

CURRICULUM VITAE



Name: **Prof. Dr. Jamal Shehadeh Hammad Al-Jundi**
Prof. of Radiation Physics
Dept. of Physics,
The Hashemite University, Zarqa, Jordan
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Nationality: Jordanian
Date of Birth: 22 April 1957
Marital Status: Married

UNIVERSITY DEGREES:

1980 Bachelor of Physics, Yarmouk University, Jordan.
1991 M. Sc. Of Applied Radiation Physics, School of Physics
and Space Research, Birmingham University, UK.
1994 Ph. D. Experimental Applied Physics, School of Physics
and Space Research, Birmingham University, UK.

EMPLOYMENT HISTORY:

2013- now Prof. of Radiation Physics, Dept. of Physics, Islamic
University in Madinah. Saudi Arabia.
2009 - 2013 Prof. of Radiation Physics, Dept. of Physics, The
Hashemite University.
2009--2010 **Chairman, Dept. of Physics,** The Hashemite University,
Sabbatical leave, Dept of Physics, Al alBait University,
Mafraq, Jordan.

2006 - 2007 Associate. Prof. Dept. of Physics, The Hashemite
University
2003 – 2006 **Chairman, Dept. of Physics,** The Hashemite University,
2003 - 2009 Associate. Prof.
1995 - 2003 Assist. Prof. Dept. of Physics, The Hashemite University.
1994 - 1995 Full time Lecturer, Jordan University of Science and
Technology, Irbid, P. O. Box 3030, Jordan.

1991-1993 Computer Laboratory Supervisor, School of Physics and Space Research, Birmingham University, UK.
1986-1989 Physicist, Occupational Safety and Health Institute, Amman, Jordan

TRAINING & CONFERENCES:

1986 **Course in Occupational Hygiene**, Sydney University, Australia.

1992 Nuclear Technology Conference, Birmingham University, UK.

1992 Analytical Chemistry Conference, Birmingham University, UK.

1993 Third International Summer School on **Low-level Measurements of Radioactivity in the Environmental**: Techniques and Application, held in Huelva, Spain

1997 8 weeks a scientific visit to Pakistan Institute of Nuclear Sciences and Technology.

2000 **Training course in Environmental Protection**, Institute of Radiation Protection, GSF, Neuherberg, Munich, Germany.

2001 First Symposium on Use of Nuclear Techniques in Environmental Studies, Yarmouk University, Irbid, Jordan.

2002 Second Symposium on Use of Nuclear Techniques in Environmental Studies, Yarmouk University, Irbid, Jordan.

2002 Japan ASIAN SCIENCE SEMINAR, Synchrotron Radiation Science, October 19-28, 2002, AL-Balqa Applied University, Jordan.

2006 Second SEASAME Meeting, Dead Sea, Jordan.

2006 Second Jordanian Workshop, SEASAME in Research, Training and Technological Applications, 10-12 Sept. 2006, Jordan.

2006 Sixth Symposium on Use of Nuclear Techniques in Environmental Studies, Yarmouk University, Irbid, Jordan.

2007 International Conference on Environmental Radioactivity, From Measurements and Assessments to Regulations, 23-27 April, Vienna, Austria, IAEA-CN-145.

2007 6th SESAME Users Meeting 17-19 November., 2007, Amman, Jordan.

June 2008 – Sept. 2008 Three months visiting Radiation Protection Institute, Munich/Germany, Scholarship DFG.

June 2010 – Sept. 2010 Three months visiting Radiation Protection Institute, Munich/Germany, Scholarship DFG.

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| June 2011 – Sept. 2011 | Two months visiting Radiation Protection Institute, Munich/Germany, Scholarship DFG. |
| August 2012 | One month, Scientific visit, Lund University. |
| 27 – 31 August 2012 | Summer School on Atomic, Molecular, and Cluster Physics with Synchrotron Radiation, 27 to 31 August, 2012, Lund University, Sweden. |

RESEARCH INTERESTS:

- Natural radioactivity measurement and estimation of radiation doses
- Determination of environmental pollution using nuclear techniques.
- Atomic and nuclear collisions.
- Radiation effects on SSNTD.

