Curriculum Vitae

Nidal M. Ershaidat

نضال محمد الرشيدات

Jan 2024

Name: ERSHAIDAT

First name: Nidal

Profession	: Professor of Physics
Permanent Address	: Physics Department, The University of Jordan
	: 11942 Amman JORDAN
Nationality	: Jordanian and French
Date/Place of Birth	26/07/1958 Irbid Jordan
Marital status	: Married, 2 children
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Education

Year	Diploma	Institution
1995 24 Feb.	Doctorat de l'Université P. & M. Curie (Très Honorable)	Université Pierre et Marie Curie (Paris 6) 75005 Paris France
1983 8 Nov.	Doctorat de 3ème cycle en Physique Nucléaire	Université Paris-Sud, Centre d'Orsay 91000 Orsay France
1981	Diplôme d'Etudes Approfondies	
1979	Licence Es Sciences, Physique	Université Pierre et Marie Curie (Paris 6) 75005 Paris France
1980	Maîtrise Es Sciences, Physique	
1978	Diplôme d'Etudes Universitaires Générales (D.E.U.G - A)	Université des Sciences et Techniques de Lille USTL, Lille I, 59000 Lille France
1976	Diplôme de Langue Française	CAREL 17200 Royan France
1975	General Secondary Certificate Scientific Branch (91.2/100)	Zarqa Secondary School Zarqa, Jordan

Titles of Theses

1995 Doctorat de l'Université P. & M. Curie.
Direct production of J/ψ in the Z^0 decays at DELPHI.
Publisher: Université P. & M. Curie, Paris, France.

1983 Doctorat de 3ème cycle
Study of an Aerogel Silica Detector for the Ω' spectrometer. Study of fast protons production in the $\pi\pm$ - Nucleus interactions at 30 GeV/c.
Publisher: Université Paris X1, Centre d'Orsay, No. 3541 November 1983.

1981 Master Degree thesis (Mémoire de DEA)
Study of an Aerogel Silica Detector. Unpublished.

Employment Record

1)	Leave of Absence. Oct. 2022-Sep. 2024
2)	Dean School of Science, The University of Jordan, Amman Jordan. Aug. 28, 2021 – Aug. 31, 2022
3)	Professor Physics Department, The University of Jordan, Amman Jordan. January 2016 - Present.
4)	Professor Physics Department, Yarmouk University, Irbid Jordan. June 2015 – January 2016.
5)	Associate Professor Physics Department, Yarmouk University, Irbid Jordan. September 2010 – June 2015
6)	Associate Senior Physicist Fermi National Laboratory, Batavia, IL, USA September 2010 - Present.
7)	Associate Senior Physicist • Fermi National Laboratory, Batavia, IL, USA and • Laboratoire de Physique Nucléaire et de Hautes Energies (LPNHE), Universités Paris 6 & 7 et CNRS, Paris France. Sabbatical Leave Sep. 2008 - Sep. 2010.
8)	Associate Professor Physics Department, Yarmouk University, Irbid Jordan.

	December 2006 – Aug. 2008
9)	Consultant for Internet Affairs, Al-Balqa' Applied University September 2002 - May 2003
10)	Assistant Professor Physics Department, Yarmouk University, Irbid Jordan September 2001 – December 6, 2006
11)	Ingénieur d'Etudes, Mak-System France (Software for Blood Transfusion) September 2000-August 2001 (one Year Leave of Absence)
12)	Assistant Professor, Physics Department, Yarmouk University, Irbid Jordan March 1995 - September 2000
13)	Associated Physicist, CERN, Geneva, Switzerland November 1991 - February 1995
14)	Physics Instructor, Physics Department, Yarmouk University, Irbid Jordan September 1988 – October 1991
15)	Visiting Physicist, The HPC group of DELPHI, CERN, Geneva, Switzerland January 1988 - August 1988. (Leave of Absence – Yarmouk University)
16)	Teaching and Research Assistant, Physics Department, Yarmouk University, Irbid, Jordan September 1986 - December 1987
17)	Military Service, Jordan September 1984 - September 1986
18)	Associate Researcher (Chercheur Associé) L.P.N.H.E, Universités Paris 6 & 7, 4 Place Jussieu, Tour33 RDC, 75252 Paris Cedex France and CERN November 1983 - August 1994

Professional experience

Teaching

- Physics Department, The University of Jordan (PDJU), Amman, Jordan
  See Appendix 1.
- Physics Department, Yarmouk University (PDYU), Irbid, Jordan
- See Appendix 1

Experimental Physics

- The WA72 Experiment at CERN.
- The WA74 Experiment at CERN.
- The DELPHI-HPC production group at CERN.
- The DELPHI Experiment at LEP at CERN.
- The CDF Experiment at FNAL, Fermi National Laboratory, Batavia, IL, USA

Relevant Experience

- I initiated with two of my colleagues an XRF (X-Ray Fluorescence) Laboratory.
- I initiated with two of my colleagues a full project establishing an equipped laboratory for Computational Physics at PDYU.

Professional and Scientific Meetings

1) 9th Petra School of Physics (2018)
   The University of Jordan & Yarmouk University, Jordan, October 9-11.
   Member of the Advisory Committee.
2) 2017 TAIEX Workshop on GEANT, H2020 and European Synchrotron Sources
   Organized by the European Union and the Jordan Atomic Energy Commission
   Amman, Jordan, Aug. 12-13.
3) 2010 The Third International Symposium on Nuclear Energy - ISNE-10.

Organized by Al-Balqa Applied University (BAU) Salt, Jordan and Jordan Nuclear Regulatory Commission (JNRC).
Amman Jordan, Dec. 15-17.
Member of the Scientific Committee.

