

Curriculum Vitae

Dr. Mohamed Fredj

Assistant professor - Mining Engineering

Mining and Geology Department – University of Bejaia - Algeria

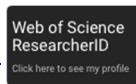
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I. EDUCATION

| | |
|------------------|---|
| 2018-2019 | Doctorate (PhD) in Mining - University of Badji Mokhtar Annaba - Algeria (With the highest honor) |
| 2011-2012 | MSc in Mining - University of Badji Mokhtar Annaba - Algeria |
| 2005-2006 | Engineer in Mining - University of Badji Mokhtar Annaba - Algeria |
| 2002-2003 | DEUA in Mining - University of Badji Mokhtar Annaba - Algeria |
| 1999-2000 | Bachelor's degree, Electrical (High school Ahmed Aroua Magra - M'sila - Algeria) |

II. PROFESSIONAL APPOINTMENTS AND TEACHING ACTIVITIES

II.1. APPOINTMENTS

| | |
|-----------------------|---|
| 2019 - Present | Assistant professor - University of Bejaia - Faculty of Technology - Mining and Geology Department, Algeria. - Deputy Head of Research and Post-Graduation , Mining and Geology Department - Faculty of Technology - University of Bejaia. - Member of the Natural Resources and Planning Laboratory - Badji Mokhtar University - Annaba, Algeria |
| 2015 - 2019 | - Research and Teaching Assistant (full time position), Faculty of Technology - Mining and Geology Department, Algeria. |

II.2. TEACHING ACTIVITIES

II.2.1. Teaching

| University / Institute | Module or subject taught (Courses, Tutorials and Practical Work) | Teaching cycle |
|--|--|---|
| Abderrahmane Mira University - Bejaia, Faculty of Technology, Mining and geology department (2015 - Present) | 1. Underground Mining (I & II) 2. Geotechnical engineering 3. Underground Mining | Master 1 (EM) Master 1 (EM) License L3 (EM) |

III. RESEARCH AND PUBLICATIONS

III.1. PUBLICATIONS IN REFERRED JOURNALS

- A Saadoun., **M Fredj**., R Boukarm., H Riheb. (2022). Fragmentation analysis using digital image processing and empirical model (KuzRam): a comparative study. *Journal of Mining Institute*, 2022 (257), 822-832. DOI: [10.31897/PMI.2022.84](https://doi.org/10.31897/PMI.2022.84)
- Rebbah, R., Duarte, J., Djezairi, O., **Fredj, M.**, Baptista, J.S. (2021). A Tunnel under an In-Pit Mine Waste Dump to Improve Environmental and Landscape Recovery of the Site. *Minerals* 2021, 11, 566. Doi: [10.3390/min11060566](https://doi.org/10.3390/min11060566)
- Boudiaf, M., Chaib, R., **Fredj, M.** (2021). Assessment of potential dangers of installations at Rhourde Nous station within the framework of the law 45/dg (Ouargla, Algeria). *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu* (2):145-150. DOI:10.33271/nvngu/2021-2/145.
- Fellouh, N., Boukelloul, M. L., Aissi, A., **Fredj, M.** (2020). Assessment of Geotechnical Properties of Draa El-Mizane Highway Tunnel (Algeria). *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu*, 2020 (6), 55-60. Doi: [10.33271/nvngu/2020-6/055](https://doi.org/10.33271/nvngu/2020-6/055)
- Boustila, A., Hafsaoui, A., **Fredj, M.**, Yahyaoui, S. (2020). Maximum surface settlement induced by shallow tunnelling in layered ground. *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu*, 2020 (5), 55–60. Doi: [10.33271/nvngu/2020-5/055](https://doi.org/10.33271/nvngu/2020-5/055)
- M. Fredj**, A. Hafsaoui, H. Riheb, R. Boukarm, A. Saadoun. (2020). Back-Analysis Study of Slope Instability in an Open Pit Mine, Algeria. *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu* (2): 24-29. Doi: [10.33271/nvngu/2020-2/024](https://doi.org/10.33271/nvngu/2020-2/024)
- R. Nakache, M. Boukelloul, A. Bouhedja, **M. Fredj.** (2019). Stability analysis of the pillars of the underground mine Châabet El-Hamra, Algeria by analytical and numerical methods. *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu* (2): 21-27. DOI: [10.29202/nvngu/2019-2/1](https://doi.org/10.29202/nvngu/2019-2/1)
- R. Boukarm., A. Houam., **M. Fredj**., R Boucif. (2019). Geotechnical Risk Assessment of Rock Slope Stability Using Non-Linear Strength Criterion. *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu* (4):48-54. DOI: [10.29202/nvngu/2019-4/4](https://doi.org/10.29202/nvngu/2019-4/4).
- M. Fredj**, R. Boukarm, R Nakache, A Saadoun, M Saoudi, I Tighilt. (2019). Distribution Analysis of Rock Fragments Size Based on the Digital Image Processing and the Kuz-Ram Model. Case of Jebel Medjounes Quarry. *Aspects Min Miner Sci.* 2(4). Doi: [10.31031/AMMS.2019.02.000545](https://doi.org/10.31031/AMMS.2019.02.000545).
- Saadoun, A., Hafsaoui, A., Khadri, Y., **Fredj, M.**, Boukarm, R., Nakache, R. (2018). Model Study of Slope Stability in Open Pit by Numerical Modeling Using the Finite Element Method. *Aspects Min Miner Sci.* 1(3). Doi: [10.31031/AMMS.2018.01.000514](https://doi.org/10.31031/AMMS.2018.01.000514)
- A. Saadoun, A. Hafsaoui, K. Youcef, **M. Fredj.** (2018). Numerical modelling of slope stability in Chouf Amar limestone quarry (M'sila, Algeria). *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu* (5). DOI: [10.29202/nvngu/2018-5/3](https://doi.org/10.29202/nvngu/2018-5/3).
- A. Saadoun, A. Hafsaoui, Y Khadri, **M Fredj**, R Boukarm, R Nakache. (2018). Model Study of Slope Stability in Open Pit by Numerical Modeling Using the Finite Element Method. (2018). *Aspects Min Miner Sci.* 1(3). DOI: [10.31031/AMMS.2018.01.000514](https://doi.org/10.31031/AMMS.2018.01.000514)
- M. Fredj**, A. Hafsaoui, Y. Khadri, R. Boukarm. (2018). Influence of the failure surface choice on the safety factor value during slope stability studies. *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu.* DOI: [10.29202/nvngu/2018-3/3](https://doi.org/10.29202/nvngu/2018-3/3).

