



ANNUAL REPORT 2018-19

ENDOWMENT FUND
SECRETARIAT

UNIVERSITY OF AGRICULTURE,
FAISALABAD



FOREWORD

The Government of Pakistan and United States of America signed a US\$ 12.4 million Food for Progress Agreement on September 15, 2003. Under this Agreement, the Syndicate under Section 25(2)(i) of the University of Agriculture Faisalabad Act, 1973 approved to establish Endowment Fund at UAF. The Ministry of Finance transferred Rs. 650.00 million through HEC to UAF in 2006. The Endowment Fund, UAF has an independent board which possesses all of the powers necessary to carry out its activities.

The income generated from investment of this fund is allocated for different activities which focus on food security, poverty alleviation and sustainable agriculture. Agricultural technology has a key role to play for sustainable development and requires investment in human and social capital because they are more knowledge-intensive. According to FAO, one of the major constraints to realizing the potential for increased productivity in Pakistan is the woeful lack of a mechanism to transfer existing technology from government research institutions to farmers. Endowment Fund provides an opportunity for the scientists to get financial support for transfer of technologies to the stakeholders.

Research Commercialization is the process that converts ideas, research, or prototypes into viable products that retain the desired functionality. To provide an ecosystem for startups, Endowment Fund Secretariat established “Business Incubation Center” in 2009, with the joint support of Competitive Support Fund (CSF) and Higher Education Commission (HEC), Islamabad. For display/demonstration of developed and tested innovative technologies, a state of the Art Exhibition Centre has been constructed.



Prof. Dr. M. Jafar Jaskani
Executive Director

Dr. Naeem Mahmood

Additional Director /
Associate Professor



Amir Saeed Rana

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VISION

To assist the agriculture sector in becoming competitive, profitable and sustainable through innovation and commercialization.

MISSION

1. To support UAF faculty and the national scientific community working for the cause of agricultural and rural development.
2. To promote competitiveness in agriculture through competitive/commissioned Research & Development initiatives.
3. To explore ways and means for strengthening of Endowment Fund for Research & Development.

Introduction

Establishment of Endowment Fund at UAF

Endowment Fund was established with the assistance of USDA with seed money of Rs. 650.00 million. The Syndicate under Section 25(2)(i) of the University of Agriculture Faisalabad Act, 1973 approved the MOU to establish Endowment Fund at UAF. The major objectives of funds are:

- a) To support UAF programmes for advanced training in biotechnology, agricultural sciences research, technology transfer and product commercialization.
- b) To strengthen faculty and support R&D activities of UAF.
- c) To support similar programmes with other institutions of higher learning, private sector, not-for profit organizations, and domestic as international organizations.
- d) To encourage increased cooperation among scientists conducting agriculture-related research at universities in Pakistan and the United States of America.

Management of the Fund

The Board of Directors (BoD) is the governing body of this Fund and is responsible for Fund's program, its financial and managerial policies. Following is the composition of Board:

- | | |
|---|-------------|
| • Vice Chancellor, UAF (Chairman) | Ex-off |
| • Vice Chancellor, Agriculture University Peshawar, KPK | Ex-off |
| • USDA Agri. Attache in Pakistan or his nominee | Ex-off |
| • Agri. Specialist, USDA, US Embassy in Pakistan | Ex-off |
| • Eminent Scientists (Two) | For 3-years |
| • Progressive Farmer (One) | For 3-years |
| • Executive Director, ALP (PARC), Islamabad | Ex-off |
| • Registrar, UAF | Ex-off |
| • Treasurer, UAF | EX-off |
| • Executive Director, EFS, UAF (member/Secretary) | Ex-off |

Endowment Fund Secretariat

Endowment Fund Secretariat is responsible for the operation of the Fund which consists mainly of the selection, processing, approval, monitoring, evaluation and coordination of projects supported in whole or in part by it. All the activities are planned, approved and coordinated through Endowment Fund Secretariat (EFS) under the supervision of *Executive Director*. Following is the strength at Endowment Fund Secretariat (EFS).

1. Executive Director, Professor nominated by Vice Chancellor, UAF
2. Additional Director, Regular (One)
3. Deputy Director, Regular (One)
4. Lecturer, Regular (One)
5. Accounts Officer, Regular (One)
6. Administration/Supporting Staff (4 Nos)

Programs

With the approval of Board the following programmes are being sponsored by EFS, UAF

1. Faculty Development
2. Technology Transfer
3. Product Commercialization
4. Research & Development

Evaluation of the Project Proposals:

The project proposals are processed in accordance with the procedures approved by the BoD as under:

- Invitation of proposals in the National Press.
- Initial evaluation by Endowment Fund Secretariat.
- Review of proposals by two national referees (Nominated by the Chairman BoD/Vice Chancellor)
- Submission of project proposals to TAC along with recommendations of referees for evaluation.
- Rationalization of the recommended proposals by the Committee constituted by the Chairman BoD.
- Final approval by the Board.
- Signing of Implementation Agreement between the executor/PI and UAF.
- Issuance of Administrative approval of the projects.

The background features a dynamic design with flowing, wavy lines in various shades of blue and orange. The lines create a sense of movement and depth, with some areas appearing more saturated than others. The overall color palette is cool, dominated by blues, with warm orange accents.

Section

1

**FACULTY
DEVELOPMENT**

The technological innovations require investment in human and social capital because they are more knowledge-intensive. Capacity-building in agriculture and allied disciplines has been the prime focus of Endowment Fund, UAF. Further, interaction with the international community and exposure to the developed systems are the additional benefit of this program. A Faculty Development Committee comprising senior teachers evaluates and recommends such applications to the Chairman BoD for approval.

1. Short training (abroad)
2. Short training (inland)
3. Travel grants for presenting papers (abroad)
4. Short visit for institutional collaboration
5. Seminars/Workshops/Conferences organized at UAF

Achievement of the year

A Faculty Development Committee comprising senior teachers evaluates and recommends such applications to the Chairman BoD for approval.

During 2018-19, following is the achievements under Faculty Development:

1. Short Training (abroad)	05
2. Travel grants for presenting papers (abroad)	04
2. Short visit for institutional collaboration (abroad)	02
3. Seminars/Workshops/Conferences organized at UAF	30

1.1 Short Term Trainings (abroad)

This program has been designed with the objective to accelerate the quantum of research and development in Agricultural Universities through short term trainings that are catalytic to the technological and socio-economic development of the country. Under this program, teachers, scientific and technical staff and researchers of the University of Agriculture Faisalabad can avail the grant for short term local as well as foreign training of their own choice but related to their current field of specialization.

Sr.#	Name of Trainee & Address	Title of Training/Host Institute/Country
1.	Dr. Tahir Munir Butt, Lecturer, Agricultural Extension/UAF Sub-Campus Depalpur, Okara	International Training Course on Technology of Cloud Computing for Food Safety Duration: July 19 to 7 th August, 2018 Host Institute: Guizhou Academy of Sciences, China

Sr.#	Name of Trainee & Address	Title of Training/Host Institute/Country
2.	Prof. Dr. M. Jafar Jaskani, Institute of Horticultural Sciences, UAF	International Training Workshop on Breeding and Cultivation Technology of Vegetables Duration: October 14- November 01, 2018 Host Institute: Institute of Vegetables & Flowers (IVF) Chinese Academy of Agricultural Sciences (CAAS), Beijing, China
3.	Dr. Imran Ul Haq, Assistant Professor, Department of Plant Pathology, UAF	8 th International Course on Alternative Methods for Reduction of Pesticide Use Duration: October 15-19, 2018 Host Institute: International Agricultural Research and Training Center (IARTC), Izmir, Turkey
4.	Dr. Javed Iqbal, Assistant Professor, Department of Chemistry, UAF	International Training Workshop on Renewable Energy Technology and Industry Development in Belt & Road Countries Duration: November 06-20, 2018 Host Institute: Guangzhou Institute of Energy Conversion (GIEC), CAS, Guangzhou, China
5.	Dr. Aisha Khatoon, Lecturer, Department of Pathology, UAF	International Training Workshop on Major Transboundary Animal Diseases (TAD) FMD, PPR and Sheep/Goat Pox Diagnosis Technology 2018 Duration: November 11-25, 2018 Host Institute: Lanzhou Veterinary Research Institute, Chinese Academy of Agricultural Sciences, China

1.2 Travel Grants for Presenting Paper abroad

Endowment Fund Secretariat encourages faculty members to have international exposure by presenting their research findings at various international seminars, conferences, workshops, etc. Following travel grants were provided to faculty members for presenting papers at international events

Sr.#	Name & Address of the Grantee	Title/Organizer/Country
1.	Dr. Muhammad Issa Khan, Associate Professor, NIFSAT, UAF	Assurance of Poultry Meat Quality and Safety by Exploring Potential of Organic Acids in 13 th International Conference of Food Physicists-ICFP 2018 Organized by: The International Society of Food Physicists and Department of Food Engineering, Akdeniz University, Turkey October 23-25, 2018 Antalya, Turkey

Sr.#	Name & Address of the Grantee	Title/Organizer/Country
2.	Dr. Zafar Iqbal Qureshi, Department of Theriogenology, UAF	Effect of Melatonin Treatment on the Serum Progesterone, Estradiol, Prolactin, Cortisol, Thyroid Hormones Profile, Follicular Dynamics and Oestrus Rate During Non-Breeding Season in Buffaloes, Maintained under Different Managemental Conditions in International Congress on Agriculture and Animal Sciences (ICAGAS) Organized by: Nevsehir Haci Bektas Veli University, Turkey November 07-09, 2018 Alanya, Turkey
3.	Dr. Abdul Nasir, Associate Professor, Department of Structures & Environmental Engineering, UAF	Effect of Different Drying Treatment on Concentration of Curcumin in Raw Curcuma Longa L in International Conference of Agricultural and Food Engineering CAFEi2018 Organized by: University of Putra Malaysia November 07-09, 2018 Putra, Malaysia
4.	Dr. M. Asif Hanif, Assistant Professor, Department of Chemistry, UAF	Super Saturation of bioactive Components of <i>Foeniculum vulgare</i> Mill Seeds Essential Oil in Natural Products: From Plants to Medicaments and Bio-agriculture Organized by: Institute National De Recherches En Genie Rural Eaux Et Forets-Rue Hedi Karray, Ariana-Tunisia November 8-10, 2018 Hammamet (Tunisia)

1.2 Short Visits for Institutional Collaboration

Travel grants for short visits abroad are provided for strengthening international collaboration and participation in events after nomination by the vice chancellor to represent UAF. Following faculty members were awarded grants under short visits program:

Sr.#	Name /Department	Title/Venue
1.	Prof. Dr. Abdul Khaliq, Director, Quality Enhancement Cell, UAF	Short Visit to attend the 120 th year of Celebrations in Huazhong Agricultural University, Wuhan, China (HZAU) from and explore the areas of possible Collaboration between HZAU and UAF October 01 to 05, 2018 (5-days) Wuhan, China
2.	Dr. M. Yaseen, Assistant Professor, Department of Math & Stat, UAF	Short visit to attend UN World Data Forum 2018 in Federal Competitiveness and Statistics Authority, of UAE October 22-24, 2018 Dubai, UAE

1.4 Seminars/Conferences/Workshops/Trainings organized at UAF

Endowment Fund provides financial support to UAF faculty members to organize Seminars/conferences/ workshops at the campus. During the year 2018-19, EFS sponsored following events.

