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MATEEN HAFIZ, PH.D.

DESIGNATION Assistant Professor in Geology

PROFESSIONAL EXPERTISE

- Source Rock Characterization (Visual Kerogen Analysis, Rock Eval); Gas Chromatography
- Mineralogy and Unconventional Reservoir Characterization (XRD, QEMSCAN, FEG-SEM)
- Paleoclimatology; Paleoenvironmental Studies

EXPERIENCE **ASSISTANT PROFESSOR IN THE HIGHER EDUCATION DEPARTMENT, GOVERNMENT OF JAMMU AND KASHMIR (INDIA)**

March 2017 to Present

I have been teaching Geology to the undergraduate students in the GGM Science College Jammu, India.

AFFILIATE SCIENTIST AT THE ENERGY & GEOSCIENCE INSTITUTE, UNIVERSITY OF UTAH, USA.

October 2019 to Present

I have been working on various research projects related to the Indian Subcontinent sedimentary basins.

LECTURER IN GEOLOGY (CONTRACTUAL) IN THE POSTGRADUATE DEPARTMENT OF GEOLOGY, UNIVERSITY OF JAMMU, INDIA

2010-2011 and 2015-2017 Sessions

I was teaching Physical Geology; Petroleum Geology; Geo-exploration; Hydrogeology; Petrology; Mineralogy to the postgrad and undergrad students.

VISITING SCIENTIST AT THE ENERGY AND GEOSCIENCE INSTITUTE (EGI), UNIVERSITY OF UTAH, SALT LAKE CITY, UTAH, USA

June-August 2012 and June-July 2013

During my visits, I worked in the EGI laboratories, studying the unconventional shale resources of Indian basins and also contributed to the *Indian Subcontinent Shale Resource Plays, Phase 1* project with research focusing on the Cambay, Himalayan Foreland and Damodar basins.

AWARDS AND ACHIEVEMENTS

- 2019-Present Affiliate Scientist at the Energy & Geoscience Institute, University of Utah, Salt Lake City, Utah, USA.
- 2023- Present Managing Editor of the Indian Association of Sedimentologists.
- Oct 2017 Convener of a workshop titled “Shale Resources Exploration in India: Promises and Challenges in the Next Decade”, organised at the American Association of Petroleum Geologists - International Conference and Exhibition (AAPG-ICE) in London.
- Jan 2017 Editor “International Workshop Proceedings – Indian Shale Oil and Gas Exploration”, January 2016: Salt Lake City, Utah, Energy & Geoscience Institute (EGI), University of Utah.
- Jan 2016 Organising Secretary “One day International Shale Oil & Gas Workshop” at Anamallai University, India.
- May-Jul 2013 Visiting Scientist, EGI, University of Utah (USA).
- 2013 Chaired the technical session in the Indian Association of Sedimentology, Manipur University, India.
- Jun-Aug 2012 Research Student Intern, EGI, University of Utah (USA).
- 2011 EGI PhD Research Scholarship (\$ 21,000).
- 2011 Third Prize - Poster Presentation, NPESMD, ISM Dhanbad, Jharkhand, India.
- 2011 Citation for oral presentation at ICUSFFCM-2011, GERMI, Gandhinagar, India.
- 2010 Award of recognition – Student Photography Contest. ONGC, APG and AAPG, at GeoIndia-2010, New Delhi (India).
- 2010-Present Contributor and Co-Leader – Students’ Education Programme on climate change, global warming, energy efficiency - conservation, natural hazards and disasters (Programmes organised in Jammu and Kashmir, Rajasthan, Jharkhand (India); Ghana (West Africa) and Argentina (South America).
- 2009 & 2011: Qualified National Eligibility Test (NET), conducted by Council of Scientific and Industrial Research (CSIR) Human Resource Development Group, New Delhi, India.

EDUCATION

P.G. DEPARTMENT OF GEOLOGY, UNIVERSITY OF JAMMU, JAMMU.

PH.D. (2010-2015)

Ph.D. Title: Geological Controls on the Eocene Shale Gas Resources Plays in North and West India: Stratigraphy, Palaeoenvironment and Tectonic Setting

P.G. DEPARTMENT OF GEOLOGY, UNIVERSITY OF JAMMU, JAMMU.

