

## **CURRICULUM VITAE**

**Name in Full** : Zuhair Hasan Mohamed El-Isa

**Date of Birth** : 24<sup>th</sup>, October 1947

**Place of Birth** : Irtah, Tulkarm

**Nationality** : Jordanian

**Marital Status** : Married with six children

**Mailing Address** : Geology Department,  
University of Jordan,  
Box 13929,  
Amman 11942, JORDAN.

**Tele.** : 009626-5344265 (Home)  
: 009626-5355000 Ext 22256 (Office)  
: 00962-777-484536 (Mobile)

**Fax.** : 009626-5355522(Office)

**e-Mail** : [elisaz@go.com.jo](mailto:elisaz@go.com.jo)

## ACADEMIC QUALIFICATIONS

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<b>Degree</b>	<b>Date</b>	<b>Subject</b>	<b>Institute</b>
B.Sc.	May 1971	Physics & Geology	Geology Department, Cairo University, Cairo.
M.Sc.	July 1974	Engineering Geophysics	Mining Engineering Dept. Strathclyde Univ.,Glasgow,U.K.
Ph.D.	Dec.,1977	Applied Geophysics	Geology Department Glasgow Univ.,Glasgow,U.K.

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### **Field of Specialization:**

Geophysics (Seismology)

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### **Languages**

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1. Arabic (Mother Language)
2. English (language of instruction in B.Sc, M.Sc & Ph.D)

## Academic Experience

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1. Lecturer, Higher Petroleum Institute, Tobruk, Libya. Jan.78 –July.1987
2. Assitant Professor , Geology Dept., Univ . of Jordan, Amman. Sept.78- Oct.1984
3. Associate Professor, Geology Dept., Univ .of Jordan, Amman. Nov.84-Dec.1986
4. Associate Professor, Geophysics Dept., King Abdul-  
Aziz Univ., Jeddah, Saudi Arabia. Jan.1987-Jan.1988
5. Associate Professor, Geology Department .,  
Univ.of Jordan, Amman. Jan.1988-Oct.1990
6. Professor of Geophysics, Geology Department,  
University of Jordan, Amman. Oct.1990-Jan.1999
7. Professor of Geophysics, Earthquake Monitoring Center,  
Sultan Qaboos University, Muscat. Feb.1999-July2002
8. Professor of Geophysics, Geology Department,  
University of Jordan, Amman. Aug. 2002- Aug. 2010
9. Professor of Geophysics, Geology Department,  
University of Michigan, Ann Arbour, U.S.A. Aug. 2010 – Aug. 2011
10. Professor of Geophysics, Geology Department,  
University of Jordan, Amman. Sept. 2011- Jan. 2013

11. Professor of Geophysics, Department of Geoscience,  
University of Calgary, Calgary, Canada . Feb. 2013- Jan. 2014
12. Professor of Geophysics, Geology Department,  
University of Jordan, Amman. Feb. 2014- Present

## **Membership of Academic Organizations**

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1. Seismological Society of America, Berkeley.
2. Jordan Geologists Association, Amman.
3. International Association of Seismology and Physics of the Earth's Interior.
4. American Geophysical Union.
5. Geophysical Association of Egypt.

## **Membership of Other Committees**

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1. Arab Experts in Seismology, Scientific Research Council.
2. Technical Committee, Jordan Building Codes.
3. Organizing committee, first Jordan Geological Conference, 1982, Amman.
4. Organizing committee, second Jordan Geological Conference, 1985, Amman.
5. Local correspondent of PAMERAR, UNESCO.
6. International Lithosphere Program (ILP).

## **Publications**

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- # El-Isa, Z. (1974) A study of the seismic reflection survey, M.Sc. thesis (unpublished), Strathclyde University, Glasgow.
  
- # El-Isa, Z. (1977) Seismic studies of local events received at three arrays in Southern Central Scotland, Ph.D thesis, Glasgow University.
  
- # Hall, J.; Powell, D; Warner, M.; El-Isa, Z.; Adeanaya, O. and Bluck, B.(1983) seismological evidence for shallow crystalline basement in the Southern Uplands of Scotland, Nature, 305: 418-420.
  
