

Ahmed Z Abdelkarim BDS, MSc

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EDUCATION

DIPLOMA AND DEGREE INFORMATION

06/2019 – Present	University of Texas Health Center (UTHSCSA) <i>Oral & Maxillofacial Radiology Residency and Master of Dental Sciences</i>	Texas, USA
06/2014 – 07/2016	John A. Burns School of Medicine (JABSOM) <i>Master of Science in Clinical Research</i>	Hawaii, USA
09/2003 – 05/2008	Ain Shams University <i>Bachelor of Dental Sciences</i>	Cairo, Egypt

EMPLOYMENT

06/2019– Present	University of Texas Health Center (UTHSCSA) <i>Department of Comprehensive Dentistry</i> <i>Resident & Teaching Assistant</i> <ul style="list-style-type: none">▪ Responsible for performing, interpreting, and updating conventional and advanced radiographic procedures such as Cone Beam Computer Tomography (CBCT), Multi-slice CT (MSCT), and Magnetic Resonance Imaging (MRI) acquired in the graduate clinic or assigned in courses.▪ Write reports of scans from across the country as captured on all brands of CBCT machines.▪ Teach courses and seminars to Dental students with emphasis on dental radiology.	Texas, USA
05/2017– 06/2019	John A. Burns School of Medicine (JABSOM) <i>Department of Anatomy, Physiology & Biochemistry</i> <i>Instructor (1.0 FTE)</i> <ul style="list-style-type: none">▪ Teach courses and seminars to medical students with emphasis on the neck and head▪ Establish and maintain research program in medical imaging of head and neck and clinical applications (Radial3D)▪ Lecturer of Head and Neck Anatomy (MD6)▪ Service to JABSOM including serving on the faculty search committee and developing a continuing education program for Japanese students.	Hawaii, USA

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09/2015– 04/2017	<p>John A. Burn School of Medicine (JABSOM) <i>Department of Anatomy, Physiology & Biochemistry</i> <i>Assistant Professor (0.5 FTE)</i></p> <ul style="list-style-type: none"> ▪ Teach courses and seminars to medical students with emphasis on the neck and head ▪ Establish and maintain research program in medical imaging of head and neck and clinical applications (Radial3D) ▪ Lecturer of Head and Neck Anatomy (MD6) ▪ Service to JABSOM including serving on the faculty search committee and developing a continuing education program for Japanese students. 	Hawaii, USA
01/2014 – 08/2016	<p>John A. Burn School of Medicine (JABSOM) <i>Department of Anatomy, Physiology & Biochemistry</i> <i>Graduate Assistant, Principal Investigator: Dr. Scott Lozanoff</i></p> <ul style="list-style-type: none"> ▪ Responsible for assisting medical students in the proper and systematic dissection of human cadavers' brain, head, and neck. ▪ Develop, organize, and implement gross anatomy exams as well as proctor and grade laboratory practical exams. ▪ Contribute to JABSOM continuing education program for Japanese students. 	Hawaii, USA
09/2010 – 01/2014	<p>Faculty of Dentistry, Sinai University <i>Oral Radiology and Pathology Department</i> <i>Teaching Assistant</i></p> <ul style="list-style-type: none"> ▪ Interpretation of Intra- and Extra-radiography, Cone Beam Computer Tomography (CBCT), Multi-slice CT (MSCT), and Magnetic Resonance Imaging (MRI). ▪ Instruct and supervise the dental student during oral radiology practical sessions. 	Cairo, Egypt
09/2010 – 01/2014	<p>Photon Dental Imaging Center <i>Oral Radiologist</i></p> <ul style="list-style-type: none"> ▪ CBCT interpretation, reading, diagnosis, medical reporting, treatment planning for implant dentistry, and orthognathic surgery simulations using Imaging software (e.g., Mimics and Romexis). 	
11/2009 –09/2010	<p>Private Clinic & Public Governmental Hospital <i>General Practitioner</i></p>	Cairo, Egypt
INTERNSHIP EXPERIENCE		
11/2008– 12/2009	<p>Faculty of Dentistry Internship (Ain Shams University)</p>	Cairo, Egypt

