Prof. Ilham Y. Al-Qaradawi
Curriculum Vitae

Education

- Ph.D., Positron Physics. Royal Holloway College, University of London, UK. 1991
- M.Sc. Nuclear and Elementary Particle Physics. Bedford College, University of London, UK. 1984
- B.Sc. Physics Qatar University, Qatar. 1981

Professional Experience

- Professor, Physics Department, Qatar University, Doha, Qatar. 2009 – date
- Adjunct Professor, Physics Department, Texas A&M University, Doha, Qatar. 2011 – date
- Associate Professor, Physics Department, Qatar University, Doha, Qatar. 2003 - 2009
- Assistant Professor, Physics Department, Qatar University, Doha, Qatar. 1991–2003
- Research Fellow, Department of Physics and Astronomy, University College London (UCL), London, UK. 1998-1999

Professional Affiliations

- Fellow of The Institute of Physics (IOP), FInstP, UK
- Chartered Physicist, CPhys.
- Member of The American Physical Society (APS), USA.
- Member of The American Association of Physics Teachers (AAPT), USA.
- Member of the American Association for the Advancement of Science (AAAS), USA.
- Member of the American Nuclear Society (ANS), USA.
- Member of The European Physical Society (EPS), France.
- Member of the Women in Nuclear (WiN) Global, World Nuclear Association (WNA).
- Member of the World Council on Isotopes (WCI).
- Affiliate member of The International Network of Emerging Nuclear Specialists (INENS).

Awards and Prizes

- GR8! Women Magazine Award – Research & Development, for excellent contribution in the field of science. February 2013.
- L'Officiel magazine, Arab Woman Award in Education, September 2012.
- CEO Middle East, Outstanding Contribution to Science Award, March 2012.
- International Visitor Leadership Exchange Program; Women Innovations in Science and Engineering (WISE) by US Department of State, October/November 2011.
- Ahmed Badeeb prize for Arab Women in Science, The Arab World Institute, Paris, France, October 2008.

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- Honored by The Arab World Institute, Paris, France, October 2005, for excellence in research, role in the advancement of physics in the Arab world and efforts during The World Year of Physics 2005.
- Qatar University Award for excellence in research, June 2004.
- British Chevening Scholarship Award, 1998/1999.

Ranking

- Listed by Arabian Business magazine as one of the 500 most influential Arabs in the world for the year 2012, 2013.
- Listed by Arabian Business magazine as one of the 50 most influential people in the State of Qatar for the year 2012.
- Listed by Arabian Business magazine as one of the top 28 most influential Arab Scientists for the year 2012.
- Listed by CEO Middle East magazine as one of the100 Most Powerful Arab Women for the year 2012.

International Policy Experience

- Lead scientist of the committee for preparation of Collaborative Research and Development of Environmental Radiation Detection Stations (ERDS) report at Sandia National Lab, USA.
- British Council/ Institute of Physics, Big Science Challenge competition, Qatar's Science Ambassador 2011/2012.
- Member of Advisory Council for Radiation Measurements Cross Calibration Project, 2011 to date.
- Member of the World Council on Isotopes (WCI), 2009 to date.
- Member of the Qatar delegation for the GCC team for on the peaceful applications of nuclear technology, Riyadh, 2007 to date.
- Qatari committee member of the Islamic Educational, Scientific and Cultural Organization (ISESCO), Qatar, January 2008.
- Qatari representative on the Arab committee formed by The Arab League Educational Cultural and Scientific Organization (ALECSO) and UNESCO for the development of Arab research indicators, Egypt, November 2007.
- Qatar Counterpart for the IAEA on Regional Technical Cooperation Project RAS/4/030; Developing a Regional Nuclear Training Centre for Capacity Building and Research, 2009-2011.
- Lecturer at World Nuclear University Summer Institute (WNU-SI) for 2007- 2012 and the WNU School on Radioisotopes May 2010.

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- Member of the Advisory Committee for the World Nuclear University School on Radioisotopes (WNU-RI), organized by the World Nuclear Association.
- Member of the International Scientific Committee for The International Workshop on Advanced Positron Beam Technology for Material Science held in Algiers March, 2010.
- Chair of the International Conference on Slow Positron Beam Techniques for Solids and Surfaces, Qatar, 2005.
- Member of the scientific committee for the MEDGREEN 2011 Conference, in Beirut Lebanon, 14th - 16th April, 2011.
- Co-organizer the Fifth Workshop of the Radiation Measurement Cross Calibration (RMCC) project workshop with Sandia National Lab and IAEA, Doha, May 2010.
- Member of the International Scientific Advisory Board for the International Association for Sharing Knowledge and Sustainability (IASKS), Canada.