- # El-Isa, Z. (1983) The Jordan University Seismological station (UNJ), Proc. First Jord.Geolo. Conf., Sept. 1982, Amman, PP . 542-564, Jord. Geol. Assoc., Amman.
  
- # El-Isa, Z. (1983) Seismic Risk in Jordan, Proc., First Jord. Geol. Conf., Sept. 1982, PP. 523-541, Jord. Geol. Assoc., Amman.
  
- # El-Isa, Z. and Kharabsheh, A. (1983) Magnetic and gravity studies of the Northern Dead Sea rift, Proc., First Jord. Conf., Sept. 1982, PP. 483-502, Jord. Gerol. Assoc., Amman.
  
- # El-Isa, Z. (1982) Geophysical studies of the Jordan rift valley and some tectonic implications, 1<sup>st</sup>. Intern. Conf. On crustal movements in Africa, May 1981, Addis Ababa.
  
- # El-Isa, Z., Merghelani, H. and Bazari, M (1984) The Gulf of Aqaba earthquake swarm of Jan.-April 1983, Geophys. J. Roy. Astron. Soc., 78: 711-722.
  
- # El-Isa, Z. (1985) Possible induced earthquake activity along the Dead Sea transform fault system, J. Univ. Kuwait (Sci.), 12:274-284.
  
- # El-Isa, Z. (1985) Earthquake studies of some archaeological sites in Jordan, Proc. 2<sup>nd</sup> Intern. Conf. On History and Archaeology of Jordan, April 1983, Amman, PP.229-236.

# Mikbel, SH.; Saffarini, Gh. And El-Isa, Z. (1985) New iron occurrence west of Amman, Jordan, DIRASAT, 12:113-124.

# زهير العيسى (1985) إسهامات العلماء العرب والمسلمين في علوم الزلازل – تطبيقات على زلزالية حفرة الانهدام الأردني، وقائع حلقة جوانب علمية في الحضارة الإسلامية، تشرين 2، 1983، عمان، ص 193 – 214، جمعية الدراسات والبحوث الإسلامية، عمان.

# El-Isa, Z.; Mechie, J. and Prodehl, (1986) S-wave and Poisson s ratio structure beneath Central Jordan, Spannung and Spannungsumandlung in der Lithosphere, University of Karlsruhe, PP.1049-1069.

# El-Isa, Z.; and Mustafa, H. (1986) Earthquake deformations in the Lisan deposits and seismotectonic implications, Geophys. J. Roy. Astron. Soc., 86:413-424.

# El-Isa, Z.; Makris, J. and Prodehl, C. (1986) A deep seismic sounding experiment in Jordan, DIRASAT, 13:271-281.

# El-Isa, Z ; Makris, J.;Rhim, R; Prodehl, C. and Mechie, J. (1986) Progress report on crustal structure of Jordan deduced from deep seismic soundings, in : El-Isa, Z.; and Khaled, H.(edts) Proc. 2<sup>nd</sup> Jord. Geol. Conf. , 22-24 April 1985, Amman, PP. 11-24.

# El-Isa, Z. and Khaled, H,. (1986) Geology of Jordan and Adjacent areas, Proc. 2<sup>nd</sup> Jord. Geol. Conf. , 22-24 April 1985, Jord. Geol. Assos. Amman.

# El-Isa, Z.; Mechie , J.; Prodehl, C., Makris, J. and Rhim, R. (1987) A crustal structure study of Jordan derived from seismic refraction data, Tectonophysics, 138: 235-253.

# El-Isa, Z. (1988) Seismic and seismological studies of the Jordan Dead Sea transform, Science Bull. , Sana a University, 6: 53-72.

