



## Curriculum Vitae



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### **Personal Data: Associate Research Professor/ Coral reef Eco-physiologist/ Marine Ecology**

Name: Fuad A. Al-Horani  
Date of Birth: 31, Aug. 1968  
Place of Birth: Irbid-Jordan  
Nationality: Jordanian  
Status: Married with two sons

### **Contact address:**

Marine Science Station  
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JORDAN  
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### **Education:**

- 1986 School leaving certificate  
Irbid Secondary school, Irbid-Jordan.  
Science section
- 1990 B.Sc. Biological Sciences  
Yarmouk University, Irbid-Jordan.
- 1995 M.Sc. Biochemistry  
Yarmouk University, Irbid-Jordan.  
Thesis Title: "Comparative studies of Glutathione Cycle in livers of Camel, Cow, Sheep and Goat".
- 2002 Ph.D. Coral Eco-Physiology  
University of Bremen – Max Planck Institute for Marine Microbiology, Bremen-Germany.  
Thesis Title: Study of the interactions among photosynthesis, respiration and calcification in the scleractinian coral, *Galaxea fascicularis*.

### **Teaching and Research Experience:**

1992/93-1996	Teaching Assistant Dept. of Biological Sciences Yarmouk University, Irbid-Jordan
1995	Research Assistant Dept. of Biological Sciences/ Soil Microbiology and Molecular Biology Yarmouk University, Irbid-Jordan
1995-1998/99	Teaching Assistant Dept. of Applied Biological Sciences Jordan university of Science & Technology, Irbid-Jordan
2002-2003	Post doc Max Planck Institute for Marine Microbiology, Bremen-Germany
2003-2008	Assistant Research Professor (Coral Eco-physiology/ Marine Biology) Marine Science Station, Aqaba, Jordan
2008-	Associate Research Professor (Coral Eco-physiology/ Marine Biology) Marine Science Station, Aqaba, Jordan

**Current Research Interest:**

1. Environmental observation of the coral reef health (benthic cover; corals and seagrass) in the Gulf of Aqaba-Jordan (Monitoring Programs).
2. Coral Eco-physiology study.
3. Coral and Fish Ecotoxicology.
4. Artificial reefs development.
5. Coral mapping.

**Other Skills and Experiences:**

1. Coral propagation and maintenance in captivity.
2. Excellent experimental design experience for field and laboratory studies.
3. Advanced diving license.
4. Computer skills.
5. Driving license.

**Languages:**

1. Arabic: native.
2. English: excellent; communication and written.
3. German: fair communication.

### **Publications:**

- Al-Horani, F. A.**, Hamdi, M., Al-Habbib, O. (2008). Study of *Drupella cornus* prey selection and grazing on corals from the Jordanian coast of the Gulf of Aqaba-Red Sea. (submitted).
- Cragg, S. M., Jumel, M. C., Al-Horani, F. A., Hendy, I. W. (2009). The life history characteristics of the wood-boring bivalve *Teredo bartschi* are suited to the elevated salinity, oligotrophic circulation in the Gulf of Aqaba, Red Sea. *J. Exp. Mar. Biol.Ecol.*, 375; 99-105.
- Kotb, M. M. A., Hanafy, M. H., Rirache, H., Matsumura, S., Al-Sofyani, A. A., Ahmed, A. G., Bawazir, S., **Al-Horani, F. A.** (2008). Status of coral reefs in the Red Sea and Gulf of Aden region. In Status of coral reefs of the world. Wilkinson, C. (Ed.), Global Coral Reef Network, Australia. pp. 67-78.
- Al-Horani, F. A.**, Tambutte, E., Allemand, D. (2007). Study of dark calcification and daily rhythm of calcification in the scleractinian coral, *Galaxea fascicularis*. *Coral Reefs* 26: 531-538.
- Al-Rousan, S., Al-Shloul, R., **Al-Horani, F.**, Abu-Hilal. A. (2007). Heavy metal contents in growth bands of *Porites* corals: Record of anthropogenic and human developments from the Jordanian Gulf of Aqaba. *Marine Pollution Bulletin* 54 (12): 1912–1922.
- Al-Rousan, S., Felis, T., Manasrah R., **Al-Horani F.** (2007). Seasonal variations in the stable oxygen isotopic composition in *Porites* corals from the northern Gulf of Aqaba, Red Sea. *Geochemical Journal* 41: 333-340.
- Al-Horani, F. A.**, Al-Rousan, S. A., Al-Zibdeh, M., Khalaf, M. A. (2006). Status of coral reefs in the Jordanian coast of the Gulf of Aqaba- Red Sea. *Zoology in the Middle East* 38: 99-110.
- Al-Rousan, S. A., Rasheed, M. Y., **Al-Horani, F. A.**, Manasrah, R. S. (2006). Geochemical and textural properties of carbonate and terrigenous sediments along the Jordanian coast of the Gulf of Aqaba. *J. Oceanography* 62: 839-849.

