CURRICULM VITAE

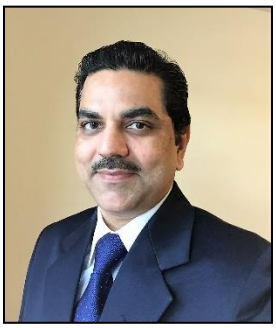
Aftab Alam

CURRENT POSITIONS

- **Director of R&D-** A&A Epiphany LLC, consulting in **Controlled Environment Agriculture, Hydroponics, Aquaponics, Aquaculture**. **Frisco, Texas, USA** since 2015
- **Co-founder-** Wave Green (Urban Agriculture), **Singapore-** 2020

PREVIOUS POSITIONS

- **Consultant to the Food Sector of NEOM (Saudi Arabia) -** 2019
- **International Aquaponics Consultant-** Employed by the **Food and Agriculture Organization of the United Nations (FAO-UN)** - 2018
- **Vice President of Agriculture-** Edenworks (Vertical Agriculture) **New York, USA** (3 years, 2015-2018)
- **Senior Research Scientist** at Center for Desert Agriculture, King Abdullah University of Science & Technology (KAUST), **Saudi Arabia** (2½ years, 2013-2015)
- **Scientific Specialist** at King Abdulaziz City for Science and Technology (KACST), **Saudi Arabia** (14½ years, 1998-2012)



CURRENT ADDRESS

2949 Parkwood Blvd, Apt 264, Frisco 75034 TX USA
Phone: +1(646)667-8528 **Email:** aftabaqua@outlook.com

STATUS

Permanent Resident of the United States of America (**Got US Green Card in 'Alien of Extraordinary Ability in Science Category', EB-1A**)

EDUCATION

Ph.D. (1999) Zoology (Aquaculture & Fisheries), AMU, Aligarh (India)
M.Phil. (1995) Zoology (Aquaculture and Fisheries), AMU, Aligarh (India)
M.Sc. (1993) Zoology (Aquaculture and Fisheries), MJP Rohilkhand University, Bareilly (India)

TRAININGS/CERTIFICATES

- Received KAUST-UC Berkeley Entrepreneurship Certificate the program in 2014
- Emergency and Crisis Management Overview at KAUST in 2014
- Laboratory Safety and Emergency at KAUST in 2013 & Hazardous Waste at KAUST in 2014

MORE THAN 25 YEARS OF R&D EXPERIENCE (1994 – 2021) IN ACADEMIA AND INDUSTRY

Controlled Environment Agriculture, Hydroponics, Aquaponics, Vertical Farming, Aquaculture.
Experience growing the Salad greens, baby greens, microgreens, fruiting crops, fish and shrimp.

PATENTS PUBLISHED/FILED

- **PATENT filed at the United States Patent and Trademark Office (USPTO) with colleagues-** Stacked shallow water culture (SSWC) growing systems, apparatus and methods (US20180042192A1) https://patents.google.com/patent/US20180042192A1/en

- **PATENT filed at the United States Patent and Trademark Office (USPTO) with colleagues**- Methods, systems, and apparatus for cultivating densely seeded crops (WO2018107176A1) https://patents.google.com/patent/WO2018107176A1/

- **PATENT published with colleagues in King Abdullah University of Science & Technology (KAUST), Saudi Arabia-** A Modular, Insulated, Plug and Play Aquaponics Unit and Method. WO2019/135104A1, published on July 11, 2019. https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019135104

INVENTION DISCLOSURES FILED WITH COLLEAGUES AT KING ABDULLAH UNIVERSITY OF SCIENCE & TECHNOLOGY

1. Redesigned filter configuration and incorporation of new biofilter material in Aquaponics.
2. Food production in integrated Eco-Farm Dome with renewable energy support.
3. Ultra-low freshwater-footprint desert greenhouses.
4. Miniature "greenhouse" fitted over aquaponics rafts

PROFILE

LINKEDIN	https://www.linkedin.com/in/dr-aftab-alam-b0a24358/
KAUST ALUMNI	https://per.kaust.edu.sa/Pages/Aftab-Alam.aspx
GOOGLE SCHOLAR	http://scholar.google.com/citations?user=8cY-iH0AAAAJ&hl=en
ORCID	http://orcid.org/0000-0001-6734-0251
RESEARCHER ID	http://www.researcherid.com/rid/D-7406-2016
RESEARCH GATE	https://www.researchgate.net/profile/Aftab_Alam16

GRANTS APPROVED FROM THE NATIONAL SCIENCE, TECHNOLOGY AND INNOVATION PLAN OF KING ABDULAZIZ CITY FOR SCIENCE AND TECHNOLOGY (KACST) in 2014-2015.