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TEACHING

<i>Date</i>	<i>Course Name and Description</i>	<i>Level</i>	<i>Role</i>
Fall 2021	DIAG 7036 Dental Radiology (Dysplasia & Systemic Diseases)	Pre-doctoral	Lecturer
Fall 2021	HHD2 (Panoramic Anatomy)	Pre-doctoral	Lecturer
Fall 2020	DIAG 6071-001 Supervised Teaching	Pre-doctoral	Teaching Assistant
Fall 2019	DIAG 5070-001 Supervised Teaching	Pre-doctoral	Teaching Assistant
09/2015-07/2019	Medical Gross Anatomy (ANAT MD6)	Pre-doctoral	(Instructor, Head and Neck Block)
09/2010 – 01/2014	Diagnostic Radiology I & II	Pre-doctoral	Teaching Assistant & Lecturer

RESEARCH INTERESTS

Craniofacial morphology: study the difference in Craniofacial anomalies such as Cleft palate and Down syndrome subjects and compare them to normal subjects.

Assessment of motion correction algorithm and physical evaluation of spatial resolution in CBCT.

Artificial intelligence: Automated segmentation and numbering of teeth from panoramic radiographs.

Investigating anatomical variations using cadaver dissections, 3D imaging, and clinical case reports.

PUBLICATIONS

Journal Articles

Kanuri N, **Abdelkarim AZ**, Rathore SA (January 31, 2022) Trainable WEKA (Waikato Environment for Knowledge Analysis) Segmentation Tool: Machine-Learning-Enabled Segmentation on Features of Panoramic Radiographs. *Cureus* 14(1): e21777. doi:10.7759/cureus.21777

Abdelkarim AZ, Khalifa AR, Maligro J, Wong C, Lozanoff N, Farrell M, Farrell J, Lozanoff S. Automated identification of anatomical anomalies in the hyoid region of cleft lip and palate patients. *Translational Research in Anatomy*. 2021 Jun 1;23:100103.

Abdelkarim AZ, Elzayat AM, Syed AZ, Lozanoff S. Delayed diagnosis of a primary intraosseous squamous cell carcinoma: A case report. *Imaging science in dentistry*. 2019 Mar 1;49(1):71-7.

Polo CL, **Abdelkarim AZ**, von Arx T, Lozanoff S. The morphology of the Infraorbital nerve and foramen in the presence of an accessory Infraorbital foramen. *Journal of craniofacial surgery*. 2019 Jan 1;30(1):244-53.

Kochanowski NE, Badry MS, **Abdelkarim AZ**, Lozanoff S, Syed AZ. Radiographic diagnosis of fibrous dysplasia in maxilla. *Cureus*. 2018 Aug;10(8).

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Abdelkarim AZ, Lozanoff S, El Sadat SM, Syed AZ. Osteoma cutis and tonsillolith: a cone beam computed tomography study. *Cureus*. 2018 Jul;10(7).

El Sadat SM, Al Ashiry MK, Mostafa RA, **Abdelkarim AZ**, Syed AZ. An Immature Ten-year Long-standing Case of Ossifying Fibroma. *Cureus*. 2018 Jun;10(6).

Abdelkarim AZ, El Sadat SM, Chmieliauskaite M, Syed AZ. Radiographic diagnosis of a central giant cell granuloma using advanced imaging: cone beam computed tomography. *Cureus*. 2018 Jun;10(6).

Badry M S, **Abdelkarim AZ**, Lozanoff S, et al. (2018). A Metastatic Tumor from the Breast in the Mandible. *J Gt Houst Dent Soc*.

von Arx T, **Abdelkarim AZ**, Lozanoff S. The face—a neurosensory perspective. A literature review. *Swiss dental journal SSO*. 2017 May 17;127(5):1066-75.