- Khalaf, M. A., **Al-Horani, F. A.**, Al-Rousan, S. A., Manasrah, R. S. (2006). Community structure of the family Pomacentridae along the Jordanian coast, Gulf of Aqaba, Red Sea. *Zoology in the Middle East* 37: 47-62.
- Rasheed, M., Al-Rousan, S., Manasrah, R., **Al-Horani, F.** (2006). Nutrient fluxes from deep sediment support nutrient budget in the oligotrophic waters of the Gulf of Aqaba. *J. Oceanogr.* 62: 83-89.
- Manasrah, R. S., **Al-Horani, F. A.**, Rasheed, M. Y., Al-Rousan, S. A., Khalaf, M. A. (2006). Patterns of summer vertical and horizontal currents in coastal waters of the northern Gulf of Aqaba, Red Sea. *Estuarine Coastal and Shelf Science* 69: 567-579.
- Al-Horani, F. A.**, Al-Rousan, S. A., Manasrah, R. S., Rasheed, M. (2005). Coral calcification: use of radioactive isotopes and metabolic inhibitors to study the interactions with photosynthesis and respiration. *Chem. and Ecol.* 21: 325-335.
- Al-Horani, F. A.** (2005). Effects of changing seawater temperature on photosynthesis and calcification in the scleractinian coral *Galaxea fascicularis*, measured with O<sub>2</sub>, Ca<sup>2+</sup> and pH microsensors. *Sci. Mar.* 69: 347-354.
- Al-Horani, F. A.**, Ferdelman, T. Al-Moghrabi, S. M., De Beer, D. (2005). Spatial distribution of calcification and photosynthesis in the scleractinian coral *Galaxea fascicularis*. *Coral Reefs* 24: 173-180.
- Ludwig, R., **Al-Horani, F. A.**, De Beer, D., Jonkers, H. M. (2005). Photosynthesis-controlled calcification in a hypersaline microbial mat. *Limnol. Oceanogr.*, 50: 1836-1843.
- Khalaf, M. A., **Al-Horani, F.**, Manasrah, R., Al-Rousan, S. (2005). Community structure of the family Labridae along the Jordanian coast, Gulf of Aqaba, Red Sea. *Lebanese Science Journal* 6: 3-10.
- Al-Horani, F. A.** (2005). National action plan for the conservation of coral reefs in Jordan. PERSGA, Jeddah- Saudi Arabia.
- Garcia-Pichel, F., **Al-Horani, F. A.**, Farmer, J. D., Ludwig, R., Wade, B. D. (2004). Balance between microbial calcification and metazoan bioerosion in modern stromatolitic oncolites. *Geobiology* 2 (1), 49-57.
- De Beer, D., **Al-Horani F.** (2004). Marine Calcification and decalcification studied with microsensors for calcium, pH and oxygen. *Water-Rock Interactions, Wanty & Seal II* (eds). 1107-1111.

**Al-Horani, F. A.,** Al-Moghrabi, S. M., De Beer, D. (2003). The mechanism of calcification and its relation to photosynthesis and respiration in the scleractinian coral, *Galaxea fascicularis*. Mar. Biol. 142:419-426.