MASTER OF SCIENCE (M.SC.) IN GEOLOGY (2007-2009)

Courses Studied: Sedimentology, Geomorphology, Remote Sensing and GIS, Structural Geology, Stratigraphy, Palaeontology, Geochemistry, Mineralogy, Ore Geology, Igneous Petrology, Metamorphic Petrology, Engineering Geology, Hydrogeology, Mining Geology, Fuel Geology, Geotectonics, Petroleum Geology, Geophysics, Oceanography, Environmental Geology, Applied Micro-palaeo-ecology, Mathematical Geology

GOVERNMENT GANDHI MEMORIAL (GGM) COLLEGE, UNIVERSITY OF JAMMU, JAMMU.

BACHELOR OF SCIENCE (B.SC.) (2005-2007)

Courses Studied: Geology, Botany, Zoology, General English

COMMUNICATION

INTERNATIONAL

- a. International Conference on “*Geology and Hydrocarbon potential of the Neoproterozoic-Cambrian Basins in India, Pakistan and the Middle east.* February 20-21, 2008
- b. International conference on “*Geothermal and Other Energy Resources of Ladakh: Technological and Business Viability*”, July 5-7, 2010 at Leh, Ladakh.
- c. *Geo-India 2011, 2nd South Asia’s Premier Geoscience Event.* 12-14 January, 2011. New Delhi, India.
- d. *International Conference on Unconventional Sources of Fossil Fuels and Carbon Management (ICUSFFCM-2011).* February 21-22, 2011. Gujarat Energy and Research Management Institute (GERMI), Gandhinagar, Gujarat, India.
- e. *17th Convention of IGC and International Conference on New Paradigms of Exploration and Sustainable Mineral Development: Vision 2050 (NPESMD 2011),* November 10-12, 2011. ISM, Dhanbad, Jharkhand.
- f. *India-US Bilateral Conference on Shale Gas,* 19-20 March 2012. Hotel ITC Maurya, New Delhi.
- g. International Conference on “*Sustainable Resource Development of Himalaya*”. 24-26 June 2014. The Grand Dragon Hotel & Conference Centre, Leh, Ladakh, India.
- h. International Conference on “*Geoscience and Environment*”. *32nd Annual Convention of Indian Association of Sedimentologists,* 7-10 January 2016, at the Annamalai University, Tamil Nadu, India.
- i. *One day International Shale Oil & Gas Workshop.* 8 January 2016, at the Annamalai University, Tamil Nadu, India.
- j. *2-day International Workshop on “Increasing Resilience to Environmental Hazards in Border Conflict Zones”.* 10-11 June 2017. The Grand Dragon Hotel & Conference Centre, Leh, Ladakh, India.

- k. *American Association of Petroleum Geologists (AAPG) and Society of Exploration Geophysicists (SEG) - International Conference and Exhibition (ICE)*, ExCeL Convention Center, London (UK) from 15-18 October 2017.
- l. International workshop on “*Alternative Energy*” Durham Energy Institute (DEI) at the Durham University, Durham, UK; on 3rd May 2018.
- m. International workshop on “*Increasing Resilience to Environmental Hazards – Disaster management Planning*” at the Grand Dragon hotel, Leh on 8th July 2019.
- n. International workshop on “*Outline Ways To Improve Healthcare, Schools And Community Safety (Coproducted Approach With Community)*” at the Army Auditorium, Turtuk, Ladakh, on 10th July 2019.
- o. Virtual International workshop on “*Unconventional Resources: Shale Gas & CBM Exploration & Exploitation*”, Organized by the Department of Petroleum Engineering and Earth Sciences, UPES, Dehradun, India, on 25th and 26th June 2020.
- p. International webinar organised by the AAPG Europe - Energy Transition Forum on “*Sustainability Emerging Geoscience Sector*”, held on 10th February 2022.
- q. 36th *International Geological Congress (IGC-2020)* which was held from 20-22 March 2022 and organised by the Ministry of Mines and Ministry of Earth Sciences Govt. of India.

