

## CURRICULUM VITAE

May 3<sup>rd</sup>, 2018



<b>Name</b>	Saed Odeh Faraj Dababneh سائد عودة فرج دبابنة	<b>Address</b>	Dean of Scientific Research Al-Balqa Applied University P.O.Box 2587, Amman 11941 Jordan
<b>Date of Birth</b>	February 11, 1963		
<b>Place of Birth</b>	Amman, Jordan		
<b>Nationality</b>	Jordanian	<b>Tel</b>	+962-7-95606613 or +962-7-76075260
<b>Marital status</b>	Married (Two Children)	<b>E-mail</b>	<a href="mailto:dababneh@bau.edu.jo">dababneh@bau.edu.jo</a>
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### Education

- Ph.D. Nuclear Physics, 2002.  
Heidelberg University and Karlsruhe Institute of Technology (KIT), Germany.
- M.Sc. Physics, 1990.  
University of Jordan, Faculty of Graduate Studies, Amman, Jordan.
- B.Sc. Physics, 1986.  
University of Baghdad, College of Sciences, Baghdad, Iraq.

### Current and Recent Positions

- **Dean of Scientific Research.** Al-Balqa Applied University, Salt, Jordan. 2017-.
- **Dean.** Faculty of Graduate Studies, Al-Balqa Applied University, Salt, Jordan. 2016-2017.
- **Professor.** Al-Balqa Applied University, Salt, Jordan.
- **Establishing, managing and supervising the graduate program in nuclear physics.** Al-Balqa Applied University, Salt, Jordan. 2006-2017.
- **Visiting Professor.** Institute for Applied Physics, Goethe University, Frankfurt am Main, Germany. Summer 2015, 2016 and 2017.
- **Vice Chairman of the Board of Directors.** Jordan Nuclear Regulatory Commission JNRC, Amman, Jordan. 2008-2012.

### Positions, research and other activities

- Technical visit to the CTBTO headquarters to discuss and launch technical cooperation related to the radionuclide component of the Verification Regime. The cooperation includes benchmarking the results produced by CTBTO's VGSL with those produced by GEANT4 Monte Carlo simulations, in addition to scientific input for new/modified ideas on radionuclide (beta-gamma coincidence) measurements. May, 2016.
- Granted a fund of 550,000 JD by Scientific Research Support Fund for the project titled: "Improvement and Adaptation of Ultra-Sensitive Coincidence Gamma-Ray Detection Array for Environmental, Energy, Security, Water- and Food-Safety Applications".
- Chairman of the Research Council and Chairman of Graduate Studies Council at Al-Balqa Applied University.
- Member of the Deans' Council at Al-Balqa Applied University.
- Member of the University Council at Al-Balqa Applied University.
- Member of the Faculty of Science Council at Al-Balqa Applied University.
- Sabbatical leave at the University of Jordan (2010/2011).
- Writing a group of articles in Arabic on a variety of scientific issues (for the public).
- Managing the King Abdullah II Fund for Development (KAJD) support of a specialized graduate program in Applied Nuclear Physics at Al Balqa Applied University, Salt, Jordan.

- Chairman of the Second International Symposium on Nuclear Energy ISNE-09. Also organized the Third and Fourth International Symposia on Nuclear Energy ISNE-10 and ISNE-11 <http://isne.bau.edu.jo/>.
- Member of SESAME users committee, Amman, Jordan. 2006-2011.
- Member of the Dissi Water Consultative Committee, Amman, Jordan. 2006/2007.
- Researcher. Jordan Atomic Energy Commission. March-August 2005.
- Assistant Professor, Al-Balqa Applied University, Salt, Jordan. 2004-2009.
- Research visits to the European Organization for Nuclear Research CERN, Geneva, Switzerland. 2000–2004.
- Visiting Research Scientist, Institut für Kernphysik, Forschungszentrum Karlsruhe, Germany. 1 July - 15 September 2004.
- Visiting Research Scientist, Institut für Kernphysik, Forschungszentrum Karlsruhe, Germany. December 2003.
- Research Associate, Department of Physics. University of Notre Dame, and at the Joint Institute for Nuclear Astrophysics. USA. July-November 2003.
- Research visit to the Centre de Recherches du Cyclotron, Louvain-La-Neuve, Belgium. May 2003.
- Visiting Research Scientist, Institut für Kernphysik, Forschungszentrum Karlsruhe, Germany. January-July 2003.
- Research visit to the Physikalisch-Technische Bundesanstalt, Braunschweig, Germany. April 2002.
- Research visit to the University of Notre Dame and the Joint Institute for Nuclear Astrophysics, USA. July 2001.
- Lecturer. Faculty of Applied Science, [Al-Balqa Applied University](#), Salt, Jordan. 1997-1999.
- Scientific visit to the Institute of Nuclear Solid State Physics INFP, Forschungszentrum Karlsruhe, Germany. June-August 1997.
- Lecturer. Physics Department, [University of Jordan](#), Amman, Jordan. 1990-1997.
- Interregional Training Course on Interfacing in Nuclear Experiments. The International Atomic Energy Agency. Held in Antananarivo, Madagascar. October-December 1991.
- Research Activities (Accelerator Applications). 1987-.
- Environmental Research Activities. 1995-1999.
- The establishment of the radiation laboratory at Al-Balqa Applied University. 1998-1999.