Sr.#	Organizer	Title of Seminar/workshop/conference
1.	Dr. Ghulam Murtaza, Director Academics, UAF	Orientation Program for Newly appointed Teaching Assistants Winter Semester 2018-19 September 04-05, 2018
2.	Dr. M. Usman Farid, Lecturer, Department of Structures and Environmental Engineering, UAF	Modelling and Simulation of Large Scale Engineering Problems September 12, 2018
3.	Dr. Haroon Zaman Khan, Department of Agronomy, UAF	Soyabean: Challenges and Opportunities September 17-18, 2018
4.	Dr. Muhammad Imran Arshad, Assistant Professor, Institute of Microbiology, UAF	Poultry Disease Diagnosis and Prevention October 01, 2018
5.	Business Incubation Centre, ORIC, UAF	DICE-AFS, 2018 Agriculture and Food Science Innovation Event October 03-04, 2018
6.	Dr. Abdul Ghaffar, Chairman, Department of Physics, UAF	one day Symposium on “New Frontiers of Physics” October 19, 2018
7.	Dr. Nabeel Khan Niazi, Assistant Professor, Institute of Soil & Environmental Sciences, UAF	One day Symposium/Panel Discussion Battling Climate Change and Water Crises Technology Nexus for the Resonance of Human and Nature October 29, 2018
8.	Dr. Beenish Israr, Lecturer, Institute of Home Sciences, UAF	Maternal and Child Health: Targeted Approaches to Tackle Current Nutritional Issues October 30, 2018
9.	Dr. M. Aslam, Assistant Professor, Department of Plant Breeding & Genetics, UAF	2 nd International Colloquium Challenges and Opportunities of Maize Production November 14-16, 2018
10.	Dr. Yasir Jamil, Associate Professor, Director Academics, UAF	Effective Use of Mendeley: A Reference Management Tool November 22 nd , 2018
11.	Dr. M. Sohail Sajid, Associate Professor, Department of Parasitology, UAF	2 nd National One Day Symposium on One Health November 26 th , 2018
12.	Dr. Zulfiqar Ahmad Saqib, Assistant Professor, ISES, UAF	Soil and Crop Management under Changing Climate” November 30 th , 2018

Sr.#	Organizer	Title of Seminar/workshop/conference
13.	Prof. Dr. Allah Bakhsh, Dean, Faculty Agricultural Engineering & Technology, UAF	Training Workshop "Capacity Building of Faculty on Outcome Based Education (OBE) & Assessment System of Accreditation (OBE/OBA) in-Line with the PEC Accreditation Manual-2014 November 29-30, 2018
14.	Dr. Adnan Younis, Assistant Professor, Institute of Horticultural Sciences, UAF	1 st Annual Postgraduate Students Research Symposium December 04, 2018
15.	Prof. Dr. Khalil Ur Rahman, Department of Biochemistry, UAF	2 nd International Conference of Biochemistry, Biotechnology and Biomaterials (ICBBB-2018) December, 09-11, 2018
16.	Dr. Syed Ashar Mahfooz, Assistant Professor, Department of CMS, UAF	Internees-Stakeholders Interactive Workshop on the Development of Training Modules During January, 2019
17.	Prof. Dr. Tahir Zahoor, Director General, NIFSAT, UAF	International Conference on "Food Processing and Entrepreneurship; A way toward Economic Sustainability and Food Expo-2019" January, 29-30, 2019
18.	Dr. M. Sohail Sajid, Associate Professor, Chairman, Department of Parasitology, UAF	Hands on Training "Laboratory Diagnosis of Parasitic Infections" January 31, 2019
19.	Dr. Yasir Jamil, Associate Professor, Director Academics, UAF	Training Program "Orientation of Teaching Assistants appointed during Spring Semester 2018-19" February 07, 2019
20.	Dr. Khalid Naveed, Assistant Professor, UAF Sub Campus Depalpur, Okara	Workshop on "Laboratory Bio-safety" February 07, 2019
21.	Prof. Dr. Ijaz Ahmad Bhatti, Department of Chemistry, UAF	International Symposium "Technologies and Materials for Renewable Energy, Environment and Sustainability" February, 06-07, 2019
22.	Dr. Abdul Wakeel, Assistant Professor, Institute of Soil & Environmental Sciences, UAF	Conference on "Innovations in Agriculture" February, 13 to 15, 2019
23.	Dr. M. Khalid Bashir, Assistant Professor, Institute of Agri. & Resource Economics, UAF	International Workshop on "Rural Development Strategies" February, 21-22, 2019
24.	Prof. Dr. Anas Sarwar Qureshi, Department of Anatomy, UAF	International Training Workshop on "Basic Techniques in Mesenchymal Stem Cell Cultures and Toxicity Assays" February 26-28, 2019

Sr.#	Organizer	Title of Seminar/workshop/conference
25.	Dr. Muhammad Saqib, Associate Professor, Institute of Soil & Environmental Sciences, UAF	1 st International Workshop on Scholarly writing and Publishing March 18-21, 2019
26.	Prof. Dr. Javaid Akhtar, Director, Institute of Soil & Environmental Sciences, UAF	International Symposium on “Managing Soil and Crops for Food Security in Changing Climate” April 01, 2019
27.	Prof. Dr. Mansoor-ul-Hassan, Chairman, Department of Entomology, UAF	Conference on “International Entomological Congress” April 08-10, 2019, at UAF
28.	Dr. Adnan Younas, Assistant Professor, Institute of Horticultural Sciences, UAF	Conference on “Sustainable Urban Landscape” April 24, 2019 at UAF
29.	Dr. Irshad Bibi, Assistant Professor, Institute of Soil & Environmental Sciences, UAF	Conference on “Surface Science: Innovation and Applications for Geo-Environmental Challenges” April 25-26, 2019 , at UAF
30.	Prof. Dr. Anas Sarwar Qureshi, Department of Anatomy, UAF	National Conference on “Health, Production and Reproduction of Camel” June 25, 2019

Highlights of Some Events (2018-19)

Title of the event: Orientation of Newly Appointed Teaching Assistants (winter 2018-2019)
September 4-5, 2018

Name of Organizer: Prof. Dr. Ghulam Murtaza, Director Academics and Teaching Resource Center, UAF

The objective of this activity was to impart the skill to the newly appointed TAs using digital tools in teaching and practical/lab work, learning management system, presentation skills, large class management and use of turnitin for checking similarity index and plagiarism. Furthermore, it will provide knowledge of ethics at work place improving their skills in developing healthy interaction with the students in class room.



Title of the event: **Modelling and Simulation of Large Scale Engineering Problems**
September 12, 2018

Name of Organizer: **Dr. Muhammad Usman Farid, Department of Structures and Environmental Engineering, UAF**

Objectives of the event:

Simulation modeling solves real-world problems safely and efficiently. It provides an important method of analysis which is easily verified, communicated, and understood. Across industries and disciplines, simulation and modeling provides valuable solutions by giving clear insights into complex systems. Simulation enables experimentation on a valid digital representation of a system. Unlike physical modeling, such as making a scale copy of a system, modeling and simulation is computer based and uses algorithms and equations. Simulation software provides a dynamic environment for the analysis of computer models while they are running, including the possibility to view them in 2D or 3D.

The guest speaker (Dr. Mian Ilyas Ahmad) was invited from Research Center of Modeling and Simulation (RCMS), NUST, Islamabad. He has completed his PhD from Imperial College London, UK and did his Post-Doctorate from Max-Plank Institute Germany. He is currently working on a number of research projects with national and international collaboration.

After the welcome address, the guest speaker (**Dr. Mian Ilyas Ahmed**) delivered a comprehensive lecture on the “Modelling and Simulation of Large Scale Engineering Problems”. He divided his training session into four components, i.e. 1. Modeling and simulation, 2. Large scale systems, 3. Energy networks and 4. Research and innovation. He briefly explained about the basics of models and their structures/ formulations. Up-scaling of engineering problems from singly linear models to the complex models was also presented. Furthermore, he explained different models and software applications for the application in general engineering research works. He also presented different tools and techniques to tackle the scientific research data and its handling.



Title of the event: Seminar on Poultry Disease Diagnosis and Prevention
October 01, 2018

Name of Organizer: Dr. Muhammad Imran Arshad, Assistant Professor,
Institute of Microbiology, UAF

Objectives of the Event:

1. Sharing of cutting-edge research and preventive strategies for poultry diseases.
2. National and International Collaboration in the area of Poultry Vaccines and Diagnostics.

Detailed Proceedings of the Event

The Dean Faculty of Veterinary Sciences, Prof. Dr. Zafar Iqbal Qureshi welcomed the foreign distinguished guests from China & UK. Prof. Li Yangbing, Dr. Qi Xiaole, Mr. Altaf Hussain from Harbin Veterinary Research Institute (HVRI), China and Dr. Muhammad Munir from Lancaster University, UK were the invited foreign speakers. Prof. M. Zargham Khan (Novogen Technical Consultant, Ex-Chairman Pathology, UAF) and Dr. M. Shahid Mehmood (Associate Professor, IOM, UAF) were invited speakers from Pakistan. Prof. Qureshi highlighted the importance of the seminar and briefed about the opportunities of further collaboration with foreign institutes.

The first key note lecture was delivered by Prof. Li Yangbing on “Genetic analysis of H5 HPAIVs that have caused outbreaks in China since 2010”. She presented the data of highly pathogenic avian influenza outbreaks in China. She elaborated the mutations and human infections of avian influenza viruses with the passage of time in China from 2010 to 2018. She shared her National Reference Lab data and use of reverse genetics techniques for the development of vaccines against avian influenza. Prof. Li’s research is conducted in BSL-3 lab which was of common interest of IOM, UAF to collaborate and work in future.



