

# Curriculum vitae

## Personal information:

**First name** : Brahim  
**Family name** : Benzougagh  
**Date of birth** : 25/02/1979  
**Nationality** : Moroccan  
**Civil status** : Married  
**Address** : Department of Geomorphology and Geomatics, Scientific Institute, Mohammed V University in Rabat, Avenue Ibn Batouta, P.O. Box 703, 10106, Rabat, Morocco.  
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**E-mail** : [benzougaghbrahim@gmail.com](mailto:benzougaghbrahim@gmail.com)  
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**Publons** :  
**Google Scholar** :



## Current status:

- **Professor in** Department of Geomorphology and Geomatics, Scientific Institute, Mohammed V, University of Rabat, Avenue Ibn Battouta, P.B 603, Agdal, 10106 Rabat-City, Morocco.

## Education and Training:

- **PhD**, in Geology, Specialty: Geomatics, Geohazards, Geomorphology, Hydrology and Environment. Department of Geology, Research Laboratory: Geosciences, Heritage and Useful Substances, Faculty of Science, Moulay Ismail University, Meknes-City Morocco.



- **Master's degree** in Quaternary Geology and Prehistory, Department of Geology, Faculty of Science, Moulay Ismail University, Meknes-City Morocco.
- **Bachelor's degree** in Geology, Faculty of Science, Moulay Ismail University, Meknes Morocco.
- **GUD (General University Degree)** in Biology-Geology, Faculty of Science, Moulay Ismail University, Meknes-City Morocco.
- **High School diploma** in experimental sciences, Errachidia-City, Morocco.

### Skills:

- Geomorphology,
- Geology,
- Remote Sensing,
- Geographic Information System (GIS),
- Soil Erosion,
- Morphometric Analysis,
- Natural hazards (Flood, Landslide ... etc.).
- .... etc.

### Scientific Research:

**Thesis:** "Elaboration of decisional maps by multidisciplinary methods for the prevention of erosion and flooding risks. Case of the Inaouene watershed (Morocco)".

Research under the direction of:

**Director** : **Pr.Larbi Boudad** (Laboratory of Geosciences, Heritage and Useful Substances, Department of Geology, Faculty of Science, Moulay Ismail University, Meknes-City, Morocco),

**Co-Director** : **Pr. Abdallah Dridri** (Laboratory of Geosystems Environment and Sustainable Development, Department of Geology, Faculty of Science Dhar El Mahraz, University Sidi Mohamed Ben Abdellah Fez-City, Morocco).

### Field missions:

- Participation in the work of the FLCN project risks in the central Rif: Earthquakes and mass movements (study of vulnerability and ways of adaptation).



- Participation in the work of the research project: integrated disaster risk and resilience management program, in the Rif region, Morocco,
- Geological and geomorphological field trip to the Middle Atlas region, Morocco,
- Geological field trip to the region of Midelt, Morocco,
- Geological and Mineralogical field trip to the region of Midelt, Morocco,
- Geological and archaeological field trip to the region of Moulay Idriss Zerhoun, Morocco,
- Geological and geomorphological field trip to the Saïss plain area, Morocco,
- Geological and geomorphological field trip to the Middle Atlas region
- Geological and archaeological field trip to the region of Khemisset, Morocco,
- Geological and archaeological field trip to the region of Rabat-Temara
- Geological and archaeological field trip to the region of Casablanca, Morocco,
- Geological and Archaeological field trip to the region of Larache, Tangier, KsarSghir and Tetouan, Morocco,
- Geological and geomorphological field trip to the Pre-rif region, Morocco,
- Geophysical excursion to the Saïss plain area, Morocco,
- Geophysical excursion to the Rif region, Morocco,
- Geological and Geomorphological field trip to the Rif region, Morocco.