1- Operation and management of integrated saline aquaculture systems to produce euryhaline fish and salt tolerant crops together in coastal and inland deserts.

The **American Association for Advancement of Science (AAAS)** has "Highly Recommended" this project with a high score (14 points out of 15).

GRANTS RECEIVED FOR PROPOSALS SUBMITTED AT KACST FOR FUNDING

2 - Identification of important fish species from Saudi Arabia through mitochondrial DNA barcodes. Year 2011 **(Grant Approved and Received).**

3 - Limiting greenhouse gas emissions by producing high protein edible algae in Saudi Arabia. Year 2010 **(Grant Approved and Received).**

4 - Treatment of shrimp culture wastewater by using aquaponics technology to protect coastal environment at Red Sea coast. Year 2008 **(Grant Approved and Received).**

5 - Biosafety Assessment of Genetically Modified Crops used in Animal Diets. Year 2006 **(Grant Received).**

6 - Intensive culture of the indigenous Mosquitofish (*Gambusia Spp.*) for biological control of mosquitoes in Saudi Arabia. Year 2004 **(Grant Approved and Received).**

PREVIOUS PROPOSALS SUBMITTED AT KACST FOR FUNDING - GRANTS NOT APPROVED

1 - Determination of the levels of toxicants in the tissues of popular commercial fishes from coastal zone of Jeddah. Year 2006 (Not approved).

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. Year 2005 (Not approved).

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. Year 2004 (Not approved).

RESEARCH PROJECTS AT KING ABDULAZIZ CITY FOR SCIENCE & TECHNOLOGY (KACST, SAUDI ARABIA)

1- Worked as an investigator in a KACST funded project entitled, "Identification of important fish species from Saudi Arabia through mitochondrial DNA barcodes" (from 2011-2012).

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 2010-2012).

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 2008-2011).

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 2008-2010).

5- Worked as a scientific specialist in a KACST research project entitled, "Biosafety Assessment of Genetically Modified Crops used in Animal Diets." (2006-2010).

6- Worked as scientific specialist in a KACST project entitled, "Intensive culture of the indigenous Mosquitofish (*Gambusia Spp.*), for biological control of mosquitoes in Saudi Arabia." (2004-2007)

7- 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).

ACHEIVEMENTS AND CURRENT ACTIVITIES- YEAR 1998 ONWARDS

- **Prepared 4 business cases for the food sector of NEOM (Saudi Arabia)- including**
    - **Sustainable Aquaculture at NEOM- Recirculating Aquaculture (Atlantic Salmon) and Cage culture (Gilthead Seabream, European Seabass, Sobaity and Meagre).**
    - **Business Case for Insect Protein Production at NEOM**
    - **Business Case for Algae Protein Production at NEOM**
    - **Business Case for Sustainable Fisheries at NEOM**

- **Prepared 6 reports on Recirculating Aquaponics in Saudi Arabia and submitted to the Food and Agriculture Organization of the United Nations (FAO-UN) in Riyadh.**
- Successfully tested **Hybrid Striped Bass** in decoupled aquaponics (2017-2018)
- Designed and ran trials with **Atlantic Salmon** in decoupled urban Aquaponics system (2018)
- Designed and ran a trial for indoor rearing of **Whiteleg Shrimp** in low salinity water (2018)
- Designed and helped operate a completely **coupled and decoupled aquaculture and vertical horticulture (aquaponics)** systems in **Brooklyn, New York City, USA** (2015-2018)
- Designed and helped develop a roof top **aquaponics** system for **Project Renewal Company in, Bronx, New York City, USA**

- Worked with a team consisting of experts from the University of Arizona and Pentair Aquatic Eco to design a unique, 'Seawater Greenspace' at the Center for Desert Agriculture, Saudi Arabia (2013-2015)
- Designed, helped establish and operate & manage first indoor aquaponics system in the Middle East at King Abdulaziz City for Science and Technology (1998-2012)
- Prepared **Standard Operating Procedures (SOPs)** for aquaculture and horticulture (2015-2017)
- Established Good Agriculture Practices (GAP) and **Hazard Analysis & Critical Control Points (HACCP)**
- Developed **Integrated Pest Management (IPM)** for urban agriculture farm (2015-2018)
- Worked with the Edenwork's team to secure required permits/licenses in New York pertaining to aquaponics (2015-2018)
- Worked with the team to establish protocols for growing microgreens and baby greens in aquaponics
- Designed and consulting the operation of a **commercial Aquaponics farm** in Saudi Arabia (2017-2020)