# El-Isa, Z.; Prodehl, C. and Makris, J. (1988) Crustal structure of Jordan and

- adjacent areas: Results from deep seismic sounding, in: A. Al-Furaih (edt.) Proc. 3<sup>rd</sup> Arab Symp. On earthquake seismology, 8-10 March 1986, King Saud Univ. Riyad, PP.59-70.
- # El-Isa, Z. and Hasweh, N., (1988) Seismicity of the southern Jordan Dead Sea transform, in: A. Al-Furaih(edt.) Proc. 3<sup>rd</sup> Arab Symp. ON Earthq. Seismology, 8-10 March 1986, King Saud Univ., Riyadh, PP. 47-58.
- # Mechie, J. and El-Isa, Z. (1988) Upper lithospheric deformations in the Jordan Dead Sea transform regim, *Tectonophysics*, 153: 153-159.
- # Bayer, H.; El-Isa, Z.; Ringle, K. and Saffarini, Gh. (1988) Tensional and strike slip tectonics in the Karak area (SE Dead Sea region)- results from tectonics and photogrammetric investigations, *N. Jb. Palaont. Mh., H.4:* 223-232.
- # Mokhtar, T.; Maamoun , M .; El-Isa, Z. and Bakor, A.(1988) A proposal of the establishment of a regional seismic network in western Saudi Arabia, King Abdul- Aziz University , Jeddah, 108pp.
- # El- Isa, Z. and Al shanty, A.(1989) Seismicity and tectonics of the Red Sea and western Arabia, *Geophys. J.* 97:449- 457.
- # Bayer, H.;El-Isa, Z.; Hotzel, H.; Mechie, J.; Prodehl, c. and Saffarini, Gh. (1989) Large tectonic and lithospheric structure of the Red Sea region, *E. Afr. J. Earth Sci.*, 8:565-587.
- # El-Isa, Z.; Mechie, J and Prodehl, C.(1990) A combined P and S- wave interpretation of deep seismic sounding data from Jordan, Proc. 3<sup>rd</sup> Jord. Geol. Conf., PP. 409-433, Jord . Geol . Assoc., Amman.
- # El-Isa, Z. (1990) Seismicity of the Jordan Dead Sea transform during the period 1981 –1987, Proc. 4<sup>th</sup> Intern . Conf. Wegner/ Medlas Project, Scheveningen , June 1989, PP. 47-66, Technical University , Delft.

# El-Isa, Z. (1990) Lithospheric structure of the Jordan Dead Sea transform from earthquake data, Tectonophysics, 180:29-36.

# زهير العيسى ( 1990 ) علم الزلازل و موسوعة الكويت العلمية . مؤسسة الكويت للتقدم العلمي .

# زهير العيسى ( 1990 ) الزلازل , موسوعة الكويت العلمية مؤسسة الكويت للتقدم العلمي .

# زهير العيسى ( 1990 ) مغناطيسية الصخور , موسوعة الكويت العلمية , مؤسسة الكويت للتقدم العلمي.

# El- Isa, Z. and Mitchell, B.J. (1991) Seismicity and seismic hazard in the Jordan Dead Sea transform region , Jordan University, 44 PP.

# El-Isa, Z. (1992) Seismicity of Wadi Araba Dead Sea region , Geology of the Arab World , Cairo University , 1992, PP. 245-255.

# El-Isa, Z. et al. (1995) Assessment of the hazard of subsidence and sinkholes in Ghor Al Haditha area, Centre for Consultation, University of Jordan, 141PP.

# El-Isa, Z.; Rimawi, O. and Said, A. (1995) Geophysical exploration for underground water in Ghor Isal area, Dead Sea region, Centre for Consultation, University of Jordan, 120PP.

# El-Isa, Z.; Rimawi, O. and Said, A. (1995) Geological studies of the proposed Isal dam site, Centre for Consultation, University of Jordan, 32PP.

# زهير العيسى ( 1996 ) الكوارث الطبيعية: الزلازل و الانزلاقات الارضية ، وقائع الاسبوع العلمي الاردني الثالث، عمان، آب 1995.

# El-Isa, Z. H. (1996) Seismic refraction studies at Karak dam site, Centre for Consultation, University of Jordan, 38PP.



# Kahhala, K. et al. (1997) earthquake hazard evaluation and methods of mitigating their environmental impact, Royal Scientific Society, Amman, 56PP.

