

CURRICULUM VITAE

PERSONAL

Name : **Kadhim Ahmed Mohammed Khalaf Al-Leheabi.**
Place of Birth : Mosul – Iraq
Nationality : Iraqi
Religion : Muslim
Address : Dept. of Maths. & Phys. Sciences, College of Arts & Sciences,
University of Nizwa, Nizwa 616, P.O.Box (33), OMAN.
E-Mail : drkadem53@yahoo.com / kadhimm@unizwa.edu.om
GSM : (00968) 9272 4879



ACADEMIC QUALIFICATIONS

- B. Sc. (Physics) - University of Mosul (IRAQ) – 1975
- M. Sc. (Low Temperature Technology) – Sussex University (U.K.) – 1981
- Ph. D. (Material Science - Magnetism) – Southampton University (U.K.) – 1985.
- B. Sc. (Computer & Statistical Science) - University of Mosul (IRAQ) – 2004

MAIN FIELDS OF INTEREST

I am interested and have experience in teaching and do research in the material science fields such as;

- 1- Experimental Condensed Matter Physics (material Science). (XRD, IR, DTA, TG, TEM, SEM).
- 2- Thermoelectric, thermal, Electrical and Magnetic Properties in Semiconductor Magnetic Materials.
(Heat Capacity, Electrical & Thermal Conductivities, Hall Effect, thermoelectric effects, Susceptibility, Magnetization)
- 3- Computational Condensed Matter Physics.

EMPLOYMENT HISTORY

1- UNIVERSITY OF MOSUL- COLLEGE OF EDUCATION (IRAQ).

- Research Assistant University of Mosul 1977 – 1979.
- Scholarship Student to U.K. 1979 – 1985
- Lecturer University of Mosul 1986 – 1989
- Assistant professor University of Mosul 1989 – 2000
- Head of Computer Science Department 1988 – 1990
- Head of Physics Department 1994 - 1998
- Professor University of Mosul 2000 – 2004

2- SULTAN QABOOS UNIVERSITY - COLLEGE OF SCIENCE (OMAN).

- Visiting Consultant (Five Semesters) through 2004, 2005.
- Taught General Physics I & II (+Labs.).
- Did some research using the XRD, IR and DTA Techniques.

3- UNIVERSITY OF NIZWA - COLLEGE OF ARTS AND SCIENCES (OMAN).

- Faculty Member since 2nd Sep. 2006

As new University in addition to teach Physics courses at the undergraduate level, I participated in preparing the course plan, syllabus, establishing the new physics laboratories. Now we are in the processes of establishing a new research laboratory in the physics department. I taught the following courses;

- General Physics I (+Lab), (PHYS 101/L).
- General Physics II (+Lab.) (PHYS150/L).
- Quantum Mechanics I, (PHYS301).
- Introduction to Laser Sciences, (PHYS220).
- Medical Laser Physics (PHYS379).
- Industrial Laser Applications (PHYS245).
- Thermodynamics (PHYS207).
- Thermal and Statistical Physics, (PHYS365).
- Final Year Project, (PHYS490).
- Radiation Health Physics (PHYS315).
- Electromagnetism and Applications I, (PHYS356).
- Electromagnetism I, (ELEC401) - College of Engineering.
- Introduction to Theoretical Physics I, (PHYS 133).
- Radiology and X-ray Dosimetry, (PHYS470).
- Physics for Teachers, (PHYS225).
- Basic Astronomy, (PHYS103).
- Engineering Materials, (MECH 245)- College of Engineering.
- Physics of Metals and Goldsmith (FARO202)- Department of Education-Fine Arts.
- Solid State Physics (PHYS404).
- Pre-Calculus (MATH 116)- Foundation year.
- Computer Skills (COMP101).
- Introduction to Computer, (COMP 580/L).
- Introduction to Statistics (STAT101).
- Computer for Special Needs, (EDSP300).
- Computational Techniques in Statistics (STAT266).

BOOKS AUTHORED

- Heat and Matter properties (1999).
- Introduction to Electricity and Magnetism (1990).