4) 2010 The Joint Korea-France Collider Physics Workshop.

Organized by College of Natural Science in Kyungpook National University, Daegu, South Korea.
Kyungpook National University, Daegu, South Korea, June 28-30.
Presented a paper.

5) 2009 The 2009 France Korea Laboratory for Particle Physics (FKPPL) CDF Workshop.
   Organized by Laboratoire de Physique Nucléaire et de Hautes Energies (LPNHE) IN2P3 -CNRS - Universités Paris VI et Paris VII.

Paris, France, June 29 – July 1
Member of the organizing committee, webmaster of the workshop's website and presented a paper.

6) 2007 6th SESAME Users Meeting 2007.

Organized by the Jordanian Committee for SESAME
Amman, Jordan 6-8 Nov. 2007

7) 2007 7th Workshop on Nuclear Techniques in Environmental Studies

Organized by CTAPS (Center for Theoretical and Applied Physical Sciences) and the Physics Department, Yarmouk University (PDYU), 21163 Irbid Jordan (PDYU).
Yarmouk University, Irbid, Jordan, 6-9 September 2005. *Presented a paper*.

8) 2006 6th Workshop on Nuclear Techniques in Environmental Studies

Organized by CTAPS and the PDYU, Irbid Jordan.
Yarmouk University, Irbid Jordan, 6-9 September 2005. *Presented a paper*.

9) 2005 4th SESAME Users Meeting 2005
Organized by the Jordanian Committee for SESAME
Amman, Jordan 6-8 Dec. 2005.

10) 2005 5th Workshop on Nuclear Techniques in Environmental Studies
Organized by CTAPS and the PDYU, Irbid Jordan.
Yarmouk University, Irbid Jordan, 12-14 September 2005.

11) 2004 4th Workshop on Nuclear Techniques in Environmental Studies
Organized by CTAPS and the PDYU, Irbid Jordan.
Yarmouk University, Irbid Jordan, 13-15 September 2004.

12) 2nd SESAME Users Meeting 2003
Isfahan University of Technology (IUT), 29 Nov. – 1 Dec. 2003, Isfahan Iran
Organized by Center for International Research and Collaboration (ISMO), Tehran, Iran, IUT, Isfahan, Iran and the Physics Society of Iran.
Sponsored by: UNESCO and Abdus Salam ICTP.
Invited Speaker in X-Ray Fluorescence. Elected Coordinator for the XRF Beamline at SESAME

13) 2003 3rd Workshop on Nuclear Techniques in Environmental Studies
Organized by CTAPS and the PDYU, Irbid Jordan.
Yarmouk University, Irbid Jordan, September 16-18 2003.

14) 2002 JASS (Japanese Asian Scientific Seminar) on Synchrotron Radiation
Organized by JSPS and Al-Balqa Applied University (BAU), 19117 Salt Jordan.
BAU, Jordan, 16-28 October 2002.
(Member of the organizing Committee and presented a paper: Elemental Analysis of Colorectal Cancer Samples using XRF Techniques)

15) 2002 2nd Workshop on Nuclear Techniques in Environmental Studies
Organized by CTAPS and the PDYU, Irbid Jordan.
Yarmouk University, Irbid Jordan, 23-25 September 2001.
(Member of the organizing Committee)

16) 2001 1st Workshop on Nuclear Techniques in Environmental Studies
Organized by CTAPS and the PDYU, Irbid Jordan.
Yarmouk University, Irbid Jordan, 24-26 September 2001.

17) 2001 (MSM-01) - 2nd Regional Conferences on Magnetic and Superconducting Materials
Organized by the PDYU, Irbid Jordan.
Yarmouk University, Irbid Jordan, 9-13 September 2001.

(Member of the organizing Committee and webmaster of the conference's site)

18) 1999 1st Workshop on Medical and Radiation Physics

Organized by the Applied Sciences University, Amman, Jordan.

ASU, Jordan, 3-4 March 1999. (Invited Lecturer)

19) 1998 Workshop on the use of Computers in Physics Teaching.

Organized by Arab Organization for Sciences, Culture and Education (Tunis, Tunisia) and Yarmouk University, Irbid Jordan.

Yarmouk University, Irbid Jordan, 16-19 November 1997.

(Member of the organizing Committee and Lecturer)

20) 1998 Sixth Petra School of Physics.

Jordan & Yarmouk Universities, Jordan, November 3-10.

21) 1997 Workshop on the use of Computers in Physics Teaching.

Organized by Arab Organization for Sciences, Culture and Education (Tunis, Tunisia) and Yarmouk University, Irbid Jordan.

Yarmouk University, Irbid Jordan, 16-19 November 1997.

(Member of the organizing Committee and Lecturer)

22) 1996 Workshop on the use of Personal Computers and Multimedia in Physics Teaching.

Organized by ROSTAS (UNESCO Regional Office) Cairo (Egypt), UNESCO, Paris (France), and Yarmouk University, Irbid Jordan.

Yarmouk University, Irbid Jordan, 8-10 April 1996.

(Secretary of the organizing Committee)

23) 1990 Workshop on the use of Personal Computers in Physics.

Organized by Yarmouk University and ICTP, Trieste, Italy

Yarmouk University, Irbid Jordan, 3-10 September 1990.

(Member of the organization Committee & Lecturer)

24) 1989 Fifth Petra School of Physics.

Jordan & Yarmouk Universities, Jordan, September 3-10.

25) 1987 2nd Workshop on Nuclear Reactors.

University of Jordan, Amman, Jordan, December 9-13 1987.

26) 1985 Gif sur Yvette Summer School in particle physics.

