Sajad Jazayeri

School of Geosciences, University of South Florida; e-mail: sajad.jazayeri@gmail.com; tel: +1(813)362-9299

(a) Professional Preparation

Razi University, Kermanshah, Iran; Solid State Physics; B.Sc., 2007
University of Tehran, Tehran, Iran; Geophysics; M.Sc., 2009; Thesis title: *Depth estimation of magnetic anomalies using Euler deconvolution* (sponsored by National Iranian Oil Company, NIOC)
University of South Florida, Tampa, FL; Geophysics; School of Geosciences; Ph.D. Candidate, 2014–present; Thesis title: *Full-Waveform Inversion of on-ground Ground Penetrating Radar data*

(b) Interests

Geophysics, Exploration Seismology, Full-Waveform Inversion, GPR, Inversion, Modelling, Data Analysis, Signal Processing, Deconvolution, Imaging, Photogrammetry.

(c) Appointments

2014–present: **Graduate Assistant, Instructor/TA/RA**, University of South Florida, Tampa, FL

2012–2014: **Physics Teacher**, Daneshmand and Movahed Highschools, Tehran, Iran

2009- 2014: **Geophysicist**, Multiple companies (detailed information upon request), Tehran, Iran

(d) Publications

(d).1 Journal articles

1. **S., Jazayeri**, A. Saghafi, S. Esmaeili, C. P., Tsokos. (2018). Online Object Detection using Dynamic Time Warping on Common-Offset Ground Penetrating Radar. In: *Expert Systems With Applications, Elsevier*, Under-review.
2. A. Saghafi, **S., Jazayeri**, S. Esmaeili, C. P., Tsokos. (2018). Real-time object detection using Power Spectral Density of Ground Penetrating Radar Data. In: *Construction and Building Materials, Elsevier*, Under-review.
3. **S., Jazayeri**, A. Klotzsche and S. Kruse. (2018). Improved resolution of pipes with full waveform inversion of common-offset GPR data using PEST. In: *Geophysics*, 83(4), 1-64. DOI: 10.1190/geo2017-0617.1
4. M., Mohammad Zadeh, B., Oskooi, M. Mirzai and **S., Jazayeri**. (2013). Processing and interpretation of ground magnetic data corresponding to geothermal resources using Euler and AN-EUL methods, north-east of Mahallat. In: *Physics of earth and space Magazine*. No. 4, Issue 39, pp. 83-96.
5. S., Esmaeili, M. K., Hafizi, H., Laleh, and **S., Jazayeri**. (2011). Inspection of changing processing parameters in GPR data interpretation. In: *Physics of earth and space Magazine*. No. 4, Issue 38, pp. 131-143.
6. **S., Jazayeri**, and B., Oskooi, (2010). Depth Estimation of Ground Magnetic Anomalies using Standard Euler Deconvolution in Reshm area, Semnan. In: *Physics of earth and space Magazine*. No. 2, Issue 37, pp. 33-43.

(d).2 Peer-reviwed Extended Abstracts

1. **S., Jazayeri**, A. Ebrahimi and S. Kruse. (2017). Sparse Blind Deconvolution of Common-offset GPR data. In: *SEG Technical Program Expanded Abstracts 2017*. pp. 5140–5145. doi:10.1190/segam2017-17791251.1
2. **S., Jazayeri**, and S. Kruse. (2016). Full-waveform inversion of ground penetrating radar (GPR) data using PEST (FWI-PEST method) applied to utility detection. In: *SEG Technical Program Expanded Abstracts 2016*. pp. 2474-2478. doi:10.1190/segam2016-13878165.1
3. M., Mohammad Zadeh, B., Oskooi, **S., Jazayeri** and M. Mirzai. (2012). Magnetic Studies in the areas with geothermal potentials. In: 49^{th} *symposium of geological society of Iran*.
4. M., Mohammad Zadeh, B., Oskooi, and **S., Jazayeri**. (2012). Magnetic studies for geothermal exploration in Mahalla. In: *International geophysical conference and oil & gas exhibition*. Istanbul, Turkey.
5. B., Yousefi, S., Esmaeili, **S., Jazayeri**. (2010). Migration and instantaneous phase combination to detect hidden culverts in GPR data. In: *16th European Meeting of Environmental and Engineering Geophysics, Near Surface 2010*. Zurich, Switzerland. doi:10.13140/RG.2.1.3499.5287

