



# ***Curriculum Vitae***

- **Family Name : JEBALI**
- **Name : Jamel**
- **Date of Birth : 08 Feb. 1976 at Teboulba, Tunisia**
- **Familial status: married**
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## **ACADEMIC TITLES**

<b>Diplomas</b>	<b>Speciality</b>	<b>year</b>	<b>Mention</b>	<b>Institute</b>
<b>Authorization to Conduct Research</b>	<b>Biological Sciences and Biotechnology</b>	<b>April 2014</b>	<b>Very honourable</b>	<b>Higher Institute of Biotechnology of Monastir.</b>
<b>Ph.D</b>	<b>Biological Sciences and Biotechnology</b>	<b>Dec. 2006</b>	<b>Very honourable</b>	<b>Higher Institute of Biotechnology of Monastir.</b>
<b>Master</b>	<b>Environmental Sciences</b>	<b>Oct. 2002</b>	<b>Very Well.</b>	<b>Faculty of Sciences of Bizerte</b>
<b>Licence</b>	<b>Biological Sciences</b>	<b>June. 2000</b>	<b>Well</b>	<b>Faculty of Sciences of Monastir.</b>
<b>Baccalaureate</b>	<b>Applied sciences</b>	<b>Jun. 1996</b>		<b>School of Teboulba, Monastir.</b>

## **LINGUISTIC KNOWLEDGE**

- English
- French
- Arab

## **PROFESSIONAL STATUS**

- ✓ Associate-Professor of Biochemistry, Higher Institute of Biotechnology, University of Monastir, Monastir, Tunisia.
- ✓ Young Affiliate for 2014-2018 by The World Academy of Sciences Arab Regional Office (TWAS-ARO).
- ✓ (H-index=16; 593 citations)

## LABORATORY

Laboratory of Genetics, Biodiversity and Valorisation of Bioresources (LR11ES41)  
Higher Institute of Biotechnology of Monastir- Tahar Hadded Street, (B.P 74),  
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## RESEARCH EXPERIENCE

My research activities within the scope of Environmental Sciences. I am particularly interested in the development of sensitive ecotoxicological tools for assessing the biological impact of chemicals in aquatic ecosystem. This theme is with great interest in Tunisia and in the others countries around the world. Several measured biochemical parameters of contaminated organisms were linked to environmental contamination and provide additional information about their toxicity in target organisms.

### The future research activities were focused on the:

- ✓ Integrative study of the impact of levonorgestrel endocrine disruptor on the biochemical and physiological parameters of the clam (*Ruditapes decussatus*) under salinity and temperature changes.
- ✓ Effects of dietary *Aloe vera* leaf extract on the growth performance, plasma biochemical parameters, liver histology, and lipid deposit reduction in sea bream *Sparus aurata* under controlled conditions: key to sustainable aquaculture

## RESEARCH PROJECTS

1. Tuniso-Moroccan project (13 / TM13): Integrative study of biochemical, physiological, tissue and biometric markers in the ecological risk assessment of coastal ecosystems: Application to the Tunisian-Moroccan coasts.
2. Tuniso-Portuguese Project (TP / 28/2012): Biochemical and Genotoxic Effect of Pharmaceutical and Personal Care Products in Sea Bream fish.
3. Tuniso-Spanish project (PCI N ° A / 016113/08; A / 024076/09): Proteomic study of metallothionein levels in the Mediterranean crabs (*Carcinus maenas*).
4. Tuniso-Spanish Project (PCI N ° A / 6715/06): Proteomic study of the response of aquatic organisms to environmental stresses.

