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Google Scholar

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EDUCATION

Postdoctoral researcher (since 2022)

Dipartimento di Matematica e Fisica, Università degli Studi Roma Tre, Rome, Italy

Title of projects:

- (1) Retrieve quantitative information on the electrical nature of planetary subsurface
- (2) Electromagnetic parameter estimation at high temperature for Venus subsurface analogues

PhD in Physics (2019-2022)

Dipartimento di Matematica e Fisica, Università degli Studi Roma Tre, Italy

Title of thesis: Estimation of Attenuation from GPR Data in Terrestrial and Planetary Investigation

Link: http://www.matfis.uniroma3.it/Allegati/Dottorato/TESI/J.BANIAMERIAN/Thesis_Text_JBANIAMERIAN_FINAL.pdf

PhD in Geophysics- Electromagnetism (2011-2016)

Institute of Geophysics, University of Tehran, Iran

Title of thesis: mapping the magnetic basement map by using the multiscale analysis of airborne data

Master in Geophysics-Magnetic methods (2006-2009)

Institute of Geophysics, University of Tehran, Iran

Title of thesis: Combined use of Analytic Signal and Euler Deconvolution on the interpretation of magnetic data

Bachelor in physics, condensed matter (2000-2005)

University of Kurdistan, Sanandaj, Iran

ACADEMIC EXPERIENCE

Lecturer (September 2017 - 2019)

Department of Electrical and Computer Engineering, Graduate University of Advanced Technology, Kerman, Iran.

Visiting researcher (2016-2017)

University of Naples Federico II, Naples, Italy

PhD visiting student (6 months, 2014)

University of Naples Federico II, Naples, Italy

RESEARCH INTERESTS

- Planetary geophysics
- Dielectric properties of planetary analogues
- Radar sounding in planetary investigation

- Rocks physical properties
- Radioglaciology
- Implementation of geophysical data in environmental and near surface investigations
- 2D and 3D inversion of the basement relief using gravity and magnetic data
- Processing and interpretation of the gravity, magnetic, EM data (ground, airborne and satellite data)
- Modeling and inversion of potential field data

PRACTICAL EXPERIENCES

- Survey designing and data processing (primary and advanced) the airborne geophysics data, Fanavaran Kahkeshan Co., 2011-2015
- Resident spectator of airborne geophysics survey, 2010-2011
- Magnetotelluric and Ground magnetic survey in Damavand, Iran, Geothermal and Magma STUDIES, 2009

TEACHING EXPERIENCE

- **Mathematics in Physics** (Master level)
- **Magnetic and gravity methods in geophysics** (Master level)
- **Electromagnetic methods in geophysics** (Master level)
- **Geophysics in tectonic** (Master level)
- **Geomagnetism** (Master level)
- **Basic Electromagnetic Theory** (Bachelor level)
- **General Physics** (Bachelor level)

SKILLS

- Excellent programming with MatLab and fine with Python, GPRMax,
- Microsoft Office
- LaTeX
- OASIS Montaj, Geosoft
- EKKO, Software and Sensors

LANGUAGE PROFICIENCY

- **English** (Proficient Listening, Reading, Writing, Speaking)
- **Farsi** (Mother Tongues)
- **Turkish and Kurdish** (Proficient)
- **Italian** (Elementary)

