

CURRICULUM VITAE

Prof. Dr. Nazar M. S. Numan

(Structural and Petroleum Geology, Remote Sensing, Spatial Planning)
Dean of the College of Spatial Planning and Applied Science
University of Duhok, Kurdistan Region, Iraq.



- **Surname :** Numan
- **Forenames :** Nazar Mohammad Saleem
- **Marital Status :** Married
- **Date and Place of Birth:** 25/08/1951, Duhok, Iraq.
- **Languages:** Kurdish, Arabic and English
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Education and Qualifications :

-B.Sc. grade "Excellent" general geology, Mosul University, June 1970. (Stands as a record graduation grade for the Mosul University Geology Dept. between 1968-2016).

-Ph.D. in Structural Geology, Sheffield University, England, July, 1974.

-Diploma in Remote Sensing Applications, International Institute of Aerospace Survey and Earth Observation, Enschede, Holland, 1981.

Academic and Administrative Career History :

2014- Current	Dean of the College of Spatial Planning and Applied Science, University of Duhok, Kurdistan Region, Iraq.
2010- 2014	Dean of the Faculty of Engineering and Applied Science, University of Duhok, Kurdistan Region, Iraq.
2007-2010	Chairman of Dept., The Higher Institute of Planning, University of Duhok, Kurdistan Region, Iraq.
2007 (March-Sept.)	Established the Higher Institute of Planning (HIP) in the University of Duhok in 2007 (presently the School of Planning).
2003-2007	Head of the Academic Promotions Committee in the Faculty of Science, Mosul University, Iraq.
1998-2007	Professor of Structural Geology and Remote Sensing Applications, University of Mosul, Iraq.
1985-1998	Assistant Professor in Structural Geology and Remote Sensing, University of Mosul, Iraq.
1992-1994	Director of the Centre for Remote Sensing, Urban and Regional Planning, Mosul University, Iraq.
1985-1991	Head of Remote Sensing Department in the Centre for Remote Sensing, Urban and Regional Planning, Mosul University, Iraq.
1975-1985	Lecturer in Structural and Petroleum Geology , University of Mosul , Iraq
1974-1975	Postdoctoral Research, University of Sheffield, England.
1970-1974	Teaching Assistant and Ph.D. Student, Dept. of Geology, University of Sheffield, England.

Academic Experience:

Undergraduate Teaching:

- Taught over the years a myriad of courses for the undergraduate students in geology on: basic and advanced structural geology, petroleum geology, plate tectonics, engineering geology/rock mechanics, field geology, geology of Iraq, geomorphology and remote sensing.
- Gave elective courses in petrofabric and petrotectonic analyses, grouting and dam geology, geodesy and remote sensing.

Postgraduate Courses :

- Taught M.Sc. and Ph.D. students in Structural Geology courses in: tectonophysics, plate tectonics, tectonostratigraphy and basin analyses, remote sensing, environmental geology, rock mechanics, brittle failure in rocks, and paleo-stress analysis.
- Taught M.Sc students in Remote Sensing with backgrounds in engineering, science and agriculture courses in physics of remote sensing, geodesy and digital cartography, satellite remote sensing systems, digital image processing, pattern recognition and environmental remote sensing.
- Taught M.Sc. students in Agriculture courses in geomorphology and remote sensing.

Research interests:

- Research interests in geology revolve mainly around structural and tectonic analyses, oil exploration tectonostratigraphy and basin analyses, satellite geodynamics, poly-phase deformation, and seismotectonics in Iraq Prime and the Kurdistan Region.
- Other multidisciplinary research interests lay in the satellite remote sensing applications in the fields of spatial and urban planning, civil and water resources engineering, forestry and environmental management.

- A total of 5 Higher Diploma, 23 M.Sc. and 12 Ph.D. students have been supervised within the bounds of the above fields.
- A total of 46 papers have been published in local, regional and international refereed journals in all of the above mentioned fields.
- Also 34 general topic articles on teaching methods, undergraduate and postgraduate course structures and curricula. Additionally on topics in geology, remote sensing and planning in national and pan Arab symposium proceedings and popular science magazines.

Professional Consultations:

Consulted for:

- The Iraqi National Oil Company (1992-2002).
- The Northern Kirkuk Oil Company, Iraq (1987-1991).
- The State Organization of Geological Survey and Mineral Exploration, Baghdad (1975- 1992).
- The French Oil Company TOTAL on the development of the East Baghdad Oil Field in late 1980's.
- Genel Enerji Oil Company of Turkey for the exploratory oil well in Beri Behar in Duhok, Kurdistan Region of Iraq (2011-2012).
- Editorial board of the refereed journal "Geology and Mineral Exploration" since 2007.
- FAO, Erbil Branch Project 26 "Tectonic Investigations in the Kurdistan Region of Iraq" 2002.
- Internal and external examiner for 92 Higher Diploma, M.Sc. and Ph.D. theses in the geology, remote sensing and spatial planning in the Iraqi universities of Duhok, Mosul, Salahaddin, Sulaimani, Basrah and Baghdad between 1979&2012.

