



## CURRICULUM VITAE

الأستاذ الدكتور خلف عبد العزيز الخليف المساعد

أردني

الاسم :

الجنسية:

1957/12/20

تاريخ الولادة:

قسم الأشعة- كلية العلوم الطبية التطبيقية - جامعة العلوم والتكنولوجيا الأردنية- إربد , الأردن.

عنوان العمل:

**Name :** KHALAF ABDEL - AZEZ AL - KHLAEIF (K .A. AZEZ)  
**PRESENT STATUS :** Professor of Radiation Physics Promotion date June 2006.  
**PLACE OF BIRTH :** 20/12/1957 Syria.  
**NATIONALITY :** Jordanian  
**MARITAL STATUS :** Married  
**Address in Jordan:** Department of Allied Medical Sciences, College of Applied Medical Sciences-  
Department of Physical Sciences -College of Sciences &Arts-  
Jordan Univ. of Science and Technology, Irbid, Jordan- P.O.Box 3030,  
Irbid 22110, Jordan.

**E-mail** khalaf@just.edu.jo ,,, OR,,, khalaf\_2000@yahoo.com  
**Mobile :** 00962-798322967  
**Home :** 00962-2-7103502

## DEGREES :

1. B. Sc. PHYSICS . 1982 AI- MUSTANSIRIYAH UNIVERSITY- BAGHDAD.
2. M. Sc. PHYSICS . 1987 UNIVERSITY OF RAJASTHAN - JAIPUR- INDIA .
3. Ph. D. PHYSICS . 1990 UNIVERSITY OF RAJASTHAN - JAIPUR - INDIA .
4. Visiting Prof. 1996 -1997 UNIVERSITY OF ARKANSAS - ARKANSAS, U.S.A.
5. Visiting Prof. 1997 -1998 PURDUE UNIVERSITY- West Lafayette-INDIANA- U.S.A.
6. Visiting Prof. 1993 Edinburgh University - Scotland - U. K.

## COMMITTEE'S:

1. Member of the Board of Trustees of Al Al-Bayt University) (AABU) جامعة آل البيت
2. SESAME Jordanian National committee of “ Synchrotron Light for Experimental Science and Application in Meddle East “ Under the auspices of UNESCO .
3. Consultant Radiologist, King Fahad Specialist Hospital Programme ( KFSH-D ) Ministry of Health , kingdom of Saudi Arabia Since 2007-2008-2014-2015.
4. MIT ( Massachusetts Institute of Technology –USA ) BLOSSOMS, Blended Learning Open Source Sciences or Math Studies.
5. Expertise Committee of Orientation, Supervision and Development of Schools Text Books in Physics , Jordanian Education Ministry, Jordan 2010-2014.
6. EDITORIAL BOARD of Jordan Journal of PHYSICS ( JJP ) An International Peer- Reviewed Research Journal – Higher Education Ministry and Scientific Research – Jordan. ( 2010 -2014).

7. **Council Membership Center for Theoretical and Applied Physical Sciences ( CTAPS ) ,  
Yarmouk University, Irbid – Jordan. 2009- 2013.**
8. **Higher Research Committee for Jordan University of Science and Technology, 2009-2013.**
9. **Consultant for Vice President of IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY  
Professor Fahd AbdulAziz Al- Mohanna Since 2015/2016 -2016/2017- 2017/2018-2018/2019.**
10. **Consultant for Vice President for Academic Affairs of IMAM ABDULRAHMAN BIN  
FAISAL UNIVERSITY Professor Gazi Al- Otabi Since 2015/2016 -2016/2017- 2017/2018-  
2018/2019.**
11. **Consultant for President of IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY  
Since 2015/2016 -2016/2017.**

#### **AWARDS :**

1. **BLOSSOMS = Blended Learning Open Source Science or Math Studies. Large Free  
repository of Video modules for high school Science and Maths classes CREATED BY  
GIFTED VOLUNTEER TEACHERS from around the world, Seeded initially by (   
Massachusetts Institute of Technology ( M.I.T.) , USA ) Faculty members and Partnering  
Educators in Jordan and Pakistan ( 2009).  
<http://blossoms.mit.edu/library.html>**
2. **King Fahad Fellowship as visiting Professor Arkansas University  
U. S. A. 1996- 1997.**
3. **King Fahad Fellowship as Visiting Professor at Arkansas University, U. S. A. 1998.**
4. **Scholarship from Jordan University of Science and Technology, Arkansas University,  
U. S. A, ( 1997-1998 ).**
5. **License from Jordan Nuclear Regulatory Commission ( JNRC ).**
6. **Muslim World League Makkah Al- Mukarramah, Scholarship For Ph.D  
( 1988- 1989-1990 ) .**
7. **Summer Visit to National Renewable Energy Laboratory Colorado, USA 1999.**
8. **Visiting Professor Purdue University Summer 2014 and 2015.**

