

Sattam Abdulkareem Almadani

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PERSONAL INFORMATION

Born: 23 May 1977; in Taif, Saudi Arabia

Nationality: Saudi Citizen

Married, one child

EDUCATION

PhD (2011) in Geophysics (3.32/4), Department of Geological Sciences & Engineering, Missouri University of Science & Technology (MST), Rolla, USA.

M.S. (2003) in Marine Physics (4.5/5), Department of Marine Physics, Faculty of Marine Sciences, King Abdulaziz University (KAU), Jeddah, Saudi Arabia.

B.S. (1999) in Marine Physics (3.58/5), Department of Marine Physics, Faculty of Marine Sciences, King Abdulaziz University (KAU), Jeddah, Saudi Arabia.

EMPLOYMENT

(2018 - Present) **Associate Professor**, Geology & Geophysics Department, Faculty of Sciences, King Saud University, Riyadh, Saudi Arabia.

(2018 - 2019) **Project Manager, ISO/IEC (17025:2017)**, Faculty of Sciences, King Saud University, Riyadh, Saudi Arabia.

(2013 - 2018) **Assistant Professor**, Geology & Geophysics Department, Faculty of Sciences, King Saud University, Riyadh, Saudi Arabia.

(2016 - 2017) **Director of Innovation Center**, King Saud University, Riyadh, Saudi Arabia.

- (2014 - 2016) **Vice Dean of the Faculty of Sciences**, King Saud University, Riyadh, Saudi Arabia.
- (2005 - 2006) **Recruitment Specialist**, Human Resources Department, Siemens Ltd., Jeddah, Saudi Arabia.
- (2003 - 2005) **Site Service Supervisor**, Human Resources Department, Binzagr Lever Ltd., Jeddah, Saudi Arabia.

RESEARCH INTERESTS

- Solid-earth geophysics.
- Investigate the structure and dynamics of the Earth's crust and mantle.
- Study the distribution of seismic activities.
- Explore the interior of the Earth.
- Crustal thickness and Poisson's ratio.
- Digital signal processing.
- Crustal deformation.

PEER-REVIEWD PUBLICATIONS

-- 2014 --

Almadani, S., Ibrahim, K., Abdelrahman, K., Al-Bassam, A., and Al-Shmrani, A. (2014). Magnetic and seismic refraction survey for site investigation of an urban expansion in Abha District, Southwest Saudi Arabia. *Arabian Journal of Geosciences*, DOI 10.1007/s12517-014-1342-x3.

Reed, C., **Almadani, S.**, Gao, S., Elsheikh, A., Cherie, S., Abdelsalam, M., Thurmond, A., and Liu K. (2014). Receiver function constraints on crustal seismic velocities and partial melting beneath the Red Sea rift and adjacent regions, Afar Depression. *Journal of Geophysical Research: Solid Earth*, 119, 2138-2152, DOI:10.1002/2013JB010719.

Almadani, S., Abdelrahman, K., Ibrahim, K., Al-Bassam, A., and Al-Shmrani, A. (2014). Site response assessment of an Urban extension site using microtremor measurements, Ahud Rufeidah, Abha District, Southwest Saudi Arabia. *Arabian Journal of Geosciences*, DOI 10.1007/s12517-014-1380-4.

Almadani, S., Al-Amir, A., Fnais, M., Hassanein, K., Ibrahim, K., and Abd El-Motaal, S. (2014). Evaluation of geotechnical parameters for urban site in southern Kamis Mushait city, southwest Saudi Arabia using seismic refraction method. *Arabian Journal of Geosciences*, DOI 10.1007/s12517-014-1615-4.

-- 2015 --

Hisham A. Gahlan a., Shoji Arai, and **Sattam A. Almadani**. Petrogenesis of carbonated meta-ultramafic lenses from the Neoproterozoic Heiani ophiolite, South Eastern Desert, Egypt: A natural analogue to CO₂ sequestration (2015). *Journal of African Earth Sciences* 102-115, <http://dx.doi.org/10.1016/j.jafrearsci.2014.11.002>.