## RELEVANT PUBLICATIONS

1. GHARRED T, JEBALI J, BELGACEM M, MANNAI R, ACHOUR S. Assessment of the individual and mixture toxicity of cadmium, copper and oxytetracycline, on the embryo-larval development of the sea urchin *Paracentrotus lividus*. **Environmental Science and Pollution Research (2016) DOI 10.1007/s11356-016-6988-3**
2. GHEDIRA J, CHICANO-GÁLVEZ E, FERNÁNDEZ-CISNAL R, JEBALI J, BANNI M, CHOUBA L, BOUSSETTA H, LÓPEZ-BAREA J, ALHAMA J. Using environmental proteomics to assess pollutant response of *Carcinus maenas* along the

Tunisian coast. **Science of the Total Environment** 541 (2016) 109–118.

3. GHARRED TA, EZZINE IK, NAIJA A, BOUALI RR, **JEBALI J** Assessment of toxic interactions between deltamethrin and copper on the fertility and developmental events in the Mediterranean sea urchin, *Paracentrotus lividus*. **Environmental Monitoring and Assessment** (2015); 187(4):193. doi: 10.1007/s10661-015-4407-8. Epub 2015 Mar 20.
4. **JEBALI J**, CHOUBA L, BANNI M, BOUSSETTA H. Comparative study of the bioaccumulation and elimination of trace metals (Cd, Pb, Zn, Mn and Fe) in the digestive gland, gills and muscle of bivalve *Pinna nobilis* during a field transplant experiment. **Journal of Trace Elements in Medicine and Biology** (2014) 28: 212-217.
5. **JEBALI J**, CHICANO-GÁLVEZ E, FERNÁNDEZ-CISNAL R, BANNI M, CHOUBA L, BOUSSETTA H, LÓPEZ-BAREA J, ALHAMA J. Proteomic analysis in caged Mediterranean crab (*Carcinus maenas*) and chemical contaminant exposure in Tébourba Harbour, Tunisia. **Ecotoxicology and Environmental Safety** (2014), 100:15–26.
6. **JEBALI J**, CHICANO-GÁLVEZ E, BANNI M, GUERBEJ H, BOUSSETTA H, LÓPEZ-BAREA J, ALHAMA J. Biochemical responses in seabream (*Sparus aurata*) caged in-field or exposed to benzo(a)pyrene and paraquat. Characterization of glutathione S-transferases. **Ecotoxicology and Environmental Safety**(2013) 88, 169-177.
7. **JEBALI J**, SABBAGH M, BANNI M, KAMEL N, BEN-KHEDHER S, M'HAMDI N, BOUSSETTA H. Multiple biomarkers of pollution effects in *Solea solea* fish on the Tunisia coastline. **Environmental Science and Pollution Research** (2013) 20(6):3812-21.
8. **JEBALI J**, BEN-KHEDHER S, SABBAGH M, KAMEL N, BANNI M, BOUSSETTA H. Cholinesterase activity as biomarker of neurotoxicity: utility in the assessment of aquatic environment contamination. **Journal of Integrated Coastal Zone Management** (2013), 13(4):525-537.
9. **JEBALI J**, BANNI M, BEN-KHETHER S, GUERBEJ H, BOUSSETTA H Biochemical Response of Sea bass *Dicentrarchus labrax* Experimentally **Exposed to Nickel and Chlorpyrifos**. **Journal of Biomarkers in Drug Development** (2013), 2 (1): <http://dx.doi.org/10.4172/jbdd.1000101>.
10. BEN KHEDHER S, **JEBALI J**, HOUAS Z, NAWÉLI H, JRAD A, BANNI M AND BOUSSETTA H. Metals bioaccumulation and histopathological biomarkers in *Carcinus maenas* crab from Bizerta lagoon, Tunisia. **Environmental Science and Pollution Research** (2014) 21:4343–4357.
11. BEN-KHEDHER S, **JEBALI J**, KAMEL N, BANNI M, RAMEH M, JRAD A, BOUSSETTA H. Biochemical effects in crabs (*Carcinus maenas*) and contamination levels in the Bizerta Lagoon: an integrated approach in biomonitoring of marine complex pollution. **Environmental Science and Pollution Research**. (2013) 20(4):2616-31