## Scientific Publications:

- ✓ **BENZOUGAGH Brahim**, Sarita Gajbhiye Meshram, Dridri Abdallah, Boudad Larbi, Sadkaoui Driss, Mimich Khalid (2020). Mapping of Soil Sensitivity to Water Erosion by USLE Model: Case of the Inaouene Watershed (Northeast Morocco). *Journal: Arabian Journal of Geosciences (AJGS)*. <https://doi.org/10.1007/s12517-020-06079-y>
- ✓ **BENZOUGAGH Brahim**, Sarita Gajbhiye Meshram, Brahim Baamar, Abdallah Dridri, Larbi Boudad, Driss Sadkaoui, Khalid Mimich (2020). Relationship between landslide and Morpho-Structural analysis: a case study in Northeast of Morocco. *Applied Water Science*, (2020) 10:175. <https://doi.org/10.1007/s13201-020-01258-4>
- ✓ **BENZOUGAGH Brahim** (2019). Morphometric analysis and prioritization of the Oued Inaouène watershed (North-East Morocco), for the management of water erosion risk. Book published by the publishing house: *Edition Universitaires Européennes is a trademark of International Book Market Service Ltd, membre of OmniScriptum Publishing Group 17 Meldrum Street, Beau Bassin 71504, Mauritius*. **ISBN: 978-613-9-53422-7, 69p.**
- ✓ **BENZOUGAGH Brahim**, BOUDAD Larbi, DRIDRI Abdallah, SDKAOUI Driss et BAAMAR Brahim (2019). Contribution of GIS and Remote Sensing for the evaluation of the physical characteristics of the oued Inaouene watershed (North-East Morocco) and their use in the field of natural risk management. *American Journal of Innovative Research and Applied Sciences*. ISSN 2429-5396I. Vol 8, N° 4, pp 120-130.
- ✓ **BENZOUGAGH Brahim**, BOUDAD Larbi, DRIDRI Abdallah, SDKAOUI Driss (2016). " Use of GIS in morphometric analysis and prioritization of Oued Inaouene sub-watersheds, North-East Morocco ". *European Scientific Journal (ESJ) February 2016 edition, Vol.12, No.06. pp. 283-306*. <http://dx.doi.org/10.19044/esj.2016.v12n6p283>
- ✓ **BENZOUGAGH Brahim**, DRIDRI Abdallah, BOUDAD Larbi, SDKAOUI Driss, (2017). " Evaluation of natural hazard of Inaouene Watershed River in Northeast of Morocco: Application of Morphometric Analysis and Geographic Information System approaches". *Published in International Journal of Innovation and Applied Studies*. Volume 19, issue 1 Jan. 2017.

- ✓ **BENZOUGAGH Brahim**; DRIDRI Abdallah, BOUDAD Larbi, SDKAOUI Driss (2017). «Contribution of GIS for the evaluation of the physical characteristics of the Inaouene Watershed River (Northeast Morocco)". Proceedings the 3rd Edition of the International Colloquium of GIS Users, Morocco, Oujda November 22-23, 2016.
- ✓ SADKAOUI Driss, BENABDELHADI Mohammed, DEFFONTAINES Benoît, CHAOUNI Abdel-Ali, NTARMOUCHANT Ahmed, BAALI Abdennasser, **BENZOUGAGH Brahim** et GOURARI Lahcen. (2015). " Neotectonic indices in the sediments of Lake Ifrah (Middle Atlas, Morocco).*European Scientific Journal May 2015 edition vol.11, No.14 pp 147 - 164*
- ✓ LEKEHAL Hicham, BOUCHELTA Aziz, **BENZOUGAGH Brahim**, MIMICH Khalid (2016) " Leachates from the public landfill of Meknes-City: Calculation and result of the water balance. *European Scientific Journal October 2016 edition Vol.12, No.29, pp 242-257.*
- ✓ LEKEHAL Hicham, BOUCHELTA Aziz, **BENZOUGAGH Brahim**, BOUKHARI TALEB Roukia(2018) " Leachates from the public landfill of Meknes-City : Characterization and impact on the water of the Oued Boufkrane. *European Scientific Journal October 2018 edition Vol.14, No.29, pp 332-357.*
- ✓ Driss SADKAOUI, Mohammed BENABDELHADI, Abdel-Ali CHAOUNI, **Brahim BENZOUGAGH**, Ferdaouss LAKHILI AND Amina TAJDI (2019). " Akachmir: a Geosite of Azrou-City (Morocco) ". *American Journal of Innovative Research & Applied Sciences. Issue-3, Vol8 (2019), pp 93-99*
- ✓ OUADJANE Youssef, BAMMOU Mohamed, MIMICH Khalid, **BENZOUGAGH Brahim**, IBIJBIJEN Jamal, NASSIRI Laila. *What place for environmental education and development in School Programs in Morocco? The case of family education in College High School. International Journal of Progressive Sciences and Technologies (IJPSAT). Vol. 26 No. 1 April 2021, pp. 217-226.*