Sattam Almadani; Abdullah Al-Amri; Mohammed Fnais; Kamal Abdel-Rahman Hassanein, Elkhedr Ibrahim; and Enayat Awad. Seismic Hazard Assessment for Yanbu Metropolitan area, Western Saudi Arabia (2015). *Arabian Journal of Geosciences*, DOI 10.1007/s12517-015-1930-4.

-- 2016 --

Ali K. Abdel-Fattah, S. M. Mogren, and **Almadani, S.** Seismicity constraints on stress regimes along Sinia Subplate Boundaries (2016). *Studia Geophysica et Geodaetica*. 60, 268-279, DOI: 10.1007/s11200-014-0968-1.

Abdelbaset El-Sorogy, **Sattam Almadani**, and Mohammad Al-Dabbagh. Microfacies and diagenesis of the reefal limestone, Callovian Tuwaiq Mountain Limestone Formation, Central Saudi Arabia (2016). *Journal of African Earth Sciences*, v. 115, pp. 63-70.

Abdelbaset S. El-Sorogy, Mohamed Tawfik, **Sattam A. Almadani**, and Abdullah Attiah. Assessment of toxic metals in coastal sediments of the Rosetta area, Mediterranean Sea, Egypt (2016). *Environ Earth Science*, 75:398. DOI 10.1007/s12665-015-4985-3.

-- 2017 --

Sattam Almadani; Hussain Alfaifi; Mohammed Shehata; Elkhedr Ibrahim; Kamal Abdel-Rahman Hassanein; Abdullah Al-Amri; Mohamed Fnais; and Osama Kassem. Hydrochemical characteristics and evaluation of the granite aquifer in the Alwadeen area, Southwest Saudi Arabia (2017). *Arabian Journal of Geosciences*, 10:139, DOI 10.1007/s12517-017-2873-8.

Sattam Almadani. Source parameters of the 27th of June 2015 Gulf of Aqaba earthquake (2017). *Journal of Seismology*, DOI 10.1007/s10950-017-9651-7.

A.K. Abdelfattah, A. Al-Amri, A.K. Abd el-aal, Faisal K. Zaidi, M. Fnais, **S. Almadani**, and N. Al-Arifi. The 23 January 2014 Jizan earthquake and its tectonic implications in southwestern Saudi Arabia (2017). *Tectonophysics*, (712-713) 494-502.

Talal Alharbi & Hussain Alfaifi & **Sattam A. Almadani** & Abdelbaset El-Sorogy. Spatial distribution and metal contamination in the coastal sediments of Al-Khafji area, Arabian Gulf, Saudi Arabia. *Environ Monit Assess* (2017) 189:634.

-- 2018 --

Abdelbaset El-Sorogy, Khaled Al-Kahtany, **Sattam Almadani**, Mohamed Tawfik. Depositional architecture and sequence stratigraphy of the Upper Jurassic Hanifa Formation, central Saudi Arabia (2018). *Journal of African Earth Sciences* (139) 367-378.

Sattam Almadani, Elkhedr Ibrahim, Mahfooz Hafez, Hussain Alfaifi, Talal Alharbi, Kamal Abdelrahman, & Essam Abdel-Motaal. Geotechnical investigation of the El-Elb dam site, northwest Riyadh, Saudi Arabia, using 2D resistivity and ground-penetrating radar techniques (2018). *Arabian Journal of Geosciences* (11:33).

Hamdy E. Noura, Abdelbaset S. El-Sorogy, Mohamed Abdel-Wahab, **Sattam Almadani**, Hussain Alfaifi, and Mohamed Youssef. Assessment of sediment quality using different pollution indicators and statistical analyses, Hurghada area, Red Sea coast, Egypt (2018). *Marine Pollution Bulletin* 133 (808-813).