# El-Isa, Z. and Said, A. (1998) Geophysical investigations for groundwater in Zara- Main area, Centre for Consultation, University of Jordan, 183PP.

# El-Isa, Z. (1998) Geophysical investigations for groundwater in nine Mauritanian cities, Centre for Consultation, University of Jordan, 189PP.

# زهير العيسى (1999) تقييم أخطار الزلازل في سلطنة عمان , جامعة السلطان قابوس , مسقط , 11 صفحة.

# El- Isa, Z. (1999) A Proposal for the establishment of the Omani Earthquake Monitoring Center at Sultan Qaboos University, EMC, SQU, 12 PP.

# زهير العيسى (1999) انزلاق وتشققات طريق الكامل - صور , مركز رصد الزلازل , جامعة السلطان قابوس , 10 صفحات.

# زهير العيسى , 1999 , النشاط الزلزالي بولاية الرستاق , إبريل 1999م , مركز رصد الزلازل , جامعة السلطان قابوس , 10 صفحات .

# El-Isa, Z. H. (2000) Seismicity and seismotectonics of the Jordan Dead Sea transform,(extended abstract) UNESCO Expert Meeting , Beirut , Nov .2000.

# El- Isa, Z. H. ( 2000) Earthquake deformations and geological factors,(abstract), UNESCO Expert Meeting, Beirut , Nov . 2000.

# El-Isa, Z. H. and Franke, M. (2002) The earthquake monitoring network of Oman, Phase I, ORFEUS Newsletter, Vol. 4, No. 2, P.9.

# El-Isa, Z. H. (2002) The seismicity of the Sultanate of Oman, Proc of Conf. on Seismic Hazard in the Arab Region, Sharqa University, Dec. 2002.

- # El-Isa, Z. H.; Qaryouti, M. and A. Amrat (2004) The earthquake sequence of Main-Dead Sea area, N.R.A. Seminar, June, 22-23, 2004, 15PP.
- # El-Isa, Z. H. (2005) Geophysical exploration for water in Feedan Area, Wadi Araba, Center for Consultation, Technical Services and Studies, Jordan University, 81PP.
- # El-Isa, Z. H. (2006) Geophysical investigations at Wadi Ma'ain dam site, Center for Consultation, Technical Services and Studies, Jordan University, 34PP.
- # El-Isa, Z. H. (2007) Geophysical investigations at Wadi Lajjoun dam site, Center for Consultation, Technical Services and Studies, Jordan University, 28PP.
- # El-Isa, Z. H. (2008) Geophysical studies at El-Hani Building Site, Amman , Centre for Cunsultation, Technical Services and Studies, Jordan University, 24PP.
- # El-Isa, Z. H. (2009) Geophysical studies at Kufranja dam site, Ajlune, Centre for Cunsultation, Technical Services and Studies, Jordan University, 60PP.
- # El-Isa, Z. H. (2009) Geophysical studies at the Ajlune Hospital site, Centre for Consultation, Technical Services and Studies, Jordan University, 33PP.
- # El-Isa, Z. H. (2010) Geophysical studies at the Forensic Laboratory Building site, Yasmine Area, Amman, Centre for Consultation, Technical Services and Studies, Jordan University, 35PP.
- # El-Isa, Z. H. & Ruff, L. (2011) Foreshocks and aftershocks of the 2011 March 11 Japan earthquake and other Recent great earthquakes, SSA 2011.

