8:00  Final registration and assembly
8:25  Welcome and introduction

8:30  Lecture: Principles of Interpretation  Dr. Mansur Ahmad
      • how to approach images without bias
      • image artifacts

9:30  Interpretation of Panoramic Radiographs Through Case Discussion  Dr. Ahmad & Dr. Laurence Gaalaas
      • systemic diseases
      • TMJ
      • sinus pathology
      • impactions
      • cysts and tumors
      • inflammation and infection
      • trauma
      • soft tissue calcification

10:00 Refreshment break
10:15 Interpretation of Panoramic Radiographs (continued)
11:45 Luncheon (included)
12:30 Interpretation of Panoramic Radiographs (continued)
1:45 Refreshment break
2:00 Interpretation of Panoramic Radiographs (continued)
3:15 Question and answer session
     Course Wrap-Up
3:45 Adjourn
Course Instructor

**Mansur Ahmad**, B.D.S., Ph.D., Associate Professor and Director, Oral and Maxillofacial Radiology, Division of Oral Medicine, Diagnosis and Radiology, Department of Diagnostic and Biological Sciences, University of Minnesota School of Dentistry; Diplomate and Past President, American Board of Oral and Maxillofacial Radiology. Dr. Ahmad received his dental degree from India. After practicing general dentistry for five years, he attended the University of Connecticut Health Center where he completed a residency in Oral and Maxillofacial Radiology and PhD in Oral Biology. In 1999, he joined the University of Minnesota faculty. Dr. Ahmad’s research interests include TMJ imaging, CBCT imaging and tissue engineering. In 2010, he was honored as the recipient of the School of Dentistry Century Club Professor of the Year.

**Laurence Gaalaas**, D.D.S., M.S., Clinical Assistant Professor, Oral and Maxillofacial Radiology, Division of Oral Medicine, Diagnosis and Radiology, Department of Diagnostic and Biological Sciences, University of Minnesota School of Dentistry. Dr. Gaalaas received his dental degree from the University of Minnesota in 2012 and completed specialty training and a Master of Science degree in oral and maxillofacial radiology from the University of North Carolina at Chapel Hill in 2015. As a researcher and inventor, his experience includes advanced graphical analysis of images derived from dental imaging modalities, caries detection and diagnosis, contrast performance evaluation of clinical x-ray imaging systems, and development of novel imaging techniques specific to dentistry. He is a member of the American Academy of Oral and Maxillofacial Radiology, and has ongoing teaching responsibilities plus an active radiology practice through the University of Minnesota.