### **Awards**

- Georg Forster Fellowship for Experienced Researchers, the Alexander von Humboldt Foundation, Germany.
- Forschungszentrum Karlsruhe INFP. Scientific visit, 1997.

### **References**

- Dr. Franz Käppeler  
Karlsruhe Institute of Technology (KIT)  
Institut für Kernphysik  
Postfach 3640  
D-76021 Karlsruhe, Germany
- Prof. Michael Wiescher  
The Joint Institute for Nuclear Astrophysics  
The University of Notre Dame  
225 Nieuwland Science Hall  
Notre Dame, IN 46556, USA

### **Professional membership**

- American Physical Society.
- Jordanian Physical Society.
- Jordanian Environmental Society.

### **Languages**

- Arabic (Mother Language).
- English.
- Some German.

### **Courses Taught**

1. Nuclear Reactor Physics (Graduate).
2. Nuclear Physics (Graduate).
3. Experimental Techniques in Nuclear Physics (Graduate).
4. Computational Physics (Graduate).
5. Theoretical Nuclear Physics (Graduate).
6. Radiation Detection and Measurement (Graduate).
7. Advanced Mathematical Physics (Graduate).
8. Advanced Statistical Physics (Graduate).
9. Accelerator Physics (Graduate).
10. Special Topics in Nuclear Physics (Graduate).
11. Undergraduate Nuclear Physics.
12. Undergraduate Reactor Physics.
13. Undergraduate Radiation Physics (1&2).
14. Undergraduate Experimental Techniques in Nuclear Science.
15. Undergraduate Statistical and Thermal Physics.
16. Undergraduate Computational Physics.
17. Undergraduate (first year) general physics courses.

### **Graduate Student Supervision/Co-supervision and Thesis Examining Committees**

1. Monte Carlo simulation of the response of gamma spectrometers.  
Mohammad Bqoor, Al-Balqa Applied University, M.Sc. thesis defended on 29/4/2006.
2. An optimized setup for tissue characterization using Compton scatter technique.  
Hanan Saleh, The University of Jordan, Ph.D. dissertation defended on 17/12/2008.
3. Correction factors in gamma spectroscopy: A comparative study of different approaches.  
Ektimal Nemri, The University of Jordan, M.Sc. thesis defended on 5/8/2008.
4. Solving reactor neutron diffusion equations for different geometries using the Homotopy Perturbation method.  
Kafa Khasawneh, Al-Balqa Applied University, M.Sc. thesis defended on 3/8/2009.
5. Evaluation of scatter dose contribution of  $^{192}\text{Ir}$  in brachytherapy by Monte Carlo simulation.  
Eshraq Ababneh, Al-Balqa Applied University, M.Sc. thesis defended on 6/8/2009.
6. Dosimetry of small radiation beams.  
Lina Abu Arida, Al-Balqa Applied University, M.Sc. thesis defended on 7/1/2010.
7. The design and calibration of a prototype for a high-resolution time-of-flight spectrometer of high-energy neutrons.  
Omar Nusair, Al-Balqa Applied University, M.Sc. thesis defended on 26/5/2010.
8.  $^{125}\text{I}$  Brachytherapy Source: Characterization of Dose Parameters and Medical Applications.  
Tahani Aqrabawi, The University of Jordan, Ph.D. dissertation defended in August 2011.
9. The Calibration of *In-Situ* Gamma-Ray Spectrometers: A Comparative Study of Different Approaches.  
Ahmad Al-Qararah, Al-Balqa Applied University, M.Sc. thesis defended on 23/12/2010.