Other projects -

- Integrated Agriculture, Freshwater Aquaponics and Greenwater aquaculture systems
- Recirculating Aquaculture Systems (RAS) for high density fish culture and fish nutrition
- Marine Integrated Aquaculture (Seaweeds/Fish/Shrimp) on the Red sea coast.
- Biodiversity, Seaweeds, DNA Barcoding of Fish from Arabian Gulf and microalgae cultivation.

R&D EXPERIENCE OF OVER 25 YEARS (Post Master's degree 1994 – 2021)

- **Co-Founder and Director of R&D-** A&A Epiphany LLC. from October 2015 till date. 38494, 273rd St, Corsica, South Dakota 57328 USA
- **Co-Founder and Chief Scientific Officer-** Ghiras Al-Sahra, Sustainable Agriculture, from September 2017 till date, Saudi Arabia
- **Advisor for Agriculture-** Edenworks Inc., New York, USA since January 2019
- **Volunteering as Vice President of Sustainable Technologies and Urban Agriculture-** Kōya Project and Aquaponics Design Company, Los Angeles, USA since January 2019
- **Vice President (Agriculture R&D)** at Edenworks from October 2015 to December 2018 –234 Johnson Ave, 3rd Floor, Brooklyn 11206 NY USA
- **International Aquaponics Consultant -** Employed by the **Food and Agriculture Organization of the United Nations (FAO-UN)** (April 2018 July 2018).
- **Aquaponics Consultant –** Letcetra Agritech, Goa India from October 2018 till date.
- Senior Research Scientist at KAUST from February 2013 to June 2015 - Center for Desert Agriculture (CDA), Division of Biological and Environmental Sciences and Engineering, King Abdullah University of Science and Technology (KAUST), Thuwal, Kingdom of Saudi Arabia.
- Scientific Specialist at KACST from April 2003 to November 2012 - Natural Resources and Environment Research Institute, King Abdulaziz City for Science and Technology, Riyadh, Kingdom of Saudi Arabia.
- Researcher at KACST in Joint Saudi-Japanese R&D program (August 1998-March 2003) - Natural Resources & Environment Research Institute, KACST, Riyadh, Saudi Arabia.
- Worked on a Junior and Senior Research Fellowship of the Council of Scientific and Industrial Research (CSIR) of the Government of India from 1995 to 1998 at Aligarh Muslim University, India.

MENTORING ENTREPRENEURS IN THE UNIVERSITY'S ACCELERATOR PROGRAM

Helped mentoring entrepreneurs in Start-up Accelerator Program of the Entrepreneurship Center at King Abdullah University-

- Mentored Mr. Marcella Bonifazi and Mr. Velerio Mazzone on a project to produce organic food colorants, supplements and feedstocks from algae exploiting sustainable technologies.
- Mentored Mr. Michael Salvador on a project for the process of developing flexible and retractable solar modules for greenhouses.
- Mentored Mr. Michell Morton and Ms. Sabrina Vettori on upcycling of organic waste project.
- Mentored Mr. Daniel Bryant and Ms. Derya Baran on a project for transparent solar panels.
- Mentored Ms. Vasiliki Kordapati, Mr. Robert Werfelmann and Mr. Kuansheng Ho on a project to develop laser-based lighting systems for indoor farms.

WORKSHOPS ORGANIZED

- Organized a workshop in the **Center for Desert Agriculture (CDA) at KAUST** on "**Aquaculture Technology**" with Dr. Jason Heckathorn **from Lockheed Martin (USA)** on 18 August 2013.
- Assisted **Prof. Nina Fedoroff, the Director of KAUST's Center for Desert Agriculture (CDA)** in organizing a workshop on **controlling the White Spot Shrimp Virus (WSSV)** with the association of the **National Aquaculture Group of Companies and the Saudi Aquaculture Society**, convened on 18-19 May 2013.

