

Name: Attaelmanan Gaffar Attaelmanan
Current Academic Rank: Professor
Current University: University of Sharjah
Current Faculty: Sciences
Current Department: Applied Physics & Astronomy
Specialisation: Radiation Physics



Employment history

Professor	University of Sharjah, UAE	June 2015
Associate professor	University of Sharjah, UAE	Sept 2006 – June 2015
Associate professor	University of Qatar, Qatar	Oct 2001- Aug 2006
Associate Professor	Göteborg University, Sweden	Dec 2000 - Sept 2001
Assistant professor	Göteborg University, Sweden	Nov 1996 - Nov 2000
Researcher	Swedish National Forensic Science Laboratory, Sweden	Oct 1995 – Oct 1996

Academic qualifications

Doctor of Philosophy, Göteborg University, Sweden, Nov. 1995

Title of Thesis: On resolution enhancement of capillary based scanning X-ray micro-fluorescence spectroscopy

Master of Science, University of Khartoum, Sudan, June 1990

Title of Thesis: *Measurement of $Al^{27}(n, p)$ and $Al^{27}(n, \alpha)$ reactions cross-section ratios, using 14 MeV neutrons.*

Bachelor of Science (Hon) in Combined Sciences (Physics and Physical Electronics), Brighton Polytechnic, England, July 1985

Other Certificates obtained or advanced courses attended

- International school on solar energy and other renewable energy sources, 1-30 Oct. 1987, Catania, Italy
- Nordic research school on synchrotron radiation, Max lab, 1- 9 June 1993, Lund, Sweden
- Regional training course on nuclear techniques in art and archaeology, 20 - 24 April 2009, IAEA Vienna, Austria

Computer use

MS Word, MS Excel, EndNote (references), MS PowerPoint, Mathematica, MathCad, Optimas (Image analysis), Corel (Graphics), Netscape, Visual Basic, ImaqVision and LabView (for designing special software tools).

Memberships

Member, Microscopy Society of America, 2006

Chartered physicist, Institute of Physics, UK, 2000

Editorial board member, International Journal of Pure and Applied Physics (IJPAP), 2004

Honors and Awards

Best Research Group, University of Sharjah, May 2009

University of Sharjah Incentive Award (Community Service Category) 2010

Sharjah Islamic Bank's prize for Best research article in College of Sciences, University of Sharjah, 2012.

University of Sharjah Incentive Award (Research Category) 2014.

Languages

proficiency	Reading	Writing	Conversation
Arabic	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
Swedish	Fair	Fair	Fair

University committees and administrative experience

- Chairman, Radiation safety Committee, University of Sharjah, 2012 till now
- Member of the University's hiring and contract renewal committee since 2008.
- Member of various University, College and department committees.

Current research Projects

Project No. 1601050602-P: Determination of Heavy Metals in Children's Plastic Toys in UAE By X Ray Florescence (XRF) and Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) – Environmental Health Aspect. Dr Hafiz Omar (PI) and Prof A. G. Attaelmanan

Research interests

- (1) Microbeam X-ray Fluorescence Analysis.
- (2) X-ray imaging.
- (3) Digital radiography techniques.
- (4) Neutron Activation Analysis.
- (5) Solar applications