Qatari Policy Experience

- Member of Oversight Committee for the Revision of Qatar National Curriculum Standards for Math and Science 2011/2012.
- Member of the Qatar National Committee for Peaceful Nuclear Applications. 2008 - date.
- Member of the Qatar Alternative Energy Development Committee 2008-2009.
- Member of the Qatar National Radiation Protection Committee 2003 - 2008.
- Member of the Qatar Committee for Molecular Imaging and Nuclear Medicine 2007 – 2010.
- Member of the Qatar National Committee for Standards and Metrology 2005 – date.
- Consultant for the Qatar National Committee for emergency planning and prohibition of weapons of mass destruction, part of Qatar Armed Forces, 2004 - 2008.
- Founder of the Qatar Physics Society in 2005.

Research Interests

- Positron Annihilation Lifetime Spectroscopy and Doppler Broadening of Annihilation Radiation in metals, alloys, polymers, and gases.
- Positron beam techniques and applications in metals, polymers and semiconductors.
- Nuclear and Radiation studies and applications. Environmental effects such as Radon gas concentration in Qatar in air and water, etc.
- Materials application and characterization techniques; positron bulk measurements, Positron surface and near surface and depth profiling measurements, Neutron Activation Analysis, Gamma Irradiation.

Current International Research Collaborations

- Member of the CMS Experiment collaboration at the Large Hadron Collider (LHC) at the European Organisation for Nuclear Research (CERN).
- Member of the AEgIS Experiment (Antimatter Experiment: Gravity Interferometry

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Spectroscopy) at the Antiproton Decelerator, at the European Organisation for Nuclear Research (CERN).

- Member of the ISOLDE Group collaboration at the European Organisation for Nuclear Research (CERN).
- Lead PI of research grant in collaboration with GSI Helmholtz Centre for Heavy Ion Research, Germany.
- Member of The Radiation Measurements Cross Calibration (RMCC) Project, in collaboration with Sandia National Lab, USA. 2004 to date.

Funded Research Projects

- "ENERGY CITY; Fostering Scientific Curiosity through Strengthening Teachers' and Students' Understandings of Energy and Inquiry", funded by Qatar National Research Fund (QNRF), through Qatar National Priorities Research Program (NPRP), 2012, $777,429.00
- Radioactivity along the Exclusive Economic Zone (EEZ) of Qatar;Sources, fate, impact and early warning, funded by Qatar National Research Fund (QNRF), through Qatar National Priorities Research Program (NPRP), 2010, $697,788.
- Development of a method and device for the investigation of the internal structure of opaque objects, funded by Qatar National Research Fund (QNRF), through Qatar National Priorities Research Program (NPRP), 2010, $678,071.
- Epistemology, Formative Assessment, and Energy: Understanding and strengthening students' and teachers' views of science and energy, funded by Qatar National Research Fund (QNRF), through Qatar National Priorities Research Program (NPRP), 2009, $578,998.
- Study of Open-Volume Defects in GaN Structures using Slow Positron Beam Technique, ongoing project, funded by Qatar National Research Fund (QNRF), Undergraduate Research Experience Program (UREP) 2008, $30,000.
- Studies of defects in GaN semiconductor structures using positron annihilation and other techniques in collaboration with Institute of Electronic Materials Technology (ITME), Poland and the University of Bath, UK. Qatar University research grant; QR 120,000. 2007.
- Positron Beam System Automation Interface using LabView, in collaboration with computer engineering department at Qatar University. Funded by Qatar National Research Fund (QNRF), Undergraduate Research Experience Program (UREP) grant, $30,000. 2007.
- Radon Concentration Measurements in Some Doha Buildings in collaboration with Cornell medical college. Funded by Qatar National Research Fund (QNRF), Undergraduate Research Experience Program (UREP) grant, $40,000. 2007.
- Study of Zinc based advanced aluminum alloy AA 7072, using positron annihilation lifetime spectroscopy. Funded by Qatar National Research Fund (QNRF), Undergraduate Research Experience Program (UREP) grant, $20,000. 2006.
- Marine Radioactivity Baseline Survey of the ROPME sea area; Regional Organization for the

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Protection of Marine Environment (ROPME), 2006 - 2007.

