards group in the USA.</p> <p>It is paramount to recognize the digital intraoral radiographic system is more than the image receptor but comprises an imaging chain which includes the intraoral x-ray generator, the image display device and acquisition software, and the image receptor. Alterations to any one of these variables could result in reduced image quality. Therefore, it is necessary to implement a QA program to evaluate the entire imaging chain. Standard 1094 provides a universal method of performing quality assurance on any digital intra-oral radiographic system using a radiographic phantom.</p> <p>Objectives of course: 1. Identify the three components of the digital imaging chain for digital intraoral radiographic systems.</p>

	<p>2. Describe image optimization for digital intraoral radiographic systems.</p> <p>3. Describe the imaging parameters to be evaluated for quality assurance of digital intraoral radiographic systems.</p> <p>4. Describe the use of a radiographic phantom for quality assurance of digital intraoral radiographic systems.</p> <p>5. Know and understand acceptance testing and periodic testing for quality assurance of digital intraoral radiographic systems.</p> <p>At the end of this course the participant . . .</p> <p>1. Know how to implement and carry out quality assurance of digital intraoral radiographic system.</p> <p>2. Be able to identify the components of the digital imaging chain for digital intraoral radiographic systems.</p> <p>3. Be able to use a radiographic phantom for quality assurance of digital intraoral radiographic systems to evaluate imaging parameters.</p>
11:00 am – 11:15 am	BREAK & Exhibits Open
Session 5: History	
11:15 am – 12:15 pm CE Credits: 1.0	<p>Is Our Past Our Future? Dr. Mansur Ahmad</p> <p>Course Description: The discovery of ionizing radiation changed the course of human history. This talk will delve into our past, exploring the use and abuse of radiation. Knowing our past will protect us from similar blunders in the future, as history keeps on repeating itself. The talk will also focus on some of the earliest oral radiologists who shaped our profession much before we became an organized clinical specialty.</p> <p>Course Objective: The course describes the use of radiation in medicine and dentistry in the first few decades after the discovery of x-radiation. The objective of the course is to learn from our history so that we do not repeat it.</p>
12:15 – 12:45 pm	LUNCH & Exhibits Open
Session 6: Emerging Technologies	
12:45 pm – 1:30 pm CE Credits: 0.75	<p>Quantitative Analysis of Dental Caries Using Optical Coherence Tomography Dr. Mina Mahdian</p> <p>A description of the course: This course provides an overview on the history and principles of optical coherence tomography (OCT) as a non-invasive imaging modality in medical and dental imaging and its application for the detection and characterization of dental caries using signal intensities. Additionally, due to the complexity of the interpretation of OCT images,</p>

	<p>the role of deep convolutional neural networks in augmenting the interpretation of OCT images will be discussed.</p> <p>Objectives of course:</p> <ol style="list-style-type: none"> 1. To understand the principles of optical coherence tomography imaging 2. To review the pearls and pitfalls of optical coherence tomography in oral and maxillofacial imaging 3. To discuss the role of deep learning in the interpretation of OCT images. <p>At the end of this course the participant . . . Will understand the applications, pearls and pitfalls of optical coherence tomography as it relates to oral and maxillofacial imaging</p>
1:30 pm – 1:45 pm	BREAK & Exhibits Open
Session 7: Oral Presentations	
1:45 pm – 3:30 pm CE Credits: 1.75	Oral Presentations
3:30 pm – 3:45 pm	BREAK & Exhibits Open
Session 8: H. Cline Fixott Presentation	
3:45 pm – 4:45 pm CE Credits: 1.0	<p>H. Cline Fixott Presentation – A Dean’s Perspective on the Future of OMFR – Leadership, Innovation and Collaboration Dr. Carol Anne Murdoch-Kinch</p> <p>A description of the course: Since the creation of the AAOMR, the organization and our discipline have been defined by leadership, innovation, and collaboration. The future of our specialty and the dental profession will provide many opportunities for OMFRs to lead in their communities, institutions, and the profession. The COVID-19 pandemic has accelerated existing trends in multiple sectors -oral and systemic health disease patterns and disparities, healthcare workforce, technology, oral healthcare delivery models, and the roles and responsibilities of dentists and OMFRs! The speaker will share her perspective on the future of dentistry and the specialty of OMFR, through the lens of a dental school dean and former oral and maxillofacial radiologist and challenge the audience to consider a call to action to lead, to innovate, and to collaborate to make a positive impact on public and global health.</p>

