

Curriculum Vitae

DIA-EDDIN M. ARAFAH

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Date of birth: 14/10/1953

Place of birth: Jerusalem

Nationality: Jordanian

Marital status: Married; four children.

Linguistic Competences: Arabic/English



I. Academic Higher Education:

- D.Phil., Applied Physics/ Condensed Matter, **University of Sussex, England - United Kingdom, 1984.**
- M.Sc., Nuclear Physics, **The University of Jordan, 1978.**
- B.Sc., Physics, **The University of Jordan, 1976.**

II. Fields of Study and Thesis Work Titles:

- ❖ Doctor of Philosophy: Condensed Matter Physics, thesis title:
"Defects studies in insulators using ion beam techniques"

Publications from Doctorate:

- "Lattice location of Ce implanted in CaF₂", Arafah D.-E., Georgiacodis D.N., Townsend P.D., Hogg C.W. and Chadwick A.V., Proc. Int. Symp. On Three Day in Depth Review of Particle Accelerator Impact in the Interdisciplinary Field, LNL-Padova, Italy, (1985) 38.
- "Preferential sputtering and ion induced changes in the composition of pure and U-doped LiF single crystals", Thiel K. Sassmannhausen U., Arafah D.-E. and Recker K., Nucl. Inst. and Methods **B1** (1984) 282.
- "Changes in RBS spectra resulting from surface charge effects", Arafah D.-E. and Townsend P.D., Nucl. Inst. and Methods **B4** (1984) 399.
- "Radiation enhanced diffusion of Krypton and Uranium impurities in LiF", Bangert U, Arafah D.-E., Sassmannhausen U., Thiel K. and Townsend P.D., Nucl. Inst. and Methods, **209/210** (1983) 1111.
- "Ion range studies of cerium implanted CaF₂", Arafah D.-E., Bangert U., Thiel K. and Townsend P.D., Nucl. Instr. and Methods, **209/210** (1983) 1105.
- "RBS studies of implanted heavy ions in CaF₂ and LiF single crystals", Bangert U., Thiel K., Kerr W. and Arafah D.-E., GSI Annual Report, 1981, 196.

- ❖ M.Sc.: Nuclear Physics, thesis title:
"Even Parity States of ¹⁶O"

Publication from Master:

- "Even parity states of ^{16}O ", Kassis N. and Arafah D.-E., J. Phys. G: Nuclear Physics 7 (1981) 165.

III. Academic/Administrative Experiences (place, job and dates):

- **Member of Accreditation and Quality Assurance Commission for Higher Education Institutions Council**, HEAC, HJK, Jordan, July 7, 2019 – to date.
- **Secretary General of the Higher Council for Science and Technology (HCST)**, The Hashemite Kingdom of Jordan, Feb. 4, 2020 – Feb. 3, 2022.
- **Co-chair** with His Excellency the Ambassador of the United Kingdom - Britain - to the Hashemite Kingdom of Jordan (H.E. Mr. Edward Oakden and Mrs. Bridget Berndt) for the **Newton-Khalidi Fund** within the Leaders in Innovation Fellowship, LIF program on strengthening cooperation and building research and innovation capacities in Jordan to contribute to supporting economic development and in cooperation between Fund to support scientific research and development in industry with the British Royal Academy of Engineering, Feb. 2020-2022.
- The Inter-Islamic Network on Water Resources Development and Management (**INWRDAM**), CHAIR, an inter-governmental, autonomous organization operating under the umbrella of the Standing Committee on Scientific and Technological Cooperation (COMSTECH) of the Organization of the Islamic Cooperation (OIC), Feb. 2020-2022.
- **Union for the Mediterranean (UfM)**, Co-CHAIR, with the European Commission, represented by Maria Cristina Russo, Director for International Cooperation (DG-RTD), representing Jordan, the Higher Council for Science and Technology, Feb. 2020-2022.
- Member of State on "The Partnership on Research and Innovation in the Mediterranean Area, (PRIMA)"; a ten-year initiative (2018-2028), partly funded by EU's research and innovation programme Horizon 2020, on the development of **Needed Solutions for a more Sustainable Management of Water and Agri-food Systems in the Mediterranean Basin**, Feb. 2020-2022.
- President of the *fortieth* session of the Union of Arab Scientific Research Councils and member of State of the Hashemite Kingdom of Jordan in the Union, Feb. 4, 2020 – Feb. 3, 2022.
- **Member of the Higher Steering Committee** formed by the Prime Minister based on the order of His Majesty King Abdullah II Ibn Al Hussein to form technical committees and direct them on expanding local capacities in the sectors targeted for the production of medicines and the manufacture of medical equipment and supplies, strengthening the food industry and ensuring the continuity and sustainability of production. Presenting the General Secretariat's proposal on "the council's activities in support of national capacities for production" to increase economic resilience and focus on applied scientific research. (15/4/2020).
- **President of "Board of Directors", Jordanian Universities Network, JUNET**, 22/2/2018 – 20/9/2018.
- **Member of the Executive Council of the Association of Arab Universities**, 4/2/2018-14/9/2018
- **President of "Al Al-Bayt University"**, 14/09/2014 – 14/9/2018.
- **Member of Higher Education Council**, Ministry of Higher Education and Scientific Research, March, 2012 – September, 2014.
- **Al-Zaytoonah Private University of Jordan, Vice President**, Sep. 2012-2013, (Sabbatical leave from the University of Jordan).
- **The Middle East University, Vice President for Academic Affairs**, July, 2011- August 2012, (Leave without pay from the University of Jordan).
- **The University of Jordan, Vice President for Scientific Faculties and Institutes**, August 2008- August 2010.
- **The University of Jordan, Vice President for Development, Planning and Quality**, August 2007- 2008.
- **The University of Jordan, Dean of Academic Research**, August 2005/August 2007.
- **The University of Jordan, Dean Faculty of Science**, Jan. 2005/August 2005.

- The University of Jordan, Vice Dean Faculty of Science, Sept. 2004/ Jan. 2005.
- The University of Jordan, Chairman Physics Department, 02/2003 and 03/2004.
- Al-Hashemite University, Chairman Physics Department, 1998/1999, (Sabbatical Leave).
- The University of Jordan, Physics Department, Amman, Jordan, **Professor**, 1998.
- The University of Jordan, Physics Department, Amman, Jordan, **Associate Professor**, 1990-1998.
- The University of Jordan, Physics Department, Amman, Jordan, **Assistant Professor**, 1985-1990.
- University of Sussex, School of Mathematical and Physical Sciences, England, Lab. Instructor, 1983-1984.
- The University of Jordan, Physics Department, Amman, Jordan; **Lecturer**; 1978-1980.
- Lufthansa, German Airlines, Federal Republic of Germany, Training for Non-Destructive-Testing (NDT) of materials, 1978.
- Royal Jordanian Airlines, ALIA, Non-destructive testing NDT, of materials; Amman Airport, 1976-1978.