12. ATTIG H, KAMEL N, SFORZINI S, DAGNINO A, **JEBALI J**, BOUSSETTA H, VIARENGO A, BANNI M. Effects of thermal stress and nickel exposure on biomarkers responses in *Mytilus galloprovincialis* (Lam). **Marine Environmental Research** (2014), **94**: 65-71.
13. KAMEL N, **JEBALI J**, BANNI M, BEN KHEDHER S, CHOUBAL, BOUSSETTA H. Biochemical Responses and metals levels in *Ruditapes decussatus* after exposure to treated municipal effluents **Ecotoxicology and Environmental Safety**. (2012) **82**: 40-46.
14. **JEBALI J**, BEN-KHEDHER S, KAMEL N, GHEDIRA J, BOURAOU Z AND BOUSSETTA H. Cholinesterase activity inhibition as biomarker: Partial biochemical characterization and evaluation of response in caged cockle (*Cerastoderma glaucum*). **Aquatic Biology**: (2011), **13**: 243–250.
15. **JEBALI, J.**, BEN-KHEDHER, S., GHERDIRA, J., KAMEL, N., BOUSSETTA, H. Integrated assessment of biochemical biomarker responses in Mediterranean crab (*Carcinus maenas*) Collected from Monastir Bay (Tunisia). **Journal of Environmental Sciences**, (2011), **23(10)**: 1714–1720.
16. GHEDIRA J, **JEBALI J**, BANNIM, CHOUBA L, BOUSSETTA H, LÓPEZ- BAREA J, ALHAMA J. Use of oxidative stress biomarkers in *Carcinus maenas* to assess littoral zone contamination in Tunisia. **Aquatic Biology**, (2011) **14**: 87–98.
17. BANNI M, **JEBALI J**, GUERBEJ H, DONDERO F, BOUSSETTA H, VIARENGO A. Mixture Toxicity Assessment of Nickel and Chlorpyrifos in the Sea Bass *Dicentrarchus labrax*. **Arch. Environ Contam Toxicol** (2011)**60(1)**:124-31.
18. TLILI S, **JEBALI J**, BANNI M, HAOUAS Z, MLAYAH A, HELAL A N, BOUSSETTA H. Multimarker approach analysis in common carp *Cyprinus carpio* sampled from three freshwater sites. **Environmental Monitoring and Assessment** (2010) **168**: 285–298.
19. BOURAOU Z, BANNI M, CHOUBA L, GHEDIRA J, CLERANDEAU C, **JEBALI J**, NARBONNE JF BOUSSETTA H. Monitoring pollution in Tunisian coasts using a scale of classification based on biochemical markers in worms *Nereis* (*Hediste diversicolor*). **Environ Monit Assess** (2010) **164**:691-700.
20. BANNI M, NEGRI A, DAGNINO A, **JEBALI J**, AMEUR S, BOUSSETTA H. Acute effects of benzo[a]pyrene on digestive gland enzymatic biomarkers and DNA damage on mussel *Mytilus galloprovincialis*. **Ecotoxicology and Environmental Safety** (2010) **73**: 842-848.
21. GHEDIRA J, **JEBALI J**, BOURAOU Z, BANNI M, GUERBEJ H, BOUSSETTA H. Metallothionein and metal levels in liver, gills and kidney of *Sparus aurata* exposed to sublethal doses of cadmium and copper. **Fish Physiology and Biochemistry** (2010), **36**:101–107.
22. GHEDIRA J, **JEBALI J**, BOURAOU Z, BANNI M, CHOUBA L, BOUSSETTA H. Acute effects of Chlorpyrifos-Ethyl and secondary treated effluents on Acetylcholinesterase and butyrylcholinesterase activities in *Carcinus maenas*. **Journal**