10. Bragg-Curve Measurement and Simulation of Heavy-Ion Beams for Hadron Therapy Applications.  
Morad Hamad, Al-Balqa Applied University, M.Sc. thesis defended on 28/12/2010.
11. Neutron-nucleus scattering using a velocity-dependent optical potential.  
Mohammad Hassan, The University of Jordan, Ph.D. dissertation defended on 8/4/2012.
12. Technical Nuclear Safety Study of Subcritical Assembly at Jordan University of Science and Technology using Monte Carlo Techniques and Probabilistic Risk Analysis.  
Mohammad Bqoor, The University of Jordan, Ph.D. dissertation defended on 30/4/2012.
13. Solving Multi-Group Neutron Diffusion Equations in Different Geometries using the Homotopy Perturbation Method.  
Mohammad Shqair, The University of Jordan, Ph.D. dissertation defended on 7/5/2013.
14. Dosimetrical study of output factor of highly conformal photon beams used in stereotactic radiosurgery: Anthropomorphic phantom study.  
Sa'ad J. Al-Atawneh, Al-Balqa Applied University, M.Sc. thesis defended on 7/5/2015.
15. Development of An Applicable Algorithm for Brachytherapy Dose Calculation in Heterogeneous Media.  
Eshraq Ababneh, The University of Jordan, Ph.D. dissertation defended on 15/12/2016.
16. Multidimensional Gamma-Ray Spectroscopy of Neutron Activated Natural Zinc.  
Ala'a Ali Eid Al-Hiyari, The University of Jordan, M.Sc. thesis defended on 3/5/2017.
17. Radioxenon beta-gamma coincidence study for the CTBTO international monitoring system.  
Eyad Zahran, The University of Jordan, Ph.D. work ongoing.
18. Improvement of random coincidence background elimination and peak identification in multidimensional gamma-ray spectroscopy.  
Tareq Alqam, The University of Jordan, Ph.D. work ongoing.
19. Modes of operation of germanium detector arrays with active shields.  
Lubna Nofal, The University of Jordan, M.Sc. thesis defended on 24/4/2018.
20. Studies on active shielded composite germanium detection arrays.  
Ahmad Younis, Al-Balqa Applied University, M.Sc. work ongoing.
21. Studies on applications of composite germanium detectors.  
Sara Amarat, Al-Balqa Applied University, M.Sc. work ongoing.
22. Energy and time characterization and modeling of the Clover composite HPGe detector of Al-Balqa Applied University.  
Amjad Salem Qbelat, Al-Balqa Applied University, M.Sc. work ongoing.
23. Time and energy characterization of the active shield of a composite germanium detector.  
Saleh Bshish, Mutah University, M.Sc. work ongoing.

**Other Thesis Examining Committees (without supervision)**

24. Gamma spectroscopy in ceramics used in Jordan.  
Rana N. Al Faoury, M.Sc. Thesis, Al Balqa Applied University, May 31<sup>st</sup>, 2005.
25. Thermoluminescence (TL) response of doped alkali sulphates.  
Awwad Mohammad Al Faoury, M.Sc. Thesis, Al Balqa Applied University, April 19<sup>th</sup>, 2006.
26. Measurement of uranium uptake by agricultural crops at Khan Al-Zabeeb area.  
Samer Jamal Ahmad Al-Kharouf, M.Sc. Thesis, Al Balqa Applied University, June 7<sup>th</sup>, 2006.
27. Studies of Single and Double Electron Loss in O<sup>+</sup> on He Collisions Using Cold Target Recoil Ion Momentum Spectroscopy.  
Rajaie Yaser Qasem, M.Sc. Thesis, The University of Jordan, May 7<sup>th</sup>, 2008.
28. A study of natural radioactivity in drinking water in Amman, Jordan.  
Sajedah M. Al-Amir, M.Sc. Thesis, Al Balqa Applied University, May 27<sup>th</sup>, 2009.

