CURRICULUM VITAE

Fadoua Hamzaoui Azaza

1. PERSONAL INFORMATION

Name: Hamzaoui Azaza

Surname: Fadoua

Place and date of birth: July 23, 1978 Kebelli Tunisia

Nationality: Tunisian

Profession: Associate Professor

Civil status: married, 2 children

Addresse: Faculty of Science of Tunis, University El Manar 2062 Tunis

2. DEGREES

2010-2011: PhD thesis Thesis subject: Geochemical and modelling of groundwater in Zeuss-Koutine, Triassic and Miocene aquifer (South eastern Tunisia): Highest distinction

Location: Science University of Tunis and National Engineers School of Tunis (ENIT)

2003/2004: Master of geochemistry Master subject: Geochemical behaviour of major elements in Zeuss-Koutine aquifer (South eastern Tunisia)

2000/2001: license of natural science

1996/1997: Secondary school leaving certificate Location: Secondary school of Hammamet (Tunisia) Section: Sciences

3. SCIENTIFIC ACTIVITY

3.1. Scientific training courses

- April 2008: International Cours at Sienna University **Italy**: Advanced Numerical Modeling of Flow and Transport in soils and aquifers.

- March 2010: International Cours CIHAM, Zaragoza **Spain:** Coastal Groundwater for irrigation and Supply: Sustainable Use and Remediation Action.

- October 2010 : International Cours Iglesias **Italy** : Environmental and Natural Resource Economics. Theoretical foundations and applied issues.

- December 2011: International Cours Cagliari **Italy**: “Polluted Site Management. Theory and case studies.

-May 2014: **Workshop** on water managment in Antalya Turqey
-Octobre 2016: Summer school "Water management for coastal communities" Istanbul
-Janvier 2016: Workshop Groundwater workshop for Middle East & North Africa (MENA): groundwater flow systems definition: their natural manifestations and controls. Tunis, Tunisia
-Mai 2017: Workshop Water Security Cairo, Egypt
-October 2017: Workshop Modelling for Sustainable Groundwater Management Tunis, Tunisia
-November 2017: Regional workshop on Water efficient cities Marrakech

3.2. Workshop and courses organization:

-Member in the organizing committee of the course "**international intensive course** on: "aquifers recharge " 1-6 september 2014 hammamet, Tunisia.

- Member of the organizing and scientific committee of the workshop "**groundwater workshop for Middle East & North Africa (MENA)**" : groundwater flow systems definition: their natural manifestations and controls. Tunis, Tunisia 10-16 Janvier 2016.

-Member in the organizing and scientific committee of the workshop "**groundwater workshop for Middle East & North Africa (MENA)**" : groundwater flow systems definition: their natural manifestations and controls. Tunis, Tunisia 10-16 Janvier 2016.

-- Member in the scientific committee in **CIMEE 2016** Lebanon

- Vice-Chair for workshop **Modelling for Sustainable Groundwater Management** October 23th to 27th, 2017 Tunis, Tunisia

- Member in the scientific committee congress on **groundwater and global change in the western mediterranean** Granada, 6-8 November 2017

3.3. Scientific publications

Internationals journals :

Hamzaoui F., Bouhlila R. et Gueddari M. (2009): Geochemistry of Fluoride and major ion in the Groundwater samples of Triassic aquifer (South Eastern Tunisia), through multivariate and hydrochemical techniques. Journal of Applied Sciences Research. Volume 5, Issue 11, pp. 1941-1951. (Indexed in scopus, elsevier, EBSCO HOST, Journal Seek, Index Copernicus, openj-gate,DOAJ, CABI (CAB abstractsUlrich).

Hamzaoui F., Ketata M., Bouhlila R., Gueddari M. et Ribeiro L. (2011) : Hydrochemical Evolution and Evaluation of Drinking Water Quality in Zeuss-Koutine Aquifer, South-Eastern of Tunisia, Journal of Environmental Monitoring Assessment , Volume174, pp. 283–298. (Impact Factor = 1. 63).

Ketata M., **Hamzaoui F**., Bouhlila R., Gueddari M. et Ribeiro L. (2011) : Hydrochemical and statistical study of groundwaters in Gabes-South deep aquifer (South-eastern Tunisia), Journal of Physics and Chemistry of the Earth, Volume 36, Issues 5-6, 2011, pp.187-196. (Impact Factor IF = 0.91).