of **Environmental Sciences (2009) 21: 1467-72.**

23. BANNI M, BOURAOUI Z, GHEDIRA J, CLEARANDEAU C, **JEBALI J**, BOUSSETTA H. Seasonal variation of oxidative stress biomarkers in clams *Ruditapes decussatus* sampled from Tunisian coastal areas. **Environ Monit Assess (2009) 155:119-128.**
24. ATTIG H, DAGNINO A, NEGRI A, **JEBALI J**, BOUSSETTA H, VIARENGO A, DONDERO F, BANNI M. Uptake and biochemical responses of mussels *Mytilus galloprovincialis* exposed to sublethal nickel concentrations. **Ecotoxicology and Environmental Safety (2010) 73: 1712-1719**
25. **JEBALI J**, BANNIM, GUERBEJ H, BOUSSETTA H, LÓPEZ-BAREA J, ALHAMA J. Metallothionein induction by Cu, Cd and Hg in *Dicentrarchus labrax* liver: Assessment by RP-HPLC with fluorescence detection and spectrophotometry. **Marine Environmental Research (2008), 65: 358–363.**
26. BANNI M, DONDERO F, **JEBALI J**, GUERBEJ H, BOUSSETTA H and VIARENGO A. Assessment of heavy metal contamination using real time PCR analysis of mussel metallothionein mt10 and mt20 expression: a validation along the Tunisian coasts. **Biomarkers, (2007), 12(4): 369-383.**
27. **JEBALI J**, BANNI M, ALMEIDA E A, AND BOUSSETTA H. Oxidative DNA damage levels and catalase activity in the clam *Ruditapes decussatus* as pollution biomarkers of Tunisian marine environment. **Environmental Monitoring and Assessment (2007), 124. 195-200.**
28. **JEBALI J**, BANNI M, GUERBEJ H, ALMEIDA E A, BANNAOUI A AND BOUSSETTA H. Effects of malathion and cadmium on acetylcholinesterase activity and metallothionein levels in the fish *Seriola dumerilli*. **Fish Physiology and Biochemistry (2006), 32: 93-98.**
29. BANNI Med, **JEBALI J.**, DAUBEZE M., CLERANDAU C., GUERBEJ H., NARBONNE JF and BOUSSETTA H. Monitoring pollution in Tunisian coasts: Application of a classification scale based on biochemical markers. **Biomarkers (2005), 10 (2-3): 105-116.**

## **BOOK CHAPTERS**

1. **JEBALI J**, BANNI M, AND BOUSSETTA H (2012) Biochemical Biomarkers in Aquatic Ecotoxicology: Fundamental Mechanisms, Application, and Perspectives. In Advances in Environmental Research. Volume 23. NOVA Science Publishers, Inc; ISBN: 978-1-62100-837-8.  
[https://www.novapublishers.com/catalog/product\\_info.php?products\\_id=29692&osCs id=dc53f4146d99489ad82d649de2e47a40](https://www.novapublishers.com/catalog/product_info.php?products_id=29692&osCs id=dc53f4146d99489ad82d649de2e47a40).
2. ALHAMA J, ROMERO-RUIZ A, **JEBALI J**, LOPEZ-BAREA J (2010) Total metallothionein quantification by reversed phase high performance liquid chromatography coupled to fluorescence detection after monobromobimane derivatization. In Cadmium in the environment. NOVA Science Publishers, Inc; SBN:978-1-60741-934-1-2010.