29. Non-destructive inspection of low and medium atomic number matrices using tomographic techniques.  
Suhad S. Sarhan, M.Sc. Thesis, Al Balqa Applied University, July 14<sup>th</sup>, 2009.
30. Correlation of backscattered and recoil ions in violent ion-atom collisions by coincident Rutherford backscattering spectrometry.  
Hanan M. Sa'adeh, Ph.D. Dissertation, The University of Jordan, December 28<sup>th</sup>, 2009.
31. Proton-neutron scattering using realistic velocity-dependent potentials.  
Wafa Abu Al-Nadi, M.Sc. Thesis, The University of Jordan, December 2<sup>nd</sup>, 2010.
32. Perturbation theory for proton-neutron scattering: Perturbing the energy.  
Mohammad Al-Sayed, Ph.D. Dissertation, The University of Jordan, March 10<sup>th</sup>, 2011.
33. Transformation kinetics in some selenium-tellurium-tin chalcogenide glasses.  
Nazem Abu-Shaweesh, M.Sc. Thesis, Al Balqa Applied University, March 24<sup>th</sup>, 2011.
34. Dependence of electrical conductivity on composition in selenium-tellurium-tin semiconducting glasses.  
Fares Al-Kurdi, M.Sc. Thesis, Al Balqa Applied University, April 21<sup>st</sup>, 2011.
35. Modeling soil radon diffusion using its properties.  
Islam Dalki, M.Sc. Thesis, Yarmouk University, December 29<sup>th</sup>, 2011.
36. Monte Carlo simulations of the photo-neutron production and related shielding at a medical linear accelerator.  
Emad Farrag, University of Jordan, Ph.D. dissertation defended on May 2<sup>nd</sup>, 2012.
37. Non-local effects in proton elastic scattering from nuclei.  
Rami Zureikat, University of Jordan, Ph.D. dissertation defended on May 9<sup>th</sup>, 2013.
38. Processes of fluorine production in stars and analysis of observational data.  
Mohammad Mardini, M.Sc. Thesis, Yarmouk University, June 15<sup>th</sup>, 2014.
39. Investigation of nonlocalities in the nucleon-nucleus elastic scattering.  
Ibrahim Ghabar, University of Jordan, Ph.D. dissertation defended on August 11<sup>th</sup>, 2014.
40. Production of secondary radioactive ion beams via few-nucleon transfer reactions.  
Omar Nusair, Goethe University, Frankfurt am Main, Germany, Ph.D. dissertation defended on 11/8/2015.
41. Effect of coupled channels on the energy dependence of the optical potential parameters.  
Waleed Al-Rayashi, The University of Jordan, Ph.D. dissertation defended on 15/12/2015.
42. Studying the importance of channel coupling and compound nucleus reactions in the elastic scattering process by fitting low energy neutron–nucleus elastic angular distributions.  
Alaa Tamimi, University of Jordan, Ph.D. dissertation defended on December 21<sup>st</sup>, 2017.