#### **Working Experiences:**

1. **Vice- Dean of Research Jordan University of science and Technology 2013 - 2015.....**
2. **Vice- Dean of College of Applied Medical Sciences, from 2010-2012.**
3. **Head of Diagnostic Radiology , College of Applied Medical Sciences , University of Hail,  
kingdom of Saudi Arabia-2011-2012.**

4. Head of Physics Department 2008-2009. Jordan University of science and Technology, Irbid, Jordan.
5. Head of Physics Department 1998-1999. Jordan University of science and Technology, Irbid, Jordan.
6. Head of Physics Department , Medical college, king Faisal University, Kingdom of Saudi Arabia, 2000, 2001, 2002, 2003, 2004.
7. Consultant Radiologist, King Fahad Specialist Hospital Programme Radiation Therapy- Ministry of Health , kingdom of Saudi Arabia ( 2007 ).
8. Accreditation Council Committee , Ministry of higher Education and Scientific Research ( 2006-2010) Jordan.

### **TEACHING EXPERIENCE:**

1. I have taught ( MDRD 811 ) for Saudi Board for Radiology ( Part I ) Since 2000-2001-2002-2003-2004. Medical college, king Faisal University, Dammam , Kingdom of Saudi Arabia.
2. I have taught Post Graduate Resident in King Faisal University Fellow in Radiology ( 2000-2001-2002-2003-2004. Dammam, Kingdom of Saudi Arabia.
3. Radiation Physics RA210 - RA211
4. Radiographic Equipment RA 344
5. Magnetic Resonance Imaging ( MRI) RA 480
6. Ultra Sound RA 380 (Radiological Sciences)
7. Biomedical Application for Physio-Therapy
8. Nuclear Physics
9. Vibration and Waves
10. Modern Physics
11. Advanced Lab. Of Modern Physics
12. Optics & Optics Lab.
13. Mathematical Physics
14. Materials Properties & Heat
15. Solid State Physics
16. Electromagnetism

### **Academic Duties**

A) Teaching and conducting examinations. B) Carrying out innovative research and studies. C) Supervising graduate theses and scientific or social research, guiding students academically and ethically, and monitoring their activities and reports. D) Providing academic advising. E) Participating in university councils and committees, as well as in those in which the university is represented. F) Undertaking any activity that promotes the university and contributes to its advancement. G) Dedicating oneself to academic responsibilities within the university, striving to enhance its scientific mission, and maintaining the level befitting its status in research, teaching, guidance, and administration. H) Serving the community and contributing to its development.

### **MEMBERSHIPS :**

1. Higher Research Committee for Jordan University of Science and Technology, 2009 - 2011.
2. SESAME Jordanian National committee of “ Synchrotron Light for Experimental Science and Application in Middle East “ Under the auspices of UNESCO. 2009-2010.

3. **EDITORIAL BOARD of Jordan Journal of PHYSICS ( JJP ) An International Peer- Reviewed Research Journal – Yarmouk University- Irbid- Jordan. 2009-2011.**
4. **Center of Theoretical and Applied Physics Council, Yarmouk University, Irbid – Jordan. 2009- 2011.**
5. **University Council membership for ( 2006-2007), Jordan University of Science & Technology ,Irbid - Jordan .**
6. **University Council membership for ( 1993-1995), Jordan University of Science & Technology ,Irbid - Jordan .**
7. **Faculty of Science Council Membership for ( 2009 -2010 ) . Jordan University of Science & Technology, Irbid - Jordan.**
8. **Faculty of Science Council Membership for ( 2008 -2009 ) . Jordan University of Science & Technology, Irbid - Jordan.**
9. **Faculty of Science Council Membership for ( 2006 -2007 ) . Jordan University of Science & Technology, Irbid - Jordan.**
10. **Faculty of Science Council Membership for ( 2005 -2006 ) . Jordan University of Science & Technology, Irbid - Jordan.**
11. **The American Physical Society , USA , (1997) up to now.**
12. **Faculty of Science Council Membership for ( 1995-1996 ) . Jordan University of Science & Technology, Irbid - Jordan.**
13. **International Disordered System Associates Society ( INDIAS ) ,(INDIA )**