## **SELECTED PARTICIPATION IN INTERNATIONAL CONGRESS AND SEMINARS**

1. Participation in the "**1st International Conference of TWAS Young Scientist Network**" August 22<sup>nd</sup> to 24<sup>th</sup>, 2017. Rio de Janeiro, Brazil.
2. Participation in the "**World Science Forum (WSF) 2017**", November 7<sup>th</sup>-11<sup>th</sup>, 2017, Dead Sea, Jordan.
3. Participation in the "**Annual Meeting Science and Technology in Society Forum**", October 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup>, 2016, Kyoto, Japan.
4. **3<sup>rd</sup> international Congres "Les polluants de l'environnement et des produits : Risques et Opportunités de traitement**, 20-22 Mars 2008, Mahdia, Tunisia"  
Réponse Biochimique du *S. aurata* exposée aux polluants environnementaux.  
**JEBALI J, GUERBEJ H, GHEDIRA J, BANNI M, ALHAMA J, LOPEZ-BAREA J, BOUSSETTA H.**
5. **6<sup>ème</sup> Congreso Ibérico y 3º Iberoamericano de contaminación y Toxicología Ambiental (CICTA), Cadiz, Spain: 25 – 28 septembre 2005**, « Análisis Proteómico de las Glutación S-Transferasas de hígado de doradas (*Sparus aurata*) como índice de contaminación». **JEBALI J, ALHAMA J, ROMERO-RUIZ A, BANNI M, BOUSSETTA H, LÓPEZ- BAREA J.**
6. **6<sup>ème</sup> Congreso Ibérico y 3º Iberoamericano de contaminación y Toxicología Ambiental (CICTA), Cadiz, Spain: 25 – 28 septembre 2005**, « Determinación de los niveles metalotioneínas en hígado de lubina(*Dicentrarcus labrax*) tratada con Cadmio, cobre ymercurio». **JEBALI J, ALHAMA J, ROMERO-RUIZ A, BANNI M, BOUSSETTA H, LÓPEZ- BAREA J.**
7. **16<sup>ème</sup> Congreso Español de Toxicología, Cáceres, Spain: 28 – 30 septembre 2005**, « Proteomic analysis of fish liver glutathione- S-transferase». **J JEBALI, J ALHAMA, A ROMERO-RUIZ, E. CHICANO, M BANNI, H BOUSSETTA, J LÓPEZ-BAREA.**

## **COORDINATION OF MASTER'S STUDENTS**

1. **Study of seasonally variation of biochemical parameters of caged *Flexopecten glaber* to the contaminated site of Bizerta Lagoon, Tunisia.** Higher Institute of Biotechnology of Monastir. Sonia GAAIED (2014-2015).
2. **Mixture toxicity assessment of oxytetracycline and copper in the clam *Ruditapes decussatus*.** Higher Institute of Biotechnology of Monastir. Soumaya KHALFAOUI (2012-2013).
3. **Mixture toxicity assessment of oxytetracycline and copper in the clam *Ruditapes decussatus*.** Higher Institute of Biotechnology of Monastir. Soumaya KHALFAOUI (2010-2011).
4. **Study of biochemical and biometric markers in *Solea solea* fish: Validation of the biomarkers usefulness in the Tunisian coast sites.** Higher Institute of Biotechnology of Monastir. Marwa SABBAGH (2010-2011).

5. **In-vivo effects of treated municipal effluents on biochemical biomarkers and heavy metal bioaccumulation in *Ruditapes decussatus*.** Higher Institute of Biotechnology of Monastir. Nawel Kamel (2009-2010).
6. **Study of the biochemical and toxicological properties of cholinesterases in Mediterranean crab (*Carcinus maenas*) "**. Higher Institute of Biotechnology of Monastir. Sana BEN KHEDHER (2009-2008).
7. **In situ study of the response of a battery of biomarkers in the common carp *Cyprinus carpio* collected from three reservoir reservoirs in Tunisia.** Higher Institute of Biotechnology of Monastir. Sofien TLILI (2008-2007).

### **PARTICIPATION TO THE PhD STUDENTS SUPERVISION (04 PhD STUDENTS)**

1. **2017-until now:** "Integrative study of the impact of levonorgestrel endocrine disruptor on the biochemical and physiological parameters of the clam (*Ruditapes decussatus*) under salinity and temperature changes". (In progress)
2. **2017-until now:** "Effects of dietary Aloe vera leaf extract on the growth performance, plasma biochemical parameters, liver histology, and lipid deposit reduction in sea bream *Sparus aurata* under controlled conditions: key to sustainable aquaculture". (In progress)
3. **2007-2011:** "**Study of biochemical markers of pollution in the marine crustacean (*Carcinus maenas*): Cholinesterases Biochemical and toxicological characterizations**". PhD of Biological Sciences and Biotechnology (ISBM). Presented by Mme Jihène GHEDIRA.
4. **2010-2014:** "**Study of the multiple biomarker approach for the evaluation of the Bizerte lagoon health status: Assessment of the biochemical and molecular responses of crustaceans exposed to environmental pollutants**". PhD thesis of Biological Sciences and Biotechnology, Higher Institute of Biotechnology of Monastir (ISBM). Presented by Sana BEN KHEDHER-RASSAS.