FUNDED PROPOSAL:

- 1- Title: Building a coincident multi-hit COLTRIMS imaging apparatus,
Principal investigator: Feras Afaneh (project coordinator),
Other Scientists: Rami Ali, Reinhard Dörner, and Horst Schmidt-Böcking
Jamal Al-Jundi, Khalid Al-Ani, Hazem Akel, and Mahmoud Abu-Allaban
Agency: Deutsche Forschungsgemeinschaft (DFG) (German Science Foundation) (69,500 Euro), Institute for Nuclear Physics of the J.W. Goethe University-Frankfurt (39,000 Euro), and The Hashemite University (39,500 Euro)
Submission Date: April 2004
Amount Awarded: (148,000 Euro)
- 2- Title: Adaptation of ECOSYS-87 to Jordan's environment conditions to make a rapid hazard assessment following a nuclear accident.
Principal investigator: Jamal Al-Jundi
Agency and program: The Hashemite University, Zarqa, Jordan.
Status: Awarded 9900 Euro (2003).
- 3- Title: Distribution of Natural Radioactivity Levels in The Jordanian Phosphate Mines.
Principal investigator: Jamal Al-Jundi
Agency and program: The Hashemite University, Zarqa, Jordan. Status: Awarded 2900 JD, (2001).
- 4- Radiation Dose Received by the Population in Possibly High Natural Radiation Zone near Russaifa City, Jordan.
Investigator: Jamal Al-Jundi
Agency and program: The Hashemite University, Zarqa, Jordan. Status: Awarded 3400 JD, (1999).

TEACHING EXPERIENCE:

I have worked for 18 years at the Hashemite University. During these years I taught different courses at graduate and undergraduate levels. A member of several department's and the faculty committees, and the University Radiation officer.

Supervised Research

M.S. Thesis supervised:

- 1- N. Al-Ahmad "Natural Radioactivity Measurements In The Jordanian Phosphate Mines ", The Hashemite University, Dept. of Physics, Zarqa, Jordan. 2003.
- 2- M. Nearat "Measurement of Natural Radioactivity in Phosphate Wet Rocks in Jordan", The Hashemite University, Dept. of Physics, Zarqa, Jordan. 2004.
- 3- L. M. Dahous, "Radon-222 Air Concentration at the Hashemite University, Jordan", The Hashemite University, Dept. of Physics, Zarqa, Jordan. 2006.
- 4- Khalid Ayaserah, Measurement of Natural Radioactivity in Wadi Araba, Al-AlBait University , Jordan, 2006.
- 5- Amer Belleh: "COLTRIMS Study of Fragmentation Pathways of HD^+ Following Single-Electron Capture for Impact of HD^+ on He", The Hashemite University, Dept. of Physics, Zarqa, Jordan, 2007.
- 6- Iyad Zahran: Uranium and Radon Concentrations in Sediment Valleys Leading to The Dead Sea Using Solid State Nuclear Track Detectors, The Hashemite University, Dept. of Physics, Zarqa, Jordan, 2007.
- 7- Ayman A. Al-Khteeb, Simulation and Operation of the Recoil Ion Spectrometer of the COLTRIMS Apparatus at the University of Jordan. The Hashemite University, Dept. of Physics, Zarqa, Jordan, 2007.
- 8- Raed Al-Qaruti, Distribution of natural radioactivity of soils in Yajoz forests. The Hashemite University, Dept. of Physics, Zarqa, Jordan, 2008.
- 9- Ashraf Hammad, Measurements of natural radioactivity in surface soil of Al-Mafraq City. Al-AlBait University , Jordan, 2008.
- 10- Nadia Mraibeeh Awwad Al-Masaeid, Investigation of Natural Radioactivity Concentration in Surface Soil of Safawi Area In Mafraq, Jordan. Al-AlBait University , Jordan, 2008.
- 11- Eman Taha Al-Absi, Intake of ^{226}Ra , ^{228}Ra , and ^{40}K due to vegetables consumption, Jordan. The Hashemite University, Zarqa, Jordan, 2009.
- 12- Ammer Sawalmeh, Measurements of radioactivity in sediments of King Talal Dam. Al-AlBait University , Jordan, 2009.
- 13- Mouffaq Al-Jammal, Measurements of natural radioactivity along Jordan River. Al-AlBait University , Jordan, 2010.
- 14- Nabeel Al-Jammal, Measurements of ^{226}Ra , ^{228}Ra , ^{40}K , and ^{137}Cs , in the Dead Sea Sediments. Al-AlBait University , Jordan, 2010.
- 15- Laith Al-Qudah, Measurements of natural radioactivity concentration levels in soil samples in Al-Hashemyah-Asokhnah region. The Hashemite University, Zarqa, Jordan, 2012.
- 16- Saad Ata. Detemining radium concentrations in soil and water samples from Disi region using nuclear analytical techniques. The Hashemite University, Zarqa, Jordan, 2013.