III.2. PUBLICATIONS IN REFERRED CONFERENCES [Selection]

- Djoudi, M., Bensehamdi, S. and Fredj, M. (2021) 'Study of blasting effect on bench stability', IOP Conference Series: Earth and Environmental Science, 833(1), p. 012196. Doi: 10.1088/1755-1315/833/1/012196.
- Saadoun, A., Yilmaz, I., Hafsaoui, A., Riheb, H., **Fredj, M**, Boukarm, R and Nakache, R. (2020). Different Approaches for Study Slope Stability in Quarries, Case Chouf Amar Limestone Quarry-M'sila, Algeria. *IOP Conf. Ser.: Earth Environ. Sci.* 609 012093
- M Fredj**, A. Hafsaoui, R Boukarm, R Nakache, A. Saadoun. (2019). Numerical Modelling of Slope Stability in Open Pit Phosphate Mines, Algeria: A Comparative Study. (2019). *IOP Conference Series: Earth and Environmental Science* 221 (1), 012020. DOI: [10.1088/1755-1315/221/1/012020](https://doi.org/10.1088/1755-1315/221/1/012020)
- A Saadoun, A Hafsaoui, Y Khadri, **M Fredj**, R Boukarm, R Nakache. (2019). Study Effect of Geological Parameters of the Slope Stability by Numerical Modelling, Case Limestone Career of Lafarge M'sila, Algeria. *IOP Conference Series: Earth and Environmental Science* 221 (1), 012021. DOI:[10.1088/1755-1315/221/1/0120201](https://doi.org/10.1088/1755-1315/221/1/0120201)
- M. Fredj**, A Hafsaoui, Y Khadri, R Boukarm, R Nakache, A Saadoun, K Menacer. (2017). Study of Bench Stability in the Phosphate Mine, Algeria. (2017). Engineering Geology and Geological Engineering for Sustainable Use of the Earth's Resources, Urbanization and Infrastructure Protection from Geohazards, SUCI. DOI: [10.1007/978-3-319-61648-3_7](https://doi.org/10.1007/978-3-319-61648-3_7).
- M. Fredj**, A. Hafsaoui, Y. Khadri, R. Boukarm, R. Nakache, A. Saadoun, K. Menacer. (2017). Study of Slope Stability (Open Pit Mining, Algeria). Soil Testing, Soil Stability and Ground Improvement, SUCI. DOI: [10.1007/978-3-319-61902-6_1](https://doi.org/10.1007/978-3-319-61902-6_1).
- A. Saadoun, A. Hafsaoui, **M. Fredj**. (2017). Landslide Study of Lands in Quarries. Case Chouf Amar - M'sila, Algeria. Contemporary Issues in Geoenvironmental Engineering, SUCI. DOI: [10.1007/978-3-319-61612-4_3](https://doi.org/10.1007/978-3-319-61612-4_3).
- R. Boukarm, A. Houam, **M. Fredj**, R. Boucif. (2017). Modeling and Analysis of the Excavation Phase by the Theory of Blocks Method of Tunnel 4 Kherrata Gorge (Algeria). *IOP Conf. Series: Earth and Environmental Science* 95 (2017) 022019. DOI: [10.1088/1755-1315/95/2/022019](https://doi.org/10.1088/1755-1315/95/2/022019).
- M. Fredj**, A. Hafsaoui, K. Talhi, K. Menacer. (2015). Study of Powder Factor in Surface Bench Blasting. *Procedia Earth and Planetary Science. Science Direct*. DOI : [10.1016/j.proeps.2015.08.142](https://doi.org/10.1016/j.proeps.2015.08.142).
- R. Nakache, M. Boukelloul, **M. Fredj**. (2015). Stability Analysis of Underground Mining and Their Application on the Mine Chaabet Elhamra, Algeria. *Procedia Earth and Planetary Science*. DOI: [10.1016/j.proeps.2015.08.058](https://doi.org/10.1016/j.proeps.2015.08.058)