## TEACHING EXPERIENCE

STATUTE	YEAR	COURSES	INSTITUTION
Associate-Professor Permanent	2016-UTIL NOW	- Protein Structure and function - Proteomics - Biochemistry	- Higher Institute of Biotechnology of Monastir.
Assistant-Professor Permanent	2009-2015	- Protein Structure and function - Proteomics - Biochemistry	- Higher Institute of Biotechnology of Monastir.
Assistant-Professor Permanent	2006-2009	- Biochemistry - Enzymology - Proteomics	- Faculty of the Sciences of Bizerte  - Higher Institute of Biotechnology of Monastir.
Assistant-Professor Contractor	2003-2005	-Biochemistry - Toxicology - Enzymology	Higher Institute of Biotechnology of Monastir.

## TRAINING COURSES

i. **July 07th to July 20<sup>th</sup> 2014:** Short stay at the laboratory of Ecotoxicology Laboratory of the National Research Institute Science and Technology for Environment and Agriculture-Lyon, France.

ii. **Several Short stay in the laboratory of Biochemical and Molecular Biology of Cordoba- Spain:**

- ✓ July 07th to July 30th 2010: Study of proteomic analysis in caged Mediterranean crab (*Carcinus maenas*) and chemical contaminant exposure in Tébourba Harbour, Tunisia.
- ✓ July 07th to august 09th 2009: Study of environmental pollutants on conventional biomarkers and protein expression alteration in the Mediterranean crab transplanted to the fishing harbor.
- ✓ January 1st to January 19<sup>th</sup>: Investigate the effects of environmental pollutants on biochemical parameters of fishes *Sparus aurata* transplanted into the fishing Harbour or exposed to the model of chemical pollutants. Oxidative stress after exposure was studied by determining the antioxidative enzymes including glutathione peroxidase, glutathione reductase, catalase, glucose-6-phosphate dehydrogenase and 6-phosphogluconate dehydrogenase.
- ✓ May 23<sup>rd</sup> to July 31<sup>th</sup> : Characterization and purification of glutathione S-transferase isoenzymes in fishes *Sparus aurata* caged



into the fishing harbor or experimentally exposed to Benzo(a)pyrene and Paraquatpesticide.

- ✓ October 04<sup>th</sup> to November 05<sup>th</sup>: Purification and quantification of metallothioneins in fishes *Dicentrarchus labrax* exposed to the model of heavy metals and using a RP- HPLC-FD.
- iii. A short stay in the Laboratory of Environment and Water of the Ibn Zohr university- agadir-Maroc from December 15<sup>th</sup> to December 30<sup>th</sup> 2004. We assess the utility of biomarkers responses in the assessment of marine ecosystem contaminations.
- iv. I participated to the 1<sup>st</sup> workshop of molecular biology at the Faculty of Biological Sciences- University of Sciences and Technology Houari Boumediane, Alger, Algeria.
- v. A short stay in the Laboratory of “physico-toxicochimie des systèmes naturels” at University of Bordeaux I from November 29<sup>th</sup> to December 27<sup>th</sup> 2002. We assess the DNA oxidative damages of Clam *Ruditapes decussatus* from several sites of Tunisian coast using HPLC-EC.

## **REFEREE IN INTERNATIONAL JOURNALS**

1. **Ecotoxicology and Environmental Safety**
2. **Environmental Monitoring and Assessment**
3. **Environmental Science and Pollution Research**