#### **ORGANIZING COMMITTEE' FOR INTERNATIONAL CONFERENCES**

1. **First and Second Radiation Awareness Day- King Fahad Specialist Hospital- Dammam (KFSDH) Saudi Arabia (2007)**
2. **Organizing Committee for the Second Symposium on Computational Condensed Matter Physics held at Yarmouk University from ( 6 - 8 Nov. 1995 ) .**
3. **Organizing Committee for the Third Symposium on Computational Condensed Matter Physics held at Yarmouk University from ( 3 - 5 ) Nov. 1997.**
4. **National Jordanian Liaising Committee of “ 45<sup>th</sup> International Field Emission Symposium “ held at Jordan University of Science and Technology, Irbid , Jordan, from ( 12 - 18 ) Sept. 1998.**

#### **OTHER PROFESSIONAL ACTIVITIES :**

1. **Department Research Committee ( 1998 - 1999 )**
2. **Library Committee Supplies, ( 1998 - 1999 )**
3. **Department Research Committee, Chairman( 1997- 1998)**
4. **Department Research Committee , Chairman( 1995- 1996)**
5. **Department Library Committee Supplies, Chairman ( 1994 - 1995 )**
6. **Department Library Supplies Committee, Chairman ( 1993 - 1994 )**
7. **Department Tenders Committee , ( 1994 - 1995 )**

8. Library Committee Supplies for the College of the Science ( 1995 - 1996 )
9. Student Affair Committee for the College of Science ( 1995 - 1996 )
10. Department Tenders Committee , ( 1993 - 1994 )

#### **PROJECTS GRANTED :**

1. “ Gamma irradiation effect on Bi<sub>2</sub>Sr<sub>2</sub>Ca<sub>2</sub>Cu<sub>3</sub>O thick film” , Dean ship of Academic of Research, J. U .S .T .
2. “ Charge Transfer of Liquid Alloys “ . Dean ship of Academic of Research, J. U .S .T .
3. “ DACs for high- Pressure measurement using Ruby fluorescence Techniques”  
Funded by N. S. F. at Department of Physics, Arkansas University, U. S. A.
4. “ AC and DC Magnetization Studies of Reentrant and Spin- Glasses Behavior for bulk Alloys “ Funded by N. S. F. , with at Department of Physics, Arkansas University, U. S. A.
5. “ Sample Preparation to Study the electrical and Magnetic Properties “ Funded by N. S. F. with Professor Mike McElfresh Department of Physics, Purdue University , U. S. A.

#### **VISITING POSITIONS :**

1. Visiting Professor to Professor Mike McElfresh Director Material Research Institute – Lawrence Livermore National Laboratory – Livermore - CA –USA-2015.
1. Visiting Professor Purdue University Summer 2014 .
2. Visiting Prof. To the Department of Physics , Arkansas University, USA , 1998/1999.
3. Visiting Prof. to the Department of Physics , Purdue University , 1997.
4. Visiting Prof. to the Department of Physics ,University of Arkansas USA , 1996/ 1997.
5. Visiting Prof. To the Department of Physics, Edinburgh University, U. K. 1993.
6. Visiting Prof. to the Department of Physics , University of Rajasthan, Jaipur , India 1991 -1992.

#### **FIELD OF RESEARCH :**

Condensed Matter Physics Exp. As well as Theo. & Gamma Irradiation for materials.

#### **BOOKS :**

Condensed Matter Physics , Narosa Publishing House, INDIA

#### **GRADUATE RESEARCH PROJECT :**

Master Students Supervise and Examining

1. Wafaa Elshaar: Effect of gamma irradiation on BSCCO Superconductors (2006)
2. Suliman Barhoum: Effect of Mn doping on YBCO Superconductor (2006)
3. Enas M. Hamasha: Electric Field Assisted Crystallization of Amorphous Silicon Films for Solar Cells Applications ( 2008).

## LIST OF PUBLICATIONS

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- 1- “ Establishment of National diagnostic reference level as guidelines for computed tomography radiation in Jordan”  
Haytham Al Ewaidat 1 | Sara Balawi 2 | Ziad Bataineh3 | Ahmed Al-Dwairi 4 | Majd Al-Khalily5 | [Khalaf Abdel Azez1](#) | Ali Almakhadmeh6.  
International Journal of Imaging Systems and Technology, Published in 12 January 2023.
  
- 2- “The knowledge and perception among medical imaging professionals in Jordan during swift growth of the COVID-19 Pandemic”  
Haytham Al Ewaidat, Ziad Bataineh, Rob Davidson, Abedelmalek Tabnjh and [Khalaf Al-Masaid](#), *Medical Image Analysis* Volume 76, February 2022.
  