Dr. Muhammad Munir from Division of Biomedical and Life Sciences, Faculty of Health and Medicine, Lancaster University, United Kingdom shared cutting edge data of “Controlling poultry viruses through immunogenetics”. He presented his laboratory research findings of last 12 years for the production of chicken interferons, use of CRISPR/Cas9 technique for immunogenetics in poultry and modulation of innate immunity in chicken. He precisely explained the use of genetic tools for the prevention of poultry diseases and *in vivo* models of research in this area.

Dr. Qi Xiaole from Harbin Veterinary Research Institute, China presented the reverse genetics tools for the prevention of infectious bursal disease (IBD) virus of poultry. He updated on studies of prevention and control of Infectious Bursal Disease and shared his laboratory findings. Dr. Qi shared his data of IBD and introduced his laboratory themes to further collaborate in this area of research.

Mr. Altaf Hussain, Ph.D scholar under supervision of Dr. Qi shared his Ph.D data of “Epidemiology, Genetic Characterization and Pathogenicity of IBD virus isolates from Pakistan”. He motivated the students/participants to conduct such type of research in China and Pakistan. His findings depicted the prevalent strains of IBD virus in Pakistan, its mimicry/phylogenetics with other world IBDV strains as vaccine candidates.

Finally, Prof. Dr. Sajjad ur Rahman, Director, Institute of Microbiology highlighted the future areas of common research between UAF and foreign institutes, exchange of students and sharing of expertise.



Title of the event: DICE AFS 2018 Food & Agriculture, Innovation Event
October 3-4, 2018

Name of Organizer: Director, ORIC/BIC, UAF

Objectives of the Event:

To provide a platform to the young entrepreneurs to present their innovative ideas

To create networking/ connectivity among Academia and Industry

To establish relationship with other institutes promoting the entrepreneurship

To provide an environment for the intellectuals to interact, discuss and solve national issues through different seminars/talks

Outcome of the Event:

130 innovative ideas were enlisted with complete business plan and best of the best were awarded prizes. Business community has appreciated this Academia Industry Linkages strengthening approach and urged to sponsor some projects through Faisalabad Chamber of Commerce and Industry (FCCI). DICE Foundation agreed to provide Rs 100,000 to project titled “Invelox Wind Turbine”. Mr. Shabbir Hussain Chawla (Former President FCCI) will provide funds of Rs 50,000 to project titled Development of special fabric having vitamin C properties from citrus peel”. Muhammad Adnan Aslam (President Faisalabad Chamber of Small Traders & Industry) committed Rs 25,000 for furnishing a report for project titled “Barley Oil” Mr Farhan Tufail (CIO, UIL) will provide mentoring to project titled “Automated Switched Multiplexer”. DICE Foundation will provide Rs 150,000 to project titled “Nutrimed”.



Title of the event: International Symposium on New Frontiers of Physics
October 19, 2018

Name of Organizer: Dr. Abdul Ghaffar, Chairman, Department of Physics, UAF

Objectives of the Event:

The keynote lecture of the opening session of the symposium was delivered by an internationally renowned scientist Prof. Dr. Jahangir A. Satti, He is a Medical Physicist/ Assistant Clinical Professor at Albany Medical Center and College, Albany New York, USA. He was the Guest of Honor of the inaugural session. The deep knowledge, he had about linear accelerator based radio-surgery for cranial treatments, was well appreciated by the participants. The 2nd invited speaker in the inaugural session was Dr. Sami Ullah from the Universiti Teknologi Petronas (UTP), Malaysia. He is working as a research fellow at the Department of Fundamental and Applied Sciences of UTP. He shared his knowledge on fire retardant intumescent coatings and paints. The session was concluded with a vote of thanks by Prof. Dr. Muhammad Asgher, Dean, Faculty of Sciences, University of Agriculture Faisalabad.

There was a students' engagement session with the foreign invited speakers. Participants and students raised some interesting questions about the potential and viability of nanomaterials and PV solar panels. A very interactive and thought-provoking panel discussion was conducted in which participants showed immense interest. Dr. Waheed S. Khan from National Institute for Biotechnology and Genetic Engineering (NIBGE) Faisalabad delivered a comprehensive lecture on biosensing potential of nanoparticles.



Title of the event: **BATTLING CLIMATE CHANGE AND WATER CRISES – Technology Nexus for the Resonance of Humans and Nature’**
October 29, 2018

Name of Organizer: **Dr Nabeel Khan Niazi, Assistant Professor, Institute of Soil Science and Environmental Sciences, UAF**

Detailed Proceedings of the Event

This Symposium/Panel Discussion was organized by the Institute of Soil and Environmental Sciences in UAF. In this mega event, there were around 150 participants to attend the Symposium/ Panel Discussion sessions including Chief Guest, Ms Zartaj Gull, the Minister of State for Climate Change, Vice Chancellor, Prof. Dr. Zafar Iqbal, faculty members from different departments /Institutes, students and researchers, practitioners, NGO people from other organizations like COMSATS, LUMS, AARI, NIBGE and NIAB, Lok Sujag.

The Minister of State for Climate Change, Ms Zartaj Gull stressed that a comprehensive and viable policy is necessary to address the challenges related to changing climate and water issues. She told that the south Punjab is already facing shortage of water and the availability of good quality, arsenic-free water is also declining each day. Notably, the minister appreciated that the scientists of UAF has made sound discoveries about arsenic treatment of drinking water and safe reuse of wastewater, which their ministry will be taking into future implementation plan.

Prof Dr Ashfaq Ahmad, Chair Climate Change, USPCAS briefly informed about the climate situation in Pakistan and how it is affecting the population and food security. The international keynote speakers participated via Skype and highlighted key challenges faced by the world in relation to SDGs.



Title of the event: International Seminar Maternal and Child Health: Targeted Approaches to Tackle Current Nutritional Issues
October 30, 2018

Name of Organizer: Dr Beenish Israr, Lecturer, Institute of Home Sciences, UAF

Maternal health is a crucial factor in the health of children. Maternal health is essential to ensure the health of children and by extension the whole family. Still, many mothers suffer from lack of access to health, poor conditions and poor quality of life – especially in developing countries. A healthy child needs a healthy mother. The care of the mother has to be intensive, not only in prenatal care, but also postpartum. The mother needs to be well, both physically and mentally, to take good care of her child. Maternal mortality rates remain very high. According to UNICEF, a woman dies from complications during childbirth every minute – about 529,000 each year – the vast majority in developing countries. A woman's risk in a developing country dying from a pregnancy-related cause throughout life is about 36 times higher compared with a woman living in a developed country.

The Vice Chancellor University of Agriculture Faisalabad, Dr Zafar Iqbal Randhawa stated that iodine salt is made for people who are iodine deficient, and its use by normal people can cause health complications. He said that normal people who do not require iodine but their consistently use of iodine can cause serious health effects, e.g. thyroid inflammation, Goiter, thyroid cancer.

Food Expert Prof. Jaehan Kim, from South Korea, said in the 70s they were facing the massive malnutrition. They devised a comprehensive strategy and overcome the issues.

There were 3 presentations on the following topics:-

Mother's Milk: Gate Way to Secure New Born's Health

The featured speaker **Prof Jaehan Kim**, Dean College of Human Ecology, Department of Food and Nutrition, Chungnam National University, South Korea presented about the composition and importance of mother milk. He said that mother milk is the primary source of nutrition for new borns. He also shared different compositional analysis of mother milk from different countries and mostly in all comparative analysis, results of Pakistani mothers were at low rate than all other countries.

Role of Nutrition Education in Improving Maternal and Child Health Status

Mrs Rabi Anwar, President Pakistan Nutrition and Dietetic Society (PNDS) Karachi shared her views about the nutrition and maternal health. She said that good nutrition is essential to reduce maternal and child mortality around the world. Providing quality healthcare and nutritional support for all women and babies is vital for a healthy generation. Clinical interventions and health services need to be delivered across a continuum of care — before, during, and after pregnancy. There must also be an enhanced focus on the role that nutrition plays in saving lives and safeguarding the health of women, men, girls and boys — including newborn. Good nutrition is essential for physical growth, mental development, performance, productivity, health, and wellbeing across the entire life-span, making nutrition a sound investment for any country.

Infant Feeding Practices: New Challenges and Guidelines

Ms Amina Chughtai Lecturer, Dept of Food Science and Human Nutrition, University of Veterinary and Animal Sciences, Lahore talked about the benefits of breastfeeding. She said that exclusive breastfeeding until 6 months of age provides nourishment to an infant required for normal growth and development of infant. Artificial feeding practices such as the use of milk substitute have been shown to increased infant mortality and increased morbidity.

Following recommendations were made in the concluding session.

1. Recent advances of nutrition should be adopted at national and provincial level in hospitals or health care systems to tackle targeted nutritional issues in mother and child health
2. Scientific and practical aspect to recover stunted and wasting in children should be implemented as compulsory aspect of R&D.
3. Nutritional issues regarding to health of mother and child should be added as as emergent and important element in national health policy of country.
4. Sustainable approaches to combat the nutritional deficiency issues in maternal and child care should be developed and implemented at national level.



Title of the event: 2nd International Colloquium: Challenges and Opportunities of Maize Production
November 14-16, 2018

Name of Organizer: Dr. Muhammad Aslam, Assistant Professor,
Department of Plant Breeding & Genetics, UAF

**Detailed Proceedings of the Event
(November 14, 2018)**

Chief Guest Mr. Muhammad Ajmal Cheema, Provincial Minister, Bait-ul-Maal & Social Welfare in his speech explained the current status of maize in Pakistan as well as on global level. He shared with the audience different Govt. policies supporting farmer community.

Mr. Muhammad Asim from CropLife, Pakistan delivered his speech as key note speaker entitled “Enhancing sustainable productivity on corn”. Later on Dr. Zhao Qiang from China gave a talk focusing a title “Mechanization and Breeding of Corn Production in Xinjiang”.

Technical Session-1 was chaired by Dr. Iftikhar Ahmad Khan, Ex-Dean, Faculty of Agriculture, University of Agriculture, Faisalabad.

Dr. AbduRahman Beshir from CIMMYT, Nepal/Pakistan delivered his talk on “CIMMYT’s maize innovations and interventions in South Asia”. Dr. Khalid Aziz from Rafhan Maize Products, Faisalabad on “Aflatoxin biocontrol in maize-aflaPak”.

Prof. Dr. Ashfaq Ahmad Chattha, Department of Agronomy, University of Agriculture, Faisalabad, Pakistan explained the effect of climate change on maize production. He delivered the talk on subject “Climatic threats to maize production in Pakistan: adaptability. His focus was adaptability of maize in changing climate.