Katz MY, Kusakari Y, Aoyagi H, Higa JK, Xiao CY, **Abdelkarim AZ**, Marh K, Aoyagi T, Rosenzweig A, Lozanoff S, Matsui T. Three-dimensional myocardial scarring along myofibers after coronary ischemia—reperfusion revealed by computerized images of histological assays. *Physiological reports*. 2014 Jul;2(7):e12072.

Conference Papers

Abdelkarim A, Geha H, Khalifa A, Lozanoff S. Toward automatic identification of anatomic anomalies: characterizing the hyoid region of cleft palate patients using shape state descriptors. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*. 2021 Sep 1;132(3):e117-8.

Abdelkarim A, Sayed A, Kotheeranurak J, Lozanoff S, Khalifa A. Down syndrome: a radiographic study and incidental findings in six cases. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*. 2019 Oct 1;128(4):e160.

Abdelkarim A, Sayed A, Elzayat A, Lozanoff S, Kochanowski N. A late diagnosis of a primary interosseous squamous cell carcinoma: a case report. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*. 2019 Oct 1;128(4):e155.

Syed AZ, **Zakaria A**, Lozanoff S. dark Room To Augmented Reality: Application Of Hololens Technology For Oral Radiological Diagnosis. *Oral surgery, oral medicine, oral pathology and oral radiology*. 2017 Jul 1;124(1):e33.

POSTER & ORAL PRESENTATIONS

American Association of Oral and Maxillofacial Radiology Virtual Meeting (AAOMR) 2021.

- *Poster presentation* “Epidemic during Pandemic: Black fungus as an example”.
- *Poster presentation* “Trainable WEKA Segmentation Tool Machine Learning-Enabled Segmentation on Features of Orthopantomograms”.
- *Oral presentation* “Case Presentations by Residents, Variety of Topics”.

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SoD Research and Clinical Symposium 2020 at UT Health San Antonio, Texas.

- *Poster presentation* “Mönckeberg’s sclerosis: A case study of unique calcifications in a dry skull”.

American Association of Oral and Maxillofacial Radiology Virtual Meeting (AAOMR) 2020.

- *Poster presentation* “Shape State Statistics Analysis to Identify Anatomical Anomalies in the Hyoid Region of Cleft Lip and Palate Patients”.

American Association of Orthodontics meeting (AAO) 2019 in Los Angeles.

- *Oral Presentation* “Morphological study of the human hyoid region in cleft lip and palate patients”.
- *Oral Presentation* “Three-dimensional Assessment of the Pharyngeal Airway in Growing Vs Non-growing Subjects with/without Cleft Lip and Palate”.

American Association of Oral and Maxillofacial Radiology meeting (AAOMR) 2018 in San Antonio.

- *Poster presentation* “Down's Syndrome- A Radiographic Study and Incidental Finding in Six Cases”.
- *Poster presentation* “A Late Diagnosis of a Primary Interosseous Squamous Cell Carcinoma: A Case Report”.

American Association of Oral and Maxillofacial Radiology meeting (AAOMR) 2017 in Missouri.

- *Poster presentation* “A web-based DICOM viewer with augmented reality capability for dental imaging and education”.
- *Poster presentation* “An open-source solution for fabricating scaffold suitable cleft lip and palate”.

American Association of Oral and Maxillofacial Radiology meeting (AAOMR) 2016 in Arizona.

- *Poster presentation* “Dark Room to Augmented Reality: Technological Rise of Oral Radiology”.

American Association of Oral and Maxillofacial Radiology meeting (AAOMR) 2015 in Indianapolis.

- *Poster presentation* “Assessment of accessory infraorbital foramina”.

10th meeting of the African Society of Human Genetics in Cairo, Egypt.

- *Poster presentation* “Current clinical maxillofacial regenerative approaches 8 years’ experience”.

WORKING PROJECTS

At the University of Texas Health Science Center at San Antonio, Texas

Master Thesis: Assessment of A Correction Algorithm for Latent Movement on CBCT Image Quality Characteristics (In progress).

