

CURRICULUM VITAE

DR. AFTAB ALAM

WORK CONTACT Center for Desert Agriculture,
Division of Biological and Environmental Sciences and Engineering,
King Abdullah University of Science and Technology,
Thuwal 23955-6900, Kingdom of Saudi Arabia
Phone: 966-2-8082936; Mobile: 0966-508916348
Email: draftab@yahoo.com, Aftab.Alam@kaust.edu.sa

DATE OF BIRTH 20th May 1969

MARITAL STATUS Married

EDUCATION

Ph.D. (1999) Zoology with Specialization in Aquaculture and Fisheries, Aligarh Muslim University, Aligarh (India)

Reviewer of Ph.D. Thesis- **Prof. A. M. Beaton**
Department of Atmospheric, Oceanic & Space Science,
University of Michigan, Ann Arbor, MI 48109, USA

M.Phil (1995) Zoology with Specialization in Aquaculture and Fisheries,
Aligarh Muslim University, Aligarh (India)

M.Sc. (1993) Zoology with Specialization in Aquaculture and Fisheries,
MJP Rohilkhand University, Bareilly (India)

EXPERIENCE

1994 – 2013 (about 20 years of experience)

Currently Working as Senior Research Scientist from February 2013 till date at

The Center for Desert Agriculture (CDA), Division of Biological and Environmental Sciences and Engineering, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia.

Worked as Scientific Specialist from 2003 to December 2012 at

Natural Resources & Environment Research Institute, King Abdulaziz City for Science & Technology (KACST), Riyadh, Saudi Arabia.

Worked as Researcher in Joint Saudi-Japanese R&D program 1998-2003 at

Natural Resources & Environment Research Institute, King Abdulaziz City for Science & Technology, Riyadh, Saudi Arabia.

Worked on a Senior Research Fellowship of the Council of Scientific and Industrial Research (CSIR) of the Government of India in **1998** at Aligarh Muslim University, India.

Worked as Junior and Senior Research Fellow of the Department of zoology during **1995-1998** at Aligarh Muslim University, India.

Work Experience

I have 15 years research experience in -

- Recirculating Aquaculture Systems (RAS) for high density fish culture
- Freshwater Aquaponics and Greenwater aquaculture systems

Currently working in-

- Marine Integrated Aquaculture (Seaweeds/Fish/Shrimp) in Jeddah, Saudi Arabia.
- Biodiversity, DNA Barcoding of Fish from Arabian Gulf.

Have written a number of project proposals in Freshwater and Marine Aquaculture, Fish Nutrition and Fish Biology, got funding/approval. Some projects successfully completed while others are still running.

Experience, as evidenced by the publications, in composing experimental design/procedures, data collection, data processing, writing progress reports, managing purchase and budget, supervising the team of technicians, preparing manuscripts for publications.

Project handled at King Abdulaziz City for Science & Technology (KACST)

- Project 1-** Worked as an investigator in a KACST funded project entitled, "Identification of important fish species from Saudi Arabia through mitochondrial DNA barcodes".
- Project 2-** Worked as CO-INVESTIGATOR in a KACST funded research project entitled, "Limiting greenhouse gas emissions by producing high protein edible algae in Saudi Arabia" (from 2011).
- Project 3-** Worked as CO-INVESTIGATOR in a KACST research project entitled, "Treatment of shrimp culture wastewater by using aquaponics technology to protect coastal environment" for marine fish/shrimp and seaweed culture at Fish Farming Center of the Ministry of Agriculture at Red sea coast, Jeddah, Saudi Arabia (from 2008).
- Project 4-** Worked as a scientific specialist in a KACST research project entitled, "Use of Single Cell Protein produced from the date surplus, residues and the date waste in the animal diets in Saudi Arabia King Faisal University & KACST" (from 2008)
- Project 5-** Worked as a researcher and co-investigator under a Joint Saudi-Japanese Program in a project entitled, "Development of water recirculating system for high density culture of Nile tilapia (*Oreochromis niloticus*) in Saudi Arabia (Freshwater Aquaponics, Greenwater and Recirculating Aquaculture Systems)" (1998-2003).
- Project 6-** Worked as scientific specialist in a KACST research project entitled, "Intensive culture of the indigenous Mosquitofish (*Gambusia Spp.*) for biological control of mosquitoes in Saudi Arabia." (2004-2007)
- Project 7-** Worked as a scientific specialist in a KACST research project entitled, "Biosafety Assessment of Genetically Modified Crops used in Animal Diets." (2006-2010).