- 3- " Dating and Analytical Study of Archaeological Teeth and Bone from Tell al-Husn and Yasila in North Jordan by Fourier Transformation Infrared ( FTIR ) and ( FT) Raman Spectroscopies “  
Journal of Archaeological Science- Accepted for Published in (2018).
  
- 4- "Photoacoustic measurement of thermal diffusivity of Fe-Mn-Al and Fe-Zn -Al alloys".  
[K. A. Azez](#)  
Accepted for Published in (2018).
  
- 5- " AC and DC Magnetization Studies of the Reentrant Spin Glass Behavior"  
" International Conference on Superconductivity and Magnetism ( ICSM 2014 ) "  
[K. A. Azez](#) ,25-30 April 2014 , Antalya – Turkey.
  
- 6- “Effect of Gamma –Irradiation on Fe-Co-Al Alloys”  
[K. A. Azez](#) Physica B, published in (2017).
  
- 7- "Photoacoustic measurement of thermal diffusivity of Fe-Cr-Al and Fe-V-Al alloys".  
[K. A. Azez](#) Journal of Alloys and Compounds, 424 (2011).
  
- 8- " Influence of Extremely Low Energy Radiation on Artificial Tissue: Effects on Image quality and superficial dose. *Spectroscopy*:  
M-Ali H. Al-Akhras, Aljarrah, K, Al-omari, A., H. M. Al-Khateeb, B. A. Albiss, [K. A. Azez](#), G. Makhadmeh. *An international journal* 22 (2009) pp 419-428
  
- 9- “The Rotational magnetic process and effects of Gamma irradiation on vortex flux pinning in Tl-2223 at low temperatures”,  
M.K. Hasan, J. Shobaki, I.A. Al-Omari, B.A. Albiss, M.A. AlAkhras, [K.A. Azez](#), A.K. El-Qisari and J.S. Kouvel, *Super. Cond. Scien and Technol.*, 12, (2008) 606.

- 10- “Effect of Gamma irradiation on the transport critical current density of  $Tl_2Ba_2Ca_2Cu_3O_{10}$ ”,  
M.K. Hasan, M.A. Al-Akhras, B.A. Albiss, I.A. Al-Omari, [K.A. Azez](#) and J. Shobaki,  
Super. Cond. Scien. & Technol., 12, (2007) 1106
- 11- Effect of Gamma –Irradiation on polycrystalline  $Tl_1Ba_2Ca_2Cu_3O_y$  Superconductor  
B. A. Albiss, A. El-Ali , K. Khasawneh, M. K. Hassan , I. A. Omari, [K. A. Azez](#), J. Shobaki  
J. Physica B 321, ( 2002 ) 324-327
12. “ Synchrotron light for Experimental Science and Applications in the Middle east” SESAME,  
10/5/2006, Amman , Jordan.
13. “ Synchrotron light for Experimental Science and Applications in the Middle east”  
SESAME, 7/5/2009 , Amman , Jordan.
14. " Symposium on the Technology of Peaceful Nuclear Energy"  
14 - 16 October 2008 , Center for Theoretical and Applied Physical Sciences , Yarmouk University,  
Irbid, Jordan.
15. "1st International Nuclear & Renewable Energy Conference"  
( INREC'10 ) 21-24 March, 2009, Amman , Jordan.
16. " the 3<sup>th</sup> International Symposium on Nuclear Energy " (ISNE-10 ) 15-17 December,  
2010 Amman, Jordan.
17. “ 2<sup>nd</sup> Radiation Awareness Day” as speaker, dated on 9 /7/ 2007, king Fahad Specialist  
Hospital –Dammam, Kingdom of Saudi Arabia.
18. "Polycrystalline  $YBa_2Cu_3O_{7-\delta}$  with Nano-Sized  $Al_2O_3$  Inclusions"  
B. A. Albiss, [K. A. Azez](#) , J. Supercond. Nov. Magn. (2014) 23: 1333-1340.
19. " AC and DC Magnetization Studies of the Reentrant Spin Glass Behavior"  
" International Conference on Superconductivity and Magnetism ( ICSM 2014 ) "  
[K. A. Azez](#) ,25-30 April 2014 , Antalya – Turkey.
20. “Effect of Gamma –Irradiation on Fe-Co-Al Alloys”  
[K. A. Azez](#) Physica B, published (2014).
21. "Photoacoustic measurement of thermal diffusivity of Fe-Cr-Al and Fe-V-Al alloys".  
[K. A. Azez](#)  
Journal of Alloys and Compounds, 324 (2011).
22. “Spin Glass Transition on  $Fe_{0.6}Cr_{0.1}Al_{0.3}$  and  $Fe_{0.6}Ti_{0.1}Al_{0.3}$  “  
[K. A. Azez](#) J. Mater. Sci: Mater. Electron. ( 2006) 17: 621-623.
23. Photoacoustic measurement of thermal diffusivity of Fe-Co-Al alloys.  
[K. A. Azez](#) Journal of Alloys and Compounds, 424 ( 2006 ) 4-6.
24. Temperature Dependence of Vortex Flux Pinning in Polycrystalline  $YBa_2Cu_4O_8$ ”  
M.K. Hasan (Qaseer), [K.A. Azez](#) and N.Y. Ayoub, J. of Alloys and Compounds, 387 (2005) 44.
25. “Disappearance of the Reentrant Spin Glass phase in  $Fe_{0.7-x}R_xAl_{0.3}$ , (R = Mn or V)”,