IV. Scientific Visits:

- **British Council Scholar** for PhD study, Sussex University, UK, 1980-1981.
- The **University of Jordan Scholar** for PhD study - Applied Physics, Sussex University, UK. 1981-1984.
- Short-term **scientific visit** to the Institute of Nuclear Chemistry (**IKC**), Koln University (Germany), supported by the University of Sussex (UK), May 1982.
- **Scientific Research visit** to **IBM Research Laboratories**, York Town Heights, New York, and New York University at Sunny Albany, USA, May/June 1982- two months, supported by Sussex University, England.
- **Scientific Research visit** grant on the use of nuclear techniques in research and applications including Nuclear reaction analysis, activation analysis; Nuclear Physics Institute, Goethe University, Frankfurt, FRG, 1/6-1/9/1987; supported by **DAAD**.
"Orientation dependence of stopping powers studied in GaAs by nuclear reactions", Arafah D.-E., Qumri N. Meyer J.D., Thomas T. and Bethge K., IKF Annual Report, 1987.
- **Scientific Visit:** Scholar from Goethe University, Frankfurt, FRG, Joint Research; 1/6-20/7/1988.
- **Scientific Visit:** Research grant to the **University of Padova**, supported by the International Center for Theoretical Physics, **ICTP**, Trieste, Italy, 1/6-20/9/1989.
- **Scientific Visit:** Research grant on the use of nuclear techniques in research and applications; Nuclear Physics Institute, **Goethe University**, Frankfurt, FRG, 15/6-15/8/1995; supported by **DAAD**.

V. Projects and Grants:

INTERNATIONAL

- Project design for support, entitled: "The Partnership form Digital Learning and Increased Access – **PADILEIA**", in support for Syrian Refugees. The Project is supported by The Strategic Partnerships for Higher Education Innovation and Reform – **SPHEIR**, an initiative funded by the "Department for International Development (**DFID**)" and managed by "**The British Council**", (2,000,000 £). – **Joint project partners are: Al al-Bayt University (AABU), University College London (KCL), American University of Beirut (AUB), Kiron Open Higher Education (Germany) and Future Learn (UK)**.
- Project design for support, entitled: "Evaluation and mapping of air pollutants in ARASIA region using nuclear analytical techniques", for Support from **IAEA**, Vienna, Austria, 2015-2017. (500,000€)
- Project design for support, entitled: "Evaluation and mapping of air pollutants in ARASIA region using nuclear analytical techniques", for Support from **IAEA**, Vienna, Austria, 2013-2015. (500,000€)
- Project Support from **IAEA**, Vienna, Austria, on: "**RAS0061 – Using Ion Beam and Complementary Techniques to Study Air Pollution and Advanced Materials**", 2011-2014.

- Research grant from **GTZ and DAAD** in collaboration with the Institut für Kernphysik der Universität Frankfurt, "Materials analysis using ion beams", **1997-1999**.
- Research grant from Stiftung Volkswagenwerk in collaboration with the Institut für Kernphysik der Universität **Frankfurt, GERMANY**, "Modification of the properties of materials during ion implantation and their analysis", **1989-1991**.- (40,000DM) + Extension of the project (17,500DM).

NATIONAL

- **Project entitled: "Youth against Extremists: The Educational and Cultural Domain"**, Ministry of Higher Education and Scientific Research, **Scientific Research Fund**, September 2015-December 2015.
- **Project entitled: "Thermoluminescence Response of Doped Materials with Rare Earth Elements"**, supported by the **Deanship of Academic Research**, The University of Jordan, **2007**
- Research Project, entitled: "Ion Beam Modifications of Materials", supported by the **Deanship of Academic Research**, The University of Jordan, contract number **2/3/87**.

VI. Specialized Training Courses (Regional and International):

- Preparing and Organizing Training Session for the Uses of Nuclear Techniques for the Determination of Trace Elements, to be held on (**November, 2014**) in cooperation between The University of Jordan and **AAEA**.
- Regional Training Course on "**Atmospheric Aerosol Sampling Procedures and Analysis Techniques**", The University of Jordan, Department of Physics, Amman 11942, Jordan, **3 - 7 November 2013**, (**CS7-RAS- 0.061-002**).
- Regional training course on "**Advanced Nuclear and Related Analytical Techniques in Art and Archaeology**", The University of Jordan, Department of Physics, Amman 11942, Jordan, **12 - 23 JULY 2009**. (**CS7-RAS-1.010-002**).
- Regional workshop on "**Utilization of Nuclear techniques in the Analysis of materials - Rutherford Back-scattering and Particle Induced X-ray Emission**", **22-26 November, 1997**.

VII. Reviewing and Evaluating Scientific Articles and Projects:

Worked as arbitrator and evaluator of scientific articles for International and Regional and Local Scientific in the following Journal list:

- **Science Direct - Physica B Condensed Matter;**
- **Jordan Journal of Physics;**
- **Ministry of Higher Education Fund;**
- Peer Reviewer of: *Journal of Optoelectronics and Advanced Materials (JOAM)*.
- Peer reviewer for *King Abdel-Aziz City for Science and Technology (KACST)*; several projects.

VIII. Committees Membership:

A. University, Faculty and Department Committees:

- Chair of Committee for **Strategic Planning 2007-2012, Executive and action Plan**, at the University of Jordan.
- Chair of committee for **Center of Excellence on Energy, Water and Environment (EWE)** at The University of Jordan **2012**.
- Committee member for Appointment and Promotion at the University of Jordan, **2005-2009**.
- Board member of for Marine Sciences Station Council, The University of Jordan, Aqaba, Jordan, **2005-2009**.
- Board Member of Hamdi Manco Center for Scientific Research, The University of Jordan, **2005-2008**.

- Committee member of History of Bilad Al-Sham, The University of Jordan, **2006-2007**.
- Board Member of Research Center for Water and Environmental Studies Council, The University of Jordan, **2005-2007**.
- Chair of committee for **Curriculum Development** at University level.
- **Graduate studies** committee at Department, Faculty of Science and Faculty of Graduate Studies..
- **Nuclear energy**, The University of Jordan and Ministry of Energy.
- Member of **waste disposals and pollution issues and problems**.
- Department and Faculty for the **nuclear Van de Graaff accelerator**.
- Second Workshop **ARTTA'87 Organizing committee**.
- Third Workshop **ARTTA'95 Organizing committee**.