PUBLICATIONS

Journal Papers

1. Liu, S., Hu, X., Fedi, M., Baniamerian, J., Abbas, M. A., & Chauhan, M. S. (2024). Petrophysical and geophysical constrained inversion of gravity data based on starting and referenced models. *Journal of Geophysics and Engineering*, gxae111.
2. Baniamerian J, Lauro SE, Cosciotti B, Alessandro Brin, Carlo Lefevre, Mattei E, Pettinelli E. A novel experimental set-up for dielectric characterization of high-temperature planetary crusts. 2024, Under review in *Journal of Geophysical Research: Planet*
3. Baniamerian J, Lauro SE, Cosciotti B, Mattei E, Pettinelli E. Separation of absorption and scattering loss in scattered medium using Power and Amplitude Spectrum Analysis of Ricker Wavelet. *IEEE Transactions on Geoscience and Remote Sensing*, 2023. DOI: 10.1109/TGRS.2023.3272795.
4. Lauro SE, Pettinelli E, Caprarelli G, Baniamerian J, Mattei E, Cosciotti B, Stillman DE, Primm KM, Soldovieri F, Orosei R. Using MARSIS signal attenuation to assess the presence of South Polar Layered Deposit subglacial brines. *Nature communications*. 2022 Sep 28;13(1):1-0.
5. Lauro SE, Baniamerian J, Cosciotti B, Mattei E, Pettinelli E. Loss tangent estimation from ground-penetrating radar data using Ricker wavelet centroid-frequency shift analysis. *Geophysics*. 2022 May 1;87(3):H1-2.
6. Baniamerian J, Liu S, Hu X, Fedi M, Chauhan MS, Abbas MA. Separation of magnetic anomalies into induced and remanent magnetization contributions. *Geophysical Prospecting*. 2020 Aug 6;68(7):2320-42.
7. Nazeri S, Baniamerian J, Shomali ZH. Comment on "Quick Estimation of the Magnitude and Epicentral Distance Using the P Wave for Earthquakes in Iran" by Reza Heidari. *Bulletin of the Seismological Society of America*. 2021 Jun 1;111(3):1661-2.
8. Paoletti V, Milano M, Baniamerian J, Fedi M. Magnetic field imaging of salt structures at Nordkapp Basin, Barents Sea. *Geophysical Research Letters*. 2020 Sep 28;47(18):e2020GL089026.
9. Vatankhah S, Liu S, Renaut RA, Hu X, Baniamerian J. Improving the use of the randomized singular value decomposition for the inversion of gravity and magnetic data. *Geophysics*. 2020 Sep 1;85(5): G93-107.
10. S. Liu, J. Baniamerian and M. Fedi, "Imaging Methods Versus Inverse Methods: An Option or An Alternative?" in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 58, no. 5, pp. 3484-3494, May 2020, doi: 10.1109/TGRS.2019.2957412
11. Liu, S., Fedi, M., Hu, X., Baniamerian, J., Wei, B., Zhang, D., Zhu, R, 2018, Extracting induced and remanent magnetizations from magnetic data modeling. *Journal of Geophysical Research: solid earth*, 2018. <https://doi.org/10.1029/2017JB015364>.
12. Liu, S., Fedi, M., Hu, X., Ou, Y, Baniamerian, J., Liu, Y, 2018, 3D inversion of magnetic data in the simultaneous presence of significant remanent magnetization and self-demagnetization example from Daye iron-ore deposit (central China). *Geophysical Journal International*. <https://doi.org/10.1093/gji/ggy299>.
13. Baniamerian, J., Liu, S., Mahmoud Ahmed, M. Abbas, 2018, "Improved computation of potential field vertical gradient based on smoothing filters". *Pure And Applied Geophysics*, 2018. <https://doi.org/10.1007/s00024-018-1857-2>.
14. Baniamerian, Jamaledin, Maurizio Fedi, and Behrooz Oskooi, 2016, "Research Note: Compact Depth from Extreme Points: a tool for fast potential field imaging." *Geophysical Prospecting* 64, 1386-1398. <https://doi.org/10.1111/1365-2478.12365>.

15. Baniamerian, Jamaledin, Behrooz Oskooi, and Maurizio Fedi, 2017, "Source imaging of potential fields through a matrix space-domain algorithm." *Journal of Applied Geophysics* 136, 51-60. <https://doi.org/10.1016/j.jappgeo.2016.10.035>.