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Collaboration with CWRU School of Dental Medicine and University of Hawaii Medical School, United States

Research project: Down syndrome- A Radiographic Study and Incidental Finding: case series (In preparation).

Collaboration with VCU School of Dental Medicine

Research project: Trainable WEKA Segmentation Tool Machine Learning-Enabled Segmentation on Features of Orthopantomograms (published).

Collaboration with University of Indianapolis School of Dental Medicine, United States

Research project: Three-dimensional Assessment of the Pharyngeal Airway in Growing Vs Non-Growing Subjects with/without Cleft Lip and Palate.

Collaboration with Inonu University, Faculty of Dentistry, Turkey

Research project: Nasopharynx Evaluation in Children of Unilateral Cleft Palate Patients and Normal with Cone Beam Computed Tomography.

AWARDS

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- 12/2021 **Best Clinical Research Award:** From the American Academy of Oral and Maxillofacial Radiology
11/2020 **Best Research Poster (second rank):** From the UTHSCSA Dental symposium
05/2018 **Post-Doctoral Award:** the Ohio Dental Association Annual Meeting
12/2017 **Certificate** of an outstanding reviewer from Elsevier.

PROFESSIONAL DEVELOPMENT

Date	Description	C.E. Units/Hours
12/13/2021-12/15/2021	AAOMR Annual Session, Annual scientific session on oral and maxillofacial radiology topics. The list of lectures attended is available upon request.	19.5/19.5
10/28/2020-10/31/2020	AAOMR Annual Session, Annual scientific session on oral and maxillofacial radiology topics. The list of lectures attended is available upon request.	4.5/4.5
08/22/2019 - 08/24/2019	AAOMR Annual Session, Annual scientific session on oral and maxillofacial radiology topics. The list of lectures attended is available upon request.	30.00 / 30.00
09/12/2018-09/15/2018	AAOMR Annual Session, Annual scientific session on oral and maxillofacial radiology topics. The list of lectures attended is available	16.25/16.25

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10/04/2017 - 10/07/2017	upon request. AAOMR Annual Session, Annual scientific session on oral and maxillofacial radiology topics. The list of lectures attended is available upon request.	20.00 / 20.00
03/22/2017-03/25/2017	IADR/AADR/CADR Annual Meeting & Exhibition	
09/28/2016 - 10/01/2016	AAOMR Annual Session, Annual scientific session on oral and maxillofacial radiology topics. The list of lectures attended is available upon request.	22.00 / 22.00
09/30/2015 - 10/03/2015	AAOMR Annual Session, Annual scientific session on oral and maxillofacial radiology topics. The list of lectures attended is available upon request.	13.00 / 13.00

ACADEMIC SERVICES

Date	Description
09/2015-07/2019	Basic Science Education Committee (BSEC) at JABSOM
03/2022-06/2022	Chief Resident at the OMF Residency (future appointment)

EDITORIAL CONTRIBUTION

Reviewer

- Cureus Medical Journal (16 reviews).
- Saudi Dental Journal (3 reviews).
- Indian Journal of Dental Research (7 reviews).
- Radiology Case Reports in Dentistry (1 review).
- Journal of Clinical Imaging Science (1 review).
- Oral Health Case Reports (1 review).

SOFTWARE SKILLS

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- Navigate and interpret CBCT scans using Dental imaging software (OnDemand, Mimics, Invivo, Dolphin, and Romexis).
 - Performing 3D geometric morphometrics analysis using ER3D software.
 - Display anatomical educational models using ZSpace technology.
 - Generating 3D models from histological sections using Winsurf software.
 - Using Blue Sky Bio software and Meshmexier in implant planning.

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MEMBERSHIP

Registered Dentist at Cairo Governorate Dental Council (Egypt), License No. 37745

Member of American Academy of Oral and Maxillofacial Radiology

Member of Radiological Society of North America

Member of European Society of Radiology

Member of American Dental Association

REFERENCES

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