B. International and Regional Committees:

- Chair of Committee of experts on **Adoption of digital education**, Talal Abu-Ghalzaleh Foundation, Amman **2014**.
- Member of committee, "The Arab Association for Quality Assurance in Education", Amman, 2014.
- Member of committee for student's **selection for Study grants at the Italian Embassy**, in Jordan, **2014**.
- Member of committee for **Jordan Higher Education Strategy**, Curriculum of Academic Programs, Ministry of Higher Education and Scientific Research, Amman June **2012**.
- Chair of committee of: "**Governance in Higher Education**", Conference in collaboration with Arab Universities Union, Amman, November **13-14, 2012**.
- Member of committee for student's **selection for Study grants at the French Embassy**, in Jordan, **2008-2012**.
- Chair of committee for "**Open Mind Academy**" Project on Multidisciplinary fields in cooperation with several universities in Europe such as **Lund** in Sweden and **SAWAS** in England, **2008-2010**.
- Chair of committee for the **Competence Center** in cooperation with the **University of Lichee, Italy and The University of Jordan, 2007-2010**.
- **Chair** of national committee for "**International Geo-sphere Bio-sphere Programme: IGBP, Global Change**", **Finland, 2010**.
- Member of Committee - Higher Education of Scientific Research, Ministry of Higher Education and Academic Research. Jordan / **Aug.2005-Aug.2007**.
- Member of Committee - **Higher Education Strategy and Reform initiative in Higher Education - "ERFKE- Education Reform for Knowledge Economy"** through the World Bank **2005**.
- Organizing Committee: **TMS-2007**; "Metrologies for Advanced Materials and Devices: Characterization, Measurement and Testing Science: Metrology for Micro and Nano Structures" / "Recent Developments in Semiconductor, Electro Optic and Radio Frequency Materials: Progress in Semiconductor Optoelectronics and Beyond", **Orlando, Florida, USA, February 25-March 2, 2007**.
- Committee member for Technical Committee for Higher Education Development, **2006-2008**
- **Member of the New York Academy of Sciences**.
- **Non-destructive Testing (NDT) Society**.
- **International Training Committee on Synchrotron Radiation (SESAME project) - UNISCO**.

C. Research and Scientific Award Committees:

- **Member** of Scientific Commission "**Abdul-Hamid Shouman Prize for Arab Youth Researchers**", **2013-2017**.
- • Honoring Ammon Theatre for Culture and Arts and Forum Culture House in the " The First Day of Loyalty to the Scientists and Writers", **17 / 5 / 2014, held at the Culture and Arts Theatre for Arts**,

Amman, Jordan, **under the patronage of his Excellency the Minister of Higher Education and Scientific Research.**

- **Chair of Evaluation Committee "Jordanian Society for Scientific Research"** , Patency Sector, 2011.
- **Chair of Evaluation Committee "Hisham Adib Hijjawi, Industrial and Energy Technology Sector, 2010 and 2011.**
- **Chair of Committee "Abdul-Hamid Shouman Prize for Science Schools Teachers"** - Several times.
- **Member of Committee "Abdul-Hamid Shouman Prize for Arab Youth Scientific Researchers", 2005/2006.**
- **Chair of Committee "Incentive Prize"** on behalf of the Ministry of Higher Education and Scientific Research, Jordan, **2005.**

D. Scientific and Organizing Committees:

- **Member the Academic and Finance and Administration committees of the Higher , Education Council at the Ministry of Higher Education and Scientific Research, 2012-2014.**
- Committee member of the **"Jordan Journal of Physics"**, Scientific Publication Journal, Published by the Deanship of Academic Research, Yarmouk University and the Ministry of Higher Education and Academic Research, August **2007-2018**, Jordan.
- **Editor in Chief, "DIRASAT"**, Scientific Publication Journal, Published by the Deanship of Academic Research, The University of Jordan / **Aug.2005-Aug.2007.**
- Member of Committee for MOHE on **Programs Accreditation in Physics at the Jordanian Universities 2005-2007.**
- **Member of the Organizing Committee and Conference Proceeding of ICCMPA, 1992, Bahrain.**

E. Scientific Programs, Regional and International Projects:

- Chair and coordinator of several international Academic programmes and projects, e.g. **EGREEN, PADEILIA, SPARK, and HOPES**, during the period between Sept. 2014-2018.
- Head of the Partnership Initiative and the development of electronic digital courses for the rehabilitation of Syrian refugees between Aal al-Bayt University and **King's College London, UK, American University of Beirut (AUB), Kiron Open Learning Foundation in Germany and Future Learn Foundation in the UK**, Aims to provide online courses (**MOOCS**) and **Blended Learning.**
- Chair of committee of the **Higher Education Accreditation Commission** on **"Competency Examination of Natural and Basic Science Programmes"** - Intermediate level, **April, 2014.**
- National coordinator for regional projects: Project Design on **"Pollution and Atmospheric Aerosols Using Ion Beam Techniques at the Arab States in Asia (ARSAIA)"**, In collaboration with IAEA, **2013-2015.**
- **International consultant** for the **evaluation of existing academic science programs in Palestinian Universities, Accreditation and Quality Assurance Commission (AQAC)** at the Ministry of Education & Higher Education *MOEHE, Ramallah – West Bank, Palestine*, **10/05/2011 (Chair of Team).**
- **Chair of supervising committee** for the Diploma program on **"Information and Communication Technology in Education" (ICTE)**; conducted at The University of Jordan in cooperation with Ohio University, Athens, April **2007-August 2010.**
- Supervising the project on **Human Resource Development of Youth Palestinians, – "Stepping Stones"**, funded by King Abdullah The Second for Development and conducted at Birzeit University in cooperation with The University of Jordan, April **2007-August 2010.**

- Coordinator for International Project, academic program on: "Integrated Water and Resources Management, In collaboration with the University of Cologne, Germany, **2007-2010**.
- **Chair** of committees for **Higher Education Projects** at The University of Jordan, **2005-2010**.
- **Member** of the **national committee** for virtual **Center of Excellence (CoE)** at the Jordanian Atomic Energy Commission in collaboration with French Universities, **-2010**.
- **Chair** of Projects at The University of Jordan and supported by the Higher Council for Science and Technology, HCST, Jordan, **2007**.
- Coordinator for some International and Regional Projects, such as: TEMPUS Projects, ERASMUS MUNDUS Projects, ARASIA MS...etc.

IX. Other Activities:

- Founder of the **societal Broadcast station** at Al-al-Bayt University, donation from UNISCO, 2017.
- **Founder of the Jordanian Physicists Association / 1975**.
- **Establishing a new experimental condensed matter physics laboratory** at the Physics Department. The University of Jordan.
- **Granted the Best Research Award / The University of Jordan**.
- **Obtaining a financial support and Equipment from:**
 1. International Atomic Energy Agency (IAEA), Vienna, Austria, **2011-2013**.
 2. Deanship of Research, The University of Jordan, **1987, 2001, 2007**.
 3. Higher Council for Science and Technology, Jordan, **2000**.
 4. Goethe University, Frankfurt, FRG, **1988**
 5. Volkswagen Stiftungwerk, Hannover, FRG, **1989-1992**.
 6. University of Padova, Italy, **1989**.
 7. Center of Theoretical and Experimental Physics, Irbid, **1991**.
 8. DAAD and GTZ, Hannover, Berlin, **1997-1999**.
- Participated in a number of Academic Promotions, Peer Reviewer (Nationally, Regionally and Internationally).

X. Academics and Education:

- Establishing Computer **interactive courses** in Physics.
- Establishing/Teaching a **Virtual Laboratory** at the Department of Physics, University of Jordan,
- Teaching most courses in physics for undergraduate and postgraduate levels (Master and PhD levels)..