Dr. Aldo Rosales Nolasco, Biofortification Laboratory Coordinator, CIMMYT, Mexico gave briefing about different activities going on in CIMMYT head office regarding bio fortification of maize and wheat. Mr. Muhammad Rafique, AARI, Faisalabad made a talk on “Climate change and maize breeding; Challenges and Opportunities”.

Dr. Amir Maqbool, from CIMMYT, Pakistan speech was on “Development and deployment of DH in maize”.



(November 15, 2018)

Field Visits:

The participants of the colloquium visited Maize and Millat Research Institute (MMRI), Yousafwala, Sahiwal and a private farm in Arifwala.

(November 16, 2018)

Dr. Muhammad Ilyas, Chairman, Plant Breeding and Genetics, University of The Poonch, AJK talked on “Generation mean analysis (*Zea mays* L.) under natural and drought stress condition” and Mr. Muhammad Zulqarnain Haider from ICI, Pakistan on “Biotic and abiotic stresses in maize”. All the participants visited Learning station and demonstration center of Monsanto/Bayer located in UAF.



Title of the event: **Effective Use of Mendeley: A Reference Management Tool**
November 22, 2018

Name of Organizer: **Dr. Yasir Jamil, Director Academics and Teaching Resource Center, UAF**

The objective of the program was to enhance the professional skills of the Assistant Professors/Lecturers/Ph.D. Scholars. This activity was to impart the skills of the young teachers to build professional careers on strong basis using modern concepts of using information technology by using modern techniques of software usage including extended capabilities of MS word and Mendeley.



Title of the event: 2nd National One Day Symposium on One Health
December 12, 2018

Name of Organizer: Dr. Muhammad Sohail Sajid, Department of Parasitology, UAF

Objectives of the Event:

1. Identification and prioritization of research gaps in the fields of zoonoses, emerging and re-emerging infectious diseases, ecological and environmental factors which impact these diseases.
2. Facilitate the sharing of data between researchers, civil society organizations and academia to mend the significant research gaps.
3. Disseminate the results and insights of existing and new research projects on One Health and One Welfare.
4. Spread awareness about the importance of One Health and One Welfare approach through communication, facilitation of interactions between stakeholder groups, education and training.
5. Sensitization on One Welfare concept with special reference to brick kiln industry of Pakistan --- discuss the linkages between environment, Child & Bonded Labour and Animal Welfare.
6. To provide a platform to establish linkages between civil society organizations and university students to share and learn ideas on One Health and One Welfare.

Detailed Proceedings of the Event:

The National day long symposium was jointly organized by Faculty of Veterinary Science & The Brooke Pakistan and sponsored by the Endowment Fund Secretariat, University of Agriculture Faisalabad. The aim of the symposium was to gather all stakeholders under one roof to address the challenges in adopting One Health approach, in collaboration with the Brooke, Pakistan.

Dr. Muhammad Saleem, Focal Person, The Brooke, Pakistan was invited for a formal welcome note for the symposium. He highlighted the need of implementation of welfare in animals at commercial and domestic levels. He stated that the Brooke Pakistan is constantly extending their Collaborations with other stakeholders to address the challenges in adopting One Health approach for animal and human welfare. He appreciated the role of the Faculty of Veterinary Science in disseminating and working on the concept of One Health at national and international levels. He further added that the Brooke, Pakistan will continue their support for such activities in future.



Dr. Arif H. Makhdum (Director, Sustainable Agriculture, WWF, Pakistan) presented a talk about “Management of Ecosystem at Landscape level to Manage Externalities”. He focused on the role of environment in health of wildlife and human. He said that excessive use of pesticides on crops and vegetables is leading to serious health threats in wild animals and humans. He said there is a need to strengthen the collaboration among all the stakeholders of one health. **Dr. Asif Mahmood**, MS Medical Entomology and Disease Vector Control (MEDVC) Laboratories of Parasitology and Entomology, Institute of Public Health, Lahore, discussed the “importance of Integrated Vector Management and strategies to control dengue and malaria”. He said there is need to change the human life style to prevent these deadly diseases. Due to human activities, climate is changing which is providing favorable conditions for the spread of vector-borne diseases. **Dr. Agha Waqar Yunus**, Senior Scientific Officer, *National Agricultural Research Centre (NARC)*, Islamabad, with the help of field database, briefed about the presence and probable ways to prevent aflatoxins in milk from different cities of Pakistan. He said there is a need to put check on use of aflatoxin contaminated in dairy and poultry industries to prevent its spread to human beings. **Dr. Farooq Tahir**, Technical Advisor on One Health, CDC Pakistan, discussed briefly about the role of CDC in surveillance and control measures of zoonotic diseases in Pakistan.

Mr. M. Hamid Siddique, Ministry of Planning, Development and Reform, Govt. of Pakistan highlighted the role of “Pak One Health Alliance” for Promoting One Health Approach. He talked about vector-borne diseases and integrated surveillance system for disease mapping in Pakistan. He further added about Global Health Security Initiative (GHSI) is working on one health agenda. The World Health Organization (WHO) is serving as a technical advisor in this initiative.



Title of the event: International Seminar on 'Soil-Plant-Environment Nexus under Changing Climate

November 30, 2018

Name of Organizer: Dr. Zulfiqar Ahmad Saqib, Assistant Professor, Institute of Soil and Environmental Sciences, UAF

Objectives of the Event:

The international seminar aimed to initiate interdisciplinary dialogues regarding the contemporary issues on soil and crop management under changing climate and to provide valuable awareness about technological advances in agriculture to cope with the current rising problems due to climate change.

- The technical session started with invited talk of Prof. Dr. Sergey Shabala, the Director of Plant Physiology Lab, University of Tasmania, Hobart, Australia. He is leading plant scientist in field of abiotic stress physiology and has world renowned reputation for its publications and innovative work in this field.
- The 2nd lecture was delivered by Dr. Shou-Qing Ni, Associate Professor in School of Environmental Science and Engineering, Shandong University, China on development of Green Technology for treatment of waste water. He presented a very innovative and environmentally friendly technology-based solutions for the treatment of waste water having low energy and financial inputs.
- The Chief Guest, Prof. Dr. Riaz Hussain Qureshi, Ex- Vice Chancellor of UAF and Advisor to HEC stressed on the integrative and collaborative work not only internationally, but also within the boundary of university.

Title of the event: Two Days Training Workshop Outcome-Based Education (OBE) & Implementation
November 29-30, 2018

Name of Organizer: Prof. Dr. Allah Bakhsh, Dean, Faculty of Agr. Engineering & Technology, UAF

A two-days training workshop on “**Outcome-Based Education (OBE) & Implementation**” was organized by the Faculty of Agricultural Engineering and Technology, University of Agriculture, Faisalabad in collaboration with Pakistan Engineering Council (PEC) in the supervision of Prof. Dr. Allah Bakhsh, Dean Faculty of Agri. Engineering & Technology, UAF. Outcome-based education (OBE) is an educational theory that bases each part of an educational system around goals (outcomes). By the end of the educational experience, each student should have achieved the goal as prescribed by the degree program. This involves a complete assessment of the students during the degree courses particularly during laboratory works. The role of the faculty is very important in this aspect.

In an international effort to accept OBE, The Washington Accord was created in 1989; it is an agreement to accept undergraduate engineering degrees that were obtained using OBE methods. As of 2017, the full signatories are Australia, Canada, Taiwan, Hong Kong, India, Ireland, Japan, Korea, Malaysia, New Zealand, Russia, Singapore, South Africa, Sri Lanka, Turkey, the United Kingdom, Pakistan, China and the United States.

In order to fully implement and the regard Faculty of Agricultural Engineering and Technology in collaboration with Pakistan Engineering Council (PEC) organized a Two-Days Training Workshop with the title of “**OUTCOME-BASED EDUCATION (OBE) & IMPLEMENTATION**” on November 29-30, 2018 for the professional training of the Faculty staff members in order to meet the criteria set by The Washington Accord and Pakistan Engineering Council.

The Guest Speaker/Workshop Trainer

Ir. Azlan Abdul Aziz is a Fellow in the Department of Civil Engineering, Universiti Putra Malaysia, Academic Advisor & Former Director, Engineering Accreditation Department, Board of Engineers, Malaysia, Former IEA WA Mentor for PEC; BEM Nominator for TABEE/COE, Thailand for WA Provisional Status 2018.



ANNUAL REPORT 2018-19

Title of the event: 2nd International Conference of Biochemistry, Biotechnology and Biomaterials

December 09-11, 2018

Name of Organizer: Prof. Dr. Khalil Ur Rehman, Department of Biochemistry, UAF

Objectives of the Event:

The 2nd International Conference of Biochemistry, Biotechnology and Biomaterials (ICBBB-2018) was held under the theme “Biochemistry for better Health and Environment in the Developing World”. Major aim of the conference was to bring together biochemists, chemists, genetic engineers, agriculturists, environmentalists and eminent scientists with multi-disciplinary professional backgrounds on a common platform where they can barter over their thoughts through a series of research, development, and technology transfer initiatives and discuss the role of biochemistry, green chemistry and biotechnology in providing healthier and safer environment, food and better nutrition in the developing world.

Prof. Dr. Zafar Iqbal, Vice Chancellor, UAF, shared his views with the audience as Chief Guest.

The conference proved to be a significant scientific event with reference to existing national needs. Eminent scientists and researchers from abroad including China, Ireland, and Malaysia, and from Pakistan delivered keynote/plenary talks.



Title of the event: 1st Annual Postgraduate Students Research Symposium
December 04, 2018

Name of Organizer: Dr. Adnan Younis, Assistant Professor, Institute of Horticultural Sciences, UAF

The theme of the event was “Innovative research and development in Horticulture for food security and wellbeing”

The 21st century could be known for the revolution in scientific research and technology. Keeping in view the need for innovative and advance research in the field of horticulture, Institute of Horticultural Sciences, UAF with collaboration of USDA organized an opportunity for postgraduates to publicize their research work and plans on the platform of 1st Postgraduate Students Research Symposium on 4th of December, 2018.

The foremost objective was to create a comfortable environment for students to share their efforts and ideas as a big picture. Our system is lacking with the proper research grounds, job and entrepreneur opportunities for the young and proficient scholars. So, this symposium was held to evaluate the research capabilities and activities of young scholars. The Institute also aimed to build and polish the abilities of its students for competing in the national and international research market.

The symposium was divided in two sections i.e., oral and poster. Total of 83 abstracts were received from pomology, olericulture and floriculture collectively. Out of which 20 best and most innovative ideas were selected by the chairpersons for oral presentation.



