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Academic Qualifications

1996 – 2001

Ph.D.

Department of Physics

Baghdad University, College of Science

Doctoral Thesis: "Peel Strength and Topography of Polymers – Metal Adherents Systems "

1988 – 1990

Master of Science

Department of applied science

Technology University

Master's Thesis: "Calculation and measurement of nuclear fission products and their distributions in natural ceramic nuclear fuels"

1983 - 1987

Bachelor science

Majors: Physics Science

College of Education

Bachelors project : " The influence lasers on the smolder environment" Mosul University.

Scholarships and Awards

10/2019 Certificate of appreciation in the Science and Technology held by Baghdad College of University Science, **Egypt**

2/2019 College of Science shield Award, **Kut University College**

2/2014 Research awarding to develop staff to the University of Dundee ,**United Kingdom**

College of Science shield Award, **Wasit University**

4/2013 Certificate of appreciation in Recent Trend in physics, **AL- Qadisiya University**

3/2012 Certificate of appreciation in the Science and Technology held by

5/2010 PHYWE Systems, **Sulaimani University**

Positions

1992 – 1996 Determinant of the production metals department

2001 – 2003 Computer Center Manager at the university

2003 – 2004 Dean of the College of science at the university of wasit

2005 – 2006 Manger of Cultural relations at the university of wasit

2008 – 2016 Head of the physics department at the College of science.

Academic Employment

12/1991 – 01/2001 Employed an **assistant lecture** in the Metals Department / Technical Institute in Kut / Ministry of Higher Education and Scientific Research.

3/2001 – 3/2002 Worked an **lecture** in Physics Department /College of science/Wasit University.

4/2005 Promoted to the **assistant professor** in Physics Department /College of science/Wasit University.

9/2014 Promoted to the **professor** in Physics Department /College of science/Wasit University.

Teaching

I – Postgraduate:

- Master of general physics: Solid state physics and Quantum mechanics
- Ph.D. of general physics : Solid state physics and Materials physics
- Supervisor for Master and Ph.D. students

II – Undergraduate:

- Materials properties / 1st stage / Metals Dep.
- Metals / 2nd stage / Metals Dep.
- Mechanics / 1st stage / Physics Dep.
- Electricity and Magnetism / 1st stage / Physics Dep.
- Materials Physics / 2nd stage / Physics Dep.
- Quantum Mechanics / 3rd stage / Physics Dep.
- Thin Films / 3rd stage / Physics Dep.
- Solid state physics / 4th stage / Physics Dep.
- Supervisor of researcher for 4th stage physics student.
- Basic Language (computer) / 1st stage for different department.
- Radiation Therapy Physics / 4th stage / Physics Dep.

Publications

1- Hind Mohammed Khudair, Abbas Fadhel Essa "Structural Properties of prepared Polyaniline/ Silver Nanocomposite", *AIP Conf. Proc.* 2922, 210005 (2024) .

2- Ibrahim A. Abdul-Hassan , Abbas F. Essa and Nahida J. Hameed" Study of the Effect of Multi-Walled Carbon Nanotubes on the Mechanical Properties of Poly(Vinyl Alcohol)/Polyaniline Blend Film", *International Journal of Nanoscience* (2023) 2350082.

3- Abbas Fadhel Essa , Noor Sabeeh Jouda"Preparation and Study of the Physical and Mechanical Properties for Hydroxyapatite-Titanium and Zirconia Nanoparticle", *AIP Conference Proceedings* 2394, 090025 (2022)

4- Moayad Abdullah Mohammed , Mohammed Ali Jaber , Abbas Fadel Essa AlMaamouri" Study and Evaluation of Rock Wool Board by using PVA/PU as a Polymer Blend Binder", *Iraqi Journal of Science*, 2022, Vol. 63, No. 10, pp: 4282-4291 DOI: 10.24996/ijss.2022.63.10.15 .

5- Hind Mohammed Khudair, Abbas Fadhel Essa"Preparation of Polyaniline / Silver Nanocomposit and study of Optical and Structural properties", *NEUROQUANTOLOGY* | AUGUST 2022 | VOLUME 20 | ISSUE 10 | PAGE 6175-6185| DOI: 10.14704/NQ.2022.20.10.NQ55614.

6- Abbas Fadhel Essa , Noor Sabeeh Jouda "Preparation and Study of the Structural Properties of the Hydroxyapatite – Titania and Zirconia Nanostructures System", *AIP Conference Proceedings* 2450, 020004 (2022).

7- Abbas Fadhel Essa , Noor Sabeeh Jouda" Preparation and study of the structural, physical and mechanical properties of hydroxyapatite nanocomposite", *Materials Today : Proceedings*,2021.