XI. Academic Supervision:

A. Graduate Students: Master of Science theses works: (* = Classification number at the University of Jordan library)

1. "Rutherford backscattering studies of impurities doped glass", [Ayman K. Sbouh](#), The University of Jordan, Physics Department, May 15, **1988**. - **539.754 S276***
2. "Stopping power measurements using the Rutherford backscattering spectrometry technique", [Rafiq I. Al-Amleh](#)., The University of Jordan, Physics Department, March 30, 1989. - **539.754 A517***
3. "Rutherford backscattering simulation", [Wong C. Pak](#), The University of Jordan, Physics Department, May 27, **1990**. - **539.754 P152***
4. "Diffusion in glass", [Abdel-halim S. Mubarak](#), The University of Jordan, Physics Department, August 20, **1990**. - **544.5 M941***
5. "Ion beam mixing of Au/Sb thin films", [Awwad A. Sharaf](#), The University of Jordan, Physics Department, September 27, **1990**. - **532.6 S531***
6. "Construction and testing of a Parallel plate avalanche detector, (PPAD)", [Khalidoun S. Al-Khayyat](#), The University of Jordan, Physics Department, February 4, **1991**. - **537.125 K45***

7. "Analysis of pure and Eu-doped single crystalline CaF_2 by nuclear reactions", [Badie R. Gaith](#), The University of Jordan, Physics Department, February, 29 1992. - **539.75 G412***
8. "Concentration and time dependencies of the diffusion processes in glass", [Mohammad I. Al-Qabaha](#), The University of Jordan, Physics Department, June 23, 1992. - **536.2014 Q1***
9. "Ion beam mixing: theory and experiment", [Lubna K. Hamdan](#), The University of Jordan, Physics Department, August 9, 1992. -
10. "Thermoluminescence studies of irradiated doped insulators", [Mohammad H. Al-Turany](#), The University of Jordan, Physics Department, October 9, 1994. - **535.35 T948***
11. "Characterization of TL emission spectra resulting from sensitized TLD-100", [Asma G. Mahmoud](#), The University of Jordan, Physics Department, November 14, 1995. - **535.3 M215***
12. "Electric field enhanced diffusion in glass", [Mufied Al-Mughrabi](#), The University of Jordan, Physics Department, March 22, 1995. - **530.475 M951***
13. "Ion mixing of Ag/Cd thin films", [Nazeih Masoud](#), The University of Jordan, Physics Department, April 20, 1997. - **530.43 M412***
14. "Thermoluminescence emission spectra of Dy doped CaSO_4 phosphor crystals", [Lubna N. Tu'meh](#), The University of Jordan, Physics Department, April 13, 1997. - **535.35 T925***
15. "Trapping parameters determination using the inflection points method and distribution of frequency factor", [Bilal Al-Qassem](#), The University of Jordan, Physics Department, June 18, 1997. - **535.35 Q1***
16. "A study of the Environmental radioactivity in water", [Fuad Shreiteh](#), The University of Jordan, Physics Department, March 1998.
17. "Normal and enhanced ion-exchange processes of Ag and TL ions in glass", [Sharif Hussein](#), The University of Jordan, Physics Department, October 1998.
18. "Ion-exchange studies of Bi^{+3} and La^{+3} in glass with dimethyl-formamide (DMF) as a solvent", [Maha Tumalieh](#), The University of Jordan, Physics Department, October 1998. - **530.416 T661***
19. "Thermoluminescence of LiF based dosimeters and their applications in radiation diagnosis", [Shada Al-Ramahi](#), The University of Jordan, Physics Department, July 1998. - **535.35 R165***
20. "Characterization of ion implanted quartz by Rutherford backscattering and Thermoluminescence", [Khadijeh Abu-Sleimeh](#), The University of Jordan, Physics Department, June 2000. **530.41 I82***
21. "Characteristics of Irradiated Germanium Thin Films Deposited onto Silicon Substrates by Rutherford Backscattering and Thermoluminescence", [Thanaa Abdel-Aziz](#), The University of Jordan, Physics Department, January 2002. - **530.4175 S562***
22. "Thermoluminescence Characteristics of Mixed Alkali Sulphates Doped with Rare Earth Elements", [Mahmoud Al-Eleimi](#), The University of Jordan, Physics Department, June 2003. - **535.35 E37***
23. "Characterization of ion implanted quartz by Rutherford backscattering and Thermoluminescence", [Shadi Salem](#), The University of Jordan, Physics Department, June 2003. **530.4175 S163***
24. "Characteristics of Irradiated Germanium Thin Films Deposited onto Silicon Substrates by Rutherford Backscattering and Thermoluminescence", [Radhi Al-Unaizi](#), The University of Jordan, Physics Department, June 2003. - **530.4175 E58***
25. "Thermoluminescence Characteristics of Post- γ -Irradiation of Ag-Thin Films Deposited onto Glass", [Hala Jaber](#), The University of Jordan, Physics Department, August 2003. - **535.35 J11***
26. "Sensitization of the Thermoluminescence Response of KBr Phosphor", [Samer Dabeit](#), M.Sc. Thesis, The University of Jordan, Physics Department, February 2005. - **530.412 D112***
27. "Studies of Fluoride Deposition in the Dental Enamel Following the use of Fluoride-containing Gel by ($p, \alpha\gamma$) Nuclear Reaction", [Anna-Hita Nasr](#), M.Sc. Thesis, The University of Jordan, Physics Department, February 2004. - **530.41 N264***
28. "Characterization of Si-Fe Systems by Rutherford backscattering spectrometry", [Tahani Bouzieh](#), M.Sc. Thesis, The University of Jordan, Physics Department, February 2004. -
29. "Studies of the Characteristics of Doped and Ion Irradiated KBr Phosphors by Rutherford Backscattering", [Laith Al-Dalabeeh](#), M.Sc. Thesis, The University of Jordan, Physics Department, February 2004. - **530.416 D756***

30. "Thermoluminescence characteristics of mixed alkali sulphates doped with Rare Earth elements"
[Lauy Barham](#), M.Sc. Thesis, The University of Jordan, Physics Department, January 2005. - **535.35 B251***
31. "Characterization of thin Co/Fe films deposited onto Silicon", [Zainab Al-Asfar](#), M.Sc. Student, The University of Jordan, Physics Department, Joined November, 2007. - **530.41 A817***
32. "Emission spectra and thermoluminescence glow curves of doped mixed alkali sulphates", [Ola Sawaftah](#), M.Sc. Student, The University of Jordan, Physics Department, May, 2007. **530.416 S271***
33. "Thermoluminescence response of doped LiF : Mg, Ti TLD materials", [Rasha Abu-Ruz](#), M.Sc. Student, The University of Jordan, Physics Department, May, 2008. - **530.412 R987***
34. "Characterization of Doped Sodium Chloride (NaCl) using Thermoluminescence", [Laila Habash](#), M.Sc. Student, The University of Jordan, Physics Department, April, 2012.