Title of the event: International Conference on Food Processing and Entrepreneurship:
A way towards Economic Sustainability

January 29 – 30, 2019

Name of Organizer: Prof. Dr. Tahir Zahoor, DG, NIFSAT, UAF

The main objective of this activity was to provide a platform for researchers, academicians, industrialists and international partners to discuss and share opportunities, challenges and future prospects of Food Processing industry in Pakistan.

These events provide excellent opportunity for networking and mutually exchange ideas and experiences for future harmony. The renowned national and international experts graced the event through their active participation for:

- Sustainable food security
- Entrepreneurship Approaches
- Focus on agro-based processed products
- Development of linkages between industry and research organizations
- Improving food process efficiency and decreasing losses

Scientists from different part of the world i.e. USA, China, Italy and Malaysia participate in this international conference and presented their research on the important aspect of food processing and entrepreneurship



Title of the event: Hands on Training on Laboratory Diagnosis of Parasitic Infections
January 31st, 2019

Name of Organizer: Dr. Muhammad Sohail Sajid, Associate Professor, Department of Parasitology, UAF

Objectives of the Event:

- a) Practicing the basic and advance parasitological procedures employed for diagnosis of parasitic diseases.
- b) Recognizing the usefulness and limitations of different methods in diagnostic parasitology.
- c) Validation and use of quality controls to ensure accurate test results in diagnostic parasitology.
- d) Revitalizing the universally accepted Standard Operating Procedures (SOPs) for carrying out investigation of parasitic infections.

Detailed Proceedings of the Event

The One-day long symposium was jointly organized by Faculty of Veterinary Science & and Department of Pathobiology, College of Veterinary and Animal Sciences (CVAS), Jhang, sponsored by the Endowment Fund Secretariat, University of Agriculture Faisalabad. The aim of the training was to disseminate the standard protocols to address the challenges in adequate laboratory diagnosis of parasitic infections.

Meeting of resource persons with Vice Chancellor UAF

The Vice Chancellor (UAF) Prof. Dr. Zafar Iqbal Randhawa greeted the foreign resource person (Prof. Dr. Dwight D. Bowman (Department of Microbiology and Immunology, College of Veterinary Medicine, Cornell University, New York, USA)) and local collaborator (Dr. Muhammad Arfan Zaman, Assistant Professor, CVAS, Jhang / Project Manager) and had a talk with them at Conference Room, Department of Parasitology, FVS, UAF. He accredited the significance of collaborations of Cornell University with University of Agriculture, Faisalabad. He also appreciated the role of local collaborator (CVAS, Jhang) and Department of Parasitology, UAF for availing this opportunity for training of postgraduate students. He was of the view that such activities play significant role in research and professional grooming of the students and must be continued in future as well.



Prof. Dr. Dwight D. Bowman also described the brief history of anthelmintic discovery associated with the development of resistance in target species. He also shared his valuable field experiences regarding the commercialization of products designed for parasite control. He discussed the possible methods and commercial availability of various anthelmintic medications.



Title of the event: Orientation of Teaching Assistants Appointed During Spring Semester 2018-2019
February 07, 2019

Name of Organizer: Dr. Yasir Jamil, Director Academics and Teaching Resource Center, UAF

Objectives of the Event:

The objective of this activity is to impart the skill to the newly appointed TAs using digital tools in teaching and practical/lab work, learning management system and use of turnitin for checking similarity index and plagiarism. Furthermore, it will provide knowledge of ethics at work place improving their skills in developing healthy interaction with the students in class room.



Title of the event: International Symposium on Technologies and Materials for Renewable Energy, Environment and Sustainability
February 6-7, 2019

Name of Organizer: Prof. Dr. Ijaz Ahmad Bhatti, Department of Chemistry, UAF

The objective of the Event was to provide understanding of the design criteria for the development of solar technologies in Pakistan for energy and sustainable environment for CO₂ reduction.

Detailed Proceedings of the Event:

Depleting fossil fuels, global warming and environmental pollution are the key challenges world is facing today. Renewable energy is Holy grail to tackle these issues. This symposium has provided an excellent opportunity to share recently developed renewable energy technologies including direct power production technology, photovoltaic, hydro, wind, and renewable fuel production technologies such as biofuels, H₂ and fuel cells technologies. This symposium aimed to provide a multi-disciplinary forum for scientists, engineers and industry experts to break new ground in the discussion and realize a cross fertilization and progress in the understanding of the design criteria for the development of solar technologies in Pakistan for energy and sustainable environment for CO₂ reduction. Furthermore, this symposium also dealt with "How pollution affecting all living things and how solutions can be attained". A special welcome was extended to honorable chief guest Prof. Dr. Sofia Anwar, Vice Chancellor, Government College Women University Faisalabad, by Prof. Dr. Zafar Iqbal, Worthy Vice Chancellor, University of Agriculture, Faisalabad by and following guests from abroad.



- Prof. Dr. Wan Azlina Wan Ab Karim Ghani, University of Putra, Malaysia
- Prof. Dr. Ilkay Erdogan Orhan Gazi, Gazi University, Ankara, Turkey
- Dr. Mohamad Fawzi Mahomoodally, University of Mauritius; Mauritius
- Prof. Dr. Lamia Hamrouni, Tunisia

“Understanding biomass- environment- food-energy-water (BEFEW) nexus towards a sustainable bio-economy in Malaysia”. She summarized all bioeconomic sectors that are involved in the production, processing and use of biological resources (plants, animals, microorganisms) for the production of food and feed, the provision of biomass as resources and the production of bio-based chemicals and materials and bioenergy. As a knowledge-based bioeconomy, how a sustainable use of limited resources must be achieved by integrated application of knowledge about biological resources and processes was also described by her in detail.

Second plenary lecture was presented by Prof. Dr. Ilkay Erdogan Orhan on “Plant Biodiversity as Sustainable Source of New Drug Candidates and Phytotherapeutics”. Prof. Orhan highlighted medicinal plants as globally valuable sources of herbal products, and their disappearing at a high speed. She reviewed global trends, developments and prospects for the strategies and methodologies concerning the conservation and sustainable use of medicinal plant resources to provide a reliable reference for the conservation and sustainable use of medicinal plants. Third and last plenary lecture of day 1 was delivered by Dr. M. Fawzi Mahomoodally “Sustainable drug development from bio resources: phases, perspectives and challenges”. Prof. Fawzi emphasized that both conservation strategies (e.g. in situ and ex situ conservation and cultivation practices) and resource management (e.g. good agricultural practices and sustainable use solutions) should be adequately taken into account for the sustainable use of medicinal plant resources. He recommended that biotechnical approaches (e.g. tissue culture, micropropagation, synthetic seed technology, and molecular marker-based approaches) should be applied to improve yield and modify the potency of medicinal plants.

The first plenary lecture of day 2 was delivered by Prof. Dr. Lamia Hamrouni from Tunisia on “Physicochemical Properties and Antioxidant Activity of mesquite (Prosopis) from different Areas in Tunisia”. Prof. Hamrouni explained how natural antioxidants are widely distributed in food and medicinal plants. How these natural antioxidants, especially polyphenols and carotenoids, exhibit a wide range of biological effects, including anti-inflammatory, anti-aging, anti-atherosclerosis and anticancer.



The second plenary of day 2 was given by Prof. Dr. Farooq Anwar, Director, ORIC, University of Sargodha, Sargodha on “Exploration of under-utilized natural resources for biofuels: Opportunities and Challenges”. Prof. Anwar talked about a global framework for the analysis of natural resource demand of global biofuels.



Title of the event: **Innovations in Agriculture: Nourishing Pakistan in Changing Climate**
February 13-15, 2019

Name of Organizer: **Dr. Abdul Wakeel, Assistant Professor, Institute of Soil & Environmental Sciences, UAF**

The objective of the Event was to provide platform for academia, industry and students to discuss current status of climate change, impact assessment on crops, human and animal, their solutions for sustainable production.

The participants were from fertilizers industry, livestock sector, Pakistan poultry association including public sectors (universities, NARC, AJK, AARI) and postgraduate students.

Prof. Fiaz ul Hassan Sahi, Dean, PMAS-Arid University, Rawalpindi delivered talk on “Conservation of natural resources under changing climate in Pothohar region”

Dr. Hafiz Zahid Mahmood, COMSATS, Lahore highlighted use of organic bio-wastes, sludges and economics as alternative use of energy.

The President Dr. Salman Saeed highlighted the role of Pakistan Agriculture Scientist Forum in development of Agriculture and Livestock Sector.

Dr. M. Shahid Qureshi, from Institute of Business Administration, Karachi, provided a thoughtful insights how within limited resources entrepreneurship can be started within agri-business and may lead to innovations.

An important distinctive feature of conference was policy session with experts from crop, livestock and poultry and socio-economical sector which provided participants with concrete discussion for formulation of policy framework for sustainable crop and animal production within context of climate change and in context of socio-economic development.



Title of the event: International Workshop on "Rural Development Strategies
February 21-22, 2019

Name of Organizer: Dr. Muhammad Khalid Bashir, Assistant Professor, Institute of Agricultural and Resource Economics, UAF

The international workshop aims to bring together scientists, research scholars and rural Communities on one platform to discuss and enhance the knowledge about recent developments and trends in rural development with special focus on rural entrepreneurship.

- The convener of the event, Prof. Dr. Sarfraz Hassan delivered the opening address on the importance of sustainable rural development strategies.
- Mr. Anayat Ullah Additional Secretary, Livestock & Dairy Development Department, Quetta shared his views on rural development in Balochistan.
- Dr. Muhammad Khalid Bashir presented the recent achievement of his team in the field and shared success stories in rural entrepreneurship.
- Dr. Muhammad Azam Kakar, Director, Planning and Development, Livestock and Dairy Development Department, Quetta presented on "CPEC and sustainable rural development strategies in Balochistan - A regional prospective".
- Dr. Tahira Sadaf on "Rural industrialization: Township and village enterprise" talked about the success story of Chinese rural development model.

The Interaction of the speakers / experts / scientists, successful entrepreneurs, banking sector, researchers will enhance the linkages with the participating scientists from Balochistan, and various Universities of Punjab, Turkey and China for future collaboration.