Published research and creative activities

1. **A. Attaelmanan**, Measurement of $Al^{27}(n,p)$ and $Al^{27}(n,\alpha)$ reactions cross-section ratios, using 14 MeV neutrons, M.Sc thesis, University of Khartoum, June 1990.
2. P. Voglis, **A. Attaelmanan**, P. Engström, S. Larsson, A. Rindby K. Boström and C. G. Helander, Elemental mapping of bone tissues by the use of capillary focused XRF, *X-ray Spectrometry* (1993), 22: 229-233.
3. **A. Attaelmanan**, A. Rindby, P. Voglis and A. Shermeat. X-ray beam profile measurements with CCD detectors. *Nuclear Instruments and Methods in Physics Research* 1993; B82:481-488.
4. **A. Attaelmanan**. Single particle analysis using microbeam X-rays. *Proceedings of 6th Chalmers Postgraduate Conference on Materials Sciences*, 18 MAY 1993.
5. **A. Attaelmanan**, S. Larsson, A. Rindby, P. Voglis and A. Kuczumow. A table-top microbeam scanning facility. *Review of Scientific Instruments* (1994), 65(1): 7-12.
<http://dx.doi.org/10.1063/1.1144750>
6. **A. Attaelmanan**, S. Larsson and A. Rindby. Analysis of fly-ash particles using a table-top Scanning X-ray Microprobe. *Proceedings of European Conference on Energy Dispersive X-Ray spectrometry*, June 1994, Budapest, Hungary.
7. **A. Attaelmanan**, P. Voglis, A. Rindby, S. Larsson and P. Engström. Improved capillary optics applied to microbeam XRF; Accuracy and sensitivity. *Review of Scientific Instruments* (1995) 66(1):24-27. <http://dx.doi.org/10.1063/1.1145260>
8. A. Rindby, P. Voglis and **A. Attaelmanan**. The analysis of inhomogeneous and irregularly shaped samples by the use of XRF μ -beam correlation analysis, *X-ray Spectrometry* (1995) 25:39.
9. **A. Attaelmanan**. On resolution enhancement of capillary based scanning X-ray microfluorescence spectroscopy. Ph.D. thesis, Göteborg University (1995), ISBN 91-7197-181-5.
10. **A. Attaelmanan**, E. Borg, and H-G. Gröndahl. Assessing the Physical Performance of Two Generations of Two Direct Digital Systems. *Oral Surge Oral Med Oral Pathol Oral Radiol Endod* (1999) 88:517-23.
11. E. Borg, **A. Attaelmanan**, and H-G. Gröndahl. Image plate systems differ in physical performance. *Oral Surge Oral Med Oral Pathol Oral Radiol Endod* (2000) 89:118-124.
12. E. Borg, **A. Attaelmanan**, and H-G. Gröndahl. Subjective image quality of solid-state and photostimulable phosphor digital systems for intraoral radiography. *Dentomaxillofacial Radiology* (2000) 29:70-75. doi:10.1038/sj/dmfr/4600501
13. E. Liljensten, **A. G. Attaelmanan**, C. Larsson, H. Ljusberg-Wahren, N. Danielsen, J-M Hirsch, and P. Thomsen. Hydroxyapatite granule / carrier composites promote new bone formation in cortical defects. *Clinical Dental Implant, Dentistry and Related Research* (2000) 2:50-59.
14. **A. Attaelmanan**, E. Borg, and H-G. Gröndahl. Investigating Inhomogenieties in the Spatial Response of Six Digital Sensors. In H. Fuchihata et al editors. *Oral and Maxillofacial Radiology Today. Excerpta Medica International Congress Series 1199*. Elsevier Science B.V. 2000.

15. **A. Attaelmanan**, E. Borg and H-G. Gröndahl. On optimising the digitisation and display processes of intraoral film. *Dentomaxillofacial Radiology* (2000) **29**:97-102.
16. **A. Attaelmanan**, E. Borg and H-G Gröndahl. Signal to noise ratios of six intra-oral digital sensors. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* (2001) **91**:611-5.
17. H. M. Alnaomi and **A. Attaelmanan**, Measurement of absorbed doses in human anatomical phantoms, *Proceedings of Arab Conference of Biophysics*, 23-25 August 2003, Cairo, Egypt.
18. **A. Attaelmanan**, Comparing Three Methods for the Calculation of Fractal Dimensions from simulated Digital Radiographs, *Proceedings International Conference on Medical Physics (ICMP)*, 14 – 16 April 2008, Dubai, UAE.
19. **A. Attaelmanan**, Single particle analysis using microbeam X-rays, *Microscopy and Microanalysis* (2008) **14**:2, 1268-1269.
20. **A. Attaelmanan**,. Performance of Three Fractal Analysis Methods for the Detection of Osteoporosis, *International Review of Modelling and Simulations*, (2009) **2**(1): 109 - 112.
21. **A. G. Attaelmanan**, Measurement of absorbed doses in anatomical phantoms, *International Journal of Pure and Applied Physics*, (2012) **8**(1), 53-58.
22. **Atta Gaffar Attaelmanan** and Mohamad Al-Farouq Kawam, Determining the elemental composition of Calotropis Procera using X-ray analytical microscopy, *Journal of X-ray Spectrometry*, (2012), **41**: 284–287.
23. **Atta G. Attaelmanan** and Eisa A. Yousif. EDXRF analysis of pigment used for the decoration of Mleiha pottery. *Journal of Archaeological Science* (2012) **39**: 2231-2237.
24. **Atta G. Attaelmanan**. Reliability of a New X-ray Analytical Microscope in Archaeological Research, *Journal of Archaeological Science*, (2012), **39**: 2552-2558.
25. A Reddy, **AG Attaelmanan** and M Mouton. Pots, plates and provenance: sourcing Indian coarse wares from Mleiha using X-ray fluorescence (XRF) spectrometry analysis. *Materials Science and Engineering* (2012) **37**: 012010 doi:10.1088/1757-899X/37/1/012010.
26. Eisa Yousif, and **Atta Attaelmanan**. Role of XRF in the restoration of a prominent architectural monument at the site of Mleiha. *Materials Science and Engineering* (2012) **37**: 012005 doi:10.1088/1757-899X/37/1/012005
27. **Atta G. Attaelmanan** and Hamid Idris Omar, Determining the elemental composition of Terminalia Brownii's bark using X-ray fluorescence spectrometry, *International review of Biophysical Chemistry*, (2012) **3**(5): 144-146.
28. J. Goy, C. Le Carlier, M. Desgli Esposti and **G. Attaelmanan**. Archaeometallurgical survey in the Emirate of Fujairah (U.A.E.) and a preliminary chemical analyses of copper –base items from the Iron Age site of Masafi. *Proceedings of the Seminar for Arabian Studies* (2013) **43**. 127 – 144.
29. **Atta G. Attaelmanan**, Eisa Yousif and Sabbah Jasim. Investigation of tin, arsenic and lead concentrations in prehistoric arrowheads. *Journal of Analytical Atomic Spectroscopy*. (2013), **28**, 1436-1440.
30. **Atta G Attaelmanan**, Hamid I. Omar, Elemental and molecular composition of Terminalia Brownii's bark . *International review of Biophysical Chemistry*, (2013) **4**:5. 157 – 160.
31. **Atta G. Attaelmanan**, Michel Mouton, Identification of Archaeological Potsherds Excavated at Mleiha Using XRF. *Journal of Archaeological Science*. (2014), **42**, 519 – 524.
32. **Atta G. Attaelmanan**, Identification of mineral inclusions in Archaeological ceramics using microbeam X-ray spectrometry, *X-ray spectrometry*, (2014), **43** (6): 325–331.