Clermont-Ferrand, France, September 9-13 1985.

27) 1984 50th Anniversary of Artificial Radioactivity.

Cinquantenaire de la Radioactivité Artificielle

Université Pierre et Marie Curie (Paris 6), 21 March 1984.

(Member of the organizing Committee & Editor)

28) 1982 XXI International Conference on High Energy Physics.

Paris, France, 26-31 July 1984.

29) 1982 International Colloquium on the History of Particle Physics. Paris, France, 21-23 July 1984. ***(Scientific Secretary)***

Other professional activities (Selected)

I- Member of the Editorial board of Jordan Journal of Physics (Deanship of Scientifc Research, Yarmouk University), May 2022-Sep. 2022.

II- Refereed many research papers for publication in national scientific research journals.

a) Abhath Al-Yarmouk: Basic Sciences & Engineering.

b) Jordan Journal of Physics.

III- I served as a referee for many papers for publication in internationational scientific research journals.

- Referee for the Springer Journal: "Environmental Geology"

http://www.springer.com/geosciences/geology/journal/254.

- Referee for the Elsevier Journal: "Journal of Environmental Radioactivity"

http://www.journals.elsevier.com/journal-of-environmental-radioactivity.

- Referee for the Elsevier Journal: "Science of the Total Environment"

http://www.journals.elsevier.com/science-of-the-total-environment/.

- Referee for the Elsevier Journal: "Stochastic Environmental Research and Risk Assessment"

http://link.springer.com/journal/477.

- Referee for the SAGE Journal: "Indoor and Built Environment"

http://www.uk.sagepub.com/journals/Journal201661?siteId=sage-uk&prodTypes=any&q=indoor&fs=1

- Head of the Sectorial Committee for Basic Sciences (SCBSc) at the Scientific Research and Innovation Supporting Fund (SRISF), Ministry of Higher Education and Scientific Research, Jordan.
  Oct. 2020-present
- Member of the Graduate Studies Committee – Physics Department - the University of Jordan (Sep. 2019-)
- Member of the Scientific Research Committee – Physics Department - the University of Jordan (Sep. 2019-Sep 2020)
- Member of the Scientific Research Regulations Committee - the University of Jordan (Oct. 2018-Oct 2020)

- Member of the Scientific Research Council of the University of Jordan and its scientific Subcommittee (Nov. 2017-Oct. 2020)
- Member of the Graduate Studies Committee – Faculty of Science - the University of Jordan (Sep. 2017- Sep. 2018)
- Member of the Distinguished Researcher Committee - The University of Jordan (March 2018)
- Member of the Council of the Centre for Theoretical and Applied Physical Sciences (CTAPS), Yarmouk University, Irbid, Jordan. (Academic year 2012-2013)
- Member of the National Advisory Team for SESAME (2001-2004)
- Coordinator of the XRF Beamline for SESAME (2003-2004)

III- Supervision of M. Sc. Theses

- Physics Department, The University of Jordan, Amman, Jordan

(1)	Almohammadin, Sarhan S. (Aug. **2022**), "*An Algorithm for Determining the Optical Constants of a Thin Film Using the Full Transmittance Formulation*" (co-supervisor).
(2)	Abdallah, Alaa I. (May **2021**), "*Study of Aluminum (Z=13) in Massive Stars using open source packages*".
(3)	Suleiman, Mohammad H. (**Dec. 2020**), "*Study of effeciency correction factors for the **BALQARAD** composite Clover system*".
(4)	Mubayed Nizar I. (**Dec. 2020**), "*A comprehensive self-induced and ambient background study of the BALQARAD project*".

- Physics Department, Yarmouk University, Irbid, Jordan

(5)	Talafha, Mohammed (**Dec. 2016**). "*An open-source package for the study of abundance of elements in stars*".
(6)	Al-Mardini, Mohammad (**2014**). "*Processes of fluorine production in stars and analysis of observational data*".
(7)	Hayajneh, Sakher (**2012**). "*Diffusion of radon gas through different building materials*". (co-supervisor)
(8)	Dalki, Islam R. (**2011**). "*Modeling soil radon diffusion comprising soil properties*".
(9)	Al-reyashi, Waleed (**2011**). "*A comparative study of soil radon levels using active and passive detectors*".
(10)	Oudat, Osama (**2011**). "*Measurement of radon levels in soil over phosphatic formations and its relation with the soil physical properties*". (co-supervisor)
(11)	Abood, Ziad M. (**2000**). "Study of breast cancer using XRF techniques", (A colleague replaced me during my leave of absence).
(12)	Hamadneh, Hamid S. (**1999**). "*Comparative elemental analysis of colorectal cancer samples using XRF techniques*".

IV- Member of the **examination committee** of Ph. D. Theses

- Department of Physics, The University of Jordan, Amman, Jordan.

(1)	Al-Gharram M. (Dec. 2021), "Novel *Polyaniline/CoxFe3-xO4 Nanocomposites for Thermoelectric and Optical Sensor Materials* "
(2)	Aldalabih, Yousef A. (Aug. 2020), "*A Microscopic Calculation for Neon-20 within the Brueckner-Bethe-Goldstone (BBG) Formalism*"

(3) AL-Kloub, Marwan M, (Dec. 2019), "*Simulation of Radioactive Pollution Emission Transport and Human Impacts during Hypothetical Accident Scenarios in a Nuclear Power Plant according to Jordanian Environmental Conditions*"

(4) Masadeh, Shyma' B. (Jul. 2019), "*Effect of a Semi-Microscopic Optical Potential on the variations of the Optical Potential Parameters with Incident Energy*".