## Scientific communications:

- ✓ **BENZOUGAGH BRAHIM (2020)**. Development of decision-making maps for the management of natural hazards: Flood, Landslide and Soil erosion, in Northeast of Morocco. **Invited as Speaker:** in the International Virtual Conference on Interdisciplinary Development in Science, Technology and Humanities (IVCIDSTH-2020) held online from 5-6, August 2020.
- ✓ **BENZOUGAGH BRAHIM, DRIDRI ABDALLAH, BOUDAD LARBI, SDKAOUI DRISS, MIMICH KHALID, AIT YACIN LARBI (2019)** "Cartographie des zones inondables par le traitement des images Radar (Sentinel-1) : cas d'étude, bassin versant de l'Oued Inaouène (Nord-est du Maroc)". Journée Thématique « Les risques naturels au Maroc : Rôle des chercheurs et des ONG », Samedi 21 Décembre 2019 à Université Mohamed V, l'Institut Scientifique – Rabat.
- ✓ **BENZOUGAGH BRAHIM, DRIDRI ABDALLAH, BOUDAD LARBI, SDKAOUI DRISS, (2019)** "Elaboration des cartes décisionnelles pour la prévention contre le risque d'érosion hydrique dans le bassin versant de l'oued Inaouene (nord-est du Maroc)". Colloque international RQM10, le 19 & 20 Novembre 2019, à l'Université Ibn Toufail, Faculté des Sciences Kénitra-Maroc.
- ✓ **BENZOUGAGH BRAHIM, BOUDAD LARBI, DRIDRI ABDALLAH, BAAMAR BRAHIM, SDKAOUI DRISS, LEKEHEL HICHAM (2018)** "Cartographie d'Occupation du Sol dans le bassin versant de l'Oued Inaouène (Nord-est du Maroc) à l'aide de la Télédétection Spatiale". 4ème Edition du Congrès International des utilisateurs des SIG, sous le thème « SIG au service du développement territorial (4th, GIS-USERS, 2018), 20-21 Décembre 2018, Faculté des Sciences, Université Moulay Ismail, Meknès Maroc.
- ✓ **BENZOUGAH BRAHIM, BOUDAD LARBI, DRIDRI ABDALLAH, QAINI TAOUFIK, SADKAOUI DRISS, EL MZAITI IKRAME (2018)** "L'évaluation du potentiel du risque d'érosion hydrique par la méthode de WISCHMEIER et SIG dans le bassin versant de l'Oued Inaouène (Nord-est du Maroc)". Colloque International sur Vulnérabilité des sols Méditerranéens à l'érosion hydrique :Etat des connaissances et mesures d'adaptation face au changement global. Le 19 & 20



Novembre 2018 à l'Institut Agronomique et Vétérinaire (IAV) Hassan II, Rabat-Maroc.

- ✓ **BENZOUGAGH BRAHIM, DRIDRI ABDALLAH, BOUDAD LARBI, SDKAOUI DRISS (2018)** "Le potentiel des images Radar Sentinel-1 dans le cadre de la stratégie de la gestion des risques naturels du bassin versant de l'Oued Inaouène (Nord-est du Maroc) " Colloque International sur les Risques Naturels et l'Aménagement du Territoire, les 9 & 10 novembre 2018 à la Faculté des Lettres et Sciences Humaines (FLSH), Université Mohammed 1<sup>er</sup> Oujda, Maroc.
- ✓ **BENZOUGAGH BRAHIM, BOUDAD LARBI, DRIDRI ABDALLAH, SDKAOUI DRISS, (2018)** "Le potentiel des SIG dans la prise de décision dans le domaine de l'aménagement du bassin versant de l'oued Inaouène, Nord-est du Maroc. " Colloque International sur Les SIG et aide à la prise de décision et à la gouvernance territoriale. Organisé, les 19 & 20 Octobre 2018 à la Faculté des Lettres et Sciences Humaines (FLSH), Université Mohammed 1er Oujda, Maroc.
- ✓ **BENZOUGAGH BRAHIM, BOUDAD LARBI, DRIDRI ABDALLAH, SDKAOUI DRISS (2018)** "Le rôle de l'analyse morphométrique dans l'aménagement des bassins versants et la protection de l'environnement contre les risques naturels. Cas d'étude : bassin versant de l'Oued Inaouène (Nord-est du Maroc)". Les 4èmes Journées de l'Environnement et l'Impact de la Pollution sur la Population et le Réchauffement Climatique (JEIPPRC-04), les 25 et 26 Avril 2018, Faculté des Sciences de Kénitra, Université Ibn Toufaïl, Maroc.
- ✓ **BENZOUGAGH BRAHIM, DRIDRI ABDALLAH, BOUDAD LARBI, SDKAOUI DRISS (2016)** "Apport des SIG pour l'Evaluation des caractéristiques physiques de bassin versant de l'Oued Inaouène (Nord-est du Maroc)" Dans les travaux du Colloque International des Utilisateurs des Systèmes d'Information Géographique (SIG), 3ème Edition, organisé par l'Université Mohammed 1er Oujda, les 22 et 23 novembre 2016.
- ✓ **BENZOUGAGH BRAHIM, BOUDAD LARBI, DRIDRI ABDALLAH, SDKAOUI DRISS (2016)** "Utilisation des SIG dans l'analyse morphométrique et la priorisation des sous bassins versant de l'Oued Inaouène (Nord-est du Maroc) ". Congrès international des études sur l'eau et l'environnement (CI3E), organisé par l'Ecole Nationale des Sciences Appliquées d'Al-Hoceima (ENSA), Université Mohammed Premier, Oujda, les 21 et 22/04/2016, à Al-Hoceima, Maroc.