B. Graduate Students: Doctor of Philosophy thesis works: (* = Classification number at the University of Jordan library)

35. "Environmental Studies in the attenuation of Radiation and transfer effects of radionuclides", [Mohammad Awadallah](#), Ph.D. Thesis, The University of Jordan, Physics Department, August 2003. - **539.752 A964***
36. "Charge states of post accelerated thin solid films resulting from ion-atom exchange phenomena", [Abdullah Mahasneh](#), Ph.D. Thesis, The University of Jordan, Physics Department, September, 2005. - **539.72112 M214***
37. "Characterization of thin films deposited onto quartz by Rutherford backscattering and Thermoluminescence", [Noura Al-Dahabi](#), Ph.D. Thesis, The University of Jordan, Physics Department, 2005. -
38. Improvement of the thermoluminescence properties of co-doped alkali sulphates", [Mohammad Al-Elaimi](#), Ph.D. Thesis, The University of Jordan, Physics Department, 2010. - **530.416 U36***
39. "Correlation of Backscattered and Recoil Ions in Violent Ion-Atom Collisions by Coincident Rutherford Backscattering Spectrometry", [Hanan Saadeh](#), Ph.D. Thesis, The University of Jordan, Physics Department, 2010. - **539.757 S111***
40. "Characterization of Doped and Co-doped Mixed Alkali Sulphates using Thermoluminescence", [Manal Dahab](#), Sudan, Ph.D. Student, The University of Jordan, Physics Department, Joined December, 2011.
41. "Synthesis and Characterization of Thermoluminescence Properties of as Prepared and Doped SiO₂- Glass", [Fawzeyeh Khamis](#), Libya, Ph.D. Student, The University of Jordan, Physics Department, May, 2014.

XII. Conference and Workshop Participation:

- 9th. Int. Conf. on Atomic Collisions in Solids, "ACIS", Lyon, France, July, 1981.
- Analysis by High Energy Ion Beams: Developments and New Applications, Brighton, England, June 1983.
 - Research title: "Changes in RBS spectra from surface charge effects".
- 11th. Int. Conf. on Atomic Collisions in Solids, "ACIS", Grenoble, France, July 1983.
- Int. Symp. on Three Day in Depth Review on Nuclear Accelerators Impact in the Interdisciplinary Field, LNL-Padova, Italy, May 1984.
 - Research title: "Lattice location of Ce implanted in CaF₂".
- Summer Workshop in Condensed Matter Physics, ICTP, Trieste, Italy, August 1985.
- 1st. Workshop on Van de Graaff Accelerators in Research, Training and Technological Applications, "ARTTA'85", September 1985, The University of Jordan, Physics Department, Amman, Jordan.
 - Research title: "Effects of biasing on RBS measurements".
- 1st Conf. on Condensed Matter Physics "PCM'86", July 1986, University of Jordan, Physics Department, Amman, Jordan.

- I.C. Summer School on Ion Beam Analysis of Solids, "CIBAS", Jena University, DDR, 1-13 Sept. **1986**.
 - Research title: "Charge states separation and measurements".
- 1st. Conf. of the Jordanian Chemical Society, Phosphate Mining Comp., Amman, Jan. **1986**.
 - Research title: "Materials analysis using high energy ion beams".
- 2nd. Workshop on Van de Graaff Accelerators in Research, Training and Technological Applications, "ARTTA'87", Oct. **1987**, The University of Jordan, Physics Department, Amman, Jordan.
 - Research title: "Thickness determination by RBS technique".
- 2nd Conf. of the Jordanian Chemical Society, Phosphate Mining Comp., Amman, Jan. **1987**.
 - Lecture title: "Glass and fiber optics".
- Summer Workshop in Condensed Matter Physics, ICTP, Trieste, Italy, August **1988**.
 - Research title: "Changes in the composition of soda-lime glass resulting from doping".
- 2nd. Conf. on Condensed Matter Physics "PCM'86", April **1989**, The University of Jordan, Physics Department, Amman, Jordan.
 - Research title: "Radiation enhanced diffusion in glass".
- Int. Conf. on Condensed Matter Physics and Applications "ICCPA", 13-16 April **1992**, University of Bahrain, Department of Physics, Issa Town, Bahrain.
 - Research title: "Characterization of pure, ion-exchange and ion implanted glass".
- 3rd. Int. Conf. Solar Electricity (ICSE): Photovoltaics and solar thermal technologies, The Emirate of Sharjah, March 21-25, **1998**.
 - Research title: "Substrate temperature effects on the processing of CdTe and CdS thin films".
- 2nd. Physics Palestinian Workshop on Condensed Matter and Applications, An-Najah National University, Nablus, Palestine May 3-4, **2000**.
 - Research title: "Characterization of defects induced in thin films"
- **"Int. Symposium On Utilization of Accelerators"**, Sao Paulo, Brazil, November 26-30, **2001**.
 - Research title: "Characterization of defects induced by Ar beam irradiation in thin films used for solar cell devices".
- **TMS-2006: Nanomaterials: Materials and Processing for Functional Applications of Nanoscale Materials**; San Antonio, Texas, March 12-16, **2006**.
 - Research title: "nanostructure materials fabricated by ion beam mixing".
- **TMS-2007: Recent Developments in Semiconductor, Electro Optic and Radio Frequency Materials: Recent Advances in Semiconductor Technologies**; TMS-2007, Orlando, Florida, February 25-March 2, **2007**.
 - Research title: "Silicon Germanium Nanostructures Doped with Rare Earth Materials".
- **Strategic Planning in Jordanian Higher Education Institutions**, 1-2/12/2007, Sheraton Amman, Amman, Jordan.
- Project Review Progress Meeting, Vienna, Austria of the RAS0061 project on "Using Ion Beam and Complementary Techniques to Study Air Pollution and Advanced Materials, 15-19 April, **2013**.
 - Research title: "Country Contribution ARASIA RAS0061: Characterization of Novel Materials and Particle Concentration of Atmospheric Aerosols, Results and Future Prospects".
- **Workshop organized by the British Council** in Jordan on: "Comprehensive and Review Study of Higher Education and its Development in Jordan", Tuesday, 23/4/2013, Hayat Amman Hotel, Amman, Jordan.
- **"Pollution and Climate Change - and the Use of Nuclear Methods to Determine Pollutants and their Ratio"**, Project for the States of Arasia. Participation in the formulation and extension of the supported project by the **IAEA** for the year **2017**. Lebanese Atomic Energy Commission in cooperation with the International Atomic Energy Agency, April 2015 Beirut, Lebanon.
- **"Young Syrian Refugees in Jordan's Educational Systems – Challenges & Policies"**, [Dia Eddin Arafah](#), the 'Jordanian Club of Humboldt Fellows', in partnership with the 'Friedrich Naumann Foundation

for Liberty'. 3rd Session: To what Extent is the Jordanian Higher Education System prepared to absorb Syrian Refugee Students? Needs Assessment and Policy Considerations Jordan Intercontinental Hotel, 16th of April 2015, in Amman, Jordan.