(5) Alkurdi, Ahmad M. (Apr. 2019) "*Bound- and scattering-state properties of two Cesium 133 (Cs-133) atoms in free space and in an ultracold, low-dense Cs-133 Vapor*".

(6) Ghanem, Murad S. (Apr. 2019), "*Controlling the Morphology of the Active Layer of Bulk heterojunction Organic Solar Cells*".

(7) Rawashdeh, Sokainah M. (May, 2018), "*Deforming the spherical optical potential to fit the neutron scattering angular distributions from the statically actinides nuclei*".

(8) Ababneh, Eshraq M. (Dec., 2016), "*Development of an applicable algorithm for brachytherapy dose calculation in heterogeneous media*".

(9) Megdady, Loay (Dec., 2015). "*Proton-nucleus scattering using realistic Coulomb potential in the framework of a velocity-dependent optical model*".

V- Member of the **examination committee** of M. Sc. Theses

- The University of Jordan, Amman, Jordan

(10) Sharif, Malak A. (Dec. **2019**) "*Preparation and photovoltaic investigation of ternary blend organic solar cells (P3HT: PCBM: Ru(Oxal)(N-P)$_2$)*"

(11) Noufal, Lubna K. (April **2018**) "*Modes of operation of germanium detector arrays with active shields*".

(12) Al-Tamimi Alaa (Dec. **2017**). "*Studying the importance of channel coupling and compound nucleus reactions in the elastic scattering process by fitting low energy neutron-nucleus elastic angular distributions*". Department of Physics.

(13) Al-Hiyari, Ala'a (May **2017**). "*Multidimensional gamma-ray spectroscopy of neutron activated natural zinc*". Department of Physics.

(14) Alabsi, Areej (**2016**). "*Studying the effect of spin-orbit potential forms on the parameters of the optical model*". Department of Physics.

- PDYU (21)

(15) Al-Qshoush, Audai H. (April **2018**). "*Dose Assessment Due to Gamma Radiation from Terrestrial and Some Contamination in Husha and Alhamra Region, North Badia of Jordan*".

(16) Al-Ahmad, Qais F. (**2016**). "*Determination of Radon Concentrations in Water Samples in Bani Kananah District - Jordan, using SSNTD's and Liquid Scintillation Counting*".

(17) Hailat, Tariq F. (**2016**)."*Measurement of radon and thoron concentration levels in Disi soil using CR-39 Detector*"

(18) Rawashdeh, Sumayya A. (**2016**) "*Measurement of radon gas concentration in Jerash drinking water in Jordan*".

(19) Bani Amer, Zainab M. (**2014**). "*Daily Maximum Temperature forecasting by artificial neural network (ANN) in Jordan*".

(20) Kanaan, Hadeel (**2014**). "*Investigating the habitability of exoplanets*".

(21) Isaa, Noor A. (**2013**). "*New Physical and Geometrical Elements of the X-Ray Binary System (RX J1015.5+0904)*".

(22) Al-Khasawneh, Belal (**2012**). "*Investigating the gravitational properties of dark matter*".

(23) Masda, Suhail G. (**2012**). "*Physics and Geometrical elements of the visually close binary system HIP 689*".

(24) Momani, Ali (**2008**). "*Gamma radiation measurements and dose rate calculations of soil samples within and around Ras Muneef, Jordan*".

(25) Qarqaz, Toqa (**2007**). "*Estimation of* ^{238}*Uranium and* ^{230}*Thorium concentration in Jordanian oil shale using CR-39 detectors*".

(26) Daradkah, Munir (**2007**). "*A collapsing flat universe*".

(27) Al-Issa, Adnan (**2007**). "*Longitudinal resistive-wall impedance for a gaussian beam of particles propagating in smooth cylindrical pipe*".

(28) Abdel-Jawad, Ola (**2006**). "*Uranium content in Jordanian phosphate mines*".

(29) Al-Haj Darwish, Mustafa Y. (**2000**). "*A software design for analysis of Mössbauer spectra of iron containing alloys*".

(30) Nammas, F. S. (**2000**). "*The entropy calculations of magnetic fluids using Monte Carlo technique*".

(31) Al-Mahmoud, Emad (**1999**). "*Structural and Mössbauer studies of* $(Fe_{0.70}Cu_{0.30})_{90}Cr_{10}$ *alloys*".

(32) Abu Kharma H. (**1998**). "*Study of radon levels in the soil of Samma Town, north of Jordan*".

(33) Al-Abdalla T., (**1998**). "*A study of the stochiometry of Jordan water samples using XRF technique*".

- Al Al-Bayt University, Mafraq, Jordan

(34)	Ahbika, Ali (**2018**). "*Determination of The Low-energy Parameters of Neutron-Proton Scattering For Various Nucleon-Nucleon Potential Using Partial Wave Analysis*"
(35)	Al-thyabat, Ahmed (**2013**). "C*omplex study of the binary stellar system HD 25811*". Department of Physics.
(36)	Abu Hjailah, Majid (**2012**). "*Application of effective range theory to neutron-proton scattering at low energy*". Department of Physics.
(37)	Al Marshidi, Salah (**2011**). "*Theoretical study for electron scattering from closed-shell nuclei in the framework of particle-hole configuration*". Department of Physics.
(38)	Taani, Ali (**2008**). "*Photometric (Optical) Variability of Some Close Binaries*". Institute of Astronomy and Space Sciences (IASS).

- Department of Geology and Environmental Science, Yarmouk University 21163 Irbid Jordan

(39)	Jaradat, Ahmad S. (**2006**). "*Investigation of the possibility of use radon diffusion through soil for estimation of recharge zones in an arid area*".