- M.K. Hasan(Qaseer), [K.A. Azez](#), N.Y. Ayoub, Acta Physica Slovaca, 54 (2004) 459.
26. "Power Law Behavior of  $Tl_1 Ba_2 Ca_2 Cu_3 O_3$  Superconducting Tapes"  
B. A. Albiss, A. El-Ali and [K. A. Azez](#) J. Phys. Stat. Sol. (c) 1, No. 7, 193/3 ,(2004).
  27. "Temperature Dependence of Vortex Flux Pinning in Melt Textured Superconductors",  
I.A. Al-Omari, M.K. Hasan (Qaseer), A. Rais, [K.A. Azez](#) Phys. Stat. Sol. 1C (2004)1821
  28. Effect of adding V-atoms and Co-atoms in the spin glass transition temperature of  
 $Fe(1-x)M(x)Al(0.30)$  alloys"  
[K. A. Azez](#) J. Acta Physica Polonica vol. 103 ( 2003) 471-476..
  29. "Effect of Mn Concentration on the Spin Glass transition Temperature of  $Fe_{0.7-x}Mn_xAl_{0.3}$  alloy",  
[K.A. Azez](#), M.K. Hasan (Qaseer), I.A. Al-Omari, J. of Alloys and Compounds, 360 (2003)69.
  30. "Temperature Dependence of Vortex Flux Pinning in Polycrystalline  $GdBa_2Cu_3O_7$ ",  
[K.A. Azez](#), J. Shobaki, M.K. Hasan (Qaseer), and I.A. Al-Omari, J. of Alloys and Compounds, 346 (2002) 260.
  31. "Magnetic , X-ray diffraction, and Mössbauer Spectroscopy Studies of  $Nd_2Fe_{15}Ga_2C_x$  magnets",  
J. Shobaki, I.A. Al-Omari, M.K. Hasan, [K.A. Azez](#), S.H. Mahmood, and D.J. Sellmyer, Physica B, 321 (2002) 173.
  32. "Mössbauer Spectroscopic and Structure Investigation of the  $Fe_{0.7-x}Ti_xAl_{0.3}$  Alloy System",  
[K.A. Azez](#), I.A. Al-Omari, J. Shobaki, M.K. Hasan, G.M. Al-Zoubi, and H.H. Hamdeh,  
Physica B 321 (2002) 178
  33. "The Paramagnetic Contribution in the Magnetization Behavior of  $Y_{1-x}Gd_xBa_2Cu_3O_7$ ",  
A El Ali, [K. A. Azez](#), I.A. Al-Omari, J. Shobaki, M.K. Hasan (Qaseer), B.A. Albiss, Kh.Khaswnieh,  
KH. A. Ziq, and A.F. Salem, Physica B 321 (2002) 320
  34. "Magnetic and Structural Properties of  $GdFe_{2-x}Ti_x$  Alloys",  
I.A. Al-Omari, M.A. Al-Akras, M.K. Hasan, J. Shobaki, and [K.A. Azez](#),  
J. Alloys and Compounds 319, (2001) 34.
  35. "Mossbouer and Structural Studies of  $Fe_{0.7-x}V_xAl_{0.3}$  alloys",  
J. Shobaki, I.A. Omari, M.K. Hasan, [K.A. Azez](#), M.Ali H. Al-Akhras, B.A. Albiss,H.H. Hamdeh, and  
S.H. Mahmood, J. Mag. Mag. Matt. 213, (2000) 51.
  36. "Dissipative Behavior of Sliver Sheated  $Bi_{1.8}Pb_{0.4}Sr_2Ca_2Cu_3O_x$  tape,  
B.A. Albiss, M.K. Hasan, M.A. Al-Akras, [K.A. Azez](#), I.A. Al-Omari, A. Shariah, J. Shobaki, and H.  
Ozkan, Physica C 331, (2000) 97.
  37. Application of Linear Potential for the Prediction of bulk Modulus of Binary Metallic Glasses  
P. C. Agrawal [K. A. Azez](#) Condensed Matter Physics, Narosa Publishing House (1999 ).
  38. The Effect of Voltage on the Response Time of  $P^+nn^+$  Silicon A.P.D. Detectors  
H.A.Al-Hilli. S.K.J.Al-Ani and K.A.Azez, Iraqi.J. Sci. Vol. 40c, No. 2, ( 1999 ).
  39. "Dielectric Screening and Elastic and Thermodynamic Properties  
Metallic Glass  $Ca_{70}Mg_{30}$  ". P. C. Agarawal , [K. A. Azez](#) and C. M. Kachhava