- Studies of defects in InP semiconductor structures using positron annihilation and other techniques in collaboration with Institute of Electronic Materials Technology (ITME), Poland and the University of Bath, UK. Qatar University research grant, QR 140,000. 2006.
- Study of TiN coatings using slow positron beam technique in collaboration with King Fahad University for Petroleum and Minerals, Kingdom (KFUPM), Saudi Arabia. Qatar University Summer Research Grant. QR 30,000. 2004.
- Structure and properties of modified hydrogels. Qatar University research grant, QR 130,000. 2006.
- Magnetically guided energy controlled mono-energetic slow Positron Beam Project, in collaboration with the University of Cape Town, South Africa. Scientific and Applied Research Centre (SARC), Qatar University. QR 750,000. 2000.
- Enhancing Properties of UHMWPE using electron and gamma irradiation in collaboration with the Institute of Electronic Materials Technology, (ITME), Warsaw, Poland. Scientific and Applied Research Centre (SARC), Qatar University. QR 350,000. 2002.
- Study of the effect of radiation on polymers using positron techniques in collaboration with the Institute of Electronic Materials Technology, (ITME), Warsaw, Poland, Scientific and Applied Research Centre (SARC), Qatar University. QR 150,000. 2001.

Recent Conferences Attended

- Qatar Foundation Annual Research Conference, Doha, Qatar, 2012.
- United Nations Framework Convention on Climate Change Conference COP 18, Doha, Qatar, December 2012.
- Lecturer at World Nuclear University Summer Institute (WNU-SI), July 2012, Oxford University, UK.
- Lecturer at World Nuclear University WNU School on Radioisotopes May 2012, Daejeon, South Korea.
- Environmental Radiation Detection Stations (ERDS) Data Exchange Protocol Meeting, German Federal Office for Radiation Protection (BsF), Bundesamt für Strahlenschutz, Freiburg, Germany, May 2013.
- Eighth Annual Radiation Measurements Cross Calibration (RMCC) Meeting and Workshop, June 2013, Amman, Jordan.
- Third Annual Cooperative R&D on Environmental Radiation Detection Stations Committee meeting, Amman, Jordan, June 2013.

Publications

1. R. Ferragut et al., Antihydrogen Physics: Gravitation and Spectroscopy in AEgIS. Canadian J. Physics 89(1): 17-24 (2011).
2. M. Doser et al., Physics of Fundamental Symmetries and Interactions, Measuring The Fall of

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Antihydrogen: The AEgIS Experiment at CERN, Physics Procedia; 17: 49-56. Elsevier, (2011).

3. Fabris, et al., The AEGIS Detection System for Gravity Measurements, Nuclear Physics A, 834, 751c–753c, Elsevier, (2010).
4. C. Canali et al., Astroparticles, Particle and Space Physics, Detectors and Medical Physics Applications, Book Chapter; "The AEGIS Experiment (Antimatter Experiment: Gravity, Interferometry, Spectroscopy)", World Scientific Co. (2010).
5. G. Bonomi, et al., Measuring the Antihydrogen Fall, Hyperfine Interactions, 193, 1-3, 297-303, Springer, (2009).
6. Gemma Testera, et al., Formation of A Cold Antihydrogen Beam in AEGIS For Gravity Measurements. AIP Conf. Proc., 1037, 5-15, 2008.
7. Al-Qaradawi, I.Y., DT Britton, R. Rajaraman, and D. Abdulmalik, A Magnetic Transport Middle Eastern Positron Beam, Applied Surface Science, 255, 125 – 127, Elsevier, (2008).
8. Al-Qaradawi, I.Y., D.A. Abdulmalik, N.K. Madi, and M. Almaadeed, Gamma irradiation effects on polymethyl methacrylate, Physica Status Solidi (c), Vol 4, Issue 9,3727 – 3730, WILEY, (2007).
9. Al-Qaradawi, I.Y., Madi N.K., A. Turos, A. M. Abdul-Kader, Positron Annihilation and Ion Beam Analysis of Ion Bombardment induced hydrogen release and oxidation of Ultra High Molecular Weight Polyethylene, Radiation Physics and Chemistry, Vol 76/2, 123 - 128, Elsevier, (2007).
10. M.M. Khaled, B.S. Yilbas, I.Y. Al-Qaradawi, P.G. Coleman, D. Abdulmalik, Z. S. Seddigi, A. Abulkibash, B. F. Abu-Sharkh, M.M. Emad, Corrosion Properties Of Duplex Ti-6al-4v Alloy In Chloride Media Using Electrochemical And Positron Annihilation Spectroscopy Techniques, Surface and Coatings Technology, 201, 3 - 4, 932 - 937, Elsevier, (2006).
11. Al-Qaradawi, I.Y., Coleman P.G., Guest Editor of Proceedings of the Tenth International Workshop on Slow Positron Beam Techniques for Solids and Surfaces, special issue of Applied Surface Science, volume 252 issue 9, Elsevier, (2006).
12. Al-Qaradawi, I.Y., Investigation of He Ion Implantation and Subsequent Annealing Effects in InP using a Positron Beam, Applied Surface Science, 252, 9, 3215 - 3220, Elsevier, (2006).
13. D.A. Abdulmalik, P.G. Coleman, I.Y. Al-Qaradawi, Self-implantation of Cz-Si: Clustering and Annealing of Defects, Applied Surface Science, 252, 9, 3209-3214, Elsevier, (2006).
14. M. A. Al-Ma'adeed, I.Y. Al-Qaradawi, N.Madi, N.J. Al-Thani, The Effect of gamma irradiation and shelf aging in air on the Oxidation of UHMWPE, Applied Surface Science, 252, 9, 3316 - 3322, Elsevier, (2006).
15. Al-Qaradawi, I.Y., N.K. Madi, Positron Annihilation Lifetime Study of Helium Ions Implanted Polyethylene Blends, Materials Science Forum, 445 - 446, 265 (2004).
16. Günter Dlubek, Vladimir Bondarenko, Ilham Y. Al-Qaradawi, Duncan Kilburn, Reinhard Krause-Rehberg, Structure of Free Volume in SAN Copolymers from Positron Lifetime and PVT Experiments II. Local Free Volume from Positron Annihilation Lifetime Spectroscopy (PALS), Macromolecular Chemistry and Physics, 205, 4, 512 - 522, Wiley, (2004).
17. Al-Qaradawi, I.Y., D.T. Britton, E.E. Abdel-Hady, D.A. Abdulmalik, M.A. Al-Shobaki, E. Minani, Positron Annihilation Studies of the Effect of Gamma Irradiation Dose in Polymers,