- Department of Physics, The Hashemite University, Zarqa Jordan

(40)	Bathich, Sajeda AR. (Nov. **2019**). "*Investigation of the possibility of use of radon diffusion through soil for estimation of recharge zones in an arid area*".

Academic Scholarships

- Scholarship from the Ministry of Education - Jordan (**1975-1979**) for the B. Sc. Degree.
- Scholarship from the Ministry of Research – France (**1981-1984**) for the Doctorat de 3ème cycle.
- Scholarship Yarmouk University, Irbid Jordan and the European Community (Brussels-Belgium) (**Nov. 1991 – Feb. 1995**) for the Doctorat de l'Université Pierre et Marie Curie (Paris 6) France.

Research Grants

Source: Arab Fund for Economic and Social Development

1. "The Distinguished Scholar Award" from the Arab Fund Fellowships Program, Sep. 2009 – Sep. 2010.

Source: European Union & the Higher Council for Science and Technology

2. "Research Grant" awarded by the SRTD (Support to Research and Technological Development & Innovation Initiative & Strategies in Jordan) project. April 2009 – April 2010.

Source: CERN (The European Laboratory for Particle Physics), Geneva, Switzerland

3. Construction of the HPC (High Projection Chamber) for the DELPHI Detector (Jan. 1988 – Sep. 1988). Status: Visiting Researcher.

University Grants:

Source: The Deanship of Scientific Research and Graduate Studies, Yarmouk University.

(a) Project: (# 38/99): Study of Breast Cancer using XRF. (1999)
Status: Main investigator.

(b) Project: (# 34/98): Study of Colorectal Cancer using XRF (1998)
Status: Main Investigator with other co-investigators.

Source: The Abdel-Hameed Shoman Foundation, Amman Jordan.

Project: (# 32/00): Seasonal Variation of Radon-222 Radioactive Measurements in Areas of phosphate Occurrences in the West of Irbid Region – Jordan (2000-2006) Budget: 10000 JD. Status: Co-investigator.

Publications

Google Scholar:
https://scholar.google.com/citations?hl=en&user=qk0epG4AAAAJ&view_op=list_works

(I) Published Articles

1)	E. Ababneh, N. Mubayed , S. Okoor, M. Sulieman, and **N. M. Ershaidat.** "*A comprehensive self-induced and ambient background study of the Balqarad Clover*. Submitted to Nuclear Engineering and Technology (Oct. 2023).
2)	Ala'a Abdalla and **Nidal Ershaidat.** "*A Study of the Abundance of Aluminium in Massive Stars*", Jordan Journal of Physics, Accepted (March **2023**). To be published in JJP Volume 17 No 3 (**2024**).
3)	Tareq Hussein, Mahmoud H. Hammad, Ola Surakhi, Mohammed AlKhanafsa, Pak Lun Fung, Martha A. Zaidan, Darren Wraith, and **Nidal Ershaidat** (**2022**). "*Short-Term and Long-Term COVID-19 Pandemic Forecasting Revisited with the Emergence of OMICRON Variant in Jordan*". Vaccines, 10(4), 569; https://doi.org/10.3390/vaccines10040569. https://www.mdpi.com/2076-393X/10/4/569

4) Mousa M. A. Jafar, **Nidal M. Ershaidat**, Mais J. A. Ahmad, Mahmoud H. Saleh and Basim N. Bulos (**2021**). "Retrieval of Optical Constants of Undoped Flash-Evaporated Lead Iodide Films from an Analysis of Their Normal Incidence

Transmission Spectra Using Swanepoel's Transmission Envelope Theory of Non-Uniform Film". **Jordan Journal of Physics**, 14, 4, 357-376.

5) M. B. Altaie, N. R. Suleiman, and **N. M. Ershaidat** (2020). "*Dark Matter: Could it be Vacuum Viscosity?*". **Jordan Journal of Physics**, 13, 2, 47-57.
6) Mousa M. Abdul-Gader Jafar, Mahmoud H. Saleh, Tariq M. Al-Daraghmeh, Mais Jamil A. Ahmad, Maryam A. AbuEid, **Nidal M. Ershaidat**, Basim N. Bulos (**2019**). "*Structural, stoichiometric and optical constants of crystalline undoped lead iodide films prepared by the flash-evaporation method*"
Applied Physics A (2019) 125: 672. https://doi.org/10.1007/s00339-019-2945-6.
7) Talafha, M.H., Al-Wardat, M.A., and **Ershaidat, N.M.** (**2018**).
"*A Study of the Abundance of Low-Z Elements in the Sun During its Whole Predicted Life*"
Astrophysical Bulletin (2018) 73: 235. https://doi.org/10.1134/S1990341318020098.
8) **Nidal M. Ershaidat** and Wa'el Salah, (**2018**).
Analysis of the force exerted on an accelerated beam of electrons by its own wakefields in the laser driven Rf-gun.
Jordan Journal of Physics, 11, 2, 115-124.
9) T. Aaltonen et al., CDF Collaboration (2017).
Observation of the Y(4140) structure in the J/ψ ϕ mass spectrum in B±→ J/ψ ϕ K± decays.
Modern Physics Letters A, Vol. 32, No. 26, 1750139.
10) Mahmoud H. Saleh, **Nidal M. Ershaidat**, Mais Jamil A. Ahmad, Basim N. Bulos, Mousa M. Abdul-Gader Jafar (**2017**). **"***Evaluation of spectral dispersion of optical constants of a-Se films from their normal-incidence transmittance spectra using Swanepoel algebraic envelope approach*".
Optical Review 24 pp 260-277. https://doi.org/10.1007/s10043-017-0311-5.
11) **Ershaidat Nidal M.,** Al-Bataina B. A. and Al-Rayashi W. S. (**2015**). "*Comparative study of soil radon concentration levels using active and passive detectors*". **Jordan Journal of Physics**, 8(1) pp 29-37.
12) **Ershaidat Nidal M**., Almomani Raid R., Al-Bataina B. A. and Al-Rayashi W. S. (**2013**). "Periodicity of diurnal variation of soil radon concentration levels and temperature". **Jordan Journal of Physics**, 6 (2) pp 47-54.
13) **Ershaidat, Nidal M. and** Almomani Raid R. (**2013**). "*Solvability of Differential Equations with Periodic Operator Coefficients Using Green's Function*". **IJAMSS, 2(3), 21-32**.
14) **Ershaidat, N.M**., Abu-jaber N. S., Al-Bataina, B.A., Shobaki J. M., and Jaradat A.S. (**2009**). *Relationship between the Effective Diffusion Coefficient of Soil Radon and Groundwater Recharge in Semi–Arid Areas.* **Environ. Earth Sci.**, 59, 261-268.
15) **Ershaidat, N.M.,** Al-Bataina, B.A., and Al-Shereideh S.A. (**2008**). *Characteristics of Soil Radon Transport in Different Geological Formations.* **Environmental Geology, 55 (1): 29-35. (Published** Online DOI: 10.1007/s00254-007-0961-x (Aug. 18, 2007)).