Project Proposals Prepared (Unapproved)

- Proposal 1-** Determination of the levels of toxicants in the tissues of popular commercial fishes from coastal zone of Jeddah.
- Proposal 2-** Effects of dietary lipid sources on growth and tissue fatty acid composition in fry of Nile tilapia, *Oreochromis niloticus* with particular reference to polyunsaturated fatty acids (PUFA) from n-3 and n-6 families.
- Proposal 3-** Inter and intra-specific crosses of several Nile and blue tilapia families to understand the sex determination mechanism and pattern of sex ratio inheritance.

Experiments Designed

- Composed experiments to operate Integrated Marine Multi Trophic Aquaculture (IMTA) technology at Red sea coast, Jeddah, Saudi Arabia.
- Use of canola meal in preparation of practical diets for tilapia.
- Growth of Nile and blue tilapia and their hybrids in concrete tanks in Al-Qassim.
- Response to family selection in reproductive performance, growth and survival of blue tilapia (*Oreochromis aureus*) and its hybrid (*O. aureus* X *O. niloticus*).
- Growth and sex ratios of the pure and hybrid progeny of Nile, blue and red tilapia produced from their intraspecific and interspecific crosses.

International Collaborations

Has been working in close collaboration with

- **Prof. Kevin M. Fitzsimmons**, College of Agriculture and Life Sciences, The University of Arizona, Tuscan, U.S.A.
- **Dr. Joel L. Cuello**, College of Agriculture and Life Sciences, The University of Arizona, Tuscan, U.S.A.
- **Prof. Alejandro Buschmann**, i-mar Research Center, The University of Los Lagos, Chile

Reviews of Manuscripts and Project Proposals

Regularly review manuscripts for International Journals as well as project proposals submitted for funding to King Abdulaziz City for Science & Technology, Riyadh (Saudi Arabia).

MANUSCRIPTS UNDER THE PROCESS OF PUBLICATION

1. Yousef S. Al-Hafedh, Aftab Alam and Alejandro H. Buschmann 2013. Effect of stocking density and effluent flow rate on growth, biomass yield and bioremediation potential of the green seaweed, *Ulva lactuca* in an integrated marine aquaculture system at the Red Sea coast of Saudi Arabia (Submitted to Aquaculture)

RECENT PUBLICATIONS

1. Yousef S. Al-Hafedh and Aftab Alam 2013. Replacement of fish meal by single cell protein derived from two species of yeast (*Saccharomyces cerevisiae* and *Candida utilis*), grown over the date (*Phoenix dactylifera*) industry waste, in the diet of Nile tilapia (*Oreochromis niloticus*) fingerlings. **J. Appl. Aquaculture**. 25 (Accepted for publication).
2. Yousef S. Al-Hafedh, Aftab Alam, Alejandro H. Buschmann and Kevin M. Fitzsimmons 2012. Experiments on an integrated aquaculture system (seaweeds and marine fish) at the Red Sea coast of Saudi Arabia: efficiency comparison of two local seaweed species for nutrient biofiltration and production. **Reviews in Aquaculture**. 4: 21-31.
3. Yousef S. Al-Hafedh, Aftab Alam and M. S. Beltagi 2008. Food production and water conservation in a recirculating aquaponic system in Saudi Arabia at different ratios of fish feed to plants. **J. World Aquaculture Society**. 39: 510-520.
4. Yousef S. Al-Hafedh and Aftab Alam 2007. Design and performance of an indigenous water recirculating aquaculture system for intensive production of Nile tilapia, *Oreochromis niloticus* (L.), in Saudi Arabia. **International J. Recirculating Aquaculture**. 8: 1-19.
5. Yousef S. Al-Hafedh and Aftab Alam 2006. Recirculating aquaculture in Saudi Arabia: aquaponics and greenwater. **Proc. 6th International Conferences on Recirculating Aquaculture, Roanoke, Virginia, USA**. Pp. 440-447.
6. Aftab Alam and Yousef S. Al-Hafedh 2006. Diurnal dynamics of water quality parameters in an aquaculture system based on recirculating greenwater technology. **J. Appl. Sci. Environ. Mgt.** 10 (1) 19 – 21.
7. Yousef S. Al-Hafedh and Aftab Alam 2005. Operation of a water recirculating greenwater system for the semi-intensive culture of mixed sex and all male Nile tilapia (*Oreochromis niloticus*). **J. Appl. Aquaculture**. 17: 47-59.
8. Yousef S. Al-Hafedh, Aftab Alam and M. Afaque Alam 2003. Performance of plastic biofilter materials with different configuration in a water recirculation system for the culture of Nile tilapia (*Oreochromis niloticus*). **Aquacultural Engineering** 29: 139-154