## Publications

### Refereed Journals

- 1) Excitation function of the nuclear reaction  $^{19}\text{F}(p,\alpha\gamma)^{16}\text{O}$  in the proton energy range 0.3-3.0 MeV.  
S. Dababneh, K. Toukan and I. Khubeis.  
Nuclear Instruments & Methods in Physics Research B 83 (1993) 319-324.
- 2) Characterization of Lead, Mercury and Gold Implanted into Magnesium.  
K. Toukan, S. Dababneh, R. AbdelKarim and I. Khubeis.  
Radiation Effects and Defects in Solids 143 (1997) 167-178.
- 3) Diffusion Behaviour of Gold and Mercury Implanted into Magnesium.  
K. Toukan, I. Khubeis, F. Al-Zubi, M. Al-Sa'adi, S. Dababneh, E. Bakraji and O. Meyer.  
Nuclear Instruments & Methods in Physics Research B 127/128 (1997) 747-751.
- 4) Radiological Safety of Food Irradiation with High Energy X-rays: Theoretical Expectations and Experimental Evidence.  
O. Grégoire, M.R. Cleland, J. Mittendorfer, S. Dababneh, D.A.E. Ehlermann, X. Fan, F. Käppeler, J. Logar, J. Meissner, B. Mullier, F. Stichelbaut, D.W. Thayer.  
Radiat. Phys. Chem. 67 (2003) 169-183.
- 5) Erratum to "Radiological Safety of Medical Devices Sterilized with X-rays at 7.5 MeV."  
[Radiat. Phys. Chem. 67 (2003) 149-167]  
O. Grégoire, M.R. Cleland, J. Mittendorfer, M. Vander Donckt, J. Meissner, S. Dababneh, F. Käppeler, D.A.E. Ehlermann.  
Radiat. Phys. Chem. 68 (2003) 943.
- 6) Nucleosynthesis in TP-AGB Stars and the Production of  $^{19}\text{F}$ .  
J. Görres, S. Dababneh, A. Couture, M. Heil, F. Käppeler, H. Leiste, M. Lugaro, C. Ugalde and M. Wiescher  
Nucl. Phys. A 718 (2003) 155c-158c.
- 7) Stellar He burning of  $^{18}\text{O}$ : A measurement of low-energy resonances and their astrophysical implications.  
S. Dababneh, M. Heil, F. Käppeler, J. Görres, M. Wiescher, R. Reifarth and H. Leiste  
Phys. Rev. C 68 (2003) 025801.
- 8) Neutron capture cross section of  $^{139}\text{La}$ .  
S. O'Brien, S. Dababneh, M. Heil, F. Käppeler, R. Plag, R. Reifarth, R. Gallino and M. Pignatari  
Phys. Rev. C 68 (2003) 035801.
- 9) Relationship between hyperdeformation, fission resonances and clustering in  $^{233}\text{Th}$ .  
Nenoff N., Beer H., Bringel P., Chmel S., [Csatlós M.](#), Dababneh S., Heil M., Hübel H., Käppeler F., Krasznahorkay A., Mergel E., Plag R., Reifarth R.  
Acta Physica Hungarica New Series - Heavy Ion Physics 18 (2003) 331.
- 10) Gamma spectroscopy using two Clover detectors in close geometry.  
S. Dababneh, N. Patronis, P.A. Assimakopoulos, J. Görres, M. Heil, F. Käppeler, D. Karamanis, S. O'Brien, R. Reifarth.  
Nuclear Instruments and Methods in Physics Research A 517 (2004) 230-239.
- 11) Neutron capture studies on unstable  $^{135}\text{Cs}$  for nucleosynthesis and transmutation.  
N. Patronis, S. Dababneh, P.A. Assimakopoulos, R. Gallino, M. Heil, F. Käppeler, D. Karamanis, P.E. Koehler, A. Mengoni and R. Plag.  
Phys. Rev. C 69 (2004) 025803.
- 12) New experimental validation of the pulse height weighting technique for capture cross-section measurements.  
The n\_TOF collaboration.  
Nuclear Instruments and Methods in Physics Research A 521 (2004) 454-467.

- 13) Production and isobaric separation of  $^{63}\text{Ni}$  ions for determination of the  $^{62}\text{Ni}(n,\gamma)^{63}\text{Ni}$  reaction cross section at stellar temperatures  
H. Nassar, S. Ghelberg, M. Paul, S. Dababneh, M. Heil, F. Käppeler, R. Plag, I. Ahmad, J.P. Greene, D.J. Henderson, C.L. Jiang, R.C. Pardo, T. Pennington, K.E. Rehm, R. Scott, S. Sinha, X. Tang, R. Vondrasek, H. Koivisto, D. Berkovits, M. Bettan, R. Reifarh, P. Collon, S. O'Brien and N. Patronis  
Nucl. Phys. A 746 (2004) 613c–616c.
- 14) Stellar  $(n,\gamma)$  cross section of  $^{62}\text{Ni}$ .  
H. Nassar, M. Paul, I. Ahmad, D. Berkovits, M. Bettan, P. Collon, S. Dababneh, S. Ghelberg, J.P. Greene, A. Heger, M. Heil, D.J. Henderson, C.L. Jiang, F. Käppeler, H. Koivisto, S. O'Brien, R.C. Pardo, N. Patronis, T. Pennington, R. Plag, K.E. Rehm, R. Reifarh, R. Scott, S. Sinha, X. Tang, R. Vondrasek.  
Phys. Rev. Lett. 94 (2005) 092504.
- 15) Measurement of the n\_TOF beam profile with a micromegas detector.  
The n\_TOF collaboration.  
Nuclear Instruments and Methods in Physics Research A 524 (2004) 102-114.
- 16) Time–energy relation of the n\_TOF neutron beam: energy standards revisited.  
The n\_TOF collaboration.  
Nuclear Instruments and Methods in Physics Research A 532 (2004) 622-630.
- 17) A Low-Mass Neutron Flux Monitor for the n\_TOF Facility at CERN.  
The n\_TOF collaboration.  
Brazilian Journal of Physics 34 (2004) 914-918.
- 18) Neutron Capture Cross Section Measurement of  $^{151}\text{Sm}$  at the CERN Neutron Time of Flight Facility (n\_TOF).  
The n\_TOF collaboration.  
Phys. Rev. Lett. 93 (2004) 161103.
- 19) The data acquisition system of the neutron time of flight facility n\_TOF at CERN.  
The n\_TOF collaboration.  
Nuclear Instruments and Methods in Physics Research A 538 (2005) 692-702.
- 20) A neutron source to measure stellar neutron capture cross sections at  $kT = 5$  keV.  
M. Heil, S. Dababneh, F. Käppeler, R. Plag, A. Juseviciute, N. Winckler, R. Reifarh, and S. O'Brien.  
Nucl. Phys. A 758 (2005) 529-532.
- 21) Stellar neutron capture rates of  $^{14}\text{C}$   
R. Reifarh, M. Heil, R. Plag, U. Besserer, S. Dababneh, L. Dörr, J. Görres, R.C. Haight, F. Käppeler, A. Mengoni, S. O'Brien, N. Patronis, R.S. Rundberg, M. Wiescher, J.B. Wilhelmy.  
Nucl. Phys. A 758 (2005) 787-790.
- 22) Measurement of the  $^{151}\text{Sm}(n,\gamma)^{152}\text{Sm}$  cross section at n\_TOF.  
The n\_TOF collaboration.  
Nucl. Phys. A 758 (2005) 533-536.
- 23) Measurements of the  $^{90,91,92,94,96}\text{Zr}(n,\gamma)$  cross sections at n\_TOF.  
The n\_TOF collaboration.  
Nucl. Phys. A 758 (2005) 573-576.
- 24) Neutron capture cross section measurements for nuclear astrophysics at CERN n\_TOF.  
The n\_TOF collaboration.  
Nucl. Phys. A 758 (2005) 501-504.