SUBJECTS TAUGHT AT THE POSTGRADUAUTE LEVEL AT UNIVERSITY OF MOSUL

- 1- Electromagnetic Theory.
- 2- Advanced Condensed Matter Physics.
- 3- Thermal Properties of Solids.
- 4- Electrical Properties of Solids.
- 5- Magnetic Properties of Solids.
- 6- Mechanical Properties of Solids.
- 7- Experimental Techniques in Solid State Physics.
- 8- Material Sciences & Phase Diagrams.
- 9- Programming and Numerical Analysis.

SUPERVISION OF FINAL YEAR PROJECTS IN THE FOLLOWING FIELDS:

- The thermal Conductivity of Traditional raw Building Materials.
- The Thermoelectric Effects and their Applications.
- Ferrites and Nanoparticle materials.
- Production of Low temperature.
- The Specific Heat of Materials.
- Application of Magnetic Materials.
- Hall Effect.
- Computational Physics.
- The High Temperature Superconductivity.

CONFERENCES AND SEMINARS

- Attended more than 25 local and Regional Scientific Conference in the Field of Applied Physics and Computer Sciences.
- Organizing annual UoN Nano Workshop.
- Organizing annual Workshop for Physics Teachers in Al-Dakleah Schools.
- Organizing the 1st and 2nd Nano UoN workshops 2017 and 2018

COMMITTEES

- College of Arts and Science - Promotion Committee - Member.
- College of Arts and Science - Graduate Studies Committee – Member.
- Mathematical and Physical Department - Graduate Studies and Research Committee (Chair)
- Mathematical and Physical Department - Seminars and Workshop Committee (Member)
- Mathematical and Physical Department - Curriculum Review Committee- Member.
- Mathematical and Physical Department – Recruitment Curriculum Review Committee- Member

COOPERATION WITH THE SCIENTIFIC AND INDUSTRIAL SECTORS:

- 1- At the moment I am working with faculty members of Sultan Qaboos University in a joint project to investigate the ferrite nanoparticles properties.
- 2- Investigating the thermoelectric properties of semiconductor materials. Construction of Melt-Spinning Apparatus for Production of Amorphous Alloys, Construction and Properties of Magnetic Induction Coils, Applications and Technical use of the Soft Magnetic Materials and Effect of Magnetic Field on the Mechanical Properties of some Iron Alloys.
- 3- Improving the Thermal Insulation of the local Raw Building Materials, Heat Treatment Techniques of Aluminum Alloys, and The Plasters: Preparation Methods, Properties and Testing Techniques and The effects of Rubbers on the Thermal Conductivity of Portland cement.