INTERNATIONAL ACADEMIC COLLABORATORS

- **Prof. Kevin M. Fitzsimmons,** College of Agriculture & Life Sciences, University of Arizona, USA.
- **Prof. Thomas M. Losordo,** North Carolina State University and Pentair Aquatic Eco-Systems, USA.
- **Dr. Francesco Cardia**, former Project Manager, Food and Agriculture Organization of the United Nations (FAO-UN) at Jeddah Fisheries Research Center, The Ministry of Agriculture.
- **Dr. Joel L. Cuello,** College of Agriculture and Life Sciences, University of Arizona, Tuscan, AZ, USA.
- **Prof. Alejandro Buschmann,** i-mar Research Center, University of Los Lagos, Chile.
- **Dr. Shoaib Ismail,** former scientist, International Center for Biosaline Agriculture, Dubai, UAE.

REVIEWS OF RESEARCH PROPOSALS AND SCIENTIFIC MANUSCRIPTS

- Reviewed a proposal submitted to **COST (European Co-operation in the Field of Science and Technology)**, Switzerland at the State Secretariat for Education, Research and Innovation (SERI) entitled, "Modelling of nutrient flows in a microbially-characterized splitroot aquaponic system". The proposal was planned as a part of the Swiss participation in the COST Action FA1305 (The EU Aquaponics Hub: Realizing Sustainable Integrated Fish and Vegetable Production for the EU).
- Reviewed more than 125 scientific manuscripts for publication in the reputed International Journals upon invitations from the editors, including Journal of Applied Aquaculture, Review in Aquaculture, Turkish Journal for Fisheries and Aquatic Sciences, North American Journal of Aquaculture and International Journal of Thermal Biology.
- Reviewed 11 research proposals submitted for Australian$3 million **Blue Economy Challenge** calls for innovators, entrepreneurs, NGOs and academics to rethink advances in aquaculture. Blue Economy Challenge is a joined effort of the Australian Aid; the Department of Foreign Affairs and Trade of the Australian Government and the World Wildlife Fund (WWF).

SCIENTIFIC ACTIVITIES

- Consented to be an External Examiner for a PhD thesis submitted at Aligarh University, Aligarh, India on aquaculture nutrition in 2018.
- Hosted Scientist in Global Forum for Innovations in Agriculture in Abu Dhabi (1-2 April 2019).
- Hosted Scientist in Global Forum for Innovations in Agriculture as in Abu Dhabi (5-6 February 2018).
- Panelist in the examiners board, evaluated a Master Dissertation and served as an Examiner to conduct of Viva voce for master's degree student at King Abdulaziz University, Jeddah, Saudi Arabia in May 2015.
- Participated in KAUST-UC Berkeley Entrepreneurship Certification Course. Jan. 13-23, 2014.
- Participated in the Leading Graduate School Symposium at the Tokyo University of Agriculture and Technology (TUAT, Japan) from February 23 to March 02, 2014 and visited urban, greenhouse vegetable production units and fruit factories.
- Participated in a seminar on "Aquaculture Research Development" presented by Dr. Nigel Preston, from the Commonwealth Scientific and Industrial Research Organization (CSIRO, Australia) and organized by the Ministry of Agriculture, Australian Trade Commission and Saudi Aquaculture Society in Riyadh on the 19th of November 2014.
- Participated in the Aridland Aquaculture Workshop (Recirculation led by Dr. Thomas Losordo and Aquaponics led by Dr. James Rakocy), jointly organized by The World Aquaculture Society (WAS) and the College of Food & Agriculture, United Arab Emirates University (UAEU), 26-27 March 2013.
- Undergone training in Aquatic Microbiology at the Central Institute of Freshwater Aquaculture, Bhubaneswar (India) in May 1994.
- Attended summer school on Fisheries Enhancement in Small Reservoirs and Floodplain Lakes at the Central Inland Capture Fisheries Research Institute, (India) in July-August 1997 sponsored by the Indian Council of Agricultural Research.

ESTABLISHMENT OF INTEGRATED MARINE AQUACULTURE SYSTEM

Designed, helped install and operated one Integrated Marine Aquaculture System each at the Jeddah Fisheries Research Center of the Ministry of Agriculture of Saudi Arabia and at the International Center for Biosaline Agriculture (ICBA) in Dubai, United Arab Emirates.