(d).3 Abstracts

1. K. E., Young, P. L., Whelley, S., Kruse, S., Esmaeili, **S., Jazayeri**, E., Bell, W. B., Garry, J. E., Bleacher, N., Schmerr (2018), Using GPR, LiDAR, magnetometry, and in-situ geochemistry to develop a strategy for the exploration and characterization of lava tubes, 49^{th} *Lunar and Planetary Science Conference*, The Woodlands, TX, USA.
2. E., Bell, N., Schmerr, K. E., Young, P. L., Whelley, W. B., Garry, S., Kruse, S., Esmaeili, **S., Jazayeri** (2018), Characterization of lava tubes with magnetometry, 49^{th} *Lunar and Planetary Science Conference*, The Woodlands, TX, USA.
3. **S., Jazayeri**, S., Kruse (2017), Development of FWI4GPR, an open-source package for full-waveform inversion of common-offset GPR data, Abstract (NS41B-0011) presented at 2017 AGU Fall Meeting, New Orleans, La., 11–15 Dec.
4. P., Whelley, W. B., Garry, K., Young, S., Kruse, S., Esmaeili, **S., Jazayeri**, E., Bell, R., Paylor. (2017). Visualizing lava flow interiors with LiDAR, Abstract (T44D-04) presented at 2017 AGU Fall Meeting, New Orleans, La., 11–15 Dec.
5. S., Esmaeili, S., Kruse, W. B., Garry, P., Whelley, K., Young, **S., Jazayeri**, E., Bell, R., Paylor. (2017). Resolution of lava tubes with ground penetrating radar: preliminary results from the TubeX project, Abstract (NS23A-0021) presented at 2017 AGU Fall Meeting, New Orleans, La., 11–15 Dec.
6. S., Kruse, C., Bank, S., Esmaeili, **S., Jazayeri**, S., Liu, N., Stoikopoulos. (2017). SIGKit: Software for Introductory Geophysics Toolkit, Abstract (NS41B-0015) presented at 2017 AGU Fall Meeting, New Orleans, La., 11–15 Dec.
7. E., Raines, T., Osborne, **S., Jazayeri**, S. Kruse. (2017). Carbon cycle driven critical zone evolution in a terrestrial carbonate system. In: *AGU-SEG Hydrogeophysics Workshop, Stanford, CA*.
8. **S., Jazayeri**, S. Kruse, S. Esmaeili. (2015). Inversion of Attributes and Full Waveforms of Ground Penetrating Radar Data Using PEST, Abstract (NS41B-1941) presented at 2015 AGU Fall Meeting, San Francisco., 14–18 Dec. doi:10.13140/RG.2.1.4810.2480
9. S., Esmaeili, **S., Jazayeri**, M. K., Hafizi. (2010). Detection and Depth estimation of Asphalt layers Using GPR method, 14^{th} *Iranian Geophysical Conference (IGC)*, Tehran, Iran.
10. S., Esmaeili, M. K., Hafizi, **S., Jazayeri**, M., Mohammadi Vizheh. (2010). 3D GPR data Process and Interpretation in archaeological studies in Kerman, Iran, 14^{th} *Iranian Geophysical Conference*, Tehran, Iran.
11. **S., Jazayeri**, S., Esmaeili. (2010). Comparison Between results of Depth Estimation of Ground Magnetic Anomalies, Using Standard Euler Deconvolution and Located Euler Deconvolution, 14^{th} *Iranian Geophysical Conference*, Tehran, Iran.

(d).4 Technical Reports

S., Kruse, **S., Jazayeri**. (2016). Evaluating potential benefits of improved understanding of uncertainties associated with airborne electromagnetic (AEM) data in Eastern Nebraska. 101 pp.

(e) Synergistic Activities

1. **Manuscripts in Preparation:**
   S., Jazayeri, S. Kruse, Kazemi Nojadeh, N., (2018). Sparse Blind Deconvolution of GPR data. In: *IEEE Transactions on Geoscience and Remote Sensing*.
2. **Conference service:**
   (i) Co-organizer and primary chair for technical session: "Geophysics for Anthropogenic Targets", AGU fall meeting 2017, New Orleans, LA, December 11–15, 2017.
   (ii) Near Surface Subcommittee member, Society of Exploration Geophysicists 2018 Annual meeting, Anaheim, CA, To be held in Oct 2018.
   (iii) Co-organizer and primary chair for special technical session: "Engineering Geophysics", SEG 2018 Annual meeting, Anaheim, CA, To be held in Oct 2018.
3. **Professional organization and University services:**
   (i) Member of SEG near surface technical session leadership board (since 2017).
   (ii) SEG Near surface technical session Social media lead (since 2017).
   (iii) President of the Iranian Student Association at USF (2017-2018).
4. **Journal and Conference reviewer:**

(i) Geophysics, (ii) Journal of Geophysics and Engineering, (iii) Journal of Environmental & Engineering Geophysics, (iv) SEG annual meetings since 2017, (v) IEEE Southeastcon 2018.

(f) Awards and honors

1. *Top presented paper*, SEG annual meeting 2017.
2. *American Society of Civil Engineers (ASCE) Trent R. Dames and William W. Moore* Fellowship Recipient, 2017-2018.
3. *USF Student Government travel grant* Award Recipient, 2016 and 2017.
4. *Sigma Xi GIAR (Grants-in-Aid of Research)* Award Recipient, 2015.
5. *Fred L. and Helen M. Tharp Endowed Scholarship* Recipient, 2015 and 2016.

(g) Collaborators & Other Affiliations

Collaborators: *University of South Florida*: Sarah Kruse; Glenn Thompson; Rocco Malservisi; Jochen Braunmiller; Judy McIlrath; Sanaz Esmaeili; Chris Tsokos. *Forschungszentrum Jülich*: Jan van der Kruk; Anja Klotzsche; *University of Calgary*: Nasser Kazemi. *University of Toronto*: Charly Bank; *Sultan Qaboos University*: Alaeddin Ebrahimi; *University of the Sciences in Philadelphia*: Abolfazl Saghafi; *NASA Goddard Space Flight Center*: William Brent Garry; Kelsey Young; Patrick Whelley; *University of Maryland*: Ernie Bell.

Graduate Advisors: PhD: *University of South Florida*: Sarah Kruse; Stephen McNutt; Rocco Malservisi; Glenn Thompson; *Forschungszentrum Jülich*: Jan van der Kruk. **MSc**: *Institute of Geophysics, University of Tehran*: Behrooz Oskooi; Vahid Ebrahimzadeh Ardestani; Mohammad K. Hafizi.

Thesis Adviser and Postgraduate-Scholar Sponsor: *Masters degree student co-adviser:* Mohammad Mohammad Zadeh (University of Tehran); Reza Shabrang (University of Tehran);