PUBLISHED WORK

- 0- Kadhim A. M. Khalaf, Ahmed Al-Rawas, Abbasher Gismelseed, Majid Al-Ruqeishi, Salwan Al-Ani, Ahmad Al-Jubouri, Khamis Al-Ryami and Bushra Al-Jaddedi, "Effects of Zn substitution on Structure Factors, Debye-Waller factors and related Structural properties of the $Mg_{1-x}Zn_xFeNiO_4$ spinels". Accepted for publication in the *Advances in Materials Journal* 2019.
- 1- Kadhim A.M. Khalaf "The low temperature specific heat of single crystal $ErAl_2$ compound" *J. Magn. Magn. Mater. Vol.* (2019) 178–182. <https://doi.org/10.1016/j.jmmm.2018.08.047>
- 2- M. Al-Maashani, A. M. Gismelseed, **K. A. M. Khalaf**, Ali A. Yousif, A. D. Al-Rawas, H. M. Wadatallah, M. E. Elzain "Structural and Mossbauer study of nanoparticles $CoFe_2O_4$ prepared by sol-gel auto-combustion and subsequent sintering" *Hyperfine Interact Vol. 239* (2018) 1-15 : <https://doi.org/10.1007/s10751-018-1491-5>
- 3- A. M. Gismelseed, **K. A. Mohammed**, F. N. Al-Mabsali, M. S. Al-Maashani, A. D. Al-Rawas, A. A. Yousif, H. M. Wadatallah and M. E. Elzain "The effect of Zn substitution on the structure and magnetic properties of magnesium nickel ferrite" *Hyperfine Interact Vol. 239* (2018) 1-16: <https://doi.org/10.1007/s10751-018-1492-4>
- 4- **Kadhim A.M. Khalaf**, A.D. Al Rawas, A.M. Gismelssed, Ahmed Al Jamel, Salwan K.J. Al Ani, M.S. Shongwe, K.O. Al Riyami, R. Al Alawi "Influence of Cr substitution on Debye-Waller factor and related Structural parameters of $ZnFe_{2-x}Cr_xO_4$ spinels" *J. Alloys & Comp. Vol. 701* (2017) 474-486. Impact Factor =3.133
- 5- **Kadhim. A. M. Khalaf**, A. D. Al-Rawas, H. M. Wadatallah, A. Sellai, A. M. Gismelseed, K. S. Al-Rashdi, Mohd. Hashim, S. K. Jameel, M. S. Al-Ruqeishi, K. O. Al-Riyami, M. Shongwe and A. H. Al-Rajhi . "Influence of Zn^{2+} ions on the structural and electrical properties of $Mg_{1-x}Zn_xFeCrO_4$ spinels" *J. Alloys & Comp. Vol. 657* (2016) 733-747. Impact Factor =3.133
- 6- Mohd. Hashim , Sagar E. Shirsath, S.S. Meena, M.L. Mane, Shalendra Kumar, Pramod Bhatt, Ravi Kumar, N.K. Prasad, S.K. Alla, Jyoti Shah, R.K. Kotnala, **K.A. Mohammed**, Erdog'an S. enturk , Alimuddin "Manganese ferrite prepared using reverse micelle process: Structural and magnetic properties characterization" *J. Alloys & Comp. Vol. 642*, (2015) 70-77.
- 7- A.M Gismelseed, **K A Mohammed**, A D Al-Rawas, A A Yousif, H M Wadatallah, and M E Elzain "Structural and Magnetic Studies of the Zn-substituted Magnesium Ferrite Chromate". *Hyperfine interaction Vol. 226* (1-3) (2014) 57-63
- 8- **K. A. Mohammed**, A. D. Al-Rawas, A. M. Gismelseed, A. Sellai, H. Wadatallah, A. Yousif, M. Al- Zeen and M. Shongwe."INFRARED and STRUCTURAL STUDIES of $Mg_{1-x}Zn_xFe_2O_4$ FERRITES". *Physica B, Vol.407* (2012) 795-804. <https://doi.org/10.1016/j.physb.2011.12.097>
- 9- A. M. Gismelseed , **K. A. Mohammed**, M. Al- Zeen, H. Wadatallah, A. D. Al-Rawas and A. A. Yousif "THE STRUCTURAL AND MAGNETIC BEHAVIOUR OF THE $MgFe_{2-x}Cr_xO_4$ SPINEL FERRITES". *Hyperfine Interactions Online DOI: 10.1007/s10751-011-0529-8 Jan. 2012*
- 10- A. M. Gismelseed , **K.A. Mohammed**, A. D. Al-Rawas, , A. Sellai, H. Waddaatallah, A. Yousif and M. Al- Zeen. "Structure and magnetic properties of the $Zn_xMg_{1-x}Fe_2O_4$ ferrites". *J. Phys. Conf. Series. 217* (2010) 012 138
- 11- **K. A. Mohammed** and H.A. Mohammed "Electrical Conductivity & Thermoelectric Power of Iron-magnesium $(MgO)_x(Fe_2O_3)_{1-x}$. Compounds. Abhath Al-Yarmouk "Pure Sciences & Engineering" Vol.19, 1-14 (2010).