Title of the event: International Training Workshop on Basic Techniques in Mesenchymal Stem Cell Cultures and Toxicity Assays
Feb 26-28, 2019

Name of Organizer: Prof. Dr. Anas Sarwar Qureshi, Department of Anatomy, UAF

The purpose of this workshop was to acquaint participants on the following areas by the experienced and eminent resource persons:

- Introduction and Overview of Basic techniques in cell culture
- Basic requirements for setting-up and maintenance of a cell culture laboratory
- Sterilization-Autoclaving-Filtration procedures
- Overview of Tissue culture media and its preparation
- Microscopic examination of cells
- Monolayer and 3D Culture and Pellet Culture
- Passaging of cell lines, Primary stem cells, Pipetting Methods and Viable cell counting
- Primary Cell Culture Vs Cell lines
- Assessment of Growth parameters (Growth Curve, Doubling Time and Colony Forming Unit)
- Cellular Behavior and Cell seeding densities
- Biosafety and cryopreservation
- Hands on training with Morphological & Toxicological assays (MTT assay)
- Applications of cell culture
- Overview of Advanced Stem Cells Techniques

Animal tissue culture plays a substantial role in the field of biotechnology. It is one of the major tools in the basic regenerative medicine research as well as in modern medicine in terms of development and production of new vaccine, and therapeutic and diagnostic products. Some of the important areas in which cell culture has currently a major role are cancer

research, toxicity testing, virology, immunology, cytogenetics, stem cell biology, drug screening and development, cell based manufacturing, genetic engineering and gene therapy and developmental biology.

Resource Persons:

1. Prof. Dr. Korhan Altunbas, Chairman Department of Histology and Embryology, Faculty of Veterinary Medicine, Afyon Kocatepe University, Turkey
2. Prof. Dr. Artay Yagci, Dean, Milas Veterinary Faculty, Mugla Sitki Kochman University-Turkey



3. Dr. Shah Nawaz, Stem Cell Researcher, Department of Histology and Embryology, Faculty of Veterinary Medicine, Afyon Kocatepe University, Turkey.

Participants were acquainted with immunohistochemistry, cell culture, stem cell isolation, sub-culturing and proliferation and characterization as well as toxicity assays. The practical demonstration of different techniques was given at the Cell Biology Laboratory in Department of Anatomy.



Title of the event: 1st International Workshop on Scholarly Writing and Publishing
March, 18 – 21, 2019

Name of Organizer: Dr. Muhammad Saqib, Associate Professor, Institute of Soil and Environmental Sciences, UAF

Objectives of the Event:

- To provide training to Ph.D/postgraduate students and young researchers in Scholarly Writing and Publishing.
- To inculcate basic skills and knowledge of Scholarly Writing, Publishing and journal selection in the participants.
- To educate the participants about the editorial, decision making and ranking process of scholarly journals.

Scholarly writing and publishing are basic requirements of research degrees and research careers. However, getting a publication is considered one of the most difficult part of Ph.D degree and even by the early career researchers. It is due to lack of proper understanding and training in scholarly writing and publication. Therefore, this workshop on “Scholarly Writing and Publishing” was conducted to enhance the capacity of the Ph.D/postgraduate students and young researchers in this field. After workshop, the beneficiaries are:



- Better able to understand the Scientific Writing and Publishing process and its key stages.
- Better able to reflect on what constitutes an acceptable scientific paper.
- Better able to reflect on the editorial process, and journal selection and ranking.
- Better able to reflect on the data analyses and reference management.
- Better able to reflect on the ethics in Scholarly Writing and Publishing.



1.5 List of Foreign Visitors/Experts Invited

Visit of foreign scholars is of utmost importance for faculty development as more people are benefited than the visit abroad of one individual. Foreign experts invited in training workshops/seminars/conferences are sponsored partially/fully as per requirement. Following Foreigner Scientists were invited during 2018-19

Sr.#	Name of person invited & Institute/Country	Event/Date
1.	Prof. Li Yanbing, Herbin Veterinary Research Institute, CAAS, PR, China	Seminar on Poultry Disease Diagnosis and Prevention October 01, 2018 Organized By: Dr. M. Imran Arshad, Assistant Professor, Institute of Microbiology, UAF
2.	Dr. Qi Xiaole, Harbine Veterinary Research Institute, China	
3.	Prof. Dr. Jahangir A. Satti, Assistant Clinical Professor, Albany Medical Center and College, Albany New York, USA	one day Symposium on “New Frontiers of Physics” October 19, 2018 Organized By: Dr. Abdul Ghaffar, Department of Physics, UAF
4.	Dr. Sami Ullah, The Universiti Teknologi Petronas (UTP), Malaysia	
5.	Prof Jaehan Kim, Dean College of Human Ecology, Department of Food and Nutrition, Chungnam National University, South Korea	Maternal and Child Health: Targeted Approaches to Tackle Current Nutritional Issues” October 30, 2018 Organized By: Dr. Beenish Israr, Lecturer, Institute of Home Sciences, UAF
6.	Dr. Zhao Qiang, China	2 nd International Colloquium Challenges and Opportunities of Maize Production” November 14-16, 2018 Organized By: Dr. M. Aslam, Assistant Professor, Department of Plant Breeding & Genetics, UAF
7.	Prof. Dr. Sergey Shabala, Director of Plant Physiology Lab, University of Tasmania, Hobart, Australia	Soil and Crop Management under Changing Climate” November 30 th , 2018 Organized By: Dr. Zulfiqar Ahmad Saqib, Assistant Professor, ISES, UAF
8.	Dr. Shou-Qing Ni, Associate Professor in School of Environmental Science and Engineering, Shandong University, China	

Sr.#	Name of person invited & Institute/Country	Event/Date
9.	Ir. Azlan Abdul Aziz, Department of Civil Engineering, Universiti Putra Malaysia	Training Workshop Capacity Building of Faculty on Outcome Based Education (OBE) & Assessment System of Accreditation (OBE/OBA) in-Line with the PEC Accreditation Manual-2014 November 29-30, 2018 Organized By: Prof. Dr. Allah Bakhsh, Dean, Faculty Agricultural Engineering & Technology, UAF
10.	Prof. Dr. Muhammad Mukhtar, Faculty of Industrial Sciences & Technology University of Malaysia, Pahang	2 nd International Conference of Biochemistry, Biotechnology and Biomaterials (ICBBB-2018) December, 09-11, 2018 Prof. Dr. Khalil Ur Rahman, Department of Biochemistry, UAF
11.	Dr. Giacarlo Colelli, University of Foggia, Italy	International Conference on “Food Processing and Entrepreneurship; A way toward Economic Sustainability and Food Expo-2019” January, 29-30, 2019 Organized By: Prof. Dr. Tahir Zahoor, DG, NIFSAT, UAF
12.	Jordi Saldo, Universitat Autònoma de Barcelona, Spain	
13.	Noranizan Mohd Adzahan, Universiti Putra Malaysia, Malaysia	
14.	Prof. Dr. Dwight D. Bowman, Department of Microbiology and Immunology, College of Veterinary Medicine, Cornell University, New York, USA	Hands on Training “Laboratory Diagnosis of Parasitic Infections” January 31, 2019 Organized By: Dr. M. Sohail Sajid, Associate Professor, Chairman, Department of Parasitology, UAF
15.	Prof. Dr. Wan Azlina Wan Ab Karim Ghani, University of Putra, Malaysia	International Symposium “Technologies and Materials for Renewable Energy, Environment and Sustainability” February, 06-07, 2019 Organized By: Prof. Dr. Ijaz Ahmad Bhatti, Department of Chemistry, UAF
16.	Prof. Dr. Ilkay Erdogan Orhan Gazi, Gazi University, Ankara, Turkey	
17.	Dr. Mohamad Fawzi Mahomoodally, University of Mauritius; Mauritius	
18.	Prof. Dr. Lamia Hamrouni, Tunisia	

Sr.#	Name of person invited & Institute/Country	Event/Date
19.	Prof. Dr. Korhan Altunbas, Chairman, Department of Histology and Embryology, Faculty of Veterinary Medicine, Afyon Kocatepe University, Turkey	International Training Workshop on “Basic Techniques in Mesenchymal Stem Cell Cultures and Toxicity Assays” Feb 26-28, 2019 Organized By: Prof. Dr. Anas Sarwar Qureshi, Department of Anatomy, UAF
20.	Prof. Dr. Artay Yagci, Dean, Milas Veterinary Faculty, Mugla Sitki Kochman University- Turkey	
	Dr. Shah Nawaz, Stem Cell Researcher, Department of Histology and Embryology, Faculty of Veterinary Medicine, Afyon Kocatepe University, Turkey	
21.	Dr. Baboo Ali, Assistant Professor, Çanakkale Onsekiz Mart University	Conference on “International Entomological Congress” April 08-10, 2019 Organized By: Prof. Dr. Mansoor- ul-Hassan, Chairman, Department of Entomology, UAF
22.	Prof. Dr. Cem Ozkan, Faculty of Agriculture, Department of Plant Protection Ankara University, Turkey	
23.	Dr. Wangpeng Shi, China	
24.	Ms. Nina Yang, China	
25.	Prof. Dr. Balwant Singh, The University of Sydney, Australia	Conference on “Surface Science: Innovation and Applications for Geo-Environmental Challenges” April 25-26, 2019 Organized By: Dr. Irshad Bibi, Assistant Professor, Institute of Soil & Environmental Sciences, UAF
	Prof. Dr. Andreas Luttge, Rice University Houston, Texas (USA)	

The background features a dynamic design with flowing, wavy lines in various shades of blue and orange. The lines create a sense of movement and depth, with some areas appearing more saturated than others. The overall color palette is dominated by blues, with bright orange accents.

Section

2

**TECHNOLOGY
TRANSFER**

This component provides an opportunity for the scientists to get financial support for transfer of technologies to the stakeholders. Endowment Fund Secretariat accepts proposals for technology transfer from all public entities which demonstrate needed research and development capabilities and financial responsibilities. The portfolio under this component consists of outreach projects, demonstration on campus, organizing Farmers' Fairs/Exhibitions and Horse & Cattle Show.

The technologies disseminated through these projects relate to Animal Nutrition Strategies, Livestock Management through IT, Animal Disease Control, Water Use Strategies, Drip Irrigation, Policy Studies, Fruit Germplasm Collection, Soil Reclamation Strategies, Propagation of Floriculture, Reverse Engineering, Citrus Diagnostic Services and Nursery, Food Quality, Silk Production, Precision Agriculture, Seed Production Technologies, Cyber Extension, FM Radio, Integrated Farming, Gender Empowerment and use of ICT in Agriculture.