33. Anne Benoist, Cécile Le Carlier, Julie Goy, Michele Degli Esposti, Barbara Armbruster, and **Gaffar Attaelmanan**. Snake, Copper and Water In South-Eastern Arabian Religion During The Iron Age: The Bithnah And Masāfi Evidence. *Pre-Islamic South Arabia and its Neighbours: New Developments of Research, Edited by Mounir Arbach and Jérémie Schiettecatte, British Foundation for the Study of Arabia Monographs* No. 16, 2015.
34. **Atta G. Attaelmanan**, Nawal M. Suleman, Ibrahim A. El Agib and Hamed A Al-Sewaidan. Assessing Silicon deposits in Zilfi province, Saudi Arabia, using XRF and XRD techniques. *X-Ray Spectrometry* (2016), **45**: 325–329.

Conferences and seminars

1. *Oral presentation* **A. G. Attaelmanan**, First UAE Synchrotron User Meeting, Dubai 6 Dec 2016.
2. *Seminar* **A G Attaelmanan**. XRF Techniques, King Saud University, Riyadh, KSA, 30 December 2014.
3. *Seminar* **A G Attaelmanan**. Archaeometry: the use of modern technology to probe the UAE past, Emirates Natural History Group in Al Ain, at the Islamic Institute in Al Ain, 11 November 2014.
4. *Oral presentation* **A. G. Attaelmanan**, H. Alawadhi. Composition and Structure of Mleiha Pottery. Australian X-ray Analytical Association conference (AXAA 2014), Pan Pacific, Perth, WA from 9-13 February 2014.
5. *Oral presentation* J. Goy, C. Le Carlier, M. Desgli Esposti **G. Attaelmanan**. "Archaeometallurgical survey in the Emirate of Fujairah (U.A.E.) and a preliminary chemical analyses of copper –base items from the Iron Age site of Masafi". **Seminar for Arabian Studies**, British museum, London, 13 – 15 July 2012.
6. *Oral presentation* Eisa Yousif and **A G Attaelmanan**. Role of XRF in the restoration of a prominent architectural monument at the site of Mleiha. **International Conference on the Use of X-rays (and related) Techniques in Arts and Cultural Heritage (XTACH11)**, The American University of Sharjah, United Arab Emirates December 7 - 8, 2011.
7. *Oral presentation* **A G Attaelmanan** and M Mouton. Elemental Composition and Correlation of Meliha potsherds. **International Conference on the Use of X-rays (and related) Techniques in Arts and Cultural Heritage (XTACH11)**, The American University of Sharjah, United Arab Emirates December 7 - 8, 2011.
8. *Oral presentation* **A G Attaelmanan**, Sensitivity of a Scanning X-ray Fluorescence Analysis System for Archaeological Applications. **International Conference on the Use of X-rays (and related) Techniques in Arts and Cultural Heritage (XTACH11)**, The American University of Sharjah, United Arab Emirates December 7 - 8, 2011.
9. *Oral presentation* A Reddy, **A G Attaelmanan** and M Mouton. Pots, Plates and Provenance: Sourcing Indian Coarse Wares from Mleiha using X-ray Fluorescence (XRF) Spectrometry Analysis. International Conference on the Use of X-rays (and related) Techniques in Arts and Cultural Heritage (XTACH11), The American University of Sharjah, United Arab Emirates December 7 - 8, 2011.
10. *Invited Speaker*, The national X-ray fluorescence laboratory, Archaeology of the United Arab Emirates Conference, Hilton Hotel, Al Ain - 30-31 March 2011
11. *Invited Speaker*, "Beyond the use of nuclear technology for power production: medical, industrial and agricultural applications", **2nd International Conference on Nuclear Technologies in the Service of Regional Societies (ICNTSRS)**, 26 – 27 March 2010, Crown Plaza Hotel, Kingdom of Bahrain