- 17- Anwar Al-Zghoul, Determination of trace elements in Jordanian honey using x-ray fluorescence and inductively coupled plasma techniques, The Hashemite University, Zarqa, Jordan, 2013.
- 18- Shatha Al-Rubiee, Natural radioactivity determination in some medicinal plants, Jordan. Al-AlBait University , Jordan, 2013.
- 19- Ibrahim Jaber, Studying the internal dynamic of photon-molecule collisions, The Hashemite University, Zarqa, Jordan.
- 20- Mossab Al-Ajaleen, Imaging the photoionization dynamics of molecular fragmentation, The Hashemite University, Zarqa, Jordan
- 21- There are a few more.

PROFESSIONAL SERVICES

Refereed for:

- Journal of Environmental Radioactivity
- Abhath Al-Yarmouk,
- DIRASAT, Jordan University.
- Jordan Journal of Physics.
- Journal of Geochemical Exploration.

In addition, member of several professorial promotion committees'.

Served on the M.S. committees for:

- 1- T. Bouzieh, "Characterization of Si-Fe Systems by Rutherford Backscattering Spectroscopy", University of Jordan, November, 2004.
- 2- Ghada A. Assayed, "Filamentational Instabilities in Magnetized Plasma," The Hashemite University, Jordan, August 2005.
- 3- Asmi Maqableh, Investigating of the Sources, Values and Environmental Impacts of the Natural Radioactivity in Al-Mafraq Area, Al-AlBait University , Jordan, 2006.
- 4- Kamal Salah:" Impact vector dependence study of the kinetic energy release and molecular fragmentation pathways in He^{++} - Co Collisions using COLTRIMS. The Hashemite University, Jordan, August 2007.
- 5- Myassar Gaith, "Determination of optical constants of II-VI, Semiconductor thin films transmission spectra". The Hashemite University, Jordan, August 2007.
- 6- Investigation of Radiation Content of Phosphogypsum in Jordanian Phosphate Mines, Al-AlBait University , Jordan, 2007.

- 7- Bilal M. Amro, "Measurements of ^{238}U Concentration in some Jordanian Deposits Using Natural Gamma Ray Spectroscopy, University of Jordan, January, 2008.
- 8- Naeem Balasmeh, Studies of single and double electron capture in He^{2+} on Ne collisions using Cold Target Recoil Ion Momentum Spectroscopy, University of Jordan, January, 2008.
- 9- Many Others

Committees:

Physics departmental committees:

A head of:

- Programs of Study Committee
- Library and Textbooks Committee
- Scientific Research and Graduate Studies Committee
- Strategic Plan Committee
- Several others.

Faculty Committees:

A member of:

- Programs of Study Committee
- Library and Textbooks Committee
- Scientific Research and Graduate Studies Committee

PUBLICATIONS:

