



- 1. Name & Academic Rank:** Kamel F. Bou-Hamdan, Assistant Professor, full-time.
- 2. Education: Degrees, Discipline, Institution and Date:**
 - Ph.D., Petroleum Engineering, University of Aberdeen, 2019.
 - M.Sc., Petroleum Engineering, Heriot-Watt University, 2012.
 - B.Eng., Electrical Power & Control Engineering, Beirut Arab University, 2011.
- 3. Work Experience:**
 - Assistant Professor at the Chemical and Petroleum Engineering Department, Beirut Arab University, Lebanon. (Feb 2019 – present)
 - Part-time Lab Assistant at the School of Engineering, University of Aberdeen, UK. (Feb 2016 – Dec 2018)
 - Lecturer at the Petroleum Engineering Department, Beirut Arab University, Lebanon. (Feb 2014 – Aug 2015)
 - Consultant Engineer, Advance Engineering and Management Services, Lebanon. (Sep 2013 – Aug 2014)
- 4. Service Activities and Memberships**
 - Member of the Production & Operations Award Subcommittee for the SPE Annual Technical Conference and Exhibition (ATCE) (2022-2025)
 - Judge for the SPE MENA Student Paper Contest (PhD division) (2022)
 - Editorial Board Member at The Way Ahead publication. (May 2019 – present)
 - Member of the Postgraduates & Research Committee. (Aug 2019 – present)
 - Member of the Student Activities Committee. (Aug 2019 – present)
 - Academic Reviewer for different conferences and journals.
 - Switch Energy Alliance Competition Judge (2020-2021) & Mentor (2021)
 - Engineering Day Judge. (2019)
 - SPE Section Awards Judge. (2019) & Student Chapter Awards Judge. (2017)
 - University representative in events and conferences
 - Member of the Society of Petroleum Engineers. (2011 – present)
 - Member of the Order of Engineering and Architects in Lebanon. (2013–present)
- 5. Research Interests**
 - Hydraulic Fracturing
 - Enhanced Oil Recovery
 - Reservoir Characterization
 - Drilling and Production operations



- Geomechanics
- Renewable Energy
- Environmental Impacts

6. Principle Publications and Presentations

6.1. Publications:

1. El-Masry, J., Bou-Hamdan, K.F.*, Abbas, A.H., Martyushev, D. (2023). "A Comprehensive Review on Utilizing Nanomaterials in Enhanced Oil Recovery". *Energies* 16, no. 2: 691. <https://doi.org/10.3390/en16020691>
2. Bou-Hamdan, K.F.*, Abbas, A. (2022). "Utilizing Ultrasonic Waves in the Investigation of Contact Stresses, Areas, and Embedment of Spheres in Manufactured Materials Replicating Proppants and Brittle Rocks". *Arabian Journal for Science and Engineering* 47(9), 11635-11650. <http://doi:10.1007/s13369-021-06409-6>
3. Abbas, A.H.*, Markraphael, O., Mazhit, B., Martyushev, D., Bou-Hamdan, K.F., Abd Alsaheb, R.A. (2022). "Natural Polymer: Evaluation of OKRA (*Abelmoschus esculentus*) Macromolecular Solution for Kazakhstan Carbonate Reservoir". *Energies* 15, no. 18: 6827. <https://doi.org/10.3390/en15186827>
4. Bou-Hamdan, K.F.* (2022). "A 3D semi-analytical model for the interaction of proppants and rocks in a fractured reservoir". *Journal of Porous Media*. <https://doi.org/10.1615/JPorMedia.2022041752>
5. Bou-Hamdan, K.F. (2022). "Applications of Nanomaterials in the Oil and Gas Industry". Book Chapter in *Handbook of Research on Green Synthesis and Applications of Nanomaterials (2 Volumes)*. IGI Global. <http://doi:10.4018/978-1-7998-8936-6.ch008>
6. Bou-Hamdan, K.F. (2021). "Implementation Challenges of Extended Reach Drilling and Hydraulic Fracturing Operations in Unconventional Reservoirs". *Petroleum & Petrochemical Engineering Journal* Vol 5, No. 4, <http://doi:10.23880/ppej-16000283>
7. Bou-Hamdan, K. (2021). "Design and Implementation of an Ultrasonic Scanner Setup that is Controlled using MATLAB and a Microcontroller". *Advances in*



Science, Technology and Engineering Systems Journal Vol. 6, No. 2, 85-92.
<https://doi.org/10.25046/aj060211>