- 25) Quasistellar spectrum for neutron activation measurements at  $kT = 5$  keV.  
M. Heil, S. Dababneh, A. Juseviciute, F. Käppeler, R. Plag, R. Reifarh, S. O'Brien.  
Phys. Rev. C 71 (2005) 025803.
- 26) Measurement of the  $^{151}\text{Sm}(n,\gamma)$  cross section from 0.6 eV to 1 MeV via the neutron time-of-flight technique at the CERN n\_TOF facility.  
The n\_TOF collaboration.  
Phys. Rev. C 73 (2006) 034604.
- 27) A new approach to the  $^{176}\text{Lu}$  puzzle.  
F. Käppeler, N. Winckler, S. Dababneh, M. Heil, S. Bisterzo, and R. Gallino.  
Memorie della Società Astronomica Italiana 77 (2006) n. 3.
- 28) Lanthanum: an  $s$ - and  $r$ -process indicator.  
N. Winckler, S. Dababneh, M. Heil, F. Käppeler, R. Gallino, M. Pignatari.  
The Astrophysical Journal 647 (2006) 685.
- 29) Stellar  $(n,\gamma)$  cross sections of  $^{174}\text{Hf}$  and radioactive  $^{182}\text{Hf}$ .  
C. Vockenhuber, I. Dillmann, M. Heil, F. Käppeler, N. Winckler, W. Kutschera, A. Wallner, M. Bichler, S. Dababneh, S. Bisterzo, R. Gallino.  
Phys. Rev. C 75 (2007) 015804.
- 30) Indication for hyperdeformed cluster states in  $^{233}\text{Th}$ .  
N. Nenoff, P. Bringel, A. Bürger, S. Chmel, S. Dababneh, M. Heil, H. Hübel, F. Käppeler, A. Neußer-Neffgen, R. Plag.  
European Physical Journal A 32, (2007) 165.
- 31)  $^{176}\text{Lu}/^{176}\text{Hf}$ : A sensitive test of  $s$ -process temperature and neutron density in AGB stars.  
M. Heil, N. Winckler, S. Dababneh, F. Käppeler, K. Wisshak, S. Bisterzo, R. Gallino, A.M. Davis, T. Rauscher.  
The Astrophysical Journal 673 (2008) 434.
- 32) The  $^{14}\text{C}(n,\gamma)$  cross section between 10 keV and 1 MeV.  
R. Reifarh, M. Heil, C. Forssén, U. Besserer, A. Couture, S. Dababneh, L. Dörr, J. Görres, R.C. Haight, F. Käppeler, A. Mengoni, S. O'Brien, N. Patronis, R. Plag, R.S. Rundberg, M. Wiescher and J.B. Wilhelmy.  
Phys. Rev. C 77 (2008) 015804.
- 33) A solution of the neutron diffusion equation in hemispherical symmetry using the homotopy perturbation method.  
Kafa Khasawneh, Saed Dababneh, Zaid Odibat.  
Annals of Nuclear Energy 36 (2009) 1711.
- 34) Stellar  $(n,\gamma)$  cross sections of  $p$ -process isotopes Part I:  $^{102}\text{Pd}$ ,  $^{120}\text{Te}$ ,  $^{130,132}\text{Ba}$ , and  $^{156}\text{Dy}$ .  
I. Dillmann, C. Domingo-Pardo, M. Heil, F. Käppeler, S. Walter, S. Dababneh, T. Rauscher and F.-K. Thielemann.  
Phys. Rev. C 81 (2010) 015801.
- 35) [An alternative solution of the neutron diffusion equation in cylindrical symmetry.](#)  
Saed Dababneh, Kafa Khasawneh, Zaid Odibat.  
Annals of Nuclear Energy 38 (2011) 1140.
- 36) Neutron activation of natural zinc samples at  $kT = 25$  keV.  
R. Reifarh, S. Dababneh, M. Heil, F. Käppeler, R. Plag, K. Sonnabend, and E. Überseder.  
Phys. Rev. C 85 (2012) 035802.
- 37) A compact Ge-BGO coincidence array for ultra-sensitive in-beam gamma spectroscopy.  
S. Dababneh, J. Görres, M. Heil, F. Käppeler, R. Reifarh and M. Wiescher.  
[Nuclear Instruments and Methods in Physics Research A](#) 737 (2014) 135–141.