NATIONAL

- a. 8th *University-Industry Council Symposium organized by Confederation of Indian Industries & Association of Indian Universities*, 25-26 November 2010, University of Jammu, Jammu (J&K).
- b. *National Conference and XXVII-Convention of the Indian Association of Sedimentologists (IAS-2010)*. December 22-24, 2010. University of Jammu (J&K).
- c. 7th *JK Science Congress (JKSC-11)*. October 13-15, 2011.
- d. *National Seminar on Management of Water Resources in North India with special reference to Jammu & Kashmir State*, 10th January 2012.
- e. *National Seminar on Sediments and Sedimentary Rocks: Resource Potential, Depositional Processes, Implications to Ecosystem and Environmental Changes & XXIX Convention of Indian Association of Sedimentologists (IAS-2012)*. December 19-20, 2012. Department of Earth Sciences, Pondicherry University (Puducherry).
- f. *National Conference on Sedimentation and Tectonics with Special Reference to Energy Resources of North-East India & XXX Convention of Indian Association of Sedimentologists*. November 28-30, 2013. Department of Earth Sciences, Manipur University, Imphal.
- g. 101st *Indian Science Congress*. 3-7 February 2014. University of Jammu, India.

- h. *Two Days Workshop on Disaster Management Preparedness* at GGM College Jammu, organized by Divisional Disaster management Authority, Jammu, 17-18 March 2018.
- i. National seminar on *“Geology and Climate of Himalaya”* at the University of Jammu, Jammu, 15-16 March 2018.
- j. UGC Sponsored *“General Orientation Course (GOC)”* organized by the University of Jammu, Jammu (India) from 26-11-2019 to 17-12-2019.
- k. Workshop on *“Student Excellence & Learning Program (SELP)”*, organised by Jammu & Kashmir Higher Education Department under the Employment Skill Enhancement Scheme at Govt. MAM College, Jammu (India); from 20-01-2020 to 25-01-2020.
- l. Workshop on *“Counseling Psychology: Needs and Opportunities”*, organized by JK Higher Education Department, at GCW, Parade Jammu (India); from 29-31 January, 2020.
- m. Faculty Development Programme on *“E-Learning Tools for Teaching & Learning”*, organized by the Department of Computer Sciences, Govt. Maulana Azad Memorial College, Jammu (India), from 01 June to 03 June, 2020.
- n. 1-week Faculty Development Programme on *“E-Content Development & Online Teaching”* organized by the Teaching Learning Centre, Ramanujan College, University of Delhi, from 07-02-2021 to 14-02-2021.
- o. 2-weeks Refresher Course on *“Blended Learning & Flipped Classroom”* organized by the Teaching Learning Centre, Ramanujan College, University of Delhi & GNIOT Institute of Management Studies (GIMS), from 08 March to 22 March, 2021.
- p. Workshop organised by the Central University of Jammu on *“Biofuels and Green Technologies BGT-2022”*, held on 8th March 2022.

MEMBERSHIP

- a. Member of American Association of Petroleum Geologists (AAPG)
- b. Member of American Association of Stratigraphic Palynologists (AASP)
- c. Life Member of Indian Association of Sedimentologists (IAS)
- d. Life Member of Jammu University Geology Alumni Association (JUGAA)