- XXIII National Seminar on Crystallography Organized by Department of Physics ,  
Malaviya Regional Engineering College , ( March 23-25 ) 1999 Jaipur - India .
40. AC and DC Magnetization Studies of the Reentrant Spin Glasses  
[K. A. Azez](#), etal Presented at March meeting , held by American Physical Society at Los Angeles, California 16-20 March 1998, U.S.A.
  41. Structural Phase Transformation of II-VI compounds Under High Pressure  
[K. A. Azez](#), A. Nazzal and A. Qteish  
Presented at March meeting , held by American Physical Society at Kansas city - 17-21 March 1997, U.S.A.
  42. Effect of Screening On Resistivity of Liquid Metals  
[K. A. Azez](#) and I. A. Al- Omari Acta Physica Polonica A Vol. 92 ( PP 563- 568 ) 1997
  43. Temperature dependence of excess entropy for liquid alloys  
R. N. Singh and [K. A. Azez](#) J. Phys . Chem. Liq. ( Vol. 33-PP-85-92) 1996 U.K
  44. Resistivity of Liquid Metals on Veljkovic - Slavic Pseudopotential  
[K. A. Azez](#) SPIE Vol. 2780 ( PP 113 - 116 ) 1996 U.S.A.
  45. Study of Phonon Dispersion in Metallic Glasses  
[K. A. Azez](#) and A. K. Ray J. Mat . Sci. Vol. 8 ( PP 7-8 ) 1997 . U.K
  46. Charge Transfer in Binary liquid alloys  
[K. A. Azez](#) 6<sup>th</sup> International Workshop of Electronic Properties of Metal/Non-Metal Microsystems- Charles Univ. Prague (1997).
  47. Pseudopotential Method for Band Structure Energy of Liquid Metals  
[K. A. Azez](#)  
The Society of Photo - Optical Instrumentation Engineering's SPIE Vol. 2780 ( PP 110-112 ) 1996 U.S.A
  48. Dielectric Screening and Phonon Dispersion in Metallic Glasses  
P. C. Agrawal [K. A. Azez](#) and C. M. Kachhava , Phys. Stat. Sol. (b) 178. 303 ( 1993 ).
  49. "Bulk Modulus and Pseudopotential in Metallic Glasses "  
P.C. Agarwal , [K. A. Azez](#) and C.M. Kachhava 8<sup>th</sup> International Conference on Rapidly Quenched and Metastable Materials .Organized by Institute for Materials Research Tohoku University , Sendai ( August 1993), JAPAN
  50. Dielectric Screenings and Elastic and Thermodynamic Properties of Metallic Glasses  
P. C. Agrawal [K. A. Azez](#) and C. M. Kachhava Acta Physica Hungarica , 72, ( 1992 ).
  51. Dynamic of Binary Metallic Glass Cu<sub>57</sub> Zr<sub>43</sub>  
P. C. Agrawal [K. A. Azez](#) and C. M. Kachhava Acta Physica Hungarica 71 (3-4) , PP. 233-238 ( 1992) Hungary
  52. Compressibility of Liquid Metals  
[K. A. Azez](#), P. C. Agrawal and C. M. Kachhava Acta Physica Hungarica 70 (1-2) , PP. 15-19 (1991) Hungary.
  53. Cohesive Energy and Compressibility of Liquid Alkali Metals  
[K. A. Azez](#) and C.M. Kachhava India Journal of Pure & Applied Physics Vol. 29, PP. 811-813 ( 1991) India.
  54. Cohesive Energy of Liquid Metals