Hamzaoui F., Ameur M. , Bouhlila R. et Gueddari M. (2011): Geochemical characterization of groundwater in Miocene aquifer (South-Eastern Tunisia).Journal of Environmental and Engineering Geoscience (Impact Factor IF = 0.97). Vol. XVIII, No. 2, May 2012, pp. 159–174

Hamzaoui F., Bouhlila R. et Gueddari M. (2012) : Caractérisation de la minéralisation des eaux de la nappe des grès du Trias (Sud-Est Tunisien) par les méthodes géochimiques et statistiques. Geo Eco Trop, Geo-Eco-Trop., 2012, 36: 49-62

-**Hamzaoui F.**, Tlili B., Bouhlila R. et Gueddari M (2013): An integrated statistical methods and modeling mineral-water interaction to identifying hydrogeochemical processes in groundwater in Southern Tunisia. Chemical and Bioavailability Speciation, 25(3), pp165-178. (Impact Factor IF = 0.65).

-Tlili B., **Hamzaoui F**., Gueddari M et Bouhlila (2013): Geochemistry and water quality assessement of groundwater using graphical and multivariate statistical methods. a case study: Grombalia phreatic aquifer (North East of Tunisia). Arabian Journal of Geosciences.(6), pp3545-3561 . (Impact Factor IF = 1.14).

-Ameur M, **Hamzaoui F.,** Gueddari M (2015) : Suitability for human consumption and agriculture purposes of Sminja aquifer groundwater in Zaghouan (Northeast of Tunisia) using GIS and geochemistry techniques DOI: 10.1007/s10653-015-9780-2. (Impact Factor IF = 2.54).

-Ameur M, **Hamzaoui F.,** Gueddari M (2015) Nitrate contamination of Sminja aquifer groundwater in Zaghouan, North-East Tunisia: WQI and GIS assessments: Desalination and water treatment journal. doi: 10.1080/19443994.2015.1137495 (Impact Factor IF = 1.17).

- Hassen I., **Hamzaoui F,** Bouhlila R.(2015) : Application of Multivariate statistical Analysis, Hydrochemical and Isotopic Investigations for evaluation of groundwater quality and its suitability for drinking and agriculture purposes: Case of Oum Ali Thelepte Aquifer, Central Tunisia", Environmental Monitoring and Assessment : 188:135 DOI 10.1007/s10661-016-5124-7 (Impact Factor IF = 1.63).

- Hassen I., Gibson E., **Hamzaoui F,** Bouhlila R.(2016) :- 3D geological modeling of the Kasserine Aquifer System, Central Tunisia: New insights into aquifer-geometry and

interconnections for a better assessment of groundwater resources. Journal of Hydrology 539 ·DOI: 10.1016/j.

Jarray H, Zammouri M, Ouessar M, **Hamzaoui F**, Barbieri M, Zerrim A, Soler A and H Yahyaoui H (2017): Groundwater vulnerability based on GIS approach: Case study of Zeuss-Koutine aquifer, South-Eastern Tunisia: Geofísica Internacional 56-1: 7-12

- Hassen I., **Hamzaoui F,** Bouhlila R.(2015) :Hydrogeochemical and isotopic investigations for evaluation of the impact of climate change on groundwater quality, a case study of the Plaine of Kasserine, Central Tunisia: In book: Groundwater and Global Change in the Western Mediterranean Area. Environmental Earth Sciences, pp151-160 DOI: 10.1007/978-3-319-69356-9_18.

Book Chapter:

- **Fadoua Hamzaoui**., Besma Tlili., Rachida Bouhlila., Moncef Gueddari. 2013: Suitability of groundwater of Zeuss-Koutine aquifer (Southern of Tunisia) for domestic and agricultural use in Water Quality: Indicators, Human Impact and Environmental Health, ISBN: 978-1-62417-111-6 pp. 109-130,

- Hassen I., **Hamzaoui F,** Bouhlila R. 2016: Groundwater quality of Feriana-Skhirat in Central Tunisia and its sustainability for agriculture and drinking purposes: DOI: 10.1201/b21902-16 In book: Sustainable Hydraulics in the Era of Global Change, pp.69-75

Proceeding

Hamzaoui F., Bouhlila R., Gueddari M., Ribeiro L. et Ketata M. (2005) : Géochimie des éléments majeurs dans les eaux de la nappe profonde de Zeuss-Koutine dans le Sud-Est de la Tunisie). Proceedings of the international Mediterranean Congress « WATMED 2 »: Water Resources in Mediterranean Basin. Marrakech, 14-17 Novembre, 10 p.