- Naveen Hakhoo, **Mateen Hafiz**, Sumeet Singh, Bindra Thusu, Juergen Thurow and Jonathan Craig, 2024. Carbon ($\delta^{13}\text{C}$) and Oxygen ($\delta^{18}\text{O}$) Isotope Geochemistry of the Proterozoic Sirban Limestone Formation, NW Himalaya, India. *Arabian Journal of Geosciences*, Vol. 17, DOI: [10.1007/s12517-024-12007-1](https://doi.org/10.1007/s12517-024-12007-1).
- Waqar Ahmed, John McLennan G. M. Bhat, Sudeep Kanungo, Bryony Richards, Thang Tran, Bindra Thusu, Naveen Hakhoo and **Mateen Hafiz**, 2024. Geomechanical characterization of the Barren Measure Formation in the Raniganj sub-basin of Damodar Basin, India. *Journal of the Geological Society of India*, Vol. 100, pp. 189-202, DOI: [10.17491/jgsi/2024/173819](https://doi.org/10.17491/jgsi/2024/173819)
- Mateen Hafiz**, Naveen Hakhoo, Ghulam M. Bhat, Sudeep Kanungo, Bindra Thusu, Jonathan Craig, Waqar Ahmed and Rahul Magotra, 2022. An assessment of the source potential and reservoir characterization for tight gas exploration in the Subathu Formation shales, Himalayan Foreland Basin, northwestern India. *Journal of Asian Earth Sciences*, Vol. 230, 105205. DOI: [10.1016/j.jseaes.2022.105205](https://doi.org/10.1016/j.jseaes.2022.105205)
- Mateen Hafiz**, Naveen Hakhoo, Ghulam M. Bhat, Sudeep Kanungo, Bindra Thusu, Jonathan Craig, and Waqar Ahmed, 2020. Source potential and reservoir characterization of the Cambay Shale, Cambay Basin, India: Implications for tight gas and tight oil resource development. *AAPG Bulletin*, Vol. 104, No. 8, pp. 1707-1749. DOI: [10.1306/03162017174](https://doi.org/10.1306/03162017174)
- Waqar Ahmed, G. M. Bhat, J. McLennan, H. N. Sinha, S. Kanungo, S. K. Pandita, Y. Singh, N. Hakhoo, **M. Hafiz**, B. Thusu, N. H. Choudhary. (2018). Kerogen typing using palynofacies analysis in Permian Barren Measures Formation in Raniganj sub-basin, East India. *The Palaeobotanist*, Vol. 67, pp. 113-122.
- J. Craig, N. Hakhoo, G.M. Bhat, **M. Hafiz**, M.R. Khan, R. Misra, S.K. Pandita, B.K. Raina, J. Thurow, B. Thusu, W. Ahmed, S. Khullar. (2018). Petroleum systems and hydrocarbon potential of the North-West Himalaya of India and Pakistan. *Earth-Science Reviews*, Vol. 187, pp. 109-185. DOI: [10.1016/j.earscirev.2018.09.012](https://doi.org/10.1016/j.earscirev.2018.09.012)
- Naveen Hakhoo, Ghulam M. Bhat, Sundeep Pandita, Gulzar Hussain, Ashan Ul Haq, **Mateen Hafiz**, Waqar Ahmed, Yudhbir Singh and Bindra Thusu. (2019). Natural Hazards their drivers, mechanisms and impacts in the Shyok-Nubra Valley, NW Himalaya, India. *International Journal of Disaster Risk Reduction (IJDRR)*. Vol. 35. <https://doi.org/10.1016/j.ijdr.2019.101094>. Reference: IJDRR 101094
- M. Hafiz**, N. Hakhoo, G.M. Bhat, B. Thusu, J. Craig, S. Kanungo and W. Ahmed, 2017. Shale Fabric and Pore Types in the Cambay Shales, Cambay Basin, Western India. *Workshop Proceedings, International Workshop on Indian Shale Oil and Gas Exploration, EP 00083*, pp. 66-73. <https://egi.utah.edu/indian-workshop-proceedings/>
- W. Ahmed, J. McLennan, G.M. Bhat, B. Thusu, N. Hakhoo, **M. Hafiz** and J. Buragohain, 2017. Reservoir Characterisation of the Barren Measures Formation, Damodar Basin, India. *Workshop Proceedings, International Workshop*