- **"Challenges and Opportunities facing Chinese and Arab universities in service of rebuilding the Silk Road"**, [Dia-Eddin M. Arafah](#), Al al-Bayt University, Jordan, 3rd. China-Arab States University Presidents Forum. Ningxia province, Yinchuan, 11 – 13, Sept. 2015, China.
- **" Youth in Confronting Extremist Thought"**, [Dia-Eddin Arafah](#), Aal al-Bayt University, the results of the Committee on the Educational and Cultural , a study supported by the Scientific Research Fund at the Ministry of Higher Education and Scientific Research. , Basim al-Tuwaisi, on Momani, and Muath Dhisat. Introduction to the National Conference on Youth in the Face of Extremist Thought, Amman - Amman, March 29, 2016, Jordan.
- **Joint Academic Degrees and Cooperative Programs**, [Dia-Eddin Arafah](#), Al al-Bayt University, The Second Turkish Arab Congress on Higher Education, in partnership of Istanbul Medeniyet University, 26-30 April 2016, Istanbul, Turkey.
- **"Research to Applications & Markets" (RAM 2016)**, [Dia-Eddin Arafah](#)/Al al-Bayt University/<http://www.aabu.edu.jo>, *Hammamet, 16-18 September 2016. Tunis, Tunisia.*
- **"Joint Academic and Cooperative Programs"**, [Dia-Eddin Arafah](#), Al al-Bayt University, ARAB-ASIAN GLOBAL HIGHER EDUCATION SUMMIT, (AAGHE Summit 2016), Oct.17-20, 2016, Uneversiti Sains Islam Malaysia, USIM, Nilai, Mylasia.
- **"Internationalization of Higher Education Institutions: Joint Academic Programmes and Cooperative Research: Challenges and Policies"**, [D.-E. Arafah](#), Young Syrian Refugee in Jordan's Educational Systems: Monday 2-4/11/2016, Nairobi, Kenya.
- **"The role of universities in contributing to national security"**, [Dia-Eddin Arafah](#), Al-Bayt University, The Royal Jordanian National Defense College, Amman, 22/2/2017, Jordan.
- **"Modernity of Learning: A Professional Faculty Member and his Competitiveness with a Future Perspective"**, [Dia-Eddin Arafah](#), Al-Bayt University, Jordanian Educational Society Conference: Category of Teaching Staff (Reality and Hope), Dead Sea, 31 March-1 April 2017, Jordan.
- **"Academic Cooperation and Networking: Partnership in Changing Communities: CHALLENGES"**, [D.E. Arafah](#), International Conference/Humboldt Kolleg International Conference: **"Jordanian Life Sciences for Sustainable Development"** Al al Bayt University, Mafraq, Jordan, April, 27 - 29, 2017. – *Conference supported by Alexander Von Humboldt, Stifung / Foundation. Under the Patronage of HRH Princes SUMAYA BINT AL-HASAN, Delegated Prof. Mohammad Hamdan.*
- **Digital Technologies in Universities: Overview and Perspectives: Jordanian Experience"**, [Dia-Eddin Arafah](#), Al al-Bayt University, The Regional Conference on Digital Governance, Lebanese University, 25 October 2017, Beirut, Lebanon.
- **Educational Challenges in the Regional Ecosystems"** [Dia-Eddin Arafah](#), Al al-Bayt University, The Second Turkish Arab Universities Conference, on **"Opportunities for Turkish and Arab Universities is Responding to Regional Challenges"**, EURASIA HIGHER EDUCATION SUMMIT, Istanbul Aydin University in Cooperation with the Association of Arab Universities, 11-16 February 2018, Istanbul, Turkey.
- Symposium on **"Education in the Northern Badia"**, [Dia-Eddin Arafah](#), Al-Bayt University, organized by the Forum of Dialogue and Cultural Initiative and the Al-Hussein Cultural Forum, Mafraq Chamber of Commerce, Monday, April 30, 2018, Mafraq, Jordan.
- **"Strategic Planning"**, [Dia-Eddin Arafah](#), Al-Bayt University, Higher Education Conference in the Arab World in Light of Global Challenges and Transitions, Zarqa Private University, Wednesday, 2-3 May 2018, Zarqa, Jordan.

- [Dia-Eddin Arafah](#) **"Seeking to overcome pain by building hope"**: a critical and forward-looking analytical vision in the discussion of the 10th. Arab Cultural Development Report issued by the Arab Thought Foundation entitled: **"Innovation or Exhaustion: Scientific Research: Its Reality, Challenges and Prospects"**, Abdul Hameed Shouman Foundation, 22/10/2018. , Jordan.
- **"Economic Knowledge and Higher Education Reform"**, [Dia-Eddin Arafah](#), 9th. Economic Conference on: **"Economic and Administrative Reforms and Adaptation Policies in Jordan and the Arab World"**, Yarmouk University, Irbid, 23-25 / 4/2019, Jordan.
- [Dia-Eddin Arafah](#), Participation in preparing a study and ideas for a brainstorming session entitled: **"Towards a National Pact to Face the Challenges of the Age"**, Amman, Jordan, HCST, 18/6/2020.
- [Dia-Eddin Arafah](#) **Discussion of Facts and Public policies** in the education sector with the aim of identifying the challenges facing education, options and alternatives to advance the sector, and participating in the workshop on "The Future of Education in Jordan: Challenges and Options", Center for Strategic Studies, **The University of Jordan**, Amman, Jordan, August 31, 2020.
- [Dia-Eddin Arafah](#) Participation in the virtual scientific symposium on "The Interdependence between Scientific Organizations, Universities and Research Centers in the Service of Arab Communities", and presenting an intervention entitled: **"The Role of Scientific Institutions in Promoting Scientific and Developmental Culture and Community Security"**, Arab Thought Forum, Amman, Jordan, **Via Zoom Meeting**, 10/9/2020.
- [Dia-Eddin Arafah](#) Presenting a lecture at the National Defense College entitled:
- [Dia-Eddin Arafah](#) Participation in The **Royal Jordanian National Defense College** and presenting a lecture entitled: "Science and Technology as One of the Elements of National Forces and Its Role in Security, Defense and National Development", Amman – Jordan,. 9/10/2020.
- [Dia-Eddin Arafah](#) Participation in the **38th Cultural Season** in memory of the late Prof. Dr. Abdel Karim Khalifa and Prof. Dr. Muhammad Ahmad Hamdan, entitled: **"Testimony of HE. Prof. Muhammad Ahmad Hamdan after a Fellowship for a Third of a Century of His Academic Career"**. Thursday 17/12/2020.
- [Dia-Eddin Arafah](#) Participation in the consultative symposium to discuss the: **"Energy Review within the State of the Country Report"**. Prepared by the Economic and Social Council, Amman, Jordan, 29/12/2020.
- [Dia-Eddin Arafah](#) Participation in an intervention in the panel discussion on **"The Pros and Cons of Distance e-Learning in the Time of Corona"**, organized by the Arab Thought Forum, with the participation of Arab experts and academics, **Via the Zoom Meeting**, Amman - Jordan, 30/12/2020.
- [Dia-Eddin Arafah](#) Participation in a consultative symposium to discuss the report and arbitration of the higher education review on evaluating the distance learning experience during the second semester 2020, **Economic and Social Council**, Amman - Jordan, 2020.
- [Dia-Eddin Arafah](#) and Iyad Abu-Haltam, Participation in the initiative of His Royal Highness Prince El Hassan bin Talal, on **"Promoting self-employment for young graduates"** and preparing a **concept paper** to discuss the challenges of the Corona pandemic. Amman - Jordan, **Via Zoom Meeting**, 15/3/2021.
- [Dia-Eddin Arafah](#) Participation in the evaluation study to achieve three *Strategic Goals*:
 - (i) the adoption of the Jordan Open Innovation Platform (JOIP) of the National Center for Innovation according to international standards,
 - (ii) the preparation of the Policy and Strategy for Science, Technology and
 - (iii) Innovation, and Study Evaluating the Impact of Innovation on the industry. **HCST**, May 2021.
- [Dia-Eddin Arafah](#) A discussion workshop on the evaluation survey of scientific research in Jordan within an integrated project that covered the years (2012-2019) and entitled: **"Evaluation of the reality of scientific research in Jordan and its impact on the national economy"**. Available in Arabic and English. **HCST**, August 2021.