	<p>Objectives of course:</p> <ol style="list-style-type: none"> 1. Challenge the audience to consider the future of OMFR in the context of trends accelerated by the COVID-19 pandemic. 2. Inspire the audience to envision opportunities to individual OMFRs and the specialty through leadership, innovation, and collaboration. <p>At the end of this course the participant ...</p> <ol style="list-style-type: none"> 1. Will define leadership, innovation, and collaboration. 2. Will summarize trends relevant to OMFR that the COVID-19 pandemic has accelerated 3. Recognize opportunities for the future of OMFR and dentistry, to positively impact on the health of individuals, communities, and public health
Session 9: Boards	
<p>4:45 pm – 5:45 pm CE Credits: 1.0</p>	<p>Oral and Maxillofacial Radiology – Who We are and What We Should Know Drs. Trishul Allareddy, Angela Broome, Aditya Tadinada, and Sanjay Mallya</p> <p>A description of the course: Oral and maxillofacial radiologists possess specialized knowledge and skills that are acquired through training in a CODA-accredited OMR advanced education program. This course will report on progress made by the AAOMR on outlining the breadth and depth on the OMR’s knowledge. This effort, organized by a subcommittee of the AAOMR Postdoctoral Committee with input from residency programs and subject matter experts, is the first systematic effort of this scale to outline the OMR’s knowledge portfolio.</p> <p>Objectives of course: The course will present:</p> <ul style="list-style-type: none"> • The rationale that guided this effort • The process by which advanced education programs and subject matter experts contributed to the development of the curricular documents • The intended applications of these curricular documents • Future directions to guide education delivery and assessment <p>At the end of this course the participant . . .</p> <ul style="list-style-type: none"> • Will become familiar with the breadth and scope of an OMR’s knowledge base • Understand the importance of defining the knowledge base to defining the overall scope of OMR practice

	<ul style="list-style-type: none"> Recognize the collaboration between the AAOMR, ABOMR and OMR residency programs in promoting quality in OMR education and OMR practice
5:45 pm – 6:45 pm	OOOO Editorial Board Meeting <i>By invitation only</i>

Wednesday, December 15, 2021

Session 10: Scientific Session: Selected Abstracts, Poster Presentations

9:00 am – 11:00 am CE Credits: 2.00	Poster Session
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Session 11: Scientific Session: Sleep Medicine

11:00 am – 12:30 pm CE Credits: 1.5	Airway Induced Craniofacial Growth Dr. Goli Parsi
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Course Description:

This course will review the craniofacial growth and development in relation to airway and breathing patterns. Contributing risk factors to sleep related breathing disorders in pediatric patient population will be discussed as well as different screening tools for timely diagnosis and treatment alternatives from an orthodontic and orthognathic surgical perspective.

Objectives of Course:

Objectives of this course are to familiarize the audience with medical and psychosocial consequences of sleep related breathing disorders in pediatric patient population. Provide them with a variety of the accepted screening tools for accurate diagnosis and referral decisions, as well as introducing the impact of timely orthodontic, orthopedic and orthognathic surgery treatment alternatives.

12:30 pm – 2:00 pm	LUNCH & Exhibits Open
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12:45 pm – 1:45 pm	AAOMR Annual Business Meeting & Awards
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Session 12: Grand Rounds: Case Presentations by Residents, Variety of Topics

2:00 pm – 3:15 pm CE Credits: 1.25	Presentation by residents of the following Universities
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University of Florida – Christopher Matesi
University of Iowa – Derrick Bisnett
Stony Brook University – Ashley Madern
University of Texas San Antonio – Ahmed Abdelkarim
Texas A&M University – Solaleh Shahmirzadi
University of North Carolina – Lily Huang
University of Washington – Hayley Cowan

Course Description:

Speakers will project a series of radiology cases from their database and will discuss the cases with the audience through polling that allows the audience to answer multiple-choice questions and suggest categories and diagnoses of the lesions.

	<p>Objectives of course: Discuss the different findings and features of multiple pathologies and conditions and communicate their radiographic presentations.</p> <p>At the end of this course the participant . . . Will have reviewed multiple cases and learned how to compare and contrast for correct diagnoses.</p>
3:15 pm – 3:30 pm	BREAK
3:30 pm – 4:45 pm CE Credits: 1.25	<p>Grand Rounds, Continued</p> <p><i>University of Texas San Antonio – Laura Tsu</i></p> <p><i>University of Iowa – Manila Shinde</i></p> <p><i>Stony Brook University – Erin Son</i></p> <p><i>University of Texas San Antonio – Nikolaos Shinas</i></p> <p><i>University of Florida – Kavan Gandhi</i></p> <p><i>University of Texas San Antonio – Yahia Khubrani</i></p> <p><i>Stony Brook University – Lina Albitar</i></p>
4:45 pm	Closing Remarks

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Recognition Program

The American Academy of Oral and Maxillofacial Radiology is an ADA CERP Recognized Provider. ADA CERP is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA CERP does not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry.

The American Academy of Oral and Maxillofacial Radiology designates this activity for 19.5 continuing education credits.