PRESENTATIONS

- Aftab Alam, "*Developing next generation integrated, low input and intensive food production system for environmental sustainability and promotion of the food security*". A presentation delivered in the **Leading Graduate School Seminar at the Tokyo University of Agriculture and Technology (TUAT, Tokyo, Japan**) on 27th February 2014.
- Aftab Alam, "*Seaweed and halophyte crop production integrated with aquaculture: challenges and potential in Saudi Arabia*". A presentation delivered in a workshop entitled, "**Opportunities and challenges for algae cultivation and recycling aquaculture system (RAS) applications in the Kingdom of Saudi Arabia"** organized by the Ministry of Agriculture and Saudi Aquaculture Society in **Jeddah, Saudi Arabia** on the 17th of November 2014;

- R. Lefers, A. Alam, F. Scarlet, and T. Leiknes. "Pilot scale aquaponics water use in a seawater cooled controlled environment agriculture system." Presentation and paper at *30th* ***International Horticulture Congress*****, Istanbul, Turkey**, 12-16 August 2018.
- R. Lefers, A. Alam, and T. Leiknes. "Urban Agriculture through the Lens of Food Security." Presentation at *KAUST Fall Enrichment Program*, October 19, 2016, **Thuwal, Saudi Arabia.**
- R. Lefers, J. Lefers, D. Jahangir, A. Alam. "Opportunities in Sustainable Agriculture." Presentation at *TiE Lahore Chapter*, June 4, 2016, Lahore University of Management Science, **Lahore, Pakistan**.
- R. Lefers, A. Alam, and T. Leiknes. "Alternative Water Sources for Profitable and Sustainable Aquaponics in the KSA." Presentation at: *Forum on Aquaculture Investment Opportunities in Saudi Arabia*. 27-28 January 2016, **Yanbu, Saudi Arabia**.

EDITOR OF THE JOURNALS

- Editor in Chief of the International Journal of Current Multidisciplinary Studies ISSN- 2455-3107 http://journalijcms.com/editorial-board
- Editor of the Journal of Marine Biology and Aquaculture ISSN- 2381-0750 https://www.ommegaonline.org/editorial-members/Journal-of-Marine-Biology-and-Aquaculture/29
- Editor of the Global Journal of Fisheries and Aquaculture ISSN- 2408-5464 http://globalscienceresearchjournals.org/gjfa/editorial-board
- Section Editor of the Turkish Journal of Fisheries and Aquatic Sciences ISSN- 1303-2712 http://www.trjfas.org/static.php?id=3

EDITORIAL BOARD MEMBER OF THE FOLLOWING SCINTIFIC JOURNALS

- Turkish Journal of Fisheries and Aquatic Sciences ISSN- 1303-2712 (http://www.trjfas.org/static.php?id=3)
- International Journal of Aquatic Sciences ISSN- 2008-8019 (http://www.journal-aquaticscience.com/journal/editorial.board)
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- Journal of Food Studies ISSN- 2166-1073 (http://www.macrothink.org/journal/index.php/jfs/about/editorialTeam)
- Journal of Agricultural Studies ISSN- 2166-0379 (http://www.macrothink.org/journal/index.php/jas/about/editorialTeam)
- International Journal of Oceanography & Aquaculture (IJOAC) ISSN: 2577-4050 (https://medwinpublishers.com/IJOAC/editorial-board.php)
- SDRP Journal of Food Science and Technology (https://www.siftdesk.org/editor-details/Dr.%20Aftab%20Alam/786)
- International Journal of Agricultural Science and Food Technology (http://www.peertechz.com/Agricultural-Science-Food-Technology/editorialboard.php

REVIEWER FOR SCINTIFIC JOURNALS

- Journal of Applied Aquaculture
- Reviews in Aquaculture
- Turkish Journal of Fisheries and Aquatic Sciences
- North American Journal of Aquaculture
- Journal of Oceanography and Marine Research
- Journal of Aquaculture Research & Development
- International Journal of Biology International Journal of Biology
- Sustainable Agriculture Research
- Journal of Poultry, Fisheries & Wildlife Sciences
- Journal of Coastal Zone Management
- Journal of Aquatic Sciences

PUBLICATIONS

1. Ryan Lefers, Aftab Alam, Faycell Scarlett and Torove Leiknes. 2019. Aquaponics water use and nutrient cycling in a seawater cooled controlled environment agriculture system. Acta Horticulturae: *Accepted for publication*.

2. Huma Sanawar, Yanghui Xiong, **Aftab Alam**, Jean Philippe Croue and Pei-Ying Hong 2017. Chlorination or monochloramination: Balancing the regulated trihalomethane formation and microbial inactivation in marine aquaculture waters. Aquaculture. 480: 94-102.