16) **Ershaidat N.M. (2006).** "*Longitudinal Space Charge Impedance of Non-Resistive Cylindrical Pipe in the Presence of a Uniform Background of Charged Particles*" (2006). **Abhath Al-Yarmouk: Basic Sci. & Eng., 15(2): 237-248.**

17) Al-Shereideh, S. A., Al-Bataina, B. A., and **Ershaidat, N. M.** (**2006**). "*Seasonal Variations and Depth Dependence of Soil Radon Concentration Levels in Different Geological Formations in Deir Abu-Said District, Irbid – Jordan*". **Radiat. Meas. Vol. 41, 6, 703-707.**

18) El-Ali, A., **Ershaidat, N.,** Al-Sharif, A. I., Al-Khateeb A. M., and Mahmood, S. H. (**2005**). *Effects of Screening on the Plasmon Bands in Metallic Superlattices.* **AJSE (The Arabian Journal for Science and Engineering) 30 (2A): 229-236.**

19-92) 74 papers with the DELPHI Collaboration at CERN (The European Laboratory for Particle Physics). Authors' names are written alphabetically and in all citation systems they are referred to with the first author's name et. al.
List upon request - Please refer to Appendix 2. The following URL gives the list.
http://inspirehep.net/search?ln=en&as=1&m1=a&p1=Ershaidat&f1=author&op1=a&m2=a&p2=Delphi&f2=collaboration&op2=a&m3=a&p3=&f3=&action_search=Search&sf=&so=d&rm=&rg=25&sc=0&of=hb

93-237) 144 papers with the CDF Collaboration at Fermilab (The Fermi National Accelerator Laboratory). Authors' names are written alphabetically and in all citation systems they are referred to with the first author's name et. al.
List upon request - Please refer to Appendix 3. The following URL gives the list.
http://inspirehep.net/search?ln=en&ln=en&p=au+ershaidat+and+cn+cdf&of=hb&action_search=Search&sf=year&so=a&rm=&rg=100&sc=0

238) M. G. Abreu, T. Armstrong, M. Baubillier, W. Beusch, A. Burns, **N. Ershaidat,** J. Gago, A. Jacholkowski, K. Knudson, S. Otwinowski, D. Perrin, A. Palano, M. Pimenta, E. Quercigh, Z. Strachman, M. Szeptycka, S. Tkaczyk, R. Walczak and R. Zitoun (1984). *Study of the A-dependence of inclusive* $p, \bar{p}$, Λ *and* $\bar{\Lambda}$ production *in* $\pi\pm$ *- Nucleus interactions at 30 GeV/c.* **Zeit. Phys. C 25: 115-120.**

(II) Abstracts and Articles presented to Conferences, Workshops… (selected)

1) **Ershaidat, Nidal** (**2010**). Review Status of CDF GRID at KISTI at CC-IN2P3 Lyon. The 2009 France Korea Laboratory for Particle Physics (FKPPL) CDF Workshop. Organized by LPNHE- IN2P3 -CNRS - Universités Paris VI et Paris VII. Paris, France, June 29 – July 1.

2) **Ershaidat, Nidal** (**2010**). $\sin 2\beta_s$ in B_s sector ($B_S \rightarrow J/\Psi\,\phi$ Decays) at CDF. The Joint Korea-France Collider Physics Workshop. Organized by Kyungpook National University, Daegu, Republic of Korea, June 28-30.

3) **Ershaidat, N.M.**, Al-Bataina, B.A. and Al-Shereideh S.A. (**2007**). Characteristics of Soil Radon Transport in Different Geological Formations.

7th Workshop on Nuclear Techniques in Environmental Studies. Organized by CTAPS and the PDYU, Irbid Jordan. Yarmouk University, Irbid Jordan, September 2007.

4) Al-Shereideh, S. A., Al-Bataina, B. A. and **Ershaidat, N.M.** (**2005**).
Seasonal variations and depth dependence of soil radon concentration levels in different geological formations in Deir Abu-Said District, Irbid – Jordan.
5th Workshop on Nuclear Techniques in Environmental Studies. Organized by CTAPS and the PDYU, Irbid Jordan. Yarmouk University, Irbid Jordan, September 2005.