III.3. INTERNATIONAL CONFERENCES

- M. Fredj**, A. Hafsaoui, R. Nakache, A. Saadoun. (2013). Etude du Régime de Forage Roto-Perçant dans les Carrières de Calcaire, 2ème Séminaire International Sur L'industrie Minérale et L'environnement "2SIMIN13", Annaba, 19 et 20 Novembre 2013.
- A. Saadoun, A. Hafsaoui, **M. Fredj**, R. Nakache. (2013). Contribution à L'analyse des Effets des Tirs d'abattage dans les Conditions de la Carrière de Calcaires Chouf Amar (M'sila), 2ème Séminaire International Sur L'industrie Minérale et L'environnement "2SIMIN13", 19 et 20 Novembre 2013.
- M Fredj**, A. Hafsaoui, R. Nakache and A. Saadoun. (2016). Influence of Blasting on the Stability of Stand. Phosphate Mining -Tebessa, Algeria. International Conference On Applied Geology And Environment "ICAGE 2016", Mahdia, Tunisia, 19-21 May 2016.

- K. Menacer, A. Hafsaoui, **M. Fredj**. (2016). Study of the Parameters Affects the Results of Blasting of Rocks. Cases Chouf-Amar of M'sila, Algeria. International Conference On Applied Geology And Environment "ICAGE 2016", Mahdia, Tunisia, 19-21 May 2016.
- M. Fredj**, A. Hafsaoui, R. Nakache, A. Saadoun. (2016). Study of the Stability of the Slope of Open-pit Mines. Case of the Mining of Phosphate Tebessa, Algeria. International Conference On Applied Geology And Environment "ICAGE 2016", Mahdia, Tunisia, 19-21 May 2016.
- R. Nakache, M/L. Boukelloul, **M. Fredj**. (2016). Study of Stability Room and Pillar Underground Mining for the Mine Chaabet El Hamra Algeria. International Conference On Applied Geology And Environment, "ICAGE 2016" Mahdia, Tunisia, 19-21 May 2016.
- A. Saadoun, A. Hafsaoui, **M. Fredj**, K. Menacer, R. Nakache. (2016). Study of Effects of Shots on Stability of Risk and Land Slide in a Quarry Open-Pit. Case Quarry Lafarge Cement of M'sila. International Conference On Applied Geology And Environment "ICAGE 2016", Mahdia, Tunisia, 19-21 May 2016.
- A. Saadoun, A. Hafsaoui, Y. Khadri, **M. Fredj**, R. Boukarm. (2017). Study of Landslide in Open Pit Quarries by Numerical Modeling. Case Quarry of Chouf Amar – M'sila. 3ème Séminaire International Sur L'industrie Minérale et Environnement "3simine'17", Annaba, 11 au 13 Octobre 2017.
- M. Fredj**, R. Boukarm, A. Saadoun. (2021). Influence of Geological conditions and blasting activities on slope stability, 73rd Geological Congress of Turkey, Geology & geopolitics (En line), Ankara, 24 - 28 Mai 2021.
- M. Fredj**, R. Boukarm, A. Saadoun (2021). Slope stability under the influence of blasting activities. Séminaire international sur l'industrie et la technologie (webinaire), organisé par Algerian Journal of Engineering, Architecture and Urbanism, Oran, 12 et 13 Mars 2021.
- R. Boukarm, **M. Fredj**, A. Saadoun. (2021). Influence de la distribution des discontinuités sur l'analyse de la stabilité des massifs rocheux. Cas de la Mine à ciel de Kef Essenoun (Tébessa). Séminaire international sur l'industrie et la technologie (webinaire), organisé par Algerian Journal of Engineering, Architecture and Urbanism, Oran, 12 et 13 Mars 2021.