3. Yousef S. Al-Hafedh, **Aftab Alam** and Alejandro H. Buschmann 2014. Bioremediation potential, growth and biomass yield of the green seaweed, *Ulva lactuca* in an integrated marine aquaculture system at the Red Sea coast of Saudi Arabia at different stocking densities and effluent flow rates. *Reviews in Aquaculture*. 6: 1-11. doi: 10.1111/raq.12060

4. 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: 346-358.

5. 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.

6. Al-Ghanem, K.A., **Alam, Aftab**, Y.S. Al-Hafedh, Y.S. and K. Fitzsimmons 2011. Tilapia Aquaculture in Saudi Arabia: Farming with seaweed may improve economic, environmental sustainability. Global Aqu. Advocate. 26-27 https://www.gaalliance.org/mag/2011/Mar-Apr/March_April2011.pdf

7. 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.

8. 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.

9. 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.

10. **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. Env. Mgt.* 10: 19-21.

11. 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

12. 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.

13. Khan, Asif A., **Aftab Alam** and R.K. Gaur 1998. Seasonal variation in the abundance and composition of phytoplankton in the river Ganga at Narora. UP Journal Inland Fishery Society 30: 79-86.

14. **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. Bom. Nat. Hist. Soc.* 95: 143-144.

15. Gaur. R. K., Khan. A. A., Alam. A., and Alam. M. A., 1997. Bacteriological quality of river Ganga from Narora to Kannauj: A Comprehensive Study, Indian Journal of Environmental Protection, 20: 165-170.

16. Alam, M.A., Asif A. Khan, **Aftab Alam** and Rajeev K. Gaur 1997. Seasonal variation in periphyton density in a tropical pond receiving effluents from medical college. *J. Ecotoxicol. Environ. Monit.* 7: 135-138

17. 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.

18. **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.

19. Gaur, R.K., Asif A. Khan and **Aftab Alam** 1995. Limnology of a tropical pond with bloom of a Cyanobacterium, *Microcystis aeruginosa*: Physico-chemical complexes. *Biosci. Res. Bull*. 11: 93-96.

20. **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.

21. **Alam, Aftab** and Asif A. Khan 1995. Environmentally induced seasonal polymorphism or cyclomorphosis in certain rotifers. *Bull. Environ. Sci*. XIII: 39-45.

22. **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.

23. **Alam, Aftab** and Asif A. Khan 1995. Nutrient chemistry along with certain other physico-chemical characteristics of an eutrophic lentic ecosystem. *Bull. Environ. Sci.* XIII: 31-33.

24. Gaur, R.K., Asif A. Khan and **Aftab Alam** 1995. Oxygen system dynamics of the pond harbouring a permanent bloom of a cyanobacteium, *Microcystis aeruginosa J. Ecotoxicol. Env. Monit.* 5: 71-76.

25. 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.

CHAPTERS IN THE BOOKS

1- Asif A. Khan, **Aftab Alam** and R.K. Gaur 1999. A comprehensive study of water quality parameters in the river Ganga between Narora and Kannauj: Primary production and plankton. In *Freshwater Ecosystem of India* (Ed. K. Vijaykumar). Daya Publishing House, New Delhi.

2- Asif A. Khan and Aftab Alam 1999. Cyclomorphosis, the morphological responses in Cladocera (water fleas) to certain environmental factors: A review. In *Freshwater Ecosystem of India* (Ed K. Vijaykumar). Daya Publishing House, New Delhi.

3- **Alam, Aftab**, Asif A. Khan, S. Parveen and S.A. Untoo 2002. Structure and dynamics of Rotifer population in a polluted waterbody. In Ecology and Conservation of lakes, Reservoirs and rivers, *Ed. Kumar A. and Goel, P.K.,* ABD Publishers, Jaipur, India.

4- **Alam, Aftab**, Asif A. Khan, S. Parveen and S.A. Untoo 2002. Morphological variations in a Brachionid rotifer, *Brachionus bidentatus* (Anderson) from a tropical Indian pond i*n Wetland conservation and Management*, Ed. Hosetti, B.B., Pointer Publishers Jaipur (Raj) India, pp 142-150.

5- **Alam, Aftab**, Asif A. Khan, S.A. Untoo and S. Parveen 2002. *Asplanchna* induced phenotypic plasticity in *Brachionus calyciflorus* and its adaptive significance. In Ecology and Ethology of Aquatic Biota (Ed. Arvind Kumar), Daya Publishing House, New Delhi, pp 294-298.

REFERENCES

Prof. Nina V. Fedoroff
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