Ketata M., **Hamzaoui F**., Bouhlila R., Gueddari M. et Ribeiro L. (2007): Use of statistical analysis to evaluate spatial and temporal variations in Gabes-South groundwaters geochemistry (South-Eastern Tunisia). Proceedings of the XXXV Congress of the International Association of Hydrologists (IAH), 10 p.

Hamzaoui F., Bouhlila R. et Gueddari M. (2010): An application of cluster analysis and multivariate classification methods to evaluate spatial characterization of groundwater chemistry in southeastern of Tunisia: a case study of Jeffara of Medenine : groundwater quality symposium, 12- 17 septembre , Poland. pp. 192-196.[1]

Hassen I., Bouhlila R., **Hamzaoui F**. and Khanfir R (2013).. Hydrogeological modeling of Kasserine aquifer (Center of Tunisia). 10th international hydrogeological congress of greece. Vol, 1. pp 223-230p.

Oral communications

Hamzaoui F., Gueddari M., Bouhlila R. et Ribeiro L. (2005): Géochimie du fluor dans les eaux de la nappe de Zeuss-Koutine. 4ème Colloque « Eau et espace. Ressources, Enjeux et Aménagement », Tunis, 11 Mars 2005, p 20.

Hamzaoui F., Bouhlila R., Gueddari M., Ribeiro L. et Ketata M. (2005) : Géochimie des éléments majeurs dans les eaux de la nappe profonde de Zeuss-Koutine dans le Sud-Est de la Tunisie). Proceedings of the international Mediterranean Congress « WATMED 2 »: Water Resources in Mediterranean Basin. Marrakech, 14-17 Novembre, p 181.

Ketata M., Bouhlila R., Gueddari M. et **Hamzaoui F**. (2006) : Géochimie des eaux de la nappe profonde de Gabès Sud, au Sud-Est de la Tunisie. Proceedings of the 8th International Conference on Geology of the Arab World, Cairo, p. 48.

Hamzaoui F., Bouhlila R.et Gueddari M. (2007): Geochemical behaviour of major elements in Triassic aquifer (South eastern Tunisia): XXXV Congress of the International Association of Hydrologists, 19-21, September 2007, Lisbone, pp. 137-138.

Hamzaoui F., Bouhlila R. et Gueddari M. (2010): Hydrogeochemical characteristics of Water Quality in Miocene aquifer (South-Eastern Tunisia). International Conference on Water Resources and Arid Environments (ICWRAE), 5-8 December, Saudi **Arabia.**

Hassen I., Bouhlila R., **Hamzaoui F**. and Khanfir R (2013).. Hydrogeological modeling of Kasserine aquifer (Center of Tunisia). 10th international hydrogeological congress of greece.

Ameur M, **Hamzaoui F**., Gueddari M (2014): Contribution d'un SIG à la gestion des ressources en eaux de la nappe des Grès du Trias, dans le Sud- Est de la Tunisie. Conférence Internationale sur les Systèmes d'Information d'Eau WIS Meday's, du 19 au 21 Mars 2014, à Rabat, Maroc.

Ameur M, **Hamzaoui F**., Gueddari M (2015): L'Apport du Système d'Information Géographique à L'évaluation de la qualité des eaux de la nappe d'Oued Rmal (Nord- Est de la Tunisie), vis-à-vis des nitrates et de la salinité. Conférence francophone ESRI 2015, du 07 au 08 Octobre 2015, à Versailles, France.

Ameur M, **Hamzaoui F.,** Gueddari M (2015): Aptitude De La Qualité Des Eaux De La Nappe d'oued Rmel (Nord- Est De La Tunisie), À l'irrigation Par Les Méthodes Géochimiques.Conférence Internationale sur l'Hydrologie des Grands Bassins Fluviaux de l'Afrique ,26-30 Octobre, Hammamet, Tunisie

Poster

Ketata M., **Hamzaoui F**., Bouhlila R., Gueddari M. et Ribeiro L. (2007): Use of statistical analysis to evaluate spatial and temporal variations in Gabes-South groundwaters geochemistry (South-Eastern Tunisia). XXXV Congress of the International Association of Hydrologists, 19-21, September 2007, Lisbone, p 200.