- ✓ **BENZOUGAGH BRAHIM**, BOUDAD LARBI, DRIDRI ABDALLAH, SDKAOUI DRISS (2016) "L'analyse morphométrique aide dans la conservation de l'environnement". III<sup>èmes</sup> Journées de l'Environnement et Impact de la Pollution sur la Population et le Réchauffement Climatiques (JEIPPRC-03), organisée à la Faculté des Sciences de l'Université Ibn-Tofaïl de Kénitra, les 23 et 24/05/2016, à Kénitra, Maroc.
- ✓ AIT YACIN El Arbi, OUDIJA Fatiha, WADJANE Youssef, **BENZOUGAGH Brahim**, ESSAHLAOUI Ali, NACIRI Laila, (2019). " Détermination et cartographie de la vulnérabilité des territoires à l'érosion hydrique du sol et l'importance de la lutte biologique cas du sous bassin versant de l'Oued Ifran affluent de Beht-Maroc". Colloque international sur la vulnérabilité des territoires face aux risques hydroclimatique. Le 6 & 7 Décembre 2019, à l'Université Mohammed 1<sup>er</sup>, Faculté des Lettres et Sciences Humaines, Oujda-Maroc.
- ✓ SADKAOUI Driss, BENABDELHADI Mohammed, CHAOUINI Abdelali, **BENZOUGAGH Brahim**, LAKHILI Ferdaous, TAJDI A, EDDIF Atika (2019). " Akachmir un geosite de la ville d'Azrou (Maroc) ". Colloque international RQM10, le 19 & 20 Novembre 2019, à l'Université Ibn Toufaïl, Faculté des Sciences Kénitra-Maroc.
- ✓ ELKHAZZAN Bouchta, BOURHZALI Mohammed, EL FILALI Hakim, **BENZOUGAGH Brahim** (2019), "Changement climatique et patrimoine urbanistique de la médina de Meknès: une approche de lecture critique". Colloque international : Climat, Eau et Société (CES,2019), Sous le thème : "Renforcement de la résilience des hydrosystèmes face aux changements globaux : de la mesure hydrologique aux modèles de gestion "-CES'19 – organisé du 17 au 19 Avril 2019, à la Faculté des Lettres et Sciences Humaines de Béni Mellal, Maroc.
- ✓ Driss SADKAOUI, Mohammed BENAABDELHADI, **Brahim BENZOUGAGH**, Amina TAJDI, Attika EDDIF et Ahmed HAMID, 2017. " L'effet de la néotectonique sur les basaltes et les travertins du cause Moyen-Atlasiq (Maroc)". Colloque International (RQM9), Quaternaire des Plaines et Plateaux Côtiers atlantiques Marcaïne: Géomorphologie, Préhistoire et Paléoenvironnements. Organisé les 15, 16 et 17 Novembre 2017 à la Faculté Polydisciplinaires de Safi, Université Cadi Ayyad, Maroc.





- ✓ SADKAOUI Driss, BENABDELHADI Mohammed, DEFFONTAINES Benoît, CHAOUNI Abdel-Ali, NTARMOUCHANT Ahmed, BAALI Abdennasser, **BENZOUGAGH Brahim** et GOURARI Lahcen. (2015) " Indices néotectoniques dans les sédiments du lac Ifrah (Moyen-Atlas, Maroc)". La 8<sup>ème</sup> Rencontre des Quaternaristes Marocains (RQM8), sous le thème « le Quaternaire Maghrébin dans son contexte Méditerranéen ». Organisée du 10 au 12 Novembre 2015 à la Faculté Pluridisciplinaires de Nador (FPN), Université Mohammed 1<sup>er</sup> Oujda, Maroc.