Invited Lectures:

Distinguished Invited Speaker at:

- Several universities and oil companies in Kurdistan and Iraq (1979-2011).
- University of Sheffield, UK (1981),
- The Headquarters of TOTAL, the French Oil Company in Paris, (1990).

- University of Paris 6 Marie Curie (1991),
- University of Arkansas at Little Rock, USA (2007).
- University of Princeton, USA (2007).
- University of Bordeaux, France (2009).
- University of Arkansas at Little Rock, USA (2011).

Attended Local and International Conferences and Workshops:

- Academic Leadership Program held for presidents of universities and deans of faculties from Iraqi and Kurdistan universities by the British Council in Exeter, UK (May 2010), Erbil, Kurdistan (Oct. 2010) and Nottingham, UK (March 2011).
- Held and gave lectures in a three weeks workshop on “Remote Sensing and GIS” in the University of Duhok, April 2009, for 30 scientists, agronomists and engineers from Kurdistan and Iraq prime, in collaboration with the International Institute for Geo-information Science and Earth Observation, ITC Holland.
- A total of eight international conferences (between 1985& 2009) in Britain, Germany, France, Holland, the former East Germany, Jordan, Qatar and Kuwait in the fields of satellite remote sensing, geology, photogrammetric engineering, seismology, natural resources exploration, and educational collaboration (the University of Duhok partnership in the Erasmus Mundus Program).
- A total of thirty five conferences and workshops within the Kurdistan Region and Iraq (between 1975&2016). The themes of these conferences and workshops were in geology, environment, petroleum geology, hydrogeology, drought, remote sensing, astronomy, engineering, spatial and urban planning, and andragogy in geology and engineering.

Cooperation with International Institutions

- Ongoing operation and management of the Duhok Seismic Station in the University of Duhok, Kurdistan Region of Iraq, in cooperation with the Seismology Center of the University of Arkansas at Little Rock UALR, USA since January 2007 (The

Digital Seismometer in this station was donated by the US Dept. of Energy).

- A joint supervision Ph.D. project with Prof. Dr. Jean Korowic, University of Paris Marie Currie on “Oil exploration using geochemical anomalies detected by satellite imagery, 1991”. Name of the student: Marwan Alkattan from the University of Mosul.
- A joint supervision of M.Sc. thesis with Prof. Dr. Christa Reicher from the University of Dortmund, Germany on “Land-use planning in the City of Duhok,2008”. Name of the student: Halima Ahmad Othman, University of Duhok.
- A joint supervision Ph.D. thesis with Prof. Dr. Hemin Koyi, University of Uppsala, Sweden on “ Tectogenesis of the Zagros fold-thrust belt in the Sulaimaniya Governorate, 2009. Name of the student: Azad Omer Ibrahim, University of Sulaimaniya.
- A joint supervision Ph.D. with Prof. Dr. Haydar Al-Shukri and Dr. Hanan Mahdi of the University of Arkansas at Little Rock, USA. “Seismotectonics of the Northern Arabian Plate Margin in Iraq”. Name of the student Wathiq Ghazi from the University of Basrah.
- A joint supervision Ph.D. (project underway) with Prof. Dr. Sabin Baumgart of the University of Dortmund, Germany on “Urban Management for sustainable Housing Sector in Duhok City, Kurdistan Region ,Iraq”. Name of the student: Mohammad Aladdin Aqiqi, University of Duhok.

Publications:

- A book entitled "Analysis of Structures and Joints with their Applications"(In Arabic), Mosul University Press, 1978.
- A handbook entitled "Geological Investigations by Remote Sensing", a supporting textbook for senior undergraduates and postgraduates, Mosul University Press, 1987.
- Forty six papers in refereed national, pan Arab and international journals.
- Thirty four, articles on teaching methods, undergraduate and postgraduate courses structure and curricula. Topics in geology, remote sensing and

planning in national and pan Arab symposium proceedings and popular science magazines.

- Attendance and contributions in the proceedings of numerous Iraqi, pan Arab and international conferences in geology, remote sensing and spatial planning.