5) Hallak, A., **Ershaidat N.** and others (**2004**). *A Proposal for XRF Beamline at SESAME.*
3rd SESAME Users Meeting
Oct. 11-13, 2004 Antalya, Turkey.
Organized by SESAME and Sabanci University, Ankara, Turkey.

6) **Ershaidat Nidal** (**2003**). X-Ray Fluorescence & Synchrotron Radiation induced X-Ray Emission (Review).
Invited Speaker in X-Ray Fluorescence at the 2nd SESAME Users Meeting
Isfahan University of Technology, 29 Nov. – 1 Dec. 2003, Isfahan Iran.
Organized by (ISMO), Tehran, Iran, IUT, Isfahan Iran and the Physics Society of Iran.
http://ctaps.yu.edu.jo/Physics/Oldnershaidat/NE_SESAME.pdf

7) **Ershaidat Nidal** and Mahmood S. (2002). Elemental Analysis of Colorectal Cancer Samples using XRF Techniques.
JASS (Japanese Asian Scientific Seminar) on Synchrotron Radiation 1st SESAME Users Meeting. Organized by JSPS and Al-Balqa Applied University (BAU), 19117 Salt Jordan. BAU, Jordan, 16-28 October **2002**.

8) Al-Kofahi, M. M., Mahmood S.H., and **Ershaidat, N. M.** (1997).
The Use of PCs in Physics Teaching at Arab Universities. An invited talk presented to the Workshop on the use of Computers in Physics Teaching, organized by the Physics Department at Yarmouk University, in cooperation with ALESCO (Tunisia) and held at Yarmouk University, Irbid Jordan during the period 16-19 November **1997**.

(III) Textbooks:

(i) **Ershaidat, Nidal**, Lahlouh Bashar, Masadeh Ahmad, Bodoor Khaled, Shatnawi Moneeb, Hassouneh Ola, and Alhusseini Ammar (**2019**).
Practical Physics 1. Experiments in Physics, 2nd Edition.
Publisher: The University of Jordan, Amman, Jordan.

(ii) **Ershaidat, Nidal and Lahlouh Bashar** (Sep. **2017**).
Practical Physics 5, Experiments in Modern, Quantum, Atomic and Nuclear Physics, 2nd Edition. Physics Department, The University of Jordan, Amman, Jordan

(iii) Al-Kofahi, Mahmoud M., Ghaith, Abdel-Salam, and **Ershaidat, Nidal.** February **2007**

Principles Of University Physics: Electricity and Magnetism.
(In Arabic: مبادئ الفيزياء الجامعية: الكهرباء والمغناطيسية)
Publisher: Dar Al-Amal Irbid Jordan.

(iv) Abu-Aljarayesh, I. and **Ershaidat, N.** (Sep. **2005)**
Practical Physics, Experiments in Fluids, Thermodynamics.
Physics Department, Yarmouk University, Irbid, Jordan

(v) Mahmood, Sami and Ershaidat, Nidal. (1989, revised 2008)
Intermediate *Lab. (Atomic, Nuclear & Quantum Physics).*

(vi) **Ershaidat, Nidal**. (**2019**)
Principles Of University Physics: Thermodynamics.
(In Arabic: مبادئ الفيزياء الجامعية: ديناميكا الحرارة). In preparation.

(IV) Theses:

1) **Ershaidat, Nidal** (**1995**).
Production Directe de J/ψ dans la Désintégration du Z^0 A DELPHI
Publisher: Université P. & M. Curie, Paris, France, Feb. 24th 1995.

2) **Ershaidat, Nidal.** (**1983**). Etude d'un Compteur Cerenkov à Aérogel de Silice pour le spectromètre Ω'. Etude de la production de protons rapides dans les interactions $\pi^{\pm}$ - noyaux à 30 GeV/c.
Publisher: Université Paris X1, Centre d'Orsay, No. 3541 November 8th 1983**.**

Honors

- "**The Distinguished Scholar Award**" from the Arab Fund for Economic and Social Development Fellowships Program, Arab League, Kuwait, Sep**. 2009**.
- Competitive "**Research Grant**" awarded by the SRTD (Support to Research and Technological development & Innovation Initiative & Strategies in Jordan) project – Higher Council for Science and Technology, Jordan, April **2009**.
- "**Best Academic Performance** at Yarmouk University 2007 Award", May, 19 2008.

- **Médaille « Irène et Frédéric Joliot-Curie » de l'Université Pierre et Marie Curie**, Paris, France, **1984**.
For Active Participation in the celebration of the 50th anniversary of Artificial Radioactivity.

References

1. Professor Sami Mahmood, (s.mahmood@ju.edu.jo)
   Faculty of Science (Former Dean Sep. 2016- Sep. 2018)
   The University of Jordan, 11942 Amman Jordan
2. Prof. Reynald Pain, (reynald.pain@in2p3.fr)
   Director
   Institut National de Physique Nucléaire et de Physique des Particules. IN2P3
   Paris, France

Research Interests

- Particle Physics & Nuclear Astrophysics.
- Beam Dynamics.
- Elemental analysis using the XRF & Gamma-rays techniques.
- Environmental Radon studies (Mapping and Modeling).

Languages

Language	Spoken	Written	Comprehension
Arabic	Native Language		
French	Fluent	Fluent	Excellent
English	Very Good	Excellent	Excellent

Miscellaneous

Web

- Web publishing of several courses on the internet, See:

http://ctaps.yu.edu.jo/Physics/Courses
http://faculty.yu.edu.jo/NErshaidat/Lists/Taught%20Courses/AllItems.aspx

- Web Sites Design

Webmaster of the following sites:
http://ctaps.yu.edu.jo/Physics
http://Environmental.yu.edu.jo
http://ctaps.yu.edu.jo/physics/CAMNST
http://msm01.yu.edu.jo/
http://www.mak-system.net (Sep. 2000 - Aug. 2001)

http://www.omnitrade.com/IRSHAIDAT (Oct. 2006- …)
- I was the web consultant of http://www.bau.edu.jo (Sep. 2002-May 2003)

Community service (Some relevant activities)

- I directed two workshops at the Faculty Development Center at Yarmouk University.