12. *Oral presentation*, “Utilizing X-ray Fluorescence Analysis for the Study of Archaeological Artefacts”, **the 16th International Conference of the Lebanese Association for the Advancement of Science (LAAS16)**, 13-15 November 2009, Beirut, Lebanon,
13. *Oral presentation*, “Single particle analysis using microbeam X-rays” **Microscopy and Microanalysis International Conference**, 3 – 7 August 2008, Albuquerque, USA
14. *Oral presentation*, “Comparing Three Methods for the Calculation of Fractal Dimensions from simulated Digital Radiographs”, **International Conference on Medical Physics (ICMP)**, 14 – 16 April 2008, Dubai, UAE,
15. *Oral presentation*, “Novel techniques in X-ray fluorescence spectroscopy”, **workshop on the use of X-ray techniques in arts, archaeology and environmental sciences**, American University of Sharjah, 02 April 2008, Sharjah, UAE
16. *Attendance*, **International Conference on Nanotechnology and Its Applications**, AUS and UoS, Sharjah 10-12 April 2007, Sharjah, UAE
17. *Attendance*, **International Conference on Materials Research and Education Future Trends and Opportunities**, 4-6 April 2005, Doha, Qatar
18. *Oral presentation*, “Measurement of absorbed doses in human anatomical phantoms”, **Arab Conference of Biophysics**, 23-25 August 2003, Cairo, Egypt
19. *Oral presentation*, “Investigating inhomogeneities in the spatial response of six digital sensors”, **12th International Congress of Dento-maxillo-Facial Radiology**, 26 June -1 July 1999, Osaka, Japan
20. *Oral presentation*, “On Optimising the Digitisation and Display Processes of Intraoral Films”, **6th European Congress on Dental and Maxillofacial Radiology**, 5-6 June 1998, Oslo, Norway
21. *Oral presentation*, “Beam Quality in Oral Radiology Systems”, **6th European Congress on Dental and Maxillofacial Radiology**, 5-6 June 1998, Oslo, Norway
22. *Oral presentation*, “Normal Anatomy a CAL program”, **15th Nordic symposium on Dental and Maxillofacial Radiology**, 4 June 98, Oslo, Norway
23. *Oral presentation*, “Quality control of the Digora® image plate system”, **Swedish Dental Association Conference**, 15-18 November 1997, Stockholm, Sweden
24. *Poster presentation*, “Computer Aided Learning in Oral Radiology”, **Swedish Dental Association Conference**, 15-18 November 1997, Stockholm, Sweden
25. *Oral presentation*, “Dual Energy Techniques in Oral Radiology”, **Swedish Dental Association Conference**, 15-18 November 1997, Stockholm, Sweden
26. *Oral presentation*, “Analysis of fly-ash particles using a table-top Scanning X-ray Microprobe”, **European Conference on Energy Dispersive X-Ray spectrometry**, 30 May -3 June 1994, Budapest, Hungary

Educational Software for Computer Assisted Learning

1. **Attaelmanan** and H-G. Gröndahl, InterX: An Interactive Software for Teaching Basic X-ray Physics. Göteborg University (1997).
2. K. Gröndahl, **A. Attaelmanan** and G. Iversson, Normal Anatomi, Göteborg University (1998).
3. K. Bamshadfar, **A. Attaelmanan** and H-G. Gröndahl. Diagnostic Testing, Göteborg University and Chalmers University of Technology (1998).
4. K. Gröndahl, **A. Attaelmanan** and L. Vannas-Löfqvist, Occlusal Radiography, Göteborg University (1998).
5. **Attaelmanan**, B. Molander and H-G. Gröndahl, Quality Assurance in Oral Radiology. A digital book, Göteborg University (1999).

Supervision or co-supervision of thesis and dissertations

Title of thesis or dissertation	Degree granted for theses or dissertation	University conferring the degree	Date
Eva Borg , Some characteristics of solid-state and photo-stimuable phosphor detectors for intra-oral radiography	Odontology Doctor	Göteborg University, Sweden	Nov 1999
K. Bamshadford , Diagnostic Judgement: A CAL program	Master of Science	Göteborg University, Sweden	Feb 1999
Alaaeldin Abdelkawy , Assessment of the Preparedness of Hospitals and Emergency Health-Care Providers in Sharjah, Ajman, and Fujairah (Northern UAE States) Towards Radiation Emergencies	European master in disaster medicine	Vrije Universiteit Brussel, Belgium	March 2017