- 12- K. A. Mohammed
 "The Low Temperature Specific Heat of THE Amorphous $\text{Er}_{0.40}\text{Cu}_{0.37}\text{Y}_{0.23}$ Alloys". Int. J. Sci. Res., Vol.17, 139-145 (2008).
- 13- K. A. Mohammed
 "The Low Temperature Specific Heat of $\text{Ho}_{0.40}\text{Cu}_{0.37}\text{Y}_{0.23}$ Amorphous Alloys". The Arabian Journal For Science and Engineering, Vol.32, No.(1A), 37-42 (2007).
- 14- K. A. Mohammed
 "THE Specific heat of Dy-Cu-Y amorphous alloy at low temperatures". SQU Journal for Science, Vol.11, 95-101 (2006).(OMAN).
- 15- K. A. Mohammed
 "THE ELECTRICAL CONDUCTIVITY OF $\text{Cu}_{1-x}\text{TM}_x\text{-O}$ COMPOUNDS".
 Abhath Al-Yarmouk "Pure Sciences & Engineering" (Jordan) (2006).
- 16- K. A. Mohammed and M. S. Abdel-Rab.
 "THERMOELECTRIC POWER OF THE COPPER-NICKEL CHROMITE $\text{Cu}_{1-x}\text{Ni}_x\text{Cr}_2\text{O}_4$ ". Pure Sciences, Dirasat Journal (Jordan) Vol. 32, No.1, pp. 115 – 126 (2005).
- 17- R. A. Rassoul, K. A. Mohammed and Z. S. Ahmed.
 "EFFECTS OF Mn^{+3} IONS SUBSTITUTION ON THE ELECTRICAL, THERMAL AND MAGNETIC PROPERTIES OF Ni-Zn FERRITES". J. Education and Science (Pure Sciences) Vol.16, No.1, pp.101-112 (2004).
- 18- K. A. Mohammed and M. S. Abdel-Rab.
 "ELECTRICAL CONDUCTIVITY AND THERMOELECTRIC POWER OF NiCr_2O_4 COMPOUND. J. Sciences and Technology Vol. 21 pp. 5-10 (2004).

+ more than 50 papers for the period 1985 - 2004

THESIS SUPERVISION

- 0- "Structural and Mössbauer study of nanoparticles CoFe_2O_4 prepared by sol-gel auto-combustion and subsequent sintering" (Ph.D.) Mohammed. Al-Maashani (2019). With others in Department of Physics, College of Science, Sultan Qaboos University, P.O. Box 36, Code 123, Muscat, Oman
- 1- "THE MAGNETIC, STRUCTURAL AND ELECTRICAL PROPERTIES OF FERRITES COMPOUNDS" (Ph.D.) Raad Ahmed Rasoul ., (2004).
- 2- "THE ELECTRICAL PROPERTIES OF THE COPPER-NICKEL CHROMITES $\text{Cu}_{1-x}\text{Ni}_x\text{Cr}_2\text{O}_4$ "
 Mohammed Sultan Abdel-Raab....(2002).
- 3- "THE ELECTRICAL CONDUCTIVITY AND THERMOELECTRIC POWER OF THE COPPER NICKEL $\text{Cu}_{1-x}\text{Ni}_x\text{Fe}_2\text{O}_4$ FERRITES" Ghazwan Ghazi Ali(2002).
- 4- "THE THERMOELECTRIC POWER OF THE POLYCRYSTALLINE MAGNETIC CRYSTALLINE Fe-TM-AI (TM=Mn, Co, Cr) COMPOUNDS". A. Mahmood Ali. (2000).
- 5- "THE ELECTRICAL CONDUCTIVITY OF THE MAGNETIC CRYSTALLINE Fe-TM-AI (TM=Mn, Co, Cr) COMPOUNDS". Roza Abdull Rahman (2000).
- 6- "STUDY OF THE ELECTRICAL PROPERTIES OF THE TRANSITION METAL MONOXIDES Ni-Cu-O, Cu-Co-O AND Ni-Co-O ALLOYS"..... A. N. Dawood...(1999).
- 7- "EFFECT OF MNO CONCENTRATION ON THE ELECTRICAL CONDUCTIVITY AND SEEBECK COEFFICIENT OF TRANSITION METAL MONOXIDES CuO, CoO AND NiO"...J. M. S.Mohammed (1999).
- 8- "EFFECT OF CdO CONCENTRATION ON THE ELECTRICAL AND MAGNETIC PROPERTIES OF TRANSITION METAL MONOXIDES MnO, CoO, NiO AND CuO".. Suhad Ghazy Aziz(1999).
- 9- "EFFECT OF ISOVALENT SUBSTITUTION OF Eu, Sr AND Zn ON THE PROPERTIES OF $\text{SmBa}_2\text{Cu}_3\text{O}_{7-o}$ HIGH TEMPERATURE SUPERCONDUCTORS". Abdul Kareem Dahash Ali....(1998).
- 10- "EFFECT OF CdO ON THE THERMOELECTRIC PROPERTIES OF THE TRANSITION METAL MONOXIDES TMO (TM= Mn, Co, Ni, Cu) ". Ayad Chead Jarjees.....(1998).
- 11- "EFFECT OF CELLULOLOSIC MATERIALS ON THE THERMAL AND MECHANICAL PROPERTIES OF PORTLAND CEMENT".. Nawaf Ballo Malla Hassan..... (1997).
- 12- "THE THERMAL AND MAGNETIC PROPERTIES OF SOME BUILDING RAW SOLID MATERIALS AT ROOM TEMPERATURE". Marwan Zuhair Illias...(1996).
- 13- "THE HIGH TEMPERATURE $\text{La}_{1-x}\text{Ho}_x\text{Ba}_2\text{Cu}_3\text{O}_{7-o}$ SUPERCONDUCTORS".