OTHER PUBLICATIONS

1. Alam, Aftab, Asif A. Khan, R.K. Gaur and M.A. Alam 1995. Physico-chemistry of four freshwater bodies infested by varying dominant biota with emphasis on the impact and causes of proliferation of dominant biota. **J. Freshwater Biol.** 7:99-104.
2. Alam, Aftab, Asif A. Khan and R.K. Gaur 1995. Observations on the alternate cladoceran peaks in an eutrophic freshwater pond. **Bull. Pure Appl. Sci.** 14: 77-78.
3. Gaur, R.K., Asif A. Khan and Aftab Alam 1995. Oxygen system dynamics of the pond harbouring a permanent bloom of a cyanobacterium, *Microcystis aeruginosa* **J. Ecotoxicol. Environ. Monit.** 5: 71-76.

4. Gaur, R.K., Asif A. Khan and Aftab Alam 1995. Role of nutrients and their ratios in the ecology of *Microcystis aeruginosa* (Kuetz). *J. Ecobiol.* 7: 197-204.
5. Alam, Aftab and Asif A. Khan 1995. Nutrient chemistry alongwith certain other physico-chemical characteristics of an eutrophic lentic ecosystem. *Bull. Environ. Sci.* XIII: 31-33.
6. Alam, Aftab and Asif A. Khan 1995. Environmentally induced seasonal polymorphism or cyclomorphosis in certain rotifers. *Bull. Environ. Sci.* XIII: 39-45.
7. Gaur, R.K., Asif A. Khan and Aftab Alam 1995. Limnology of a tropical pond with bloom of a Cyanobacterium, *Microcystis aeruginosa* (Kuetz): I – Physico-chemical complexes. *Biosci. Res. Bull.* 11: 93-96.
8. Alam, Aftab and Asif A. Khan 1996. Dynamics of plankton communities in four freshwater lentic ecosystems in relation to dominant biota. *Poll. Res.*15: 289-291.
9. Basheer, V.S., Asif A. Khan and Aftab Alam 1996. Seasonal variation in the primary productivity of a pond receiving sewage effluents. *J. Inl. Fish. Soc. India* 28: 76-82.
10. Alam, M.A., Asif A. Khan and Aftab Alam 1997. Seasonal variation in periphyton density in a tropical pond receiving effluents from medical college complex. *J. Ecotoxicol. Environ. Monit.* 7: 135-138.
11. Gaur, R.K., Asif A. Khan, Aftab Alam and M.A. Alam 1997. Some observations on *Microcystis aeruginosa* bloom and its environment. *Oikoassay* 12:
12. Alam, Aftab and Asif A. Khan 1998. On the first record of a cladoceran, *Leydigia acanthocercoides* (Fischer 1854) (*Chydoridae*) from Aligarh, Uttar Pradesh, India. *J. Bombay. Nat. Hist. Soc.* 95: 143-144.
13. Asif A. Khan and Aftab Alam 1998. Cyclomorphosis, the morphological responses in cladocera (water fleas) to certain environmental factors: A review. In M.P. Sinha eds. *Recent Advances in Ecobiological Research*. APH Publications, New Delhi.
14. Asif A. Khan, Aftab Alam and R.K. Gaur 1998. A comprehensive study of water quality parameters in the river Ganga between Narora and Kannauj: Primary production and plankton. In K. Vijaykumar eds. *Recent Advances in Limnology*. Gulbarga University, Gulbarga, India.
15. Alam, Aftab, Asif A. Khan, S. Parveen and S.A. Untoo 1999. Structure and dynamics of Rotifer population in a polluted waterbody. In Ecology and Conservation of lakes, Reservoirs and rivers. The ABD Publishers, Jaipur, India.
16. Alam, Aftab, Asif A. Khan, S. Parveen and S.A. Untoo 2000. Morphological variations in a Brachionoid rotifer, *Brachionus bidentatus* (Anderson) from a tropical Indian pond. In Lentic Ecosystems of India (Ed. Hosetti, B.B.), Kuvempu University, Shimoga, Karnataka. Feb. Daya Publishers, New Delhi.