Detailed List of Published Papers

1. Structure and Stratigraphy of the Borrowdale Volcanic Group of the Kentmere Area, English Lake District. Geological Journal, Vol.9,Pt2, 1974.
2. Field Guide for the Geology of Duhok and Sinjar Areas, Northern Iraq. Proc. 5th Iraqi Geological Congress, Baghdad, 1978.
3. Structural Documentation of the Major Anticlines in the Simple Folds Zone of Iraq. Proc. 6th Iraqi Geological Congress, Baghdad, 1981.
4. Graphical Treatment of Anticlines of the Simple Folds Zone of Iraq and its Tectonic Implications. Proc. 6th Iraqi Geological Congress, Baghdad, 1981.
5. Regional Alpine Geoflexures in the Simple Folds Zone of Iraq. Proc. GEOCOME 2, Baghdad, 1983.
6. Scales and Styles of Folding in Simple Folds Zone of Iraq, Proc. GEOCOME 2, Baghdad, 1983.
7. Synoptic View of Joint Patterns in the Folded and Unfolded Zones of Iraq. Proc. GEOCOME 2, Baghdad, 1983.
8. Basement Controls of Stratigraphic Sequences and Structural Patterns in Iraq. Jour. Geol. Soc. of Iraq, Vol. 16-17, 1984.
9. Remote Sensing Data Versus the Geological Ground Truth in Bashiqa-Maqlub Area, Nineveh District. The Space and Astronomy Journal, Scie. Res. Counc. Baghdad, Vol.2, No.1,1985.
10. The Use of a Stereographic Sieve in Regional Analysis of Joints. Jour. Geol. Soc. of Iraq, Vol. 18, 1986.
11. Detection of Subsurface geological Structures in the Tharthar Region, Central Iraq Using Landsat Imagery, Journal of the International Institute of Aerospace Survey, ITC, Holland, Vol. 2, 1987.

12. Induced Seismicity in Iraq. Jour. Geol. Soc. of Iraq, Vol. 19, 1987.
13. Quick Map Revision Using Digital Line Maps Produced from Orthophotomaps of Bashiqa Area, Northern Iraq. Geograficky Casopis, Slovak Academy of Sciences, Rocnik 42, Cislo 3, 1990.
14. Photostereography Based on Drainage Morphometry and Lithologic Character of Three Formations in Northern Iraq. Journal of the International Institute of Aerospace Survey, ITC, Holland, Vol. 1, 1990.
15. Extensional and Wrench Tectonics in the Foreland Folds in Iraq with Geotectonic Implications. First Inter. Conf, on the Arab World, Cairo, 1991.
16. Application of Remote Sensing Data to the Structural, Stratigraphical and Geomorphological Investigation of the Guwair Area Northern Iraq. Transactions of the University of Mining and Metallurgy, Ostrava Czechia, Rocnik, XXXVIII, 1992.
17. Topographic Map Revision in Northern Iraq Using DTM's and Orthophotos. Journal of the International Institute of Aerospace Survey, ITC, Holland, Vol. 3, 1992.
18. Grouting Scheme and Specifications for Al-Qaim Dam Nineveh Governorate. Engineering Consulting Bureau of Mosul University (MUECB), Internal Confidential Report, June 1992.
19. Structural and Geotectonic Interpretation of Vergence Directions of Anticlines in the Foreland Folds of Iraq. Abhath Al-Yarmouk, Pure Science and Engineering Series, Jordan, Vol. 2, 1993.
20. Highway Route Selection in Northern Iraq Using Terrain Evaluation from Aerial Photographs. Journal of the International Institute of Aerospace Survey, ITC, Holland, Vol. 2, 1995.
21. Computer Aided Selection of a Best Highway Route on Digital Terrain Models. Engineering and Technology Journal, Baghdad, Vol.14, No.4, 1995.
22. Assessment of the Effect of Measurement Errors from Aerial Photographs on the Calculation of Wood Volume in Stands (In Arabic). Rafidain Agriculture Journal, Mosul, Vol. 27, No. 2, 1995.
23. Extrapolation of the Base Area for the Eucalyptus Stands in the Irrigated Nineveh Forest from Airphoto Measurements (In Arabic), Rafidain Agriculture Journal, Mosul, Vol. 27, No. 2, 1995.