- A. Saadoun, R. Boukarm, **M. Fredj**. (2021). Study the influence of marl on slope stability of benches in quarries by different methods. Case Debil quarry, M'sila - Algeria. Séminaire international sur l'industrie et la technologie (webinaire), organisé par Algerian Journal of Engineering, Architecture and Urbanism, Oran, 12 et 13 Mars 2021.
- M. Djoudi, S. Bensehamdi, **M. Fredj**. (2021). Study of blasting effect on bench stability, Séminaire international sur l'industrie et la technologie (webinaire), organisé par Algerian Journal of Engineering, Architecture and Urbanism, Oran, 12 et 13 Mars 2021.

III.4. NATIONAL CONFERENCES

- M. Fredj**, R. Nakache, A. Saadoun. (2012). Etude de la Stabilité des Mines Souterraines par Méthodes Numérique. Cas de la Mine de Châabet El Hamra (Algérie). 1er Séminaire National Sur Les Géorisques, Jijel, 4 et 5 Décembre 2012.
- A. Djafari, K. Blkhdar, A. Kourim, A. Saadoun, B. Ayadi, **M. Fredj** (2019). Concept « Roche-Explosif » pour une fragmentation adéquate des roches in-situ (cas du gisement aurifère d'Amesmessas Tamanrasset). 1er séminaire national en Géoscience et Environnement SGSE'19, Tamanrasset, 23-24 Octobre 2019

III.5. RESEARCH SCIENTIFIC

Research projects (Project submitted within the framework of the national commission

for the evaluation of university research projects (PRFU):

- 1- Study of Slope Stability and Underground Structures. (Code: A01L05UN230120190001)
- 2- Impact of mining excavation on the rock masses' stability. (Code: A01L05UN060120230001)

IV. SCIENTIFIC ACTIVITIES

IV.1. REVIEWING ACTIVITIES

| Expertise, member of the reading committee | | |
|--|---|----------------|
| Expertise context | Applicant structure or organization | Year |
| Guest Editor | Special issue 'Industrial Technology Innovation' in the journal "Science Innovation (SI); ISSN: 2328-7861 | 2018 |
| Editorial Board | Journal Earth Science, ISSN: 2328-5974 (Print) | 2018 – present |
| Reviewers Member | Journal of Civil Engineering, Construction and Environment (JCCEE). ISSN: 2637-3882 | 2018 – present |
| | Journal of Geotechnical and Geological Engineering. ISSN: 0960-3182 | 2021 – present |
| | Journal of Minerals (ISSN 2075-163X) (MDPI) | 2022 – present |
| | Journal of Sustainability (ISSN 2071-1050) | |
| | Journal of Applied Sciences, ISSN: 2076-3417 | |
| Expert reviewers | Academic Exchange Information Centre (AEIC) | 2021 – present |

V. OTHER DETAILS

V.1. SKILLS

Languages

Arabic: Maternal

French: Fluent – working tongue

English: Advanced

Computer skills

Pack Office: Word, Excel, Publisher, PowerPoint, etc.

Geotechnical software: SLIDE, PHASE2, PLAXIS, FLAC, etc.

Mining software: JKSim Blast, WipFrag, Split Desktop,

V.2. HOBBIES

- Sport
- Light and heavy mechanics (Hybrid)