- [Dia-Eddin Arafah](#) Participation in The **Royal Jordanian National Defense College** and presenting a lecture entitled: "The Role of Science and Technology as an Element of Strength in National Security, Defense and Development", Amman – Jordan, Sept. 2021.
- [Dia-Eddin Arafah](#) Workshop for stakeholders of science, technology and creativity on the document: Policy, and National Strategy for Science, Technology and Innovation for the years (2021-2025), the Higher Council for Science and Technology; including SWOT Analysis and the development of the entire matrix, with identification of its strategic alternatives, **HCST**, October 2021.
- [Dia-Eddin Arafah](#) Higher Education Review Arbitration - State of the Country Report 2021 - Economic and Social Council. Amman – Jordan, 10/11/2021.
- [Dia-Eddin Arafah](#) Preparation of the document entitled "Science, Technology and Innovation in Jordan: The Current Situation", Amman Jordan.
- [Dia-Eddin Arafah](#) Participation, by management, with an analytical, critical and forward-looking vision to discuss the book: "**The Arabs and the Challenges of Transition towards Knowledge and Innovation**" - by the authors Dr. Moen Hamza and Dr. Omar Al-Bizri, and through a panel discussion that was held at the Abdul Hameed Shoman Foundation on November 30, 2021, in partnership between "Abdul Hamid Foundation Schumann and the Arab Thought Foundation.
- [Dia-Eddin Arafah](#) Participation in the Regional Economic Forum within a virtual meeting, entitled: "STI policy frameworks Enabling Entrepreneurship in the Arab Region" on the Arab region in cooperation between the United Nations Economic and Social Commission for Western Asia, ESCWA, ESCWA and the International Chamber of Commerce ICC, Beirut, Lebanon. **Zoom Meeting** 9/12/2021.
- [Dia-Eddin Arafah](#) Participation in the annual international scientific conference of the **Arab Research and Education Network: Arab States Research and Education Network (ASREN) e-Age21**, which was held virtually under the title: "**e-Infrastructure for Science and Beyond**" on December 13-15, 2021, with focus on the electronic infrastructure for science and beyond, services and Arab and international cooperation in science and open sources for science within the open space, **Zoom Meeting** 12/13/2021.
- [Dia-Eddin Arafah](#) Participation in the activities of the **43rd**. regular session of the meetings of the "Councils of the Arab Scientific Research Union", **Zoom Meeting** 12/15/2021.

XIII. List of Publications:

1. "Even parity states of ^{16}O ", Kassis N. and [Arafah D.-E.](#), *J. Phys. G: Nuclear Physics* 7 (1981) 165.
2. "RBS studies of implanted heavy ions in CaF_2 and LiF single crystals", Bangert U., Thiel K., Herr W. and [Arafah D.-E.](#), *GSI Annual Report*, 1981, 196.
3. "Ion range studies of cerium implanted CaF_2 ", [Arafah D.-E.](#), Bngert U., Thiel K. and Townsend P.D., *Nucl. Instr. and Methods*, 209/210 (1983) 1105.
4. "Radiation enhanced diffusion of Krypton and Uranium impurities in LiF ", Bangert U, [Arafah D.-E.](#), Sassmannhausen U., Thiel K. and Townsend P.D., *Nucl. Inst. and Methods*, 209/210 (1983) 1111.
5. "Preferential sputtering and ion induced changes in the composition of pure and U-doped LiF single crystals", Thiel K. Sassmannhausen U., [Arafah D.-E.](#) and Recker K., *Nucl. Inst. and Methods B1* (1984) 282.
6. "Changes in RBS spectra resulting from surface charge effects", [Arafah D.-E.](#) and Townsend P.D., *Nucl. Inst. and Methods B4* (1984) 399.
7. "Lattice location of Ce implanted in CaF_2 ", [Arafah D.-E.](#), Georgiacodis D.N., Townsend P.D., Hogg C.W. and Chadwick A.V., *Proc. Int. Symp. on Three Day in Depth Review of Particle Accelerator Impact in the Interdisciplinary Field*, LNL-Padova, Italy, (1985) 38.
8. "PIXE facility at Jordan Van de Graaff accelerator", Saleh N.S., Hallak A.B., Saleh K.A. and [Arafah D.-E.](#), *Appl. Phys. Comm.* 5(4) (1985/86) 253.