24. Preparation of an Aerial Stand Volume Table for the Irrigated Eucalyptus Plantation in the Nineveh Forest, Northern Iraq (In Arabic). *Journal of Arab Universities Union*, Vol.1 No. 1, 1995.
25. The Engineering Value of an Isodepth Map for a Limestone Bed in the Western Bank of Mosul City. *Jour. Geol. Soc. of Iraq*, Vol. 28, No. 1 1995.
26. Deduction of Soil Supporting Values from Surface Drainage Bifurcation Ratios Calculated from Aerial Photographs in Northern Iraq. *Journal of the International Institute of Aerospace Survey, ITC, Holland*, Vol. 3/4, 1996.
27. A Plate Tectonic Scenario for the Phanerozoic Succession in Iraq. *Jour. Geol. Soc. of Iraq*, Vol. 29, No.2, 1996.
28. Lineaments: Questions on the Veracity of Their Relationships in the Western and Southern Deserts of Iraq. *Journal of the International Institute of Aerospace Survey, ITC, Holland*, Vol. 1, 1997.
29. Gypsum Karstification in the Middle Miocene Fatha Formation, Mosul Area, Northern Iraq. *International Journal of Geomorphology, Elsevier*, 18(2):127-149, 1997.
30. The Ga'ara Anticline, Western Iraq, A Structural Fiasco. *Rafidain Journal of Science, Mosul*, Vol. 8, No. 2, 1997.
31. Structural and Hydrological Implications of the Drainage Network Analysis in Altoon Kupri Area, Northern Iraq Using Remote Sensing Data. *Journal of Water Resources, Baghdad*, 1998.
32. Morphometric Analysis of Landform Units and Land Uses in Aski Kalak Area, Northern Iraq (In Arabic). *Arab Union Universities Journal of Applied Sciences*, 1998.
33. Basement-Cover Relationships in Northern Iraq Deduced from Landsat Imagery, Structural and Geophysical Data. *Jour. Geol. Soc. of Iraq*, Vol.30, No.2, 1998.
34. Synsedimentary Tectonics in the Eocene Pila Spi Limestone Formation in Iraq and Its Geodynamic Implications. *Journal of African and the Middle East Earth Sciences, Elsevier*, Vol. 27(1), 1998.
35. Major Cretaceous Tectonic Events in Iraq. *Rafidain Journal of Science, Mosul*, Vol. 11, No. 3, 2000.

36. Cretaceous and Tertiary Alpine Subductional History in Northern Iraq. *Iraqi Journal of Earth Sciences*, Vol. 1, No. 2, 2001.
37. Discussion on “Dextral Transpression in the Late Cretaceous Continental Collision, Sanandaj-Sirjan Zone, Western Iran”. *International Journal of Structural Geology*, Pergamon, 23, 2001.
38. Progressive versus Paroxysmal Alpine Folding in Sinjar Anticline Northwestern Iraq. *Iraqi Journal of Earth Sciences*, Vol. 2, No. 2, 2002.
39. Drainage Network Analysis Using Digitized Line Map Produced from an Orthophotomap of Bashiqa Area, Northern Iraq. *Journal of the Iraqi Remote Sensing Society*, Vol. 1, 2002.
40. Seismotectonics of Northern Iraq. *Gulf Seismic Forum- IV*, Kuwait, 2007.
41. The Jebel Senam Structure, a Surface Diapiric Solitaire in Southern Iraq. (In Preparation).
42. Tectonics of Quaternary Travertine Accumulations at Al-Fatha Area, Middle Iraq. *Bulletin of Mineral Research and Exploration*, No. 138, 2009.
43. Seismotectonics of the Bitlis-Zagros Fold and Thrust Belt in Northern Iraq and Surrounding Regions from Moment Tensor Analysis. *Pure and Applied Geophysics*, Vol. 170, Nos. 6-7 ISSN 0033-4553, 2013.
44. Stress Patterns in Northern Iraq and Surrounding Regions from Formal Stress Inversion of Earthquake Focal Mechanism Solutions, *Pure and Applied Geophysics*, Vol.170, DOI 10.1007/s00024-014-0823-x, Springer, 2014.
45. Seismotectonics of the Bitlis–Zagros Fold and Thrust Belt in Northern Iraq and Surrounding Regions from Moment Tensor Analysis, Accepted in Edited Book Chapter of the American Geophysical Union, AGU, 2016.
46. Comprehensive Earthquake Catalog for Iraq in Terms of Mw”, Submitted to the *Bulletin of the Seismological society of America*, 2016.