8- Moayad Abdullah Mohammed,Mohammed Ali Jaber,Abass Fadal AL mahammory"Study and Evaluation of Fiber Cement Board Using Waste Basalt Fibers in with Polyvinyl Acetate and Poly Urethane", *International Journal of Mechanical Engineering*, Vol. 7 No. 1 January, 2022.

9- Reem Hussein Abdullah , Abbas Fadhel Essa"Measuring the peeling strength between polymers (low density polyethylene, ethylene propylene diene monomer (EPDM) rubber) and brass and evaluating the effect of thermal and chemical oxidation on the Metal", *Materials Today : Proceedings*,2021.

10- Najlaa Jerjack Abdullah1, , Salma Mhammed Hasan , Abbas Fadhel Essa" D.C. Electrical Conductivity of Polyaniline/ Graphene Nanocomposites Produced by In Situ Polymerization", *AIP Conference Proceedings* 2372, 130016 (2021).

11- Abbas F. Essa , Saja A. Said,Ghazi K. Saeed " A Study of Preparing Samples of Hydroxyapatite with Different Densities Using Charcoal Powder" , *Journal of Physics: Conference Series*.2021.

12- Ali S. Shawai , Abbas F. Essa " Preparation and study of the structural and optical properties for polyaniline/ Cu Nano composite" *Materials Today : Proceedings*,2021.

13- Saddam A. Resan a, Abbas F. Essa " Preparation and study of the optical properties for polyaniline-Al₂O₃ Nano composite" *Materials Today : Proceedings*,2021.

14- Najlaa J.Abdullah, Abbas F. Essa, Salma M. Hasan " Optical and Structural Properties of Prepared Polyaniline – Graphene (PANI/GN) Nano composite" *Iraqi Journal of Science* 62 (1),2021.

15- Asad H.Humaich, Abbas F.Essa, Abbas S. Edan" Fire Resistance of Selected Construction Materials" *AIP Conference Proceedings* 2213, 020008,2020.

16- Abbas S. Edan, Abbas F.Essa, Asad H.Humaich" Fires Accidents and its Implication on Mechanical and Structural Properties of Different Construction Materials" *Conference on science and Technology (STEPS 2020)*,UK.

17- Abbas F. Essa , Saja A. Said,Ghazi K. Saeed" Preparation and characterization of hydroxyapatite powder and study of hydroxyapatite alumina composite" *Journal of Physics*,IOP,2020.

18- Abbas F. Essa, Najlaa J. Abdullah , Salma M. Hasan "**D.C Electrical Conductivity of Polyaniline /Graphene Nano composite produced by in situ Polymerization**" Physical Science and Advanced Materials" PAM2020.

19- Mohammed F. Majed, Abbas F. Essa, Shatha S.Baters "**STRUCTURAL PROPERTIES OF HA:Al₂O₃:SiO₂ GLASS CERAMICS SYSTEMS FOR BIO APPLICATIONS**" International Journal of Civil Engineering and Technology (IJCET)Volume 10, Issue 05, May 2019.

20- Mohammed F. Majed, Abbas F. Essa, Shatha S.Baters "**EFFECT OF COMPOSITION RATIO AND SINTERING PROCESS ON MECHANICAL PROPERTIES AND STRESSES IN HA:Al₂O₃:SiO₂ CERAMIC SYSTEMS**" JP Journal of Heat and Mass Transfer, 2019.

21- Ali A. Fayyadh1, Abbas F. Essa, S. Batros and Zinah S. Shallal "**Studying the Crystal Structure, Topography, and Anti-bacterial of a Novel Titania (TiO₂ NPs) Prepared by a Sol-gel Manner**" Baghdad Science Journal, Vol.16(4) 2019.

22- Abbas F. Essa, Hawraa A. Alradha, Mohammed A. Jabir "**Study and evaluation mechanical properties of IPN's TDI and polyols with unsaturated polyester resins**" Iraqi Journal of Polymers 23 (1), 2019.

23- Abbas F. Essa, Zahraa R. "**Preparation and study the physical properties of PbI₂ by using thermal evaporation to use in nuclear detector**" Indian Journal of Natural Science, 2018.

24- Ali A. Fayyadh1, Abbas F. Essa, S. Batros and Zinah S. Shallal "**Study the Crystal Structure, Surface Morphology and Antimicrobial Activity of Titanium Dioxide Nano powders prepared via a Sol- gel Method**" Indian Journal of Natural Science, 8 (49) 2018.

25- Muntadher N. Zweid, Abbas F. Essa, Harith I. Jaafar "**The Investigation of Thermal Conductivity for Graphene Nanocomposite**" International Journal of Recent Research and Applied Studies, 5(12), 2017.

26- Abbas F. Essa , Afrah A. Ghazi K. Saeed "**Preparation light samples of bauxite zirconia composite using rice husk and enhancement the properties by Cu₂O addition**" Journal of applied sciences research, 12(6), 2016.