2.1 Technology Transfer Project Initiated during 2018-19

S. No.	Title of the Project	Name of the PI	Duration	Budget (Million)
1.	Vegetable Grafting of Capsicum spp. and Watermelon	Dr. Khuram Ziaf, Assistant Professor, I.H.S, UAF	2-years 15.04.19 to 14.04.021	2.304
2.	Targeting Actions to Improve the Ornamental Plant Production System for Strengthening Floriculture Industry	Dr. Adnan Younis, Assistant Professor, I.H.S, UAF	3-years 15.04.19 to 14.04.022	2.754
3.	Capacity Building and Entrepreneurship Linkage Development- a Package for Date Palm Growers of Punjab	Dr. Summar A. Naqvi, Assistant Professor, I.H.S, UAF	2-years 15.04.19 to 14.04.021	2.544
4.	Establishment of Grapes Germplasm Unit (GPU) for Technology Transfer	Prof. Dr. Muhammad Jaffar Jaskani, I.H.S, UAF	3-years 15.04.19 to 14.04.022	4.409
5.	Establishment of Community Oriented Plant Disease Diagnostic Clinic at UAF Sub-Campus Burewala	Dr. Sohail Akhtar, Assistant Professor, UAF Sub-Campus Burewala	3-years 15.04.19 to 14.04.022	1.849

2.2 Technology Transfer Ongoing Project during 2018-19

S. No.	Title of the Project	Name of the PI	Duration	Budget (Million)
1.	Reducing Rind Blemishes in Kinow Mandarin for Improving Comestic Quality and Farm Gate Income	Prof. Dr. Aman Ullah Malik, Institute of Horticultural Sciences, UAF	01.02.2017 to 31.01.2020	3.746
2.	Establishment and Demonstration of Model Papaya Orchard for Technology Transfer at PARS for Growers	Dr. M. Azam, Assistant Professor, Institute of Horticultural Sciences, UAF	3-years 01.02.17 to 31.01.020	2.593

2.3 Technology Transfer Project Completed during 2018-19

S. No.	Title of the Project	Name of the PI	Duration	Budget (Million)
1.	Site-Specific Wheat-Crop Management for High Yield Using UAVs & Spectral-Sensors	Dr. Ahsan Latif. Department of Computer Science, UAF	01.02.2016 to 31.01.2018 Ext. 31.07.2018	2.055
2.	Multiplication and High Density Plantation of Fig Fruit Plants in Saline Soil (Proka-2)	Dr. Saeed Ahmad, Associate Professor, Institute of Horticultural Sciences, UAF	01.02.2016 to 31.01.2019	1.612
3.	Establishment of Community Oriented Modern Fruit Plants Nursery System at UAF Sub-Campus Burewala	Dr. Muhammad Fakhar-ud-Din Razi, Assistant Professor, UAF Sub-Campus Burewala	15.02.2016 to 14.02.2019	2.422
4.	Dietary Modification with the Addition of Kitchen Gardening at Household Level through Technology Transfer in Burewala	Dr. Muhammad Asif Khan, Lecturer, UAF Sub-Campus Burewala-Vehari	15.02.2016 to 14.02.2018	1.023
5.	Meadow Orchardng System in Guava at PARS, UAF.	Dr. Rashad Waseem Khan Qadri, Assistant Professor, Institute of Horticultural Sciences, UAF	15.03.2016 to 14.03.2019	2.127

S. No.	Title of the Project	Name of the PI	Duration	Budget (Million)
6.	Promotion of Solar Cookers for Changing the Energy Use Behaviors of Communities	Miss Naveed Farah, Lecturer, Deptt. of Rural Sociology, UAF	01.02.2017 to 31.01.2019	1.329
7.	Time Efficient, Cost Effective and Stand Alone Nanophotocatalytic Wastewater Treatment Technology for Irrigation	Prof. Dr. Ijaz Ahmad Bhatti, Department of Chemistry, UAF	3-years 15.02.16 to 14.02.19 Ext.14.05.19	2.213
8.	Uplifting the Socioeconomic Conditions of Farming Communities by Promoting Forestry/Agroforestry on Problematic Soils in Faisalabad and Adjoining Districts	Dr. Irfan Ahmad, Deptt. of F&RM, UAF	3-years 01.04.16 to 31.06.19 Ext.30.06.19	1.896
9.	Processing and Preservation of Fruits and Vegetables at Domestic Level to Reduce their Losses through Successful Approaches and Trainings	Dr. M. Asif Khan, Assistant Professor, UAF Sub-Campus, Burewala	2-years 31.02.17 to 31.01.19 Ext. 30.04.19	1.171
10	Punjab Agriculture and Dairy Leadership programme (PADLP)	Prof. Dr. Aman Ullah Malik, I.H.S, UAF	1-Year 01.05.2017 to 30.04.2018 Ext. 31.07.18	2.682

2.4 Outreach Activities during 2018-19

The University Outreach activities initiated as a project during 2010-11 was converted into a Program with recurring budget under Technology Transfer Component. Under this program, faculty members submit a proposal for an activity ranging from one day to one week. Under outreach program, proposals may cover hands-on trainings, demonstrations, farmers' gatherings, exhibitions and lectures/seminars for the awareness/sensitization of the community.

These programs have received enormous response and have been highly admired. The outreach activities conducted during the year 2018-19 are as under:

Sr.#	Name & Department	Title	Date & Venue
1.	Dr. Tariq Aziz, Project Director, Sub-Campus Depalpur, Okara	"One day National Seminar on Sustainable Potato Production" (Challenges and Strategies)	September 25, 2018 Royal Sches Mahal Marki, Near By-pass, G.T. Road, Lahore
2.	Dr. Rana Muhammad Amir, Assistant Professor, Institute of Agri. Ext. & Rural Development, UAF	"Training of Sugarcane Farmers Regarding Integrated Pest Management in Punjab, Pakistan"	September to October, 2018 Rahim Yar Khan & Faisalabad
3.	Dr. Mahwish, Assistant Professor, Inst. Of Home Sciences, UAF	Primary Health Care Food Based Dietary Guidelines program- A Communication Tool to Improve Child Health	November 11, 2018 Ideal Education School System Daniyal Town, Satiyana Road, Faisalabad
4.	Dr. Tahir Munir Butt, Lecturer, UAF Sub-Campus Depalpur, Okara	Training Needs of Agriculture Extension Officers at Sub-Campus Depalpur, Okara	April 15, 2019 Sub-Campus Depalpur, Okara
5.	Ms. Sadaf Iqbal Khan, Lecturer, Institute of Home Sciences, UAF	"Women Empowerment Through Skill Development"	May 02-03, 2019 Govt. Girls High School, 255-RB, Boggan Sadar, Tehsil, Faisalabad
6.	Dr. Mahwish, Assistant professor, Institute of Home Sciences, UAF	"Precise Nutritional Psychology Program to Boost Mind, Mental Health, Behaviour And Hormonal Balance in Adolescent Girls"	May 02-03, 2019 Govt. Girls High School No. 2 Shampura, Tandlianwala,

HIGHLIGHTS OF SOME OUTREACH ACTIVITIES

Event:	National Seminar on Sustainable Potato and Maize Production: Challenges and Strategies
Team Leader:	Dr. Tariq Aziz
Date:	25th September 2018 (One day)
Venue:	UAF Sub-campus Depalpur, Okara

One-day seminar was organized by UAF Sub-campus Depalpur, Okara in collaboration with Farmers Association of Pakistan (FAP) and Potato Growers Society, Okara at Royal Sheesh Mehal Hotel at. The event was chaired by the Director General (Extension & Adaptive Research), Zafar Yaab Haider. The participants included Chairman, PDRB, Registrar university of Okara, DFO, Okara, DDOs etc. progressive farmers and students of the UAF Sub-Campus Depalpur, Okara. The focus of the event was to create awareness and highlight importance of potato and maize cultivation and different innovative and sustainable production practices as well as highlighting the importance of potato crop as one of the potential export commodities. The event was also attended by various agro-based companies and their representatives presented about different latest agronomic practices and balanced use of different fertilizers and pesticides. They also emphasized about revamping the orthodox cultural practices and adopt the latest available technologies not only in terms of farm implements but also in terms of agronomic practices and micro-nutrients. Based on their field experiences they said that our farmers lag behind in productivity due to ignoring the use of essential micro-nutrients. The farmers were asked to get their soils analyzed after at least three years for better nutrition.



Event: Women empowerment through skill development

Team Leader: Ms. Sadaf Iqbal Khan, Institute of Home Sciences

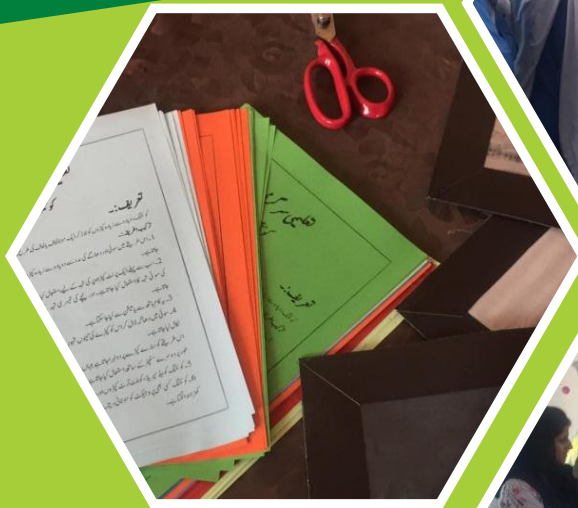
Date: May 2nd and 3rd, 2019 (Two day)

Venue: Govt. Girls English Medium High School 255 R.B Bogan Faisalabad

conducted an outreach activity in a rural high school, Government Girls English Medium High School, in Bogan Tehsil of Faisalabad. About 100 students of class 6th, 7th, 8th, 9th staff members of school were involved in 2 days activity. This learning activity was conducted by 4 lecturers and 7 students of BSc, (hons) Home Sciences (clothing and textiles) 8th semester of University of Agriculture, Faisalabad.

The objectives of the activity were:

- To give awareness about skills related to textiles in females of rural area.
- Enable them to earn money for improving their standards of living.
- To make useful items by using these skills for decorating their homes.
- To make their spare time productive.
- To make them independent financially.
- To make them useful for society



Event:	Primary health care food based dietary guidelines program - a communication tool to improve child health
Team Leader:	Dr. Mahwish, Assistant Professor, Institute of Home Sciences
Date:	November 11th, 2018 (One day)
Venue:	Ideal Education School System Daniyal Town, Satiyana Road, Faisalabad

This Program has imparted strongly positive effects on school going children by cultivating their interest in healthier and nutritious diet through different activities that will subsequently enhance their learning ability and academic performance. The program also brought sudden behavioral changes in young scholars and consciousness towards intake of healthy diet. This school dietary guideline program is valuable in increasing the awareness about early child care, growth and development. The school children and teachers are given the basics of nutritional aspects that improve the nutritious healthy food intake that boost their intellect and physical activities which is important to play a better future role in serving the community and nation. All the participants increase their knowledge about essential nutrients, good eating habits, major groups of food, preventive measures to avoid eating disorders and diseases, hygiene principles and therapeutic benefits of healthy diet.