Titles of Supervised Ph.D. Theses

1. Geophysical Study of the Erbil and Aqra Plains and its Geological Implications.2000. University of Salahaddin.
2. The Structural Development of Folds Shapes in the Foreland Folds Belt of Iraq and Its Tectonic Implications. 2003. University of Mosul.
3. Tectonic Investigation of the Brittle Failure Structures in the Foreland Folds Belt in Northern Iraq. 2004. University of Mosul.
4. Evaluation of the Arabian Passive Continental Margin, Structural and Stratigraphical Implications. 2004. University of Mosul.
5. An Integrated Structural and Tectonic Study of the Binabawi-Safin-Bradost Region in Iraqi Kurdistan. 2005. University of Salahaddin.
6. Tectogenesis of the Alpine Molasse Basin in Northern Iraq. 2007. University of Mosul.
7. Structural and Tectonic Analysis of the Northern Thrust Zone (East of Khabour River). 2008. University of Mosul.
8. Satellite Geodynamic Investigation of the Northern Arabian Plate Margin in Iraq. 2008. University of Mosul.
9. Structural Investigation of the Zagros Fold Thrust Belt in the Sulaimaniya Governorate. 2009. University of Sulaimaniya.
10. Seismotectonics of the Northern Arabian Plate Margin in Iraq, 2013. University of Arkansas at Little Rock, USA.
11. Spatial Planning for Housing in the City of Duhok as Compared to the City of Wubertal in Germany- An Ongoing Split-Site PhD Project with the University of Dortmund in Germany.
12. Spatial Planning and Strategies for Gender Equity in the Kurdistan Region of Iraq- An Ongoing Split-Site PhD Project with the University of New York, USA.

Titles of Supervised M.Sc. Theses

1. Regional Investigation of Geoflexures and Tectonic Analysis in the Simple Folds Zone of Iraq. 1979. University of Mosul.
2. Comparative Study of the Styles of Folds in Three Areas in the Simple Folds Zone of Iraq. 1982. University of Mosul.

3. Comparative Study of Joints in the Simple Folded and Unfolded Zones of Iraq. 1982. University of Mosul.
4. Tectonostratigraphic Investigation in the Southern Reaches of the Simple Folds Zone of Iraq. 1985. University of Mosul.
5. Correlation of the Geological Ground Truth with Remote Sensing Data in Parts of the Folded and Unfolded Zones of Iraq. 1985. University of Mosul.
6. Structure and Stratigraphy of Mosul City, the Right Bank. 1988. University of Mosul.
7. Map Revision for the East Jazeerah Irrigation Using Photogrammetric and Computer Aided Techniques. 1988. University of Mosul.
8. Terrain Suitability Study for the Trafficability of Heavy Vehicles in the Marshlands Using Remote Sensing Techniques. 1988. University of Mosul.
9. Topographic and Tectonic Investigation of the Basement Rocks of the Simple Folds Zone in Northern Iraq. 1989. University of Mosul.
10. The Use of Remote Sensing in the Study of Karstification in Mosul Area. 1990. University of Mosul.
11. Land-Use Classification and Monitoring for Mosul City and its Surroundings Using the Available Remote Sensing Data. 1990. University of Mosul.
12. The preparation of Stand Aerial Volume Table for Eucalyptus Camaldulensis in the Nineveh Forest. 1991. University of Mosul.
13. Remote Sensing for Rural Highway Route Selection. 1991. University of Mosul.
14. Balancing of Selected Geological Cross-Sections in the Simple Folded Zone of Iraq and its Tectonic Implications. 1992. University of Mosul.
15. Exotic Terranes in the Alpine Orogenic Belt of Northern Iraq. 1992. University of Mosul.
16. Paleostress Analysis in Selected Areas of the Foreland Folds Belt of Northern Iraq. 1993. University of Mosul.
17. Pollution of the Outer Space Environment in the International Law. 2002. University of Mosul.
18. Structure and Tectonism of Jabal Senam, Southern Iraq. 2002. University of Mosul.

19. Preparation of a GIS for the South Jazeerah Irrigation Project with the Aid of Remote Sensing Data. 2004. University of Mosul.
20. Construction of a Data Base for the North Jazeerah Irrigation Project Utilizing Geospatial Information System. 2005. University of Mosul.
21. Urban Planning Strategies for Sustainable Land-Use Management in Duhok City, Kurdistan Region, Iraq. 2008. University of Duhok.
22. Characterization and Delineation of Mediterranean Savanna in the Governorate of Duhok Using Ground Truth and Remote Sensing Data. 2012. University of Duhok.
23. Social Impact Assessment (SIA) of the Proposed Bekhe Dame in the Kurdistan Region of Iraq. 2012. University of Duhok.

Titles of Supervised Higher Diploma Dissertations in Spatial Planning

1. Integrated Land-Use Planning in Semel Area, Duhok Governorate. 2009.
2. Spatial Planning for the Education Service in the City of Duhok. 2009.
3. Land-Use Inventory and Future Development in the Soran District, Utilizing GIS. 2009.
4. The Security and Management of Potable Water in the City of Duhok. 2009.
5. The Management of Electromagnetic Smog From Mobile Phone Towers in the City of Duhok. 2009.