Ali Y. Kahala, Abdelbaset S. El-Sorogy, Hussain J. Alfaifi, **Sattam Almadani**, and Habes A. Ghrefat. Spatial distribution and ecological risk assessment of the coastal surface sediments from the Red Sea, northwest Saudi Arabia (2018). *Marine Pollution Bulletin* 137 (198-208).

-- 2019 --

Ali K. Abdelfattah, **Sattam Almadani**, Mohamad Fnais, Hussain J. Alfaifi, Nassir Al-Arifi, Abdullah Al-amri, Basem Al-Qadasi, and Salvatore de Lorenzo. Rupture characteristics of a small-sized earthquake (MW 4.2), onshore the south Red Sea, Saudi Arabia (2019). *Journal of African Earth Sciences* 151 (315–323).

Ali Y. Kahal, Abdelbaset S. El-Sorogy, Hussain J. Alfaifi, **Sattam Almadani**, and Osama M. Kassem. Biofacies and diagenetic alterations of the Pleistocene coral reefs, northwest Red Sea coast, Saudi Arabia (2019). *Geological Journal* (1–11).

Ali K. Abdelfattah, Salvatore de Lorenzo, **S. Almadani**, M. Fnais, H. Alfaifi, and N. Al-Arifi. Another look at the 2009 seismic activity, Harrat Lunayyir, Saudi Arabia (2019). *Journal of Seismology*. July 2019, Volume 23, Issue 4, pp (801–818).

Sattam Almadani, Elkhedr Ibrahim, Abdullah Al-Amri, Mohammed Fnais, and Kamal Abdelrahman (2019). Delineation of a fractured granite aquifer in the Alwadeen area, Southwest Saudi Arabia using a geoelectrical resistivity survey. *Arabian Journal of Geosciences*. August 2019, (12:449).

Abdelbaset S.El Sorogy, Talal Alharbi, **Sattam Almadani**, and MansourAl-Hashim. Molluscan assemblage as pollution indicators in Al-Khobar coastal plain, Arabian Gulf, Saudi Arabia (2019). *Journal of African Earth Sciences*. Volume 158, October 2019, 103564.

-- 2020 --

Almadani, Sattam. Crustal characteristics beneath the Tien Shan belt, Central Asia, using the seismic receiver function (Accepted). *Journal of King Saud University – Science*.

Almadani, Sattam, Kamal Abdelrahman, and Fahad bin Mansour Site response assessment and ground conditions at King Saud University Campus, Riyadh city, Saudi Arabia (Accepted). *Arabian Journal of Geosciences*.

Ali K. Abdelfattah; A. Al-Amri; M. Sami; Faisal K. Zaidi; S. Qaysi; M. Fnais; **S. Almadani**; N. Al-Arifi (Accepted). An analysis of a moderate earthquake, eastern flank of the Red Sea, Saudi Arabia. *Earth, Planets and Space*.

سٹام عبدالکریم المدنی، عبدالباسط صبري السروجي. "التلوث البحري .. ما يحتاج الجميع معرفته". دار نشر جامعة الملك سعود.

TEACHING COURSES

- **Physical Geology** (GEO 101).
- **Principles of Geophysics** (GPH 201).
- **Oceanography** (GEO 435).
- **Geophysical Exploration** (GPH 301).
- **Field Geophysics** (GPH 393).
- **Graduation Project** (GPH 496 & GPH 497).

FIELD WORK EXPERIENCE

- Install and service 18 broadband seismic stations along a 250 km profile in the Afar Depression, Ethiopia.
- Participate in field training by the Program for Array Seismic Studies of the Continental Lithosphere (PASSCAL) in Socorro, New Mexico, USA (2009).

COMPUTER SKILLS

- UNIX operating system.
- FORTRAN programming language.
- Generic Mapping Tools (GMT).
- Seismic Analysis Code (SAC).

SCIENTIFIC AFFILIATIONS

- Member of Saudi Society for Geosciences (SSG).
- Member of Society of Exploration Geophysicists (SEG).
- Member of American Geophysical Union (AGU).
- Member of Seismological Society of America (SSA).