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Radiation Physics and Chemistry, 68, 457 - 461, Elsevier, (2003).

18. Al-Qaradawi, I.Y., Electron Irradiated Low Density Polyethylene Studied by Positron Annihilation Lifetime Spectroscopy, Radiation Physics and Chemistry, 68, 467-470, Elsevier, (2003).
19. Al-Qaradawi, I.Y., Coleman P.G., Tests of a Diamond Field-assisted Positron Moderator, Applied Surface Science, 194 (1-4): 29 - 31, Elsevier, (2002).
20. Al-Qaradawi, I.Y., Coleman P.G., Re-emission of Slow Positrons from Tungsten at Elevated Temperatures, Applied Surface Science, 194 (1-4): 20-23, Elsevier, (2002).
21. Charlton M.C., Van Der Werf D.P., Al-Qaradawi I.Y., Three-Body Effects in the Annihilation of Positrons on Molecules, Phys. Rev. A, 65, 42716 (2002).
22. Al-Qaradawi, I.Y., Abdel-Hady E.E., Microstructure of Heat Treated Steel Probed by Positron Annihilation, Materials Science Forum 363-365 p. 213 (2001).
23. Al-Qaradawi, I.Y., Charlton M., Borozan I., Whitehead R., Thermalisation Times of Positrons in Molecular Gases, J. Phys. B, 33, 14, p.2725 (2000).
24. Al-Qaradawi, I.Y., Abdel-Hady E.E., Positron Annihilation Lifetime Study of Pure and Treated Polyvinyl Chloride, Materials Science Forum 255-257 p. 366 (1997).
25. Arafa W. Al-Qaradawi, I.Y., Radon Concentration Determination in Some dwellings of Doha City of Qatar, Radiation Measurements 28, 1-6 p. 595 (1997).
26. Rice-Evans P.C., Haynes C.E., Al-Qaradawi, I.Y., El-Khangi F.A.R., Evans H.E., Smith D.L.; Positronium Production at a Carbon-Oxygen Interface, Phys. Rev. B, 46, 21, p. 14178 (1992).
27. Al-Qaradawi, I. Y., Rice-Evans P.; Positronium Production At A Physisorbed Layer Of Ethylene On Grafoil, Materials Science Forum, 105-110, p. 1355 (1992).
28. Al-Qaradawi, I. Y., El Khangi F., Rice-Evans P.; A Search For Positronium Production At A Monolayer Surface On Boron Nitride Powder, Materials Science Forum, 105-110, p. 1351 (1992).
29. Evans H.E., Al-Qaradawi, I. Y., Rice-Evans P.; Anomalous Positronium Production When Carbon Monoxide Is Condensed On Exfoliated Graphite, Materials Science Forum, 105-110, p. 1375 (1992)
30. Rice-Evans P., Rao K.U., Al-Qaradawi, I.Y.; Positronium Formation At Graphite Surfaces Promoted By Physisorbed Monolayers, ICPA8; Proc. of the 8th Int. Conf. on Pos. Ann., Ghent, Belgium 351 (1989).

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