

**Abdullatif A. Al-Shuhail**  
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### Education

1. B.S. Geophysics (1987) – cum laude – KFUPM.
2. M.S. Geophysics (1993) - summa cum laude – Texas A&M University.
3. Ph.D. Geophysics (1998) - summa cum laude – Texas A&M University.

### Work experience (selected list)

1. Founder and Principal Investigator of the first research consortium at KFUPM – Funded by Saudi Aramco, Schlumberger, and SRAK (2006).
2. Chairman - Geosciences Department – KFUPM (2018).
3. Chairman – Geoscience Experts Committee – Eastern Province Governorate (2020).
4. Chairman – Committees for Establishing M.S. (2002) and Ph.D. Geophysics programs – KFUPM.
5. Sabbatical Leave at Schlumberger (2008).
6. Consultant – government and private sectors (2000-2010).
7. Sabbatical Leave at Heriot-Watt Univ. – UK (2001).
8. Assistant (1999), Associate (2007), and Full (2018) Professor of Geophysics – KFUPM.
9. Chairman – Accreditation & Assessment Committee of KFUPM Geosciences programs with NCAAA and ABET (2018).

### Professional activities (Summary)

- 4 books
- 5 granted USPTO patents
- 8 consultations (government and private)
- 80+ published papers
- 20+ funded research projects
- 30+ conference abstracts
- 30+ conference organizations
- 40+ thesis and dissertation supervisions
- 30+ refereed technical reports
- لقائمة مفصلة بالأنشطة العلمية يرجى زيارة الموقع:  
<https://faculty.kfupm.edu.sa/ES/ashuhail/>

### Selected professional activities

#### Books

1. يحيى خليف وعبد اللطيف الشهيل. مدخل إلى احتجاز .(2019). Translation to Arabic of the book: Introduction to Carbon Capture and Sequestration, by: Smit, Reimer, Oldenburg & Bourg, World Scientific Publishing, 2014, 596 pp.
2. Al-Shuhail, A. A. and Al-Dossary, S. A., 2020. Attenuation of Incoherent Seismic Noise: Springer Nature, Switzerland, 182 pp.
3. Al-Shuhail, A. A., Al-Dossary, S. A, and Mousa, W. M., 2017. Seismic Data Interpretation Using Digital Image Processing: John Wiley & Sons Ltd, New Jersey, USA, 184 pp.
4. Mousa, W. M. and Al-Shuhail, A. A., 2011. Processing Surface Seismic Reflection Data using MATLAB: Morgan & Claypool Publishers, California, USA, 97 pp.

#### Granted USPTO patents

1. Al-Shuhail, A.A., 2017. Method of monitoring carbon dioxide leakage in carbon capture and storage reservoirs (USPTO 9,835,763) - Sole-Inventor.
2. Al-Shuhail, A. A. and Abdullah, F., 2018. Method and system for characterization of subsurface cavities using joint inversion of gravity and ground penetrating radar data (USPTO US9977124B2) - Co-Inventor.
3. Alshuhail, Abdulrahman, Aldawood, Ali, and Al-Shuhail, Abdullatif, 2017. Machines, Systems, And Methods for Super-Virtual Borehole Sonic Interferometry (USPTO US009612352B2) - Co-Inventor.
4. Mousa, W., Latif, A., and A. A. Al-Shuhail, 2018. System and method for acquisition and processing of seismic data using compressive sensing: (USPTO US10094941B2) - Co-Inventor.
5. Mousa, W. M. and Al-Shuhail, A. A., 2015. Method of first arrival picking of seismic refraction data: (USPTO US009103935) - Co-Inventor.

### Funded research projects

1. Al-Shuhail, A.A., CO2 Leakage Detection using Geophysical Methods under Arid Near-surface Conditions (Clients: KACST, 2014) - Principal Investigator.
2. Al-Shuhail, A.A., Application of Advanced Signal Processing Techniques to Enhance Microseismic Events (Clients: Georgia Institute of Technology & KFUPM, 2014) - Principal Investigator.
3. Al-Shuhail, A.A., Enhancement of First Arrivals by Seismic Interferometry (Client: Saudi Aramco, 2010) - Principal Investigator.
4. Al-Shuhail, A.A., Removal of Backscattered Noise from Shot Records by Forward Modeling (Client: Petroleum Development Oman, 1999) - Principal Investigator.

### Collaborations (local-regional-global)

1. Member – Surface/subsurface mineralization of carbon team – Ministry of Energy (2021).
2. Panelist in a panel discussion titled: The Role of Engineering Geophysics in Climate Change Adaptation *organized by* Society of Exploration Geophysicists *in* Alain, UAE (2019).
3. Chair of the Scientific Committee of the 10<sup>th</sup> Meeting of the Saudi Society for Geosciences (2013).
4. Associate Editor of: Journal of Petroleum Exploration and Production Technology (2012-2018).

### Published papers

1. X. Liu, H. Li, A. A. Al-Shuhail, B. Liu and Z. Ren, 2021, "Reflection and transmission of plane waves at an interface separating two poro-viscoelastic materials with continuity and elastic consistence," in *Geophysical Journal International*, vol. 225, no. 1, pp. 829-845.
2. SM Hanafy, A El-Husseiny, M Benaafi, A Al-Shuhail, J Dvorkin, 2020. P-wave velocity profile at very shallow depths in sand dunes: *Geophysics* 85 (5), U129-U137.

3. A. A. Al-Mashhor, A. A. Al-Shuhail, S. M. Hanafy and W. A. Mousa, 2019, "First Arrival Picking of Seismic Data Based on Trace Envelope," in *IEEE Access*, vol. 7, pp. 128806-128815.
4. J. H. McClellan, L. Eisner, E. Liu, A. A. Al-Shuhail, S. Kaka, N. Iqbal, 2018. Array processing in microseismic monitoring: *IEEE Signal Processing Magazine*, vol. 35, no. 2, pp. 99-111.
5. Liu, E., Zhu, L., Govinda Raj, A., McClellan, J., and Al-Shuhail, A., 2017. Microseismic events enhancement and detection in sensor arrays using autocorrelation based filtering: *Geophysical Prospecting*, 65: 1496-1509.
6. Khan, S., Al-Shuhail, A., and Khulief, Y., 2016. Numerical modeling of the geomechanical behavior of Ghawar Arab-D carbonate petroleum reservoir undergoing CO2 injection: *Environmental Earth Sciences*, 75:1499.
7. Al-Shuhail, A. A., Kaka, S. I, and Jervis, M., 2013. Enhancement of Passive Microseismic Events Using Seismic Interferometry: *Seismological Research Letters*, 84: 781-784.
8. Mousa, W. M., Al-Shuhail, A. A., and Al-Lehyani, A. F., 2011. A new technique for first-arrival picking of refracted seismic data based on digital image segmentation: *Geophysics*, 76: V79-V89.
9. Al-Shuhail, A. A., 2007. Fracture Porosity Inversion from P-wave AVOA Data along 2-D Seismic Lines: An Example from the Austin Chalk of Southeast Texas: *Geophysics*, 72: B1-B7.
10. Al-Shuhail, A. A., Hariri, M.H., and Makkawi, M.H., 2004. Using Ground Penetrating Radar to Delineate Fractures in the Rus Formation, Dammam Dome, Eastern Saudi Arabia: *International Geology Review*, 46: 91-96.
11. Al-Shuhail, A. A., 2002. Refraction Static Correction in a Layer of Unconsolidated Sand: Effect of a Vertical Velocity Profile: *Journal of Seismic Exploration*, 11:383-396.