17. Alam, Aftab, Asif A. Khan, S.A. Untoo and S. Parveen 2001. Asplanchna induced phenotypic plasticity in *Brachionus calyciflorus* and its adaptive significance. In *Ecology of Aquatic Biota* (Ed. Arvind Kumar), Daya Publishers, New Delhi.

SCIENTIFIC ACTIVITIES

- Training in Aquatic Microbiology at Central Institute of Freshwater Aquaculture, Bhubaneswar (India) in May 1994.
- Summer school on Fisheries Enhancement in Small Reservoirs and Floodplain Lakes at Central Inland Capture Fisheries Research Institute, (India) in July-August 1997 sponsored by the Indian Council of Agricultural Research.

Participation in Symposia/Conferences/Seminars

1. Presented research work in a national seminar on Changing Perspectives of Inland Fisheries, organized by the Central Inland Capture Fisheries Research Institute, Barrackpore (India) in November 1997.
2. Presented research work in a symposium, jointly organized by the Academy of Environmental Biology and Andhra Pradesh Agricultural University at Hyderabad (India) in November 1995.
3. Presented research work in a conference organized by the National Institute of Oceanography and the National Environmental Science Academy at Goa (India) in March 1995.
4. Presented research work in a symposium, jointly organized by the Academy of Environmental Biology and Kerala Agricultural University at Trivandrum (India) in November 1994.

TEACHING EXPERIENCE

- Taught in a course leading to Diploma in Pisciculture at *the Center of Professional Courses, Aligarh Muslim University, Aligarh* (India), 1995-1996 session.
- Served as a teacher in Wisdom Coaching and Guidance Center, Aligarh (India) from June 1996 to August 1998.

OTHER SKILLS

- Preparation of Proposals, Spread sheets for Budget, Drawings and Power point presentations.
- Computer Software: WINDOWS (Word, Excel, Power point), Statistical Analysis System (SAS), Graphics and Google sketchup.

REFERENCES

Prof. Kevin M. Fitzsimmons

Environmental Research Lab
College of Agriculture and Life Sciences
Department of Soil, Water and Environmental Science
The University of Arizona, Tuscan, AZ 85706-6985 U.S.A.
Tel: (520) 626-3322 / Cell-Phone: (520) 820-0643
Fax: (520) 573-0852
E-mail: KevFitz@ag.arizona.edu / kevfitz@cals.arizona.edu

Prof. Nina V. Fedoroff

Center for Desert Agriculture,
King Abdullah University of Science and Technology,
Thuwal 23955-6900, Kingdom of Saudi Arabia
Tel: Office: +966 2 808-2290; KSA cell: +966 544 700039;
US cell: 202 549-8396
E-mail: Nina.Fedoroff@kaust.edu.sa

Prof. Yousef S. Al-Hafedh

Director, Center of Excellence in Wildlife Research
King Abdulaziz City for Science & Technology,
P.O. Box 6086, Riyadh 11442, Kingdom of Saudi Arabia
Tel: (966) 14813604, Fax: (966) 14813811
E-mail: yhafedh@kacst.edu.sa

Prof. Ahmed H. Al-Harbi

Natural Resources & Environment Research Institute
King Abdulaziz City for Science & Technology,
P.O. Box 6086, Riyadh 11442, Kingdom of Saudi Arabia
Tel: (966) 14813605, Fax: (966) 14813611
E-mail: aalharbi@kacst.edu.sa

Prof. Alejandro H. Buschmann

Centro i-mar
University of Los Lagos
P.O. Box 557, Camino Chiquihue km 6
Puerto Montt, Chile
Tel: (56 65) 322429 / (56 65) 322423, Fax: (56 65) 322418
E-mail: abuschma@ulagos.cl / abuschmann@mac.com

Prof. Joel L. Cuello

Biosystems Engineering
Department of Agricultural and Biosystems Engineering
The University of Arizona, Tuscan
AZ 85721-0083 U.S.A.
Tel: (520) 621-7757, Fax: (520) 621-3963
E-mail: cuelloj@email.arizona.edu