« *How to maintain your PC?* » (5 sessions - March 12-26 2006)
"*Webpage Design*". (April 25th and 27th 2006)

- Lecture entitled "Light – The Dual Nature", at The Islamic Scientific College – Amman Jordan (Feb. 28th, 2006)
- Seminar entitled "The Ozone hole", given at CTAPS, Yarmouk University Irbid Jordan, March 2002.
- I gave lectures in "waves" for a group of teachers from the Ministry of Education in Jordan. Irbid April 1999.
- Co-Author (with Mme J. Laberrigue-Frolow) of a 26 min. Scientific film: "Les Années Particulaires". (http://marwww.in2p3.fr/IMG/pdf/016.pdf)

  Production: C.N.R.S & A. Papillault Production, Paris (France), July 1984.
- Scientific advisor of "Irène et Fred", a 90 min TV film.
  Production: TF1, Paris (France), Director: Roger Kahane, December 1984.
- Good Knowledge in Web publishing (Almost all my courses are available on the internet) (See http://ctaps.yu.edu.jo/physics/Courses/)
- Good experience in radioprotection, thanks to several stays of various duration at CERN (Geneva) and at LPNHE, Université Paris 6.
- Good experience in data analysis.
- Deep Knowledge in FORTRAN, C++ and Object Oriented programming.
- Deep Knowledge of computer operating systems (Windows and Unix)
- Good Knowledge of software for physics and mathematics (ROOT; MATHEMATICA; Python)
- Deep Knowledge in Internet Programming (html, asp, JavaScript, php, etc …).

I, Nidal M. Ershaidat, hereby certify that all the forgoing information and statements recorded are true and I bear complete legal responsibility.

Signature:

Place and Date: Amman Jan. 04, 2024

Appendix 1

Physics courses taught at the Physics Department, The University of Jordan

http://www.ju.edu.jo/.

- Undergraduate Courses:

Phys. 101 : General Physics 1 - Mechanics.

Phys. 103 : General Physics for Life Sciences Students

Phys. 261 : Modern Physics

Phys. 281 : Mathematical Physics 1

Phys. 311 : Practical Physics (Lab) 4

Phys. 411 : Advanced Practical Physics (Lab) 5

Graduate Courses:

Phys. 763 : Nuclear Physics 1

Phys. 781 : Mathematical Physics 1

Physics courses taught at the Physics Department Yarmouk University.
URL's for these courses are given in the table.

- Undergraduate Courses:

Phys. 101 : General Physics - Mechanics.

Phys. 102 : General Physics –Electromagnetism
http://ctaps.yu.edu.jo/physics/Phys102*

Phys. 103 : Waves & Particles
http://ctaps.yu.edu.jo/physics/Phys103

Phys. 105 : General Physics - Mechanics, Laboratory 1.

Phys. 106 : General Physics - Electromagnetism, Laboratory 2.

Phys. 201 : Methods of Theoretical Physics 1
http://ctaps.yu.edu.jo/physics/Phys201*

Phys. 207 : Waves and Light
http://ctaps.yu.edu.jo/physics/Phys207*

Phys. 211 : Special Relativity.

Phys. 221 : Waves & Light, Laboratory.

Phys. 225 : Fluid Mechanics and Thermodynamics, Laboratory.

Phys. 251 : Modern Physics 1.
http://ctaps.yu.edu.jo/physics/Phys251

Phys. 261 : Thermodynamics: http://ctaps.yu.edu.jo/physics/Phys261

Phys. 281 : Geometric Optics: http://ctaps.yu.edu.jo/physics/Phys281

Phys. 322 : Intermediate Lab. (Atomic, Nuclear & Quantum Physics).
http://ctaps.yu.edu.jo/physics/Phys322

Phys. 332 : Electromagnetic Theory 1:
http://ctaps.yu.edu.jo/physics/Courses/Phys332

Phys. 433 : Computer Methods and Techniques in Physics.
http://ctaps.yu.edu.jo/physics/Phys433

Phys. 441 : Nuclear Physics 1: http://ctaps.yu.edu.jo/physics/Phys441

Phys. 444 : Elementary Particle Physics.
http://ctaps.yu.edu.jo/physics/Courses/Phys444

Phys. 491 : Special Topics (X-Ray Fluorescence, Particle Physics)

Phys. 492 : Special Topics (Particle Physics)

Phys. 499 : Research: http://ctaps.yu.edu.jo/physics/Courses/Phys499

- Graduate Courses:

Phys. 601 : Mathematical Physics (M. Sc. Course)
http://ctaps.yu.edu.jo/physics/Courses/Phys601*

Phys. 641 : Nuclear Physics (M. Sc. Course)
http://ctaps.yu.edu.jo/physics/Courses/Phys641*

Phys. 645 : Environmental Physics (M. Sc. Course)
http://ctaps.yu.edu.jo/physics/Courses/Phys645*

Phys. 649 : Nuclear Techniques (M. Sc. Course)
http://ctaps.yu.edu.jo/physics/Courses/Phys649*

Phys. 692 : Special Topics (X-Ray Fluorescence & Particle Physics) (M. Sc. Course)

*Site in maintenance