

# Mana Rahimi, PhD

## Profile

- Experience with over 25 GIS-based research projects focusing on mineral exploration, database integration, geological mapping and remote sensing;
- Performed complex spatial analyses using multi-criteria decision making (MCDM) technique.
- Extracted geospatial information from geochemical databases, geophysical and geological maps and satellite images;
- More than 10 years of field work experience;
- First class professional exploration licence of Iranian Mining Engineering Organization

## Skills

- Advanced spatial analysis and modeling
- Development and application of 3D GIS modeling
- Application of remote sensing techniques in mineral targeting
- Regional Mineral Exploration Mapping (MPM)
- Multi Criteria Decision Making (MCDM) Methods
- Software proficiency with:
  - ArcGIS, AutoCAD Map, MicroStation
  - Geosoft (Airborne Geophysics Software)
  - ENVI (Remote Sensing Software)
  - ioGAS (3D geochemical data analysis)
  - SPSS and RockWorks

## Education

### PhD (Geoinformatics)

2006 – 2009

Clausthal University of Technology (TU Clausthal), Germany

*Thesis: "Comparative Analysis of Metallogenetic Models Based on Analytical and Fuzzy Analytical Hierarchy Process (AHP & FAHP)"*

### MSc (Economic Geology)

1996 – 1999

Tehran Azad University, Iran

*Thesis title: Gold-Arsenic Mineralization in Zarshuran and Agh-Darreh Area, Northwest of Iran"*

### BSc (Geology)

1991 - 1995

Tabriz University, Tabriz, Iran

*Thesis title: Economic Geology Studies in Muteh Gold Mine (Central Iran)*

## Professional Experience

### GIS Specialist

Mineral Deposit Research Unit (MDRU - UBC)

2014 -present

- Contribution in Western Tethyan Metallogeny (WTM) project
- Contributed to *Targeting Resources through Exploration and Knowledge (TREK) Project*

### **Manager**

**2012-2014**

Department of Geoinformatics; Geological Survey of Iran (GSI)

- Contribution in Revising, correlation and age matching of 1:250,000 Geological maps of country.
- Initiated and created Infrastructure and Regional Policy Maps for Regional Mineral Exploration, Geo-hazard, Land-use, Industrial and Geological Activities and Site Selections.
- Supervision of Group Members in various Projects
- Main Specialist in the Instruction of GIS Standards and Applications in Mineral Exploration Projects, Iranian Mining Engineering Organization (IMEO)

### **Senior Mineral Exploration Expert**

**2004 - 2011**

Department of Geoinformatics; Geological Survey of Iran (GSI)

- Contributed to the National Project on Exploration Strategy
- Principal Specialist in the Project of Database Creation and GIS Ready Geological Maps (150 sheets with scale 1:250,000)
- Performed Mineral Exploration Using GIS Modelling in Khoy-Oshnavieh, Farmahin- Tafresh, Nobaran-Aran, Marivan- Mahabad, Tarom- Zanzan zones (Central and Northwest of Iran) and Middle Belt of Semnan Province (Central Iran)
- Preparation of Digital Geology and Mineral Distribution Maps of Golestan, Tehran, Kerman, Markazi and Semnan Provinces of Iran
- Regional Exploration and Mineral potential Mapping (MPM) in Kamyaran, Qotur, Mayamey, Shahr-e-Babak and Abbas abad (scale 1:100,000)
- GIS specialist and Economic Geologist of Project of Mineral Exploration and Geology Studies using GIS in Varzab, Tajikistan
- Involvement in Geo- Database Management System (GDMS) Project, Geological Survey of Iran
- A study on ore-bearing niobium deposits, Research Project, Metallurgy Institute, TU Clausthal, Germany

### **GIS-Mineral Exploration Expert**

**1996 - 2003**

Department of Geoinformatics; Geological Survey of Iran (GSI)

- Supervised and led a Team of 7 geologists in Semnan Province Project for Geospatial Database Preparation, Processing and Modelling using GIS
- Involvement in the investigation of different types of Antimony Mineralization Project
- Contribution in 1:1000,000 geology map of Iran project and supervision of the GIS-Geologist team

### **GIS Consultant**

**1991 - 1996**

- Regional exploration of Cu, Au, Pb-Zn mineralization in Azarbaijan–Kordestan and Golestan provinces of Iran;
- Regional exploration and determining polymetallic prospects in Saravan Zone and Sistan Blochestan province of Iran;
- Implemented Regional Exploration and mineral potential mapping in Kordestan, Markazi and Semnan regions of Iran;
- 1:100,000 scale, GIS-based mineral exploration modelling in Jebal-e-Barez and Sarduih;
- Created of Digital Data Bank for Ground Geophysics Data
- Satellite Imagery Study and Extraction of required information