27- Hussein.M. Ali ,Abbas F. Essa ,Satha.S. Batros , "**Gas sensitivity characterization of Cadmium oxide (CdO) Thin film deposited by spray pyrolysis technique for NO₂ sensor**" ATTI DELLA " FONDAZIONE GIORGIO RONCIH, 2016.

28- Esam A. Khudhair ,Abbas F. Essa, Shatha S. Batros "**Characterization Structural and morphological properties of ZnO:In thin films prepared by ultrasonic**" ATTI DELLA, 54(5), 2015.

29- Adnan M.Mahdi Bushra R.Mhdi,Abbas F. Essa "**Synthesis of Nano TiO₂ Thin films by Sol-gel Dip-Coating Method**" The 5th International Conference for Nanotechnology and Advanced materials and their applications , university of Technology , Baghdad , Iraq, 2015.

30- Abbas F. Essa, Mouad A., Mohammed A. "**Physical and mechanical properties of polymer blends (Asphalt - Epoxy – Polystyrene)**" Wasit Journal for Science and Medicine, 8(2), 2015.

31- Najlaa J., Abbas F. Essa , Ahmed J. "**Preparation and study Impact and Hardness Strength for Gravel Nano Particles**" J.THi-Qar Science, 4(4), 2014.

32- Sattar A. Abass, Abass F. Essa ,Amel D. Hussain "**Effect of decomposition temperature on crystallite size and strain of CaO**" Physical Sciences Research International, 2(4), 2014.

33- Abbas F. Essa "**Tensile characterization of polymer composite reinforced with gravel particles (GP)**" Wasit Journal for Science & Medicine, 7(1), 2014.

34- Abbas F. Essa, Ahmed J., Najlaa J. "**Effect of Water on Some Mechanical Properties for Gravel Particles/Polyester Composites**" Al-Nahrain Journal of Science, 17(4), 2014.

35- A.F.Essa, " **Mechanical and physical properties of natural fiber cement board for building partitions** "Physical Science Research International, Vol.2(3), pp.49-53,2013.

36- N.J.Jubier, S. G. Khalil and A. F.Essa," **Measurement Changes in Activation Energy, Hall Effect and Seebeck Effect of Lead Telluride Thin Films Prepared by Thermal Evaporation Technique with Different Annealing Temperatures**", Journal of Materials Science and Engineering B 1, No (6), (2011) .

37- N.N. Rammo ,Abbas F. Essa , M.N. Al-delami" **The Adhesion of HDPE and LDPE to copper and the use peel test to study the strength of adhesion bonding**" Al-Qadisiya Journal for science,15(2),2010.

38- A.F.Essa," **The calculation of burn up for Cs – 137 to study fuel UO₂ by universal code ORIGEN**" Jour. Of wasit , Vol(2), Issue (1),2009.

39- Muneer H.J.,A.F.Essa, " **Study of electrical conductivity characteristic of tin dioxide films doped with Indium used as gas sensing element**", Jour. Of wasit , Vol(2), Issue (2),2009.

40- H.D.Al-Atabi, A.F.Essa, H.A.Yusr Al-Ammar," **Study of Ratio Fission Width toTotal Width for Fission Materials by Monoenergetic Neutrons (2-4 MeV)**" Jour. of Um-Salma, Bagh. Univ.,Vol.(5).2008.

41- A.F.Essa, H.A.Yusr Al-Ammar,H.D.Al-Atabi," **Effect of Completion Stage on Physical and Mechanical Properties for Cotton Cloth**"Iraq. Jou of Sci.Bagh. Univ.,Vol.(48),Issue No.(1), 2007.

42- H.A.Yusr Al-Ammar, A.F.Essa, H.D.Al-Atabi," **A Study of absorption of Cobalt Ferrite for Radar Waves**", Jour. of Babylon Univ.,Vol(14), Issue(4). Dec. 2007.

43- A.F.Essa, " **The influence of humidity on the peel strength of PE and PP to both copper and aluminum adhesion**" AL – Taqani Journal,Vol(17),No. 3,2004.

44- A.F.Essa, " **Effect of the topography of copper and aluminum on the peel force of polymer**"AL – Taqani Journal,Vol(17),No. 3,2004.

Committees

- 1 – Member of the ministerial committee of experts in the physics departments in Iraq universities.
- 2 – Member of a ministerial committee to open graduate studies in the universities of Iraq.
- 3 – Chairman of the Promotion subcommittee at the College of Science.
- 4 – Chairman of the Central promotion committee at the University of wasit.
- 5 – Chairman of scientific committee of physics department.
- 6 – Member of committee for final examinations for several years in College of science.
- 7 – Member of the Graduate studies committee in the physics department.

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