- Saleh Essa Jasim..... (1994).
- 14- **"THE ELECTRICAL PROPERTIES OF AMORPHOUS MAGNETIC Gd-Cu-Y ALLOYS"**.
Mahmood Ahmad Hamood.... (1992).
- 15- **"CRYSTALLIZATION OF THE AMORPHOUS MAGNETIC Gd-Cu-Y ALLOYS"**.
Atyaf Subhi Mohammed..... (1992).
- 16- **"THE SPECIFIC HEAT OF THE CRYSTALLINE RARE EARTH METALS WITH SILVER AT LOW TEMPERATURE"**.
Khalid Hamdi Erzek..... (1989).

CO-SUPERVISOR IN EDUCATION

- 17- **THE USE OF THREE TEACHING STRATEGIES FOR CORRECTING OF THE WRONG PHYSICAL CONCEPTS FOR THE COLLEGE STUDENTS (PH.D.)** A. Y. Abdullah (1997).
- 18- **THE IMPACT OF USING LEARNING CYCLE MODEL ON THE ACQUISITION OF PHYSICAL CONCEPTS AND THE DEVELOPMENT OF SCIENTIFIC CURIOSITY FOR THE SECOND CLASS INTERMEDIATE STUDENTS** Aziz Mohammed Ali....(2002).
- 19- **THE APPLICATION OF SOME PRINCIPLES OF THE TOTAL QUALITY MANAGEMENT IN EDUCATION MANAGEMENT IN BASIC EDUCATION SCHOOLS.** Sif bin Hamed bin Abdullah A-Harrassi (2009).
- 20- **The role of the administrative supervisors in the activation of School development Performance system in the Sultanate of Oman.** Kathea Ali Suleman AL- Bemanay, (2011).
- 21- **PROBLEMS OF CLASSROOM MANAGEMENT FACING THE TEACHERS OF THE FIRST SEMINAR IN BASIC EDUCATION SCHOOLS IN THE GOVERNORATE OF THE INTERIOR IN THE SULTNATE OF OMAN,** Zayanah hameed Al Shekeleah (2018).

TRAINING AND CERTIFICATES IN COMPUTER SCIENCE

- 1- Certificate in Computer Skills
"ICDL - International Computer Driving License."
Issued by ICDL - Center in Sultan Qaboos University-(OMAN)-2009.
- 2- Certificate in Computer Literacy
"Internet and Core Computing Certifications - IC³"
Issued by the Global Digital Literacy Council - 2007.
- 3- Certificate of attending the course
"Teaching in the Online Classroom".
Issued by the Center for Educational Technology (CET) at SQU - 2005.
- 4- Certificate of attending the British Council course
"Information Technology in Education"
Issued by the British Council Center (London) -1989.
- 5- Certificate of attending the course
"Teaching Methods & Techniques"
Issued by the Teaching Methods Center in Mosul University (IRAQ) - 1989.