### **Lecturer and graduate co-supervisor**

**2005- 2015**

Azad University, Iran

Birjand University, Iran

Research Institute of Earth Sciences (RIES), Iran

- Delivered lectures to Graduate Students on Geoinformatics and Application of Geospatial Information System (GIS) in Earth Science
- Acted as a Co-Supervisor supervising Master Students in their Master of Science Thesis in Geosciences and Mining Engineering
- Member of Scientific Committee of Annually Geosciences Conferences of Geological Survey of Iran, Papers Referee and GIS-RS Session Presidium
- Scientific Secretary of Geoinformatics and Geomatics Section of 32<sup>nd</sup> National & the 1<sup>st</sup> International Geosciences Congress 2014.
- Member of Research Committee of Geological Survey of Iran.
- Provided Workshops to Researchers, Students and University Professors in the Field of Geospatial Information System, application in Earth Sciences and Related Software

### **Publications**

- **Rahimi, M.**, Hart, C.J.R., Angen, J.J., Extracting Regional Structural Features from Airborne Geophysical Data in the TREK Project Area, Central British Columbia, Cordilleran Tectonics workshop, Victoria, Canada, 2016.
- Angen, J.J., Hart, C.J.R., Logan, J.M., Rahimi, **M.**, Kim, R., A structural history of the Nechako Basin, central British Columbia: A sinistral transtensional origin? Cordilleran Tectonics workshop, Victoria, Canada, 2016.
- **Rahimi, M.**, Hart, C.J.R., Angen, J.J., Making and Improving Geological Maps from Regional Geochemical Datasets, TREK Mapping Project, Central British Columbia, Mineral Exploration Roundup, Vancouver, Canada, 2016.
- Almasi, A., Jafari Rad, A., Afzal. P., **Rahimi. M.**, Prospecting of gold mineralization in Saqez area (NW Iran) using geochemical, geophysical and geological studies based on multifractal modelling and principal component analysis, Arabian Journal of Geosciences, 2014.

- Almasi, A., Jafari Rad, A., Kheyrolahi, H., **Rahimi, M.**, Afzal, P., Evaluation of Structural and Geological Factors in Orogenic Gold Type Mineralization Using Airborne Geophysical Data, Kervian Area, NW of Iran, Applied Geophysics Journal, 2014.
- **Rahimi, M.**, Qualitative Data Analysis in Geosciences Studies Using AHP and FAHP, Seminar on Geomatics Expertise and Innovative Technologies in Geology and Exploration, Geological Survey of Iran, 2012.
- Aminifar, A., Nourozi, Gh. **Rahimi, M.**, Determining of Copper Prospecting Area in Mahiroud Region Using FAHP, Copper Congress, Tehran, Iran, 2011.
- Rahimi, M., Busch, W., Weight determination of qualitative data using Analytical Hierarchy Process (AHP), 33IGC, Oslo, Norway, 2008.
- Samani, B., **Rahimi, M.**, Geological Setting and Metalogenesis of Radioactive Mineral Resources in Bafq - Saghand Ore Belt (Central Iran), CIM Publication, Montreal, Canada, 2007.
- **Rahimi, M.**, Busch, W., Genetic Map Preparation Based on Index Overlaying for Optimization of Gold Exploration Results Using GIS, CIM Conference, Montreal, Canada, 2007.
- **Rahimi, M.**, Lotfi, M., Investigation of Gold & Arsenic Mineralization in Zarshuran and Agh-Darreh Area (North of Takab-North West of Iran), 32 IGC, Florence, Italy, 2004.
- **Rahimi, M.**, Mehri, B., Investigation of Mineral Potential Targets in Mayamey 1:100,000 Geological Sheet Using GIS, 22<sup>th</sup> Earth Sciences Conference, Geological Survey of Iran, Tehran, Iran, 2003.
- **Rahimi, M.**, Usage of Weight of Evidence Method in GIS Based Geosciences Projects, Geomatics Conference, NCC, Tehran, Iran, 2003.
- **Rahimi, M.**, Jafari Rad, A. , Kerman Province Mineral Occurrence Distribution Map and Mineral Exploration Targets area in South West of The Province Using GIS, MapAsia 2002 Conference, Bangkok, Thailand, 2002. *Published in GIS Development, Online*
- **Rahimi, M.**, GIS in Exploration with Special Viewpoint to Mineral Potential and Defining the Exploration Priority Maps, Map India 2002 Conference. *Published in GIS Development, Online*
- **Rahimi, M.**, Multi Criteria Analysis for Mineral Exploration Studies in GIS, 20<sup>th</sup> Earth Sciences Conference, Geological Survey of Iran, Tehran, Iran, 2002.
- Shirzadi, M., **Rahimi, M.**, Aeromagnetic Data Interpretation and Investigation of Gold- Arsenic Mineralization in South of Azerbaijan Province (NW Iran), Journal of the Earth and Space Physics, Vol.26 (2), P.61-70, 2000.
- **Rahimi, M.**, Investigation of Gold-Arsenic Mineralization in North of Takab, 4<sup>th</sup> Conference of Geology Society of Iran, Tabriz, Iran, 2000.
- **Rahimi, M.**, Aeromagnetic Studies of Ore Deposit Bodies in Shirmard Sheet (scale 1:50000), 2<sup>th</sup> Conference of Geology Society of Iran, Mashhad, Iran, 1998.