8. Bou-Hamdan, K. "[What is concealed beneath the Lebanese offshore?](#)". The Way Ahead.
9. Bou-Hamdan, K. (2020). "An experimental approach that scans the surface area using ultrasonic waves to generate a two-dimensional image". 7th International Conference on Electrical and Electronics Engineering (ICEEE), Turkey.
<https://doi.org/10.1109/ICEEE49618.2020.9102557>
10. Bou-Hamdan, K. (2020). "Key Design Considerations for maximizing the recovery rate of unconventional reservoirs". SPE The Way Ahead.
<https://pubs.spe.org/en/twa/twa-article-detail/?art=6638>
11. Bou Hamdan, K., Siddiq, A. & Syed, A. (2019). "Investigating the role of proppants in hydraulic fracturing of gas shales". School of Engineering, University of Aberdeen, UK. ISNI: 0000 0004 7652 6922. (PhD Thesis)
<https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.768131>
12. Bou Hamdan, K., Harkous, R. & Abou Chakra, H. (2015). "An overview of Extended Reach Drilling: Focus on design considerations and drag analysis". 2015 International Mediterranean Gas and Oil Conference (MedGO), Lebanon.
<https://doi.org/10.1109/MedGO.2015.7330328>

6.2. Conference Proceedings/Talks:

1. H. Jaber, E. Maalouf*, A. Yehya*, M. Salah, M. Harb, **K.F. Bou-Hamdan**. "Effect of temperature on the mechanical and petrophysical properties of rocks from southern Lebanon". International Geomechanics Symposium: The Role of Geomechanics in Energy Efficiency and Energy Sustainability. (Abstract, Nov 2022)
2. **K.F. Bou-Hamdan**. "Modelling The Deformation Behavior Of A Hydraulically Fractured Reservoir Rock Under A Monolayer Arrangement Of Proppants". International Conference on Oil, Gas and Petroleum Engineering, (Abstract + oral presentation, Oct 21-22, 2022).



3. **K.F. Bou-Hamdan.** "The basic stages of the drilling and extraction process regarding the Lebanese Offshore". Lebanon and Mediterranean Gas Workshop, (Webinar, 2020).
4. **K.F. Bou-Hamdan.** "Hydraulic Fracturing: Key Design Considerations and Challenges". Lebanon Oil and Gas Workshop, Lebanon. (Webinar, 2020).
5. **K.F. Bou-Hamdan.** "Introduction to Hydraulic Fracturing". Lebanon Oil and Gas Workshop, Lebanon. (Webinar, 2020)
6. **K.F. Bou-Hamdan.** "An experimental approach that scans the surface area using ultrasonic waves to generate a two-dimensional image". 7th International Conference on Electrical and Electronics Engineering (ICEEE), Turkey. (Abstract + Article, 2020)
7. **K.F. Bou-Hamdan.** "Investigating the role of proppants in hydraulic fracturing of gas shales". School of Engineering, University of Aberdeen, UK. (PhD Viva, 2019)
8. **K.F. Bou-Hamdan.** "An elastic model for partial monolayer arrangement of spheres". Petroleum and Natural Gas Engineering seminar, University of Aberdeen, UK. (Abstract + oral presentation, 2017)
9. **K.F. Bou-Hamdan.** "Investigating the role of proppant in hydraulic fracturing of gas shales by ultrasonic waves". Engineering Postgraduate Research Symposium, University of Aberdeen, UK. (Abstract + Poster, 2017)
10. **K.F. Bou-Hamdan.** "Literature review investigating the role of proppant in hydraulic fracturing of gas shales". Engineering Postgraduate Research Symposium, University of Aberdeen, UK. (Abstract + Poster, 2016)
11. **K. Bou-Hamdan., R. Harkous, & H. Abou Chakra.** "An overview of Extended Reach Drilling: Focus on design considerations and drag analysis". 2015 International Mediterranean Gas and Oil Conference (MedGO), Lebanon. (Abstract + Article, 2015)
12. **K.F. Bou-Hamdan.** "Contribution of the petroleum engineering program at Beirut Arab University to the future of Oil & Gas industry in Lebanon". The Middle East Education Market: Academia Lebanon 2014, Lebanon. (Abstract + oral presentation, 2014)



13. **K.F. Bou-Hamdan.** "Wind Energy System". Renewable Energy Technology & Sources Symposium, Beirut Arab University, Lebanon. (Abstract + Poster, 2011)