Curriculum Vitae

PERSONAL DATA

NAME: **Jamal M. Sharaf**

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BIRTHDAY: Feb. 20, 1953

NATIONALITY: Jordanian

MARITAL STATUS: Married

EDUCATION:

Ph.D., Medical Physics,
University of Surrey, U.K.,
Oct. 1990-Nov. 1994.

M.Sc., Medical Physics,
University of Surrey, U.K.,
Oct. 1989-Sept.1990.

M.Sc., Nuclear Instrumentation,
University of Edinburgh, U.K.,
Oct. 1981-Sept. 1982.

B.Sc., Physics,
University of Mosul, Iraq,
Oct. 1972- Jun. 1976.

AWARDS

The University of Jordan scholarship for Ph.D. study at The University of Surrey (Oct. 1990-Nov. 1994)

The British Council scholarship for

M.Sc. study at The University of Surrey (Oct. 1989-Sept.1990)

The University of Jordan scholarship for M.Sc. study at The University of Edinburgh (Oct. 1981-Sept. 1982)

FIELDS OF STUDY:

Medical Physics, Radiation Protection, Nuclear Electronics, Radiation Detectors and Medical Imaging.

THESES TITLE:

Ph.D. : Elemental Analysis of Biological Matrices using Emission and Transmission Tomographic Techniques

M.Sc. : Investigation of Salivary Gland Stone using Gamma-Ray Transmission Tomography.

M.Sc. : The Dependence of Pulse Shape Discrimination With NE-213 on Temperature.

CURRENT LINE OF RESEARCH:

1) Medical imaging including Computerized Tomography (CT), Single Photon Emission Tomography (SPECT), and Image Restoration.

2) Radiotherapy, Radiation safety and radiation protection.

3) Material characterization using X-ray coherent and incoherent scatter measurements.

4) Radiation detector characterization with special interest in new scintillation crystals used in the field of medical imaging.

PROFESSIONAL WORK HISTORY CHART:

1) Employer: The University of Jordan, Department of Physics.

Position: a) Assistant Professor of Medical Physics (January 1995 to March 2002)
b) Associate Professor of Medical Physics (April 2002 to present)

Duties: Teaching physics courses for undergraduate physics students and graduate medical physics students, as well as research work on X-ray coherent and incoherent

scattering, medical imaging, radiotherapy and radiation protection.

2) Employer: The University of Jordan, Department of Physics.
Dates: Oct. 1982 – Sept. 1989.
Position: Laboratory Supervisor and Research Assistant.
Duties: Recitations, and Laboratory Teaching and Supervising,
Research assistant at the Van de Graaff Accelerator Center.

3) Employer: The University of Jordan, Department of Physics.
Dates: Nov. 1977 – Aug. 1981.
Position: Laboratory Supervisor.
Duties: Recitations, and Laboratory Teaching and Supervising.

WORK EXPERIENCE:

Administrative work:

- Assistant dean – faculty of science, from Sept. 2000 to Sept. 2003
- National Coordinator of the regional medical physics MSc program that was started September 2007 in collaboration with the IAEA.

Academic and Scientific Activities:

1) Teaching most of the physics courses to freshmen,
Teaching the radiation, radiotherapy, radiobiology, radiation protection and medical imaging courses to graduate medical physics students.

2) Supervising research, Ph.D. and M.Sc. theses for graduate students.

3) Participating in examining committee for a number of Ph.D. and M.Sc. theses.

4) Contributing to a number of research proposals, especially those supported by The International Atomic Energy Agency (IAEA), which are related to radiation protection as well as those supported by The Faculty of The Academic Research – University of Jordan, which are related to X-ray and Gamma-ray Computerized Tomography, Radiotherapy and Medical Imaging.

Scientific and Research Skills:

1) Designing mechanical parts and electronic circuits for a proto-type CT Scanner, in which three degrees of freedom sample holder, is built using three stepper motors controlled by computer.

2) Designing a system for radiation scattering measurements, in which fixed and/or scanning geometry can be employed.

3) Other computer skills including simulation measurements in the field of computerized tomography and image reconstruction, using different computer packages (e.g. RECLBL software package). In addition, I am using the available software for word processing, data analysis, spreadsheets and graphic representation and data fitting.