**Al-Horani, F. A.,** Al-Moghrabi, S. M., De Beer, D. (2003). Microsensor study of photosynthesis and calcification in the scleractinian coral, *Galaxea fascicularis*; active internal carbon cycle. J. Exp. Mar. Biol. Ecol. 288: 1-15.

Hunaiti, A., **Al-Horani, F.** (1997). Camel glutathione based Detoxification System. Trends in Comp. Biochem. & Physiol. 3: 49-55.

### **Reports**

1. Environmental impact assessment for the ports relocation project (2007).
2. Coral mapping at the southern and middle ports areas in Aqaba (2007)
3. Coral mapping at the southern and middle ports areas in Aqaba (2007)
4. Coral mapping at the middle ports areas in Aqaba (2007).
5. Environmental appraisal of the Jordanian coast of the Gulf of Aqaba, Red Sea. Jordan's national monitoring program. Annual reports 2004, 2005, 2006 and 2007.
6. Environmental quality of the coastal water, bottom sediments, nekton and benthos in front of the industrial complex, prepared for the Jordan's Phosphate Mines Company, Aqaba-Jordan. Reviewer for several scientific papers and proposals for international journals and funding agencies. Annual reports 2004, 2005, 2006 and 2007.
7. Identifying the long-term Environmental Impacts of the Proposed Red Sea-Dead Sea Conduit (RDC); Environmental Impact Assessment for physical and marine biological components. Prepared for Royal Scientific Society, Amman-Jordan.
8. Ayla Lagoon Tourism Development; Master Plan Environmental Impact Assessment. Assessment of existing marine environment. Prepared for ECO Consult Company-Wahat Ayla for Development Company. Aqaba-Jordan.
9. National action plan for the conservation of coral reefs. Prepared for PERSGA Jeddah-Saudi Arabia.
10. Many progress reports for the research projects.

### **Students' supervision:**

### ***Master Students***

1. Sulidad Lona (ZMT, Bremen-Germany).
2. Malik Hamdi (The University of Jordan, Amman - Jordan).
3. Abdul Wahab Al-Shiyyab (Yarmouk University, Irbid - Jordan).
4. Rasheed Al-Shlul (Yarmouk University, Irbid - Jordan).
5. Musa Al-Tarabeen (Jordan University of Science and Technology, Irbid-Jordan).

### ***National and International Trainees***

1. Semir Kuklo (turkey).
2. Carinne Hutchinson (Australia).
3. Casey Hawkey (Australia).
4. Laura Colgan (US A).
5. Nicola Taylor (Britain).
6. Hulya Keles (Turkey).
7. Chiara Franco (Italy).
8. Marie Jumiel (University West of England- Britain).
9. Monica Zagali (Ramsar, Geneva-Switzerland).
10. Salam Labadi (JEREDS, Aqaba- Jordan).
11. Sinan Abu Mosa (The Hashemite University, Zarqa-Jordan).
12. Arthur Wainwright (University West of England- Britain).

### **Funded Projects:**

1. Strategies for mitigating anthropogenic stress effects on Gulf of Aqaba reefs. Total amount US\$420,000, Duration 2 years (2007-2008). Role: principal investigator of the project.
2. Preserving the endangered marine ecosystem in the northern Gulf of Aqaba. Total amount US\$346,000, Duration 3 years (2006-2008). Role: principal investigator of the project.
3. Development of resource management oriented research and novel monitoring techniques. Total amount US\$250,000, Duration 3 years (2004-2007). Role: Principal Investigator, leader of coral team.