- # El-Isa, Z.H., Eaton, D.W. (2013) Spatiotemporal variations in the b-value of earthquake magnitude–frequency distributions: Classification and causes, *Tectonophysics* <http://dx.doi.org/10.1016/j.tecto.2013.12.001>.
- # El-Isa, Z. H. (2013) Seismicity and Seismotectonics of the Gulf of Aqaba Region. *Arab J Geosci* (2013) 6:3437–3449 DOI 10.1007/s12517-012-0604-8.
- # El-Isa, Z. H. (2013) Continuous-cyclic variations in the b-value of the earthquake frequency-magnitude distribution, *Earthq Sci* DOI 10.1007/s11589-013-0037-9.
- # El-Isa, Z. H.; Sarah McKnight and David Eaton, (2014) Historical Seismicity of the Jordan Dead Sea Transform Region and Seismotectonic Implications, *Arab. J. Geosci* , DOI 10.1007/s12517-014-1483-y.
- # El-Isa, Z. H. (2014) Seismicity and Seismotectonics of the Red Sea Region, *Arab. J. Geosci*, DOI 10.1007-s12517-015-1819-2.
- # Zaid, A. I.; El-Isa, Z. H. and R. J. Al-Kilani, 2015, Utilisation of geothermal energy in Jordan, DOI: [10.1109/PGSRET.2015.7312220](https://doi.org/10.1109/PGSRET.2015.7312220), IEEE.
- El-Isa, Z. H., 2017, The instrumental seismicity of the Jordan Dead Sea transform, *Arab J Geosci* (2017) 10:203 DOI 10.1007/s12517-017-3000-6.
- # Ramadain, S. S.; El-Isa, Z. and O. Rimawi, 2018, Geoelectrical and Hydrochemical Assessment of the Groundwater in Al-Abyad Phosphate Area/ Jordan, *Intern. J. Appl. Eng. Res.*, V. 13, No. 5, PP 2225-34.
- # El-Isa, Z. H. and A. M. Abuoelela, 2018, Mid-oceanic ridge characteristic seismicity along the axial trough of the Red Sea, submitted to *Arab. J. Geoscience*.

## Supervised M.Sc. Theses

1. Magnetic studies of the northern Dead Sea region, 1981 ,Jordan University .
2. Geophysical studies of Ajlun area, 1983, Jordan University.
3. Seismicity of Wadi Araba Dead Sea region, 1986, Jordan University.
4. Geophysical studies of iron- ore occurrences in central Jordan, 1987, Jordan University .

5. Lithospheric shear wave structure of the Jordan- Dead Sea area, 1987, Jordan University.
6. Crustal structure of central Jordan deduced from seismological data, 1987, Jordan University.
7. Geoelectrical studies for water in Ghabat Al- Nakheel, Aqaba, 1987, Jordan University.
8. Gravitational studies along the eastern side of the Jordan Dead Sea transform, 1988, Jordan University .
9. Earthquake sequences (swarms) : A characteristic of the seismicity of the Jordan rift, 1990, Jordan University.
10. Geoelectrical resistivity survey of the central part of Azraq basin, 1990, Jordan University.
11. Gravitational studies of Southwestern Jordan, 1990, Jordan Univesity.
12. Gravitational studies of the area east of the Dead Sea, 1990 , Jordan University.
13. Gravitational studies of Main area as a potential source of geothermal energy , 1992, Jordan University.
14. Gravitational studies of the northwestern part of Jordan, 1993, Jordan University.
15. Geophysical studies of Al-Hamma area as a potential source of geothermal energy, 1994, Yarmouk University, Irbid .
16. Geophysical evaluation of the underground water situation in Ramtha basin, 1994 Yarmouk University, Irbid .
17. Assessment and mitigation of earthquake hazard in the greater Amman area, 1994, Jordan University.
18. Geophysical and geotechnical evaluation of selected landslides in North Jordan, 1996, Jordan University.
19. Geophysics and archaeology: Applications in Jordan (in Arabic), 1996, Jordan University.
20. Geophysical exploration for underground water in Baqa basin, (in Arabic), 1996, Jordan University.
21. Seismicity of the Northern Red Sea region, 1996, Jordan University.
22. Gravity and magnetic studies of the Lisan area, Dead Sea, 1997, Jordan University.
23. Geophysical exploration for water in Wadi Araba Area, 2006, Jordan University.

24. Geophysical studies of the landslides of Urdun Street, 2007, Jordan University.
25. Geoelectrical determination of the interface between fresh and saline water in Ghor Safi, Dead Sea area, 2007, Jordan University.
26. Geoelectrical resistivity exploration for groundwater in southern Amman area, 2009, Jordan University.