Hamzaoui F., Bouhlila R.et Gueddari M. (2008) : Etude de la qualité des eaux souterraines de la nappe de Miocène de Jorf-Jerba-Zarzis (Sud-Est de la Tunisie). 33ème Journées scientifiques du Groupe Francophone Humidimétrie et transferts en milieux poreux GFHN « Impact de l"usage du sol sur les ressources en eau souterraine » 19-20 Novembre, Montpellier. p 71.

Hamzaoui F., Bouhlila R. et Gueddari M. (2009) : Géochimie des éléments majeurs et des éléments traces dans les eaux de la nappe des grès du Trias (Sud-Est de la Tunisie).
GEOSS African Water Cycle Symposium, 06-09 Janvier, Tunis.

Hassan I, **Hamzaoui F**, BouhlilaR (2015): Geochemical evolution processes of oum ali thelepte aquifer, central tunisia and it's suitability for drinking and agriculture use. Goldschmidt 2015, 16-22 Août Prague.

Ameur M, **Hamzaoui F.,** Gueddari M (2015): Etude hydrogéochimique des eaux de la nappe de sminja: gouvernorat de zaghouan (nord– est de la tunisie): international conférence on „integrated land and water resources management in the dry areas under climate change (ildac 2015)" Djerba island, Tunisia: 11-13 may 2015.

Ameur M, **Hamzaoui F**, Gueddari M (2015): Application des méthodes statistiques multivariées pour l'"étude de la minéralisation des eaux de la nappe de Sminja dans la région de Zaghouan (Nord-est de la Tunisie). Conférence Internationale sur l'Hydrologie des Grands Bassins Fluviaux de l'Afrique 26-30 Octobre, 2015 Hammamet, Tunisie.

4. RESEARCH

4. 1. Participation in research projects

 Project Tuniso-Portugais (2003-2005) - Methodology of the Study of Coastal Aquifers. The case of Jeffara (South of Tunisia),

 Convention DGRE–FST–ENIT (2006-2009) – Geochemical modeling in Jeffara of Medenine aquifer

 project STEG-ANPR-ENIT (2013-2015) - implantation des centrales nucléaires : sites envisagés : Skhira et Marsa douiba

 Project Tuniso-Swiss (2013-2016)- groundwater resources management : Kasserine aquifer (centre of Tunisia)

4. 2. Fields of research

-Water Geochemistry

- Hydrogeology

-Field study of groundwater degradations

-Water management

-Flow modeling*

5. Referee of Peer reviewed scientific journals scientific

Journal of Hydrology (Impact Factor 2.305)

- Journal of Water Environment Research (Impact Factor 1.15);

- Journal of Environmental and Monitoring Assessment (Impact Factor 1.35)
- Research Journal of Environmental and Earth Sciences (site web: (http://maxwellsci.com)
- Pakistan Journal of Scientific and Industrial Research (http://www.pjsir.org)
- International Journal of Water Resources and Environmental Engineering (http://www.academicjournals.org)
- Journal des Sciences hydrologiques HSJ
- Journal of Environmental and Engineering Geoscience
- ……..

6. PEDAGOGIC ACTIVITIES

Contractual Assistant : for 4 years, from 2005-2006 to 2008-2009 at the Higher Institute of Science and Environmental Technologies , Borj Cedria (ISSSTE)

-**Associate Professor**: Position held since 2012 at the Faculty of Sciences of Tunis

Courses: Hydrochemistry, treatment of polluted sites, Geographic Information Systems, Pollution of Water and Soil ... .

Supervision of students :

PFE engineers, Master

Co-supervision of PhD theses

7. Languages

	Read	Written	Spoken
Arabe		*Mother tongue*	
French	Fluent	Fluent	Fluent
English	Good	Good	Good

8- Computer Skills

- **Operating systems:** Ms DOS, Windows 95, 98, Xp.
- **Office automation software** (Excel, Word, PowerPoint), **Data bases** (concepts of Access),
- **Software of follow-up of the quality of water:** Statistica, Aquachem, Andad, Phreeqc, pastprogram, Arcview, Feeflow, surfer…….

Fadoua HAMZOUI AZAZA