**CONFERENCES / WORKSHOPS/ SEMINAR**  
**ATTENDED**

1.    **"International Symposium on high Temperature Superconductivity " held at    Department of Physics ,  
University Of Rajasthan , Jaipur, India ( 6-7) July 1988.**
2.    **"Refresher Course in Condensed Matter Physics " held at Department of physics , University of Rajasthan Under the Academic staff Orientation Scheme ‘ University of Grant Commission “ of INDIA,( 24<sup>th</sup> March- 15<sup>th</sup> April) 1989.**
3.    **" Hydrogen Energy , Workshop- Cum - Review Committee Meeting " held at    Department of Physics ,  
University of Rajasthan, Jaipur , INDIA , ( 6-7 July ) 1989.**
4.    **"National Conference on Disordered Materials " held at Department of Physics,University of Rajasthan , JAIPUR , Jaipur , India ( 18-21 Oct . ) 1989.**
5.    **" Third National Conference on Positron Annihilation and \ Compton Profile " held at Department of Physics , University of Rajasthan , Jaipur , INDIA, ( 17-20 Jan. ) 1990.**
6.    **" International Workshop on Physics of Materials " held at Barakatullah University Bohopal , INDIA , ( Jan. 22-3 Feb.) 1990.**
7.    **"2<sup>nd</sup> National Conference on Disordered Materials " ,held at HARCOURT BUTLER TECHNOLOGICAL INSTITUTE , KANPUR, INDIA, ( 21-23 Dec. ) 1991.**
8.    **" XXIII National seminar on Crystallography “ , held at Department of physics Malaviya Regional Engineering college , Jaipur, INDIA, ( 23-25 Nov. ) 1992.**
9.    **" First Symposium on Recent Development in Computational condensed Matter Physics " held at Department of physics , University of Yarmouk , Irbid ,Jordan ( 16-18 Nov. ) 1992.**
10.    **"4<sup>th</sup> International Workshop on Electronic Properties of Metal andNon- Metal Micro Systems" held at Sheffield Hallam University , SHEFFIELD. U. K. ( 1- 6 Sept. ) 1993.**
11.    **"Workshop in Testing and evaluation" , held at J.U. S. T. from ( 23-25 Jan.) 1993.**

12. **"3<sup>th</sup> Workshop on VAN DE GRAAFF Accelerators in Research, Training and Technological Applications " ( ARTTA, 95 ), held at physics Department , University of Jordan , Amman (14 - 17 August )1995.**
13. **"5<sup>th</sup> International Workshop on Electronic Properties of Metal/ Non - Metal Micro Systems “ held at Technical University of Wroctaw, Poland, (11-14 Sept. ) 1995 .**
14. **"Second Symposium on the Recent Development In Computational Condensed Matter physics" . held at Department of physics, Yarmok University Irbid , Jordan ( 6-8 Nov. 1995 ).**
15. **" First workshop on Application of Computers for Physics Teaching " held at Yarmouk University ( 8-10 April ) 1996 . Irbid Jordan.**
16. **" March meeting in Kansas city " held at Kansas by American Physical society from ( 17-21 March ) 1997 , USA.**
17. **" Third symposium on computational condensed Matter Physics " held at Yarmouk University by “ The Center for Theoretical and Applied Physics from ( 3-5 Nov. ) 1997, Irbid Jordan .**
18. **" Workshop for the Chairman of Physics Departments at Arabian University for using the Computer in Developing the Teaching of the Physics " held at Yarmouk University from ( 16-19 Nov. ) 1997, Irbid - Jordan.**
19. **" Workshop in Test and Evaluation" held at J. U. S. T. from 24 - 26 Jan. 1998.**
20. **" The 3<sup>th</sup> International Conference on Solar Electricity : Photovoltaics and Solar Thermal Technology " , held at UAE , Sharjah March ( 21 - 25 ) 1998.**
21. **“ The First Annual Scientific Day of the Faculty of Science & Arts “ held at J.U.S.T , ( May 18 ) 1998, Irbid , Jordan.**
22. **“ Workshop in Testing and Evaluation “ held at J. U. S. T. Irbid , Jordan, from ( 13 -17 June) 1998.**
23. **“ 45<sup>th</sup> International Field Emission Symposium “ held at JUST , Irbid , Jordan from ( 12 - 18 Sept. ) 1998.**
24. **“ Third Symposium On Magnetic “ held at Yarmouk University, Irbid, Jordan ( 2 - 4 Nov. ) 1998.**
25. **“American Physical Society, Centennial Meeting “ Held at Atlanta from 20-26, 1999, Georgia, USA.**
26. **“ International Conference on Physics and Chemistry of Molecular and Oxide Superconductors “ KTH , Stockholm, Sweden, July 28- August 2, 1999.**
27. **“ Process and Equipment Control In Microelectronic Manufacturing “ EUROPTO , held at Edinburgh , U. K. from ( 19 -21 May ) 1999.**
28. **“ Workshop on Information Technology ( IT ) in Higher Education” Organized and**