Graduate Student Theses Supervision:

1) S. Ramahi, (August 1998):	Thermo Luminescence Dosimeters Based on LiF and their Application in Diagnostic Radiology.
2) M. Seileek, (July 1999):	A Coherent Photon Scattering Technique for Bone Mineral Densitometry.
3) T. Hussein (August 1999):	Modelling Exposure to Natural Radioactivity in Jordanian Building Materials.
4) N. Al- Aqtash (May 2001)	Application of Photon Incoherent Scattering Technique for Monitoring the Variation in Body Fluid Concentration.
5) R. Hamed (May 2001)	Photon Incoherent Scattering for the Characterization of Biological Materials.
6) F. Al-Aqrabawi (May 2005)	Measurement of Natural Radioactivity in Jordanian Building Materials.
7) T. Al-Aqrabawi (May 2005)	Determination of Attenuation and Self-Absorption Correction Factors for Gamma Analysis of Environmental Samples.
8) M. Al-Khaldi (January 2006)	Application of Radiobiological models in the Prediction of Clinical Outcome in Radiotherapy Patients.
9) M. Al-Homydeyeen (December 2007)	Non-destructive Evaluation in

Industry using Improved Emission Tomographic Technique.

Conferences, Training and Scientific Activities:

1) Participation in a thirteen-week international training course on nuclear electronics, organized by The International Atomic Energy Agency (IAEA) and The Trinity College, Dublin-Ireland, 18 June – 14 Sept. 1979.
2) Participation in a thirteen-week international training course on nuclear electronics, organized by The International Atomic Energy Agency (IAEA) and Canberra Electronic, Frankfort – Germany, 18 Sept – 13 Dec. 1979.
3) Participation in a four-week international training course on radiation detection and measurements, organized by The International Atomic Energy Agency (IAEA) and Syrian Atomic Energy Agency, Damascus – Syria, 14 Mar. – 4 Apr. 1988.
4) Participating in the third workshop on Van de Graaff Accelerators in research, training and technological applications, University of Jordan, Amman – Jordan, 14 –17 Aug. 1995.
5) Participating in the third Arab Conference on the Peaceful Uses of Atomic Energy, Damascus 9-13/12/1996.
6) Participating in the fourth conference on physics of condensed matter, PCM, University of Jordan, Amman – Jordan, 18 –21 Apr. 1999.
7) Member, scientific committee for the first conference on medical physics and its applications, Zarka Private University, Jordan, 24 – 26 Apr. 1999.
8) Participating in the Fifth Arab Conference on the Peaceful Uses of Atomic Energy, Beirut, 13-17/11/ 2000
9) Member, scientific committee for The Arab Atomic Energy Agency, from Apr. 2000 to present.

Publications

1) Spyrou N.M., Sharaf J.M.and Sarkar S. “Elemental Analysis of Biological Matrices using Tomographic Techniques”, J. Radioanalytical and Nuclear Chemistry, 167 (1993) 453-465.

2) Spyrou N.M., Sharaf J.M. and Rajeswaran S. “ Developments in Tomographic Methods for Biological Trace Element Research”, Biological Trace Element Research Editor: G. N. Schrauzer, 1994, pp. 55-63.

3) Sharaf J.M. and El-Jaafreh I.G. “Elemental Analysis of Biological Samples using Tomographic Techniques”, Third Arab Conference on the Peaceful Uses of Atomic Energy, Damascus 9-13/12/1996.

4) Spyrou N.M., Sharaf J.M., Rajeswaran S. and Mesbahi E. “Determination of the Elemental Distribution in a Sample using

Neutron Induced Gamma-ray Emission Tomography", J. Radioanalytical and Nuclear Chemistry, 217 (1997) 237-241.

5) Sharaf J.M. and El-Jaafreh I.G. " Radiation Hazards to Pregnant Women from Diagnostic Radiology", Mu'tah Lil-Buhuth wad-Dirasat, 13(1998) 29-45.

6) Sharaf J.M. " Assessment of Photon Compton Scattering Method for the Characterization of Tissue Substitute Materials", Dirasat, Pure Sciences, 27 (2000) 24-33.

7) Sharaf J.M. " Non-destructive Testing using Scattered Radiation Measurements" Fifth Arab Conference on the Peaceful Uses of Atomic Energy, Beirut, 13-17/11/2000.

8) Sharaf J.M. " Practical Aspects of Compton Scatter Densitometry", Applied Radiation and Isotopes, 54 (2001) 801-809.

9) Sharaf J.M. " Advantages of GSO Scintillator in Imaging and Low Level Gamma-ray Spectroscopy", Dirasat, Pure Sciences, 29 (2002) 53-62

10) Sharaf J.M., Shekakhwa M.S. and Hussein T.F. "Modeling Exposure to Natural Radioactivity in Building Materials", Dirasat, Pure Sciences, 32 (2005) 80-88.

11) Sharaf J.M., "Nondestructive Inspection of Low Atomic Number Media using Inelastic Photon Scattering", Applied Radiation and Isotopes, 65 (2007) 1330-1336.

12) Hamideen M.S., Sharaf J.M., and Osama Alkam. "Radioactive Point Source Localization in One, Two and Three Dimensions within a Bulky Medium", Applied Radiation and Isotopes, 68 (2010) 1160-1168.