- 38) Application of Geant4 in routine close geometry gamma spectroscopy for environmental samples.  
 Saed Dababneh, Ektimal Al-Nemri and Jamal Sharaf.  
[Journal of Environmental Radioactivity](#) 134 (2014) 27–34.
- 39) Enhancement and Validation of Geant4 Brachytherapy Application on Clinical HDR  $^{192}\text{Ir}$  Source.  
 Eshraq Ababneh, Saed Dababneh, Sharif Qatarneh and Shada Wadi-Ramahi.  
 Radiation Physics and Chemistry 103 (2014) 57–66.
- 40) Comment on “High Naturally Occurring Radioactivity in Fossil Groundwater from the Middle East.”  
 S. Dababneh.  
 Journal of Environmental Science and Technology 48 (2014) 9943-9945.
- 41) Evaluation of Loading Pattern Characteristics Influence on VVER 1000 Nuclear Reactor Pressure Vessel Neutron Fluence.  
 Hasan Abou Faour, Baida Achkar, Saed Dababneh, Saadou Aldawahra.  
 Jordan Journal of Mechanical and Industrial Engineering 8 (2014) 177-186.
- 42) Dose from Naturally Occurring Radium Radioactivity in Abstracted Disi Fossil Groundwater.  
 S. Dababneh.  
 Jordan Journal of Physics 8 (2015) 17-27.
- 43) Nuclear astrophysics at FRANZ.  
 R. Reifarh, S. Dababneh, S. Fiebiger, J. Glorius, K. Göbel, M. Heil, P. Hillmann, T. Heftrich, C. Langer, O. Meusel, R. Plag, S. Schmidt, Z. Slavkovská, D. Veltum, M. Weigand, C. Wiesner, C. Wolf and A. Zadeh.  
 Journal of Physics: Conf. Series 940 (2018) 012024.
- 44) Neutron-Induced Reactions in Nuclear Astrophysics.  
 R Reifarh, D Brown, S Dababneh, YA Litvinov, SM Mosby.  
 Jordan Journal of Physics 11 (2018) 27-34.
- 45) Advancing Nuclear Astrophysics Using Next-Generation Facilities and Devices.  
 C Langer, N Klapper, C Köppchen, S Dababneh, R Reifarh.  
 Jordan Journal of Physics 11 (2018) 45-58.
- 46) Physics Elements of an Algorithm for Brachytherapy Dose Calculation in Homogeneous Media for  $^{192}\text{Ir}$  Source.  
 E. Ababneh, S. Dababneh, S. Wadi-Ramahi, J. Sharaf.  
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### **Conference Proceedings and Abstracts**