- on Indian Shale Oil and Gas Exploration, EP 00083, pp. 24-30. <https://egi.utah.edu/indian-workshop-proceedings/>*
- N. Hakhoo, B. Thusu, G.M. Bhat, J. Craig, J. Thurow, **M. Hafiz**, S. Kanungo and W. Ahmed, 2017. Unconventional and Conventional Hydrocarbon Prospects in the Himalayan Foreland Basin - Frontal Fold Thrust Belt, Riasi, NW Himalaya (India). **Workshop Proceedings, International Workshop on Indian Shale Oil and Gas Exploration, EP 00083, pp. 76-85. <https://egi.utah.edu/indian-workshop-proceedings/>**
- N. Hakhoo, **M. Hafiz**, and W. Ahmed, 2017. Shale Resources Exploration: Moving Towards Energy Independence in India. **Workshop Proceedings, International Workshop on Indian Shale Oil and Gas Exploration, EP 00083, pp. 88-99. <https://egi.utah.edu/indian-workshop-proceedings/>**
- S. Kanungo, **M. Hafiz**, N. Hakhoo, N. Dahdah, B. Richards-McClung and B. Thusu, 2017. Shale Resource Evaluation of the Barren Measures Formation, Damodar Basin, for Unconventional Hydrocarbons. **Workshop Proceedings, International Workshop on Indian Shale Oil and Gas Exploration, EP 00083, pp. 110-115. <https://egi.utah.edu/indian-workshop-proceedings/>**
- N. Hakhoo, B. Thusu, G. M. Bhat, J. Craig, J. Thurow and **M. Hafiz**, 2016. Rhenium (Re) - Osmium (Os) Geochronology of the Proterozoic Sirban Limestone Formation, NW Himalaya, Jammu (India). **Journal of the Geological Society of India, Vol. 88, pp. 267-272. DOI: [10.1007/s12594-016-0489-3](https://doi.org/10.1007/s12594-016-0489-3)**
- N. Hakhoo, B. Thusu, D. Mani, G. M. Bhat, J. Craig, J. Thurow, **M. Hafiz**, S. Kanungo, S. Koul and W. Ahmed, 2016. Hydrocarbon Source Potential of the Proterozoic Sirban Limestone Formation, NW Himalaya, Jammu (India). **Journal of the Geological Society of India, Vol. 88, pp. 685-692. DOI: [10.1007/s12594-016-0535-1](https://doi.org/10.1007/s12594-016-0535-1)**
- D. Mani, D. J. Patil, A. M. Dayal, S. Kavitha, **M. Hafiz**, N. Hakhoo and G. M. Bhat, 2014. Gas Potential of Proterozoic and Phanerozoic Shales from the NW Himalaya, India: Inferences from Pyrolysis. **International Journal of Coal Geology, Vol. 128-129, pp. 81-95. DOI: [10.1016/j.coal.2014.04.007](https://doi.org/10.1016/j.coal.2014.04.007)**
- J. Craig, A. Absar, G. Bhat, G. Cadel, **M. Hafiz**, N. Hakhoo, R. Kashkari, J. Moore, T. E. Ricchiuto, J. Thurow, B. Thusu, 2013: Hot springs and the Geothermal Energy Potential of Jammu & Kashmir State, N.W. Himalaya, India. **Earth-Science Reviews, Vol. 126, pp. 156-177. DOI: [10.1016/j.earscirev.2013.05.004](https://doi.org/10.1016/j.earscirev.2013.05.004)**
- G. M. Bhat, J. Craig, **M. Hafiz**, N. Hakhoo, J. W. Thurow, B. Thusu and A. Cozzi, 2012: Geology and Hydrocarbon Potential of Neoproterozoic – Cambrian Basins in Asia: an introduction. **Geological Society London, Special Publication Vol. 366, pp. 1-17. DOI: [10.1144/SP366.15](https://doi.org/10.1144/SP366.15)**

LEADERSHIP

- Organised and contributed in the conduction of the “Students’ Education Programme on Energy, Environment, Climate Awareness and Natural Hazards” in India (12 times), twice in Ghana (West Africa) and once in Argentina (South America).
- Organised the “One Day International Shale Oil & Gas Workshop”, in association with “icgenias2015” at the Annamalai University, Tamil Nadu, India.
- Convened a special panel session on “Shale Resources Exploration in India: Promises and Challenges in the Next Decade” at the American Association of Petroleum Geologists (AAPG) and Society of Exploration Geophysicists (SEG) - International Conference and Exhibition (ICE), which was organised at ExCeL Convention Center, London (UK) on 18 October 2017.
- Delivered a lecture in the Evening Master Class in the University College London (UCL), UK on 20 October, 2017.

REFERENCES

1. Professor G. M. Bhat

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Address: P.G. Department of Geology, University of Jammu, Jammu- 180006. Jammu and Kashmir, India.
MOBILE: +91 9419200120; TEL: +91 191 2452987
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2. Dr. Bindra Thusu

Affiliation: Maghreb Petroleum Research Group, University College London
Address: Department of Earth Sciences, University College London, Gower Street London WC1E 6BT, United Kingdom.
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3. Dr. Jonathan Craig

Affiliation: Eni Natural Resources, Milan, Italy.
Address: Eni Spa, Sede Legale, Piazzale Enrico Mattei, 1 00144 Roma – Italia
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4. Professor Raymond Levey

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Salt Lake City, Utah 84108, USA
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LINKS

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<https://scholar.google.co.in/citations?user=AQfh90AAAAAJ&hl=en>
<https://egi.utah.edu/egi-fellows-india-university-of-jammu/>
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