9. "Assessment of Jordanian salt using nuclear techniques", Saleh K.A., [Arafah D.-E.](#), Jabr I.J. and Saleh N.S., **Appl. Phys. Comm.** **7(3)** (1987) 195.
10. "Quantitative analysis of stainless steel using nuclear techniques", Abu-El-Haiga A.J., Saleh K.A., [Arafah D.-E.](#), Halim N.A., Kamal M.R., Khalifeh J.M. and Saleh N.S., **Mat. Sci. and Eng.** **95** (1987) 267.
11. "Combined nuclear measurements of yeast", Saleh N.S., Saleh K.A., [Arafah D.-E.](#) and Halim N.A., **Nucl. Inst. and Methods B23** (1987) 379.
12. "Anomalies in the depth distribution of Kr implanted into SiO₂", [Arafah D.-E.](#), **Phys. Stat. Solidi (a)** **103** (1987) K7.
13. "Orientation dependence of stopping powers studied in GaAs by nuclear reactions", [Arafah D.-E.](#), Qumri N. Meyer J.D., Thomas T. and Bethge K., **IKF Annual Report**, 1987, p.138.
14. "Inherent peculiarities in nuclear reaction analysis", [Arafah D.-E.](#) and Meyer J.D., **J. Appl. Phys.** **64(3)** (1988) 1557.
15. "Charge-state measurements of backscattered ions from Au films", [Arafah D.-E.](#), Meyer J.D., Sharabati H.H. and Mahmoud A.M., **Phys. Rev. A** **39(8)** (1989) 3836.
16. "Anomalous behavior in the performance of Van de Graaff accelerators", [Arafah D.-E.](#), Bulous B.R., Al-Ramadin Y.I. and Mahmoud A.M., **Appl. Phys. Comm.** **9(1)** (1989) 99.
17. "Radiation enhanced diffusion of Ag produced by Ar implantation into Ag-doped glass", Sbouh A.K., [Arafah D.-E.](#) and Al-Ramadin Y.I., **J. Phys.: Condensed Matter** **1** (1989) 5045.
18. "Changes in the composition of soda-lime glass resulting from Ag-doping", Sbouh A.K., [Arafah D.-E.](#) and Al-Ramadin Y.I., **Mat. Sci. and Eng. B3** (1989) 473.
19. "Fluence dependence of the depth distribution of Kr implanted into SiO₂", [Arafah D.-E.](#) and Shahin I.S., **Dirasat** **17(2)** (1990) 129.
20. "Influence of electronic compensation on Rutherford backscattering spectra of biased insulators", Meyer J.D. and [Arafah D.-E.](#), **Nucl. Inst. and Methods B50** (1990) 109.
21. "Photoacoustic measurement of the absolute optical absorption coefficient of opaque solids", Shahin I.S. and [Arafah D.-E.](#), **Dirasat 18B (3)** (1991) 30.
22. "Characterization of pure ion-exchange and ion implanted glass", [Arafah D.-E.](#) Al-Ramadin Y. and Sharabati H., **Proc. 1st. Int. Conf. on Condensed Matter Physics and Applications "ICCPA"**, Bahrain University, 13-16 April, 1992, Bahrain, p.163-170.
23. "Aging effects of polypropylene used in heating systems", [Arafah D.-E.](#), Al-Ramadin Y., Hammad M. and Zihlif A., **Radiat. Phys. and Chem.** **41(3)** (1993) 553.
24. "Radiation enhanced diffusion in ion implanted glass", [Arafah D.-E.](#) and Al-Ramadin Y., **Appl. Phys. A** **56** (1993) 555.
25. "Nuclear reaction studies of pure, Eu-doped and ⁴⁰Ar⁺ ion irradiated CaF₂", Gaith B., [Arafah D.-E.](#) and Sharabati H., 3rd. **European Conf. on Accelerators in Applied research and Technology, "ECART 93"**, 31 August - 4 September 1993, France.
26. "Materials analysis using nuclear techniques: Rutherford backscattering (RBS)" [Arafah D.-E.](#), **Proceedings of the Atomic Arab Energy Agency**, 1994, 1-21.
27. "Parallel plate avalanche detector: construction and testing", Khayyat Kh.S., [Arafah D.-E.](#) and Sharabati H., **Proceedings of the Atomic Arab Energy Agency**, 1994, 22-35.
28. "أساسيات الكهرباء والمغناطيسية"، معروف عبد الله، [ضياء الدين عرفة](#) وجميل خليفة، 1995، دار الفكر، عمان، الأردن.
29. "Characterization of TL-glow curves resulting from sensitized TLD-100", Mahmoud A. G., [Arafah D.-E.](#) and Sharabati H., **J. Phys. D: Applied Physics** **31** (1998) 224-230.
30. "Processing effects on the structure of CdTe, CdS and SnO₂ thin films", Ahmad-Bitar R. and [Arafah D.-E.](#), **Solar Energy Materials and Solar Cells** **51** (1998), 83-93.
31. "Influence of substrate temperature on the preparation of CdTe and CdS thin films", [Arafah D.-E.](#) and Ahmad-Bitar R., **Semiconductor Science and Technology**, **13** (1998) 322-328.
32. "Equilibrium charge state fractions of ⁴He ions backscattered from Au-films", [Arafah D.-E.](#), **ILL Nuovo Cimento D**, **20** (3) (1998) 261-271.

33. "Working life effects on the properties of plastic thermopipes", Hammad M., [Arafah D.-E.](#), Al-Ramadin Y. and Zihlif A., *J. Mater. Science*, **33** (1998), 4167-4171.
34. "Thermoluminescence in LiF TLD-100 after β -irradiation", AL_Turany M.H., [Arafah D.-E.](#) and Sharabati H., *Dirasat*, **26**(2) (1999) 151-165.
35. "Ion beam mixing of Ag/Si bilayer", Masoud N. and [Arafah, D.-E.](#), *Phys. Stat. Solidi (a)* **172** (1999) . 155.
36. "Induced defects and structural changes resulting from the processing of CdTe and CdS thin films", [Arafah D.-E.](#) and Ahmad-Bitar R., *Solar Energy Mater. and Solar Cells* **64** (2000) 45-54.
37. "Characterization of Defects Induced by $^{40}\text{Ar}^+$ Beam irradiation in Thin Films used for Solar Cell Devices", [Arafah D.-E.](#), Masoud N. and A. Mahmoud, *Proceeding of the International Symposium on Utilization of Accelerators*, Sao Paulo, Brazil 26-30 November, 2001. International Atomic Energy Agency (IAEA) Publications, 2002.
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42. "Ion Beam Mixing for Processing of Nanostructure Materials", Abedrabbo S., [D.E. Arafah](#), O. Gokce, L. Wielunski, O. Celik, and N.M. Ravindra, *Journal of Electronic Materials*, **35** (5) 2006 834-839.
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51. "Characterization of thin Films of ZnS and CdS subjected to Chemical and Heat Treatments, N. Dahbi and [D.-E. Arafah](#), Proceeding of the *World Academy of Science, Engineering and Technology*, **5** (2011) 481-483.
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56. Evaluation and mapping of $\text{PM}_{2.5}$ atmospheric aerosols in Arasia region using PIXE and gravimetric measurements, M. Roumie, M. Chiari, A. Srour, H. Sa'adeh, A. Reslan, M. Sultan, M. Ahmad, G. Calzolari, S. Nava, Th. Zubaidi, M.S. Rihawy, T. Hussein, [D.-E. Arafah](#), A.G. Karydas, A. Simon and B. Nsouli, *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, Available online 24 December 2015, doi:10.1016/j.nimb.2015.12.034
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61. "Modernity of learning: a professional faculty member and his competitiveness with a vision of the future", [Dia-Eddin Arafah](#), Jordanian Association for Educational Sciences, the axis of the faculty member (reality and hope), 66-94. "The Future of Modernity: A Professional Faculty Member and his Competitiveness with a Future Vision", Al-Bayt University, Jordan Educational Society Conference: Dead Sea, 31 March-1 April 2017, Jordan.
62. "Improved Thermoluminescence Properties of Natural NaCl Salt Extracted From Mediterranean Sea Water Relevant to Radiation Dosimetry", F. Khamis and [D. -E. Arafah](#), *European Journal of Applied Physics*, DOI: <http://dx.doi.org/10.24018/ejphysics.2020.2.3.8> Vol 2 | Issue 3 | May 2020
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