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- 75) Analytical Formalism for the Output Factors of Small MLC-Shaped Beams.  
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- 84) Notre Dame Clover Detector(s): GEANT4 Monte Carlo Simulations.  
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- 85) The Qafqafa, Tafileh and Karama Monitoring Stations: Status and Recommendations.  
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- 86) Dissi Water Quality Assessment (Radiological Aspects).  
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- 87) Draft Proposal for the establishment of a Center of Excellence in Nuclear Science and Technology.  
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### **Invited Talks**

- 1) Fusion Reactions during Stellar He Burning.  
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- 2) Alpha Capture on  $^{18}\text{O}$  during Stellar He-Burning.  
Nuclear Structure Laboratory, Department of Physics, University of Notre Dame, USA.  
September 8, 2003.
- 3) Some Improved Methodologies in Gamma Spectroscopy.  
Jordan Atomic Energy Commission, Amman, Jordan. August 23, 2005.
- 4) The Environmental Monitoring Stations in Jordan.  
Meeting of the board of Jordan Atomic Energy Commission, Ministry of Energy and Mineral Resources, Amman, Jordan. December 31, 2005.
- 5) Monte Carlo Techniques in Radiation Detection and Measurement.  
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Yarmouk University, Jordan. September 4-6, 2006.

- 6) Radionuclides in Dissi Water.  
Ministerial meeting, the Ministry of Water and Irrigation, Amman, Jordan.  
December 20<sup>th</sup>, 2006.
- 7) Manipulated Gamma Spectroscopy: Methodologies and Applications.  
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- 8) Dissi Water and Jordanian Guidelines (Radiological Aspects).  
Jordanian Geologists Association, Workshop on Dissi Water, Amman, Jordan.  
April 14<sup>th</sup>, 2009.
- 9) Nuclear Power Reactors, General Concepts and Future Horizons.  
Mutah University, Karak, Jordan. May 4<sup>th</sup>, 2009.
- 10) Some Modern Trends in Radiation Measurement: Relevance to Radiation Measurements  
Cross Calibration RMCC  
Meeting of the RMCC Advisory Council, Middle East Scientific Institute for Security  
MESIS, Amman, Jordan. June 12<sup>th</sup>, 2011.
- 11) Pillars of Jordan's Nuclear Energy Program: Strength or Weakness?  
Workshop on Nuclear Energy in Jordan, Al-Balqa Applied University, Salt, Jordan. July 5<sup>th</sup>,  
2011.
- 12) JNRC perspective on Jordan's nuclear workforce.  
Workshop on Ensuring a Secure and Safe Nuclear Infrastructure in Jordan, Partnership for  
Nuclear Security, Amman, Jordan, January 15<sup>th</sup>, 2012.
- 13) Perspective on the National Nuclear Debate.  
Yarmouk University, Jordan, March 14<sup>th</sup>, 2012. Also given at the Jordanian Astronomical  
Society JAS, March 22<sup>nd</sup>, 2012.
- 14) Experimental Techniques in Nuclear Astrophysics.  
The Jordanian Astronomical Society JAS, Amman, Jordan, September 27<sup>th</sup>, 2012.
- 15) The Higgs: Experiment vs. Theory vs. Philosophy!  
The Jordanian Astronomical Society JAS, Amman, Jordan, March 21<sup>st</sup>, 2013.
- 16) Peaceful Nuclear Option in the Arab World – The Jordan Model.  
Annual Conference of the Arab Forum for Environment and Development.  
Sustainable Energy. Sharjah, UAE, 28 -29 October 2013.
- 17) Dose from Naturally Occurring Radium Radioactivity in Abstracted Disi Fossil  
Groundwater.  
The Euro-Arab Organization for Environment, Water and Desert Research, Fifth International  
Conference on the Geomatics of the Middle East and North Africa, The University of Jordan,  
March 23-27, 2014. Also given at Jordan University of Science and Technology, Jordan,  
March 31<sup>st</sup>, 2014 and other events.
- 18) Water and National Security - The Case of Radiation in the Disi Aquifer.  
The RMCC-9 meeting. Middle East Scientific Institute for Security MESIS, Amman, Jordan.  
October 20<sup>th</sup>, 2014.