### Participation in framing:

- ✓ **2016-2017** : Encadrement des étudiants de Licence dans le cadre de la préparation de leurs mémoires de fin d'étude (PFE). Sous le thème : " Le Quaternaire continental de Meknès Fès Saïs. Cadre stratigraphique et dynamique de Mise en place".
- ✓ **2017-2018** : Encadrement des étudiants de Licence dans le cadre de la préparation de leurs mémoires de fin d'étude (PFE). Sous le thème : " Principaux Marocains : Géo parc M'Goun & Géo parc de Jbel Bani".

### Participation in the Organization of Scientific Events:

- ✓ Participation in the organization of: FAO-CIHEAM Net Work on Nuts. GREMPA-Mediterranean Research Group for Almond and Pistachio. XVI Meeting, ENA-Meknès (Morocco) 12- 14 May 2015.
- ✓ Participation in the organization of the training entitled genetic improvement of fruit trees at the Faculty of Science Meknes (Morocco), the 14, 15, 17 & 18 April 2017.
- ✓ Participation in the organization of the training entitled reproductive physiology in fruit trees in the context of climate change at the Faculty of Science Meknes (Morocco), 11 & 12 May 2018.
- ✓ Participation in the organization of the training entitled: Management of bibliographic references, at the Faculty of Science Meknes (Morocco), June 09, 2018.
- ✓ Participation in the organization of the 4th Edition of the International Symposium of GIS users, under the theme: GIS at the service of territorial development (4th, GIS USERS-2018) at the University Moulay Ismail, Faculty of Science Department of Geology, 20 & 21 December 2018.

### Scientific Research Internships:

- Internship on the processing of Radar and Optical Remote Sensing data carried out in the laboratory of Sciences and Technologies of Geographic Information (LsSTIG - UPEM/IGN), University Paris-Est Marne-la-Vallée (UPEM) Cedex 2 France.
- Internship on the processing of Radar and Optical Remote Sensing data carried out in the laboratory of Sciences and Technologies of Geographic Information (LsSTIG - UPEM/IGN), University Paris-Est Marne-la-Vallée (UPEM) Cedex 2 France.
- Training course on Optical and Radar Remote Sensing Image Processing with Free Software (open source): Foundations and Practical Applications, organized by the Faculty of Science and Technology of Tangier- City, Morocco.
- Training course on Optical and Radar Remote Sensing Image Processing with QGIS Free Software (open source): Foundations and Practical Applications, organized by the Faculty of Science of Meknès- City, Morocco.
- Training course on Optical and Radar Remote Sensing Image Processing with ERDAS Software: Foundations and Practical Applications, organized by the Moroccan Association of Young Geomaticians in the Faculty of Science Rabat- City, Morocco.
- Training course on Optical and Radar Remote Sensing Image Processing with ENVI Software: Foundations and Practical Applications, organized by the Moroccan Association of Young Geomaticians in the Faculty of Science Rabat- City, Morocco.
- Training course on Optical and Radar Remote Sensing Image Processing with ArcGIS Software: Foundations and Practical Applications, organized by the Faculty of Science of Rabat- City, Morocco.

### Reviewer for:

- Scientific Institute Bulletins,
- Natural Hazards,
- European Scientific Journal,
- Stochastic Environmental Research and Risk,
- Arabian Journal of Geosciences.

### Academic Affiliation Memberships:



- President of the Moroccan association of young geomatics specialists.
- Member of the research team Geosciences and Environment of the Geology Department, Faculty of Sciences, Rabat-City, Morocco.
- Member of the research team Geosciences, Heritage and Useful Substances (GPS), attached to the laboratory of Mineral and Energy Resources Studies (ERME) of the Geology Department, Faculty of Sciences, Moulay Ismail University, Meknes-City Morocco.
- Member of the research team Microbiology of Soil and Environment (MICSOLENV), attached to the laboratory Intercations Cells Environment (ICE) of the Department of Biology, Faculty of Sciences, University Moulay Ismail, Meknes-City, Morocco.
- Member of the research team of the Natural Resources, Environment and Sustainable Development Laboratory (RNE2D). Department of Geology, Faculty of Sciences Dhar El Mahraz, Sidi Mohamed Ben Abdellah University, Fez-City, Morocco.
- Member of the Spatial Remote Sensing research team at the University Paris-Est, IGN, LaSTIG // MATIS, 6-8 av. B. Pascal, Descartes-City, Champs sur Marne, 77455 Marne la Vallée Cedex 2, France

### Language combinations:

- French,
- English,
- Arabic.