**Sponsored by The Association of Arab Universities and University of Jordan,  
from April ( 10-11 ) 1999.**

- 29. “ Workshop on EFFECTIVE TEACHING “ held on the 8<sup>th</sup> of December 1999 at King Fahd Hospital of the king Faisal University , Al- Khobar, Kingdom of Saudi Arabia.**
- 30. “ Second GCC Conference of Faculties of Medicine “ held on 15 & 16 November 2000, at King Fahd Hospital of the University king Faisal , Al- Khobar, Kingdom of Saudi Arabia.**
- 31. “Third GCC Conference of Faculties of Medicine on Medical Education “ held (16-18 December 2002 ),at College of Medicine and Health Sciences, Sultan Qaboos University, Muscat, Sultanate of Oman.**
- 32. “Second Symposium of Scientific Research and Technology Development in Arab World ” SRO2 , held on ( 24 - 27 March ) 2002, University of Sharjah, UAE.**
- 33. “Third Symposium of Scientific Research and Technology Development in Arab World” SRO3 , held on ( 11-14 April ) 2004, King Abdul Aziz City for Science and Technology, Kingdom of Saudi Arabia.**
- 34. “National conference on condensed Matter and Materials Physics ( CMMP 06 ) Department of Physics, The M.S. University of Baroda, India- 19-21 Jan. 2006.**
- 34. “ Synchrotron light for Experimental Science and Applications in the Middle east ” SESAME, 10/5/2006, Amman , Jordan.**
- 36. “ 2<sup>nd</sup> Radiation Awareness Day” as speaker, dated on 9 july 2007, king Fahad Specialist Hospital –Dammam, Kingdom of Saudi Arabia.**
- 37. " Symposium on the Technology of Peaceful Nuclear Energy" 14 - 16 October 2008 , Center for Theoretical and Applied Physical Sciences , Yarmouk University, Irbid, Jordan.**
- 38. "First International Euro-India Conference on Holistic Medicine" August 21-23, 2008. Kottayam, Kerala, India.**
- 39. " The International Conference on Materials in Jordan" Humboldt Kolleg , 4- 6 March- 2009, German Jordanian University ( GJU ). Amman , Jordan.**
- 40. “ Synchrotron light for Experimental Science and Applications in the Middle east” SESAME, 7/5/2009 , Amman , Jordan.**
- 41. " workshop on computational physics using WIEN2K package " Center for theoretical and Applied physical sciences ( CTAPS) 2 August 2009, Yarmouk University, Irbid- Jordan.**
- 42. " Third Arab International conference in Physics and Materials Science" CPMS -2009. Held at University of Alexandria – Egypt – 20-22/ 10/2009.**
- 43. " International Conference on Superconductivity and Magnetism ( ICSM 2010 ) "**

25-30 April 2010 , Antalya – Turkey.

44. " First Yarmouk School for Computational Condensed Matter and Nano Systems "  
October 31- November 4, 2010. Yarmouk University, Irbid, Jordan.
45. "1st International Nuclear & Renewable Energy Conference"  
( INREC'10 ) 21-24 March, 2009, Amman , Jordan.
46. " the 3<sup>th</sup> International Symposium on Nuclear Energy " (ISNE-10 ) 15-17 December,  
2010 Amman, Jordan.
47. " Research and higher Education: A Discussion Hosted by Columbia University Middle  
East Research Center" 5/4/2011 Amman.
48. " Global Conference on Renewable Energy and Energy Efficiency for Desert Regions  
( GCREEDER 2011 ) The University of Jordan – Amman – 26 April 2011.
49. " International Conference on Superconductivity and Magnetism ( ICSM 2014 )  
"25-30 April 2014 Antalya – Turkey.
50. " The 32 Congress of the International Academy of Pathology" Dead Sea- Jordan- 14-18  
October 2018.
51. BLOSSOMS = Blended Learning Open Source Science or Math Studies. Large Free repository  
of Video modules for high school Science and Maths classes CREATED BY GIFTED  
VOLUNTEER TEACHERS from around the world, Seeded initially by ( Massachusetts Institute  
of Technology ( M.I.T.) , USA ) Faculty members and Partnering Educators in Jordan and  
Pakistan ( 2009).  
<http://blossoms.mit.edu/library.html>



Professors Richard Larson and Walter Lewin are pictured above with Jordan BLOSSOMS Project Manager, Rana Abuzeid Qubain, and BLOSSOMS Project Manager ( [Massachusetts Institute of Technology](#), USA ), Elizabeth Murray, at the Jordan University of Science and Technology with Professor Khalaf Abdel Azez with Lewin and Larson who will create BLOSSOMS videos.

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