Conference Papers

1. Baniamerian, Jamaledin, et al., An experimental set-up for dielectric characterization of Venusian crust analogs at high temperatures. No. EPSC2024-4. Copernicus Meetings, 2024.
2. Baniamerian, Jamaledin, et al., Evaluating the attenuation coefficient of the Moon's shallow subsurface using Lunar Penetration Radar (LPR) data, the 28th General Assembly IUGG Berlin, 2023.
3. Lauro S, Pettinelli E, Caprarelli G, Baniamerian J, Mattei E, Cosciotti B, Stillman D, Primm K, Soldovieri F, Orosei R. Using MARSIS signal attenuation to constrain SPLD basal temperature and composition. In European Planetary Science Congress 2022 Sep (pp. EPSC2022-1052). Oral Presentation.
4. R. Orosei, J. Baniamerian, G. Caprarelli, B. Cosciotti, S. E. Lauro, E. Mattei, E. Pettinelli, K. Primm, F. Soldovieri and D. E Stillman, The Search for Liquid Water Beneath the Martian South Polar Layered Deposits. 20th Annual Meeting of the Asia Oceania Geosciences Society (AOGS2023).
5. Lauro SE, Baniamerian J, Pettinelli E, Mattei E, Cosciotti B. A New Centroid Frequency-Based Algorithm to Estimate the Attenuation of Ground Penetrating Radar. In 82nd EAGE Annual Conference & Exhibition 2021 Oct 18 (Vol. 2021, No. 1, pp. 1-5). European Association of Geoscientists & Engineers. Oral Presentation.
6. Liu, S., Baniamerian, J. Inversion of magnetic data to fully reconstruct the Magnetization vector and its application to mineral exploration, 18th Iranian Geophysical Conference, May 2018, pages 1031-1034. Oral Presentation.
7. Baniamerian, J., Fedi, M. An Improved CDEXP Transformation of GGT for Imaging Gravity Sources, EAGE 2016, Workshop 16 - Inversion Highlights, Vienna, Austria. Oral Presentation.
8. Baniamerian, J., Fedi, M., Oskooi, B. Transforming matrices in the space domain for concurrent upward continuation and differentiation of potential fields: an application to multiscale methods. 26th IUGG General Assembly, Czech Republic, 2015. Poster.

Papers in Farsi

1. Baniamerian, J., Radad, M. and Mohammadi, V.M., Interpretation of magnetic and gravity anomalies by using extended Euler deconvolution method, *Journal of Analytical and Numerical Methods in Mining Engineering*, 2020, Volume, 10, Issue, 23, page 159-171.
2. Baniamerian, J., Oskooi, B., Fedi, Maurizio. Comparison of different methods for the estimation of depth-location and source-type of magnetic and gravity fields. *Journal of earth and physics space*, 2015. (In Farsi with a short abstract in English)
3. Baniamerian, J., Oskooi, B., Byrami, A. Approximation of depth and structural index of magnetic sources using multiscale analysis and DEXP methods. *Journal of earth and physics space*, 2015. (In Farsi with a short abstract in English)
4. Baniamerian, J., Oskooi, B., Imani, P. The analytical signal and derivatives of the fractional orders for potential fields application in processing and interpretation, *Iranian Journal of Geophysics (IJG)*, 2012, V6, Issue 3, P1-P16. (In Farsi with a short abstract in English)

5. Baniamerian, J., Oskooi, B., Combination of analytic signal and Euler Deconvolution methods (AN_EUL) for interpretation of magnetic data in 2-D cases. *Journal of Physics of Earth and Space*, 2011. V37, Issue3. (In Farsi with a short abstract in English)
6. Ahmadi, M., A., Ardestani, V., Baniamerian, J. The use of two-dimensional discrete wavelet transform in the boundary estimation of gravity sources, 2011. *Iranian Journal of Geophysics* V5, Issue 3, P55-P66. (In Farsi with a short abstract in English)
7. Baniamerian, J., Oskooi, B., Bastani, M. Estimation of depth, structural index and location of the magnetic sources by using combined method of AN-EUL. *Iranian Journal of Geophysics (IJG)*, 2011. V6, Issue 3, P 1-16. (In Farsi with a short abstract in English)
8. Baniamerian, J., Oskooi, B. Comparing the results of applying the AN_EUL on magnetic data, reduced to the pole magnetic data and pseudo gravity data. *Iranian Journal of Geophysics (IJG)*, 2009. V3, Issue 2, P 43-59. (In Farsi with a short abstract in English)