## **Consulting Work**

1. Seismic parameters and earthquake considerations for the permanent premises of Al- Albeit Foundation, Wadi Es-Sir Area, Jordan University Consulting Center, April 1984.
2. Seismic refraction studies of the commercial building, Amman City Center, Build. Res. Center, Royal Scientific Society, 1985.
3. Seismic refraction studies at the Jarash Tunnel of the Amman-Irbid highway, Toukan and Saket, July 1987.
4. Geophysical studies at swaqa dam site, Central Jordan, Toukan and Saket, April, 1989
5. Geophysical studies at khabra dam site, Jordan, Toukan and Saket, April 1989.
6. Geophysical studies at Wadi Er-Ratam dam site, NE Jordan Toukan and Saket, May 1989.
7. Geophysical studies at Jardana dam site, Maan, Toukan and Saket, May 1989
8. Geophysical studies at Wadi Rajil dam site, NE Jordan, Toukan and Saket, August 1989.
9. Seismic refraction studies at Mujib dam site, Jordan, Toukan and Saket, October.1990.
10. Seismic refraction studies at Walah dam site, Jordan, Abou Jaber, September, 1990.
11. Seismic refraction and geological studies at Amman Theatre area, Toukan and Saket, November, 1991.
12. Seismic refraction studies at the Kafraïn reservoir, Toukan and Saket, July, 1992.
13. Geophysical studies at Ermaimeen School Site, Toukan and Saket, July, 1992.

14. Geophysical studies at Saham School Site, Irbid, Toukan and Saket, August, 1992.
15. Geophysical studies at Aey School Site, Karak, Geotechnical Engineering Company (GEMT), September, 1992.
16. Geological and geophysical studies at Jarash I landslide (38+600), Toakan and Saket, September, 1992.
17. Geophysical studies at Jarash II landslide (39+400), Arab Centre for Geotech. Studies, September, 1992.
18. Geophysical studies at Jarash III landslide (40+700), Geotechnical Engineering Company (GEMT), September, 1992.
19. Resistivity studies at the Water Reservoir, Amman National Park., Jordan Univ. Center for Consulting Services, Nov., 1992.
20. Geophysical studies at Jarash IV landslide (44+900), Toukan and Saket, December, 1992.
21. Geophysical studies at Jarash V landslide (44+900), Arab Centre for Geotechnical Studies, Dec., 1992.
22. Geophysical studies at Feedan dam site, Toukan and Saket, December, 1993.
23. Geophysical studies at the Iraq el-Amir landslide area, Toukan and Saket, Jan., 1994.
24. Geophysical studies at Wadi El-Sir Sewage Plant, Toukan and Saket, Jan., 1994.
25. Assessment of the hazard of subsidence and sinkhole in Ghor al-Haditha area, Jordan Valley Authority, Feb, 1995.
26. Geophysical exploration for underground water in Ghor Isal area, Arab Potash Company, Sept. 1995.
27. Geophysical studies of the proposed Isal dam site, Arab Potash Company, Sept. 1995.
28. Seismic refraction studies at Karak dam site, Toukan and Saket, Sep. 1996.
29. Geophysical studies of the proposed Wier and tunnel sites of Al-Mujib, Al-Remal Comp., Amman, 1997.
30. Seismic refraction studies of Al-Adaseya dam site, Geotechnical Eng. Comp. (GEMT), 1997.

31. Resistivity measurements along the proposed pipeline route (Amman-Disi), Arab Centre for Geotechnical studies, 1997.
32. Geophysical investigations for groundwater in Zara-Main Area, Jordan Univ. Centre for Consultation services, Amman, June, 1998.
33. Geophysical investigations for groundwater in nine Mauritanian Cities, Jordan Univ. Centre for Consultation services, Amman, Nov., 1998.
34. Geophysical investigations at wadi Main dam site, Amman, 2006.
35. Geophysical investigations at wadi Lajjoun dam site, Amman, 2007.
36. Geophysical studies at Kufranja dam site, Ajlune, 2009.
37. Geophysical studies at Ajlune hospital site, 2009.
38. Geophysical studies at the Forensic Laboratory Building, Amman, 2010.
39. A number of shallow seismic and resistivity local studies for construction purposes in Amman area.