4. Environmental assimilative capacity of coastal habitats and green mariculture of high revenue low environmental burden species on the Jordanian sector of the Gulf of Aqaba, Red Sea. Funded by the Higher Council for Science and Technology-Jordan. Total amount US\$143,000, Duration 3 years (2004-2007). Role: Principal Investigator, leader of coral team.
5. Developing the Marine Aquarium and establishment of Marine Museum at Marine Science Station, Aqaba-Jordan. Funded by Global Environmental facility (GEF). Total amount US\$50,000, Duration 2 years (2006-2008). Role: Coordinator.
6. Rehabilitation of natural and artificial coral reefs in the Gulf of Aqaba. Funded by Whitley Fund for Nature-UK. Total amount US\$19,900, Duration 1 year (2006). Role: Principal Investigator and coordinator at MSS.
7. Artificial reefs for environmental management in the Gulf of Aqaba. Funded by MERC-USA. Total amount US\$ 347,300, Duration 3 year (2006-2008). Role: Principal Investigator and coordinator at MSS.
8. Establishment of a Middle Eastern Biodiversity Research, Training and Conservation Network. Funded by DAAD-Germany. Total amount Euro 100,000, Duration 3 year (2006-2008). Role: Principal Investigator.
9. Coral mapping at the south ports area in the Gulf of Aqaba. Funded by Aqaba Development Corporation (ADC)-Jordan. Total amount US\$ 86,000, Duration 1 year. Role: Project Leader.
10. Coral mapping at the Middle ports area in the Gulf of Aqaba. Funded by Aqaba Development Corporation (ADC)-Jordan. Total amount US\$ 46,000, Duration 1 year. Role: Project Leader.
11. Coral mapping at the Ferry Terminal area in the Gulf of Aqaba. Funded by Aqaba Development Corporation (ADC)-Jordan. Total amount JD's 13,600, Duration 1 month. Role: Project Leader.

**Workshops and conferences Attended:**

1. Red Sea Program Junior Course on marine Sciences (Feb. 27<sup>th</sup> -Mar. 8<sup>th</sup>,2000, Aqaba-Jordan).

2. 36<sup>th</sup> European Marine Biology Symposium (Sep. 17-22, 2001, Menorca-Spain).
3. The 8<sup>th</sup> International Symposium on Biomineralization, (Sep. 25-28, 2001, Nigata-Japan).
4. Jordanian-German Scientific day (Aqaba-Jordan).
5. NATO Advanced Research Workshop; Past and Present Water Column Anoxia (Oct. 4-8, 2003, Crimea-Eukraine).
6. The Red Sea Marine Peace Park International Symposium: Integration of Marine Science and Resource Management (Dec.2-4, 2003, Aqaba-Jordan).
7. 10<sup>th</sup> International Coral Reef Symposium (June 28 to July 2, 2004, Okinawa, Japan).
8. Regional training Workshop on the coral transplantation in the Gulf of Aqaba (Invited speaker). Aqaba, Jordan 27<sup>th</sup> -29<sup>th</sup> September, 2004.
9. Ecological Risk Characterization of Coral Reefs course in Hawaii-US A, October 2-7, 2005.

**10. Workshops and conferences Organized:**

1. Biodiversity Congress 20-23 Nov., 2008
2. Sea anemone workshop 1-30 June, 2008
3. Biodiversity workshop June, 2007

**Other scientific activities**

1. Several TV appearances, Radio and Newspapers interviews in both Arabic and English languages.
2. Reviewer for several scientific articles and proposals for international journals and funding agencies.

**Consultations**

- Environmental Impact Assessment and mitigation of the relocation of ports to the south industrial complex.
- Consultant for the impacts of phosphate on the coral reefs at the south industrial complex.
- Consultant in Ayla lagoon project for the Marine Biological component.
- Consultant in Red-Dead Sea conduit project for the Marine Biological component.
- Coral mapping at the southern and middle ports areas in Aqaba, Project Leader.
- Coral mapping at the middle ports areas in Aqaba, Project Leader.

- Consultant in PERSGA National Action Plan for the conservation of coral reefs, Jeddah-Saudi Arabia.
- National monitoring program: Team Leader of Coral reef and benthic Habitat.
- JFI monitoring program: Team Leader of Coral reef and benthic Habitat.
- MERC monitoring program project: Team Leader of Coral reef and benthic Habitat.
- Environmental assimilative capacity of coastal habitats and green mariculture of high revenue low environmental burden species on the Jordanian sector of the Gulf of Aqaba Project: Team Leader of Coral reef and benthic Habitat.