1. **J. Al-Jundi**, Determination of trace elements and heavy metals in the Zarka River sediments by INAA, **Nuclear Instruments and Methods in Physics Research; B 170 (2000)**, 180-186.
2. **J. Al-Jundi**, Population doses from terrestrial gamma exposure in areas near to old phosphate mine, Russaifa, Jordan; **Radiation Measurements, 35, (2002)**, 23-28.
3. **J. Al-Jundi**, T. Haninger, Radon-222 Concentrations in the Houses of Russaifa City, Jordan, **Abhath Al-Yarmouk Journal**. Vol. 12, No. 1, **2003**, 181-190.
4. **J. Al-Jundi**, B. A. Bataina, Y. Abu-Rukha, H. M. Shehadeh. Natural radioactivity concentrations in soil samples along the Amman- Aqaba highway, Jordan, **Radiation Measurements, 36, 2003, 550-560**.
5. **J. Al-Jundi**, E. Werner, P. Roth, V. Hollriegl, I. Wendler, P. Schramel. Thorium and uranium contents in human urine: influence of age and residential area, **J. of environmental radioactivity, 71, 2004, 61-70**.
6. W. Salah, **J. Al-Jundi**. Measurement of L X-ray cross-sections and relative intensities of heavy elements by 15.2 keV photons. **J. of quantitative Spectroscopy and Radiative Transfer. 94, 2005, 325-333**.
7. **J. Al-Jundi**, W. Salah M. S. Bawa'aneh, F. Afaneh. Exposure to Radiation from Natural Radioactivity in Jordanian Building Materials. **Radiation protection Dosimetry, 118, (1), 2005, 93-96**.
8. **J. Al-Jundi**, M. Neara't. Uranium Isotopes Measurements in Phosphate Wet Rocks Using Alpha Spectroscopy. **Abhath Al-Yarmouk Journal, 114 (2), 2005, 261-268**.
9. F. Afaneh, L. H. Schmidt, M. Schoeffler, K.E. Stiebing, **J. Al-Jundi**, H. Schmidt-Boecking, R. Doerner. Dynamics of Electron-Capture-to-Continuum (ECC) Formation in Slow Ion-Atomic Collisions, **Journal of Physics B, 40, (2007), 1745-1753**.
10. F. Afaneh, L. H. Schmidt, M. Schoeffler, K.E. Stiebing, **J. Al-Jundi**, H. Schmidt-Boecking, R. Doerner. Orientation and impact-parameter dependence of dissociative ionization of H₂ by slow ion impact, **Journal of Physics B, 40, (2007), 3467-3475**.
11. **J. Al-Jundi**, E. Al-Tarazi. Radioactivity and Elemental Analysis in the Russeifa Municipal Landfill, Jordan, **J. Environ. Radioactivity, 99, (2008), 190-198**.
12. M. Abusini, K. Al-ayasreh, **J. Al-Jundi**. Determination of Uranium, Thorium, and Potassium activity concentrations in Soil Cores in Araba Valley, Jordan, **Radiation protection Dosimetry, 2008, 213-216**.
13. M. Maghrabi, **J. Al-Jundi**, D-E Arafah. Mixed Order and General Order Kinetics Applied to Selected Thermoluminescence Glow Curves. **Radiation Protection Dosimetry, 130, (2008), 291-299**.
14. **J. Al-Jundi**, N. Al-Ahmad, H. Shehadeh, F. Afaneh, M. Maghrabi, U. Gerstmann, V. Höllriegl, U. Oeh, Investigations on the activity concentrations of ²³⁸U, ²²⁶Ra, ²²⁸Ra, ²¹⁰Pb and ⁴⁰K in Jordan Phosphogypsum and Fertilizers, **Radiation Protection Dosimetry, 131, (2008), 449-454**.

15. **J. Al-Jundi**, A. Ulanovsky, G. Proehl. Doses of external exposure in Jordan house due to gamma-emitting natural radionuclides in building materials, **J. Environ. Radioactivity**, **100**, (2009), **841-846**.
16. **Jamal Al-Jundi**; Weibo Li, Ph.D.; M Abusini; Jochen Tschiersch; Christoph Hoeschen; Uwe Oeh. Inhalation dose assessment of indoor radon progeny using biokinetic modeling and measurement for Jordanian population, **J. Environ. Radioactivity**, **102**, (2011), **574-580**.
17. Eman Al-Absi, Tarig Al-Abdullah, Hayel Shehadeh, **J. Al-Jundi**, ^{226}Ra , ^{228}Ra , and ^{40}K activity concentration in some vegetables consumed in Jordan, and resultant annual ingestion effective dose. **Radiation Protection and Environment**, **38**, (2015), **29- 32**.
18. F. Afaneh, M. Al-Momani , L. Aldrabee , **J. Al-Jundi** , H.K. Juwhari, Radioactivity Concentrations and Dose Assessment for Agricultural Soil Samples around the Jordanian Petroleum Refinery in Zarqa/Jordan. Accepted to be published in Int. J. Low Radiation, Vol. XX, 2016.