Event: Precise nutritional psychology program to boost mind, mental health, behaviour and hormonal balance in adolescent girls

Team Leader: Dr. Mahwish, Assistant Professor, Institute of Home Sciences

Date: May 02nd & 03rd, 2019 (Two days)

Venue: Govt. Girls High School No. 2, Shampura, Tandlianwala

Adolescence is the time when the rate of physical growth increases tremendously. This sudden growth spurt is associated with nervous, hormonal, cognitive and emotional changes that make adolescence an essentially vulnerable period of life. It is the time when lifestyle and food habits change. Poor or inappropriate dietary habits increase the risk of chronic diseases among adolescents. A typical adolescent diet includes adequate amounts of fruits, vegetables and grains. These foods are significant source of vitamins, minerals that are of great concern for teenage girls. An interactive healthy communication was done with 13-16 years school going teenage girls to provide beneficial information. Food related Activities/Competitions are valuable in increasing recognition and awareness about different fruits, vegetables and cereals. By giving them the right knowledge, they will have the power to make the right food decisions for themselves when they are older. Self-confidence has a significant prospective impact on adolescent age. In a counseling session to teenage girls, student's mind was motivated to remain confident about their appearance, intelligence, abilities and personality and ignore what other people think about. Stress and aggressiveness impart negative impact on teenage mental and physical health. Moreover, various teachers/parenting dimensions like connectedness, love, material support, behavioural control, monitoring and parent/teachers-adolescent communication were also limelight of this program



Event:	Capacity Building Workshop “Training need of Agricultural Extension Officers
Team Leader:	Dr. Tahir Munir Butt, Lecturer, UAF Sub-Campus Depalpur, Okara
Date:	April 15, 2019 (One day)
Venue:	UAF Sub-Campus Depalpur, Okara

Train the trainers regarding the latest production technology and techniques Biodynamic farming, Bio-rational pest management techniques, Biological methods of pest control, Bio-fertilizer technology, assessment the environmental risk, management regarding IPM and other ecological alternatives for pest management, To briefly with an advance biological risk mitigation capacity building.

The background features a gradient of blue shades with dynamic, flowing white and orange lines that create a sense of movement and depth. The lines are smooth and curved, resembling liquid or energy waves.

Section

3

**RESEARCH &
DEVELOPMENT**

3.1 Research & Development Project Initiated during 2018-19

S. No.	Title of the Project	Name of the PI	Duration	Budget (Million)
1.	Green Nano-Pesticides: A Novel Approach for Pest Control	Dr. Nazish Jahan, Assistant Professor Department of Chemistry, UAF	3-years 15.04.19 to 14.04.22	1.981

3.2 Research & Development Ongoing Project during 2018-19

S. No.	Title of the Project	Name of the PI	Duration	Budget (Million)
1.	Evaluation of Cell Mediated Immune Responses (CMI) as a Diagnostic Marker for Field Diagnosis of Latent Bovine Brucellosis	Dr. Al-Hafizah Shafia Tehseen Gull, Assistant Professor, Deptt. of Pathology, UAF	01.02.2017 to 31.01.2019 Ext. 30.11.19	3.043
2.	Development of a local and sustainable potting substrate for containerized nursery production	Dr. Iftikhar Ahmad Asstt, Professor, Inst. IHS, UAF	3-years 15.10.16 to 14.10.19	3.068
3.	Identification of Lytic Phages and Cloning Lytic Enzymes Against Multidrug Resistant Staphylococcus Aureus From Mastitis Cases.	Dr. M. Aamir Aslam, Assistant Professor, Inst. Of Microbiology, UAF	2-years 01.02.17 to 31.01.19 Ext.31.07.19	1.501

3.3 Research & Development Project Completed during 2018-19

S. No.	Title of the Project	Name of the PI	Duration	Budget (Million)
1.	Evaluation of Novel Inoculants of plant Growth Promoting Rhizobacteria for Biofortification of Cereals	Dr. Maqshoof Ahmad, Lecturer, Deptt. of Soil Science, Univ. College of Agri. & Envir. Sciences, Islamia University of Bahawalpur.	01.02.2017 to 31.01.2019	0.768
2.	Epidemiology and Characterization of Bacterial Pathogens Associated with Epizotic Ulcerative Syndrome (EUS) and Motile Aeromonas Septicemia (MAS) from Pakistani Farmed Fish	Dr. Shahzad Ali, Assistant Professor, Faculty of Fisheries and Wildlife, UVAS, Lahore	01.02.2017 to 31.01.2019	0.822

The background features a dynamic design with flowing, wavy lines in various shades of blue and orange. The lines create a sense of movement and depth, with some areas appearing more saturated than others. The overall color palette is dominated by blues, with orange and yellow accents.

Section

4

**PRODUCT
COMMERCIALIZATION**

4.1 Exhibition Centre

Establishment of Exhibition Centre is meant for display/demonstration of developed and tested innovative and cost effective technologies to attract the stakeholders of agricultural industry in the country. The themes of exhibitions will generally be pertinent to educational, economic, social or technological developments. The exhibits will serve as excellent material for complementing science teaching. The University of Agriculture Faisalabad is an attractive place for visitors and scientists participating in seminars and workshops. In addition to that farmers, industrialists, students from other institutions visit this alma matter frequently. The idea of incubation of technology at the campus could be an attraction for the visitors on one hand and source of information and motivation regarding the improved technologies for the farmers on the other hand. Display/demonstration of developed and tested innovative and cost effective technologies is very important for imparting awareness among students and other stakeholders of the agricultural industry in the country. Endowment Fund has established an Exhibition Centre for making display/demonstration facility available to exhibit technologies being developed by scientist. It has eight (8) halls at ground floor and six (6) at first floor. The building is fully air conditioned but each hall may be run independently. The Exhibition Centre has the facility of internet, WiFi, Fire safety, open area for showcasing heavy of machinery and vast parking area. Following is the salient contribution of EFS in assisting the teaching and research community.

Sr. No	Name of Organizer	Activities
1.	Chairman, Department of Physics, UAF	To conduct the "Admission Entry Test" July 02, 2018
2.	Dean, Faculty of Sciences, UAF	Admission Entry Test July 09, 2018
3.	Dean, Faculty of Agriculture, UAF	2 nd Entry Test for Admission to Undergraduate Degree Program July 22, 2018
4.	Dean, Faculty of Sciences, UAF	To Conduct "Entry Test for M.Phil/MS Admission" August 03, 2018
5.	Director Graduate Studies, UAF	To facilitate newly admitted postgraduate students and their parents September 10-11, 2018
6.	Dr. M. Ather Javed Khan, Senior Tutor, UAF	For rehearsal regarding DICE-2018 Agriculture and Food Sciences Innovation Event for the students September 21, 2018
7.	Director, ORIC, UAF	To organize "DICE-AFS (Agriculture and Food Sciences Innovation Event) 2018" on October 3-4, 2018
8.	Director Graduate Studies, UAF	To facilitate 3 rd list of newly admitted postgraduate students October 08-15, 2018

Sr. No	Name of Organizer	Activities
9.	Prof. Dr. Zahir Ahmad Zahir, Director ORIC, UAF	To display poster/models in connection to World Space Week (WSW) 2018 in collaboration with SUPARCO October 08-09, 2018
10.	Dr. Ghulam Farid, Coordinator/Chairman Math/WP, UAF Community College, UAF	To conduct Mid Exams Winter Semester 2018-19 November 02-04, 2018
11.	Mr. Tasleem Mustafa, Incharge, Department of Computer Science, UAF	To conduct Mid Exams Winter 2018-19 November 07-17, 2018
12.	Dr. Muhammad Shahid, Department of Biochemistry, UAF	2 nd International Conference of Biochemistry, Biotechnology and Biomaterials (ICBBB-2018) December 09-11, 2018
13.	Mr. Tasleem Mustafa, Incharge, Department of Computer Science, UAF	To conduct Final Term Examinations 2018-19 December 18 to 31, 2018
14.	Dr. Ghulam Farid, Coordinator/Chairman, Department of Mathematics & Statistics, UAF	To conduct the Final Exams Winter Semester 2018-19 December 28 to 30, 2018
15.	Prof. Dr. Ijaz Ahmad Bhatti, Chairman, Department of Chemistry, UAF	International Symposium on Technologies and Materials for Renewable Energy February 06-07, 2019
16.	Dr. Zahir Ahmad Zahir Director, ORIC, UAF to	One day PASTIC-UAF-ICT Expo titled "Innovative Trends in Science and Education" in collaboration with Pakistan Scientific and Technological Information Center (PASTIC) February 20, 2019
17.	Prof. Dr. Khalil-ur-Rehman, Department of Biochemistry, UAF	To Conduct the Mid Examinations March 25 th , 2019
18.	Dr. Nayla Munawar, Department of Biochemistry, UAF	To Conduct the Mid Examinations March 25 th , 2019
19.	Dr. Zahid Mushtaq, Lecturer, Department of Biochemistry, UAF	To Conduct the Mid Examinations March 28 th , 2019
20.	Dr. Ghulam Farid, Coordinator/Chairman, Department of Mathematics & Statistics, UAF	To Conduct the Mid Examinations Spring Semester March 29-31, 2019 April 05-07, 2019
21.	Mr. M. Ahsan Latif, Incharge, Department of Computer Science, UAF	To conduct "Mid Examinations Spring Semester" April 01 to 10, 2019

Sr. No	Name of Organizer	Activities
22.	Chairman, Department of Physics, UAF	To conduct "Mid Term Exams" in the Discipline of M.Sc./M.Phil March 29 to April 05, 2019
23.	Dr. Fatima Hussain, Lecturer, Department of Biochemistry, UAF	To Conduct the Mid Term Examinations April 1 to 10, 2019
24.	Dr. Waseem Amjad, Assistant Professor, Department of Energy Systems Engineering, UAF	To organize "All Pakistan Techno Symposium" in collaboration with Institute of Electrical and Electronics Engineers April, 09, 2019
25.	Prof. Dr. Rashid Ahmad, Director, Directorate of External Linkages, UAF	To conduct interview for Chinese Government Scholarships for the students of UAF April 25, 2019
26.	Dr. M. Ather Javed Khan, Senior Tutor, UAF	One Day Creative Art Workshop May 02, 2019
27.	Chairman, Department of Physics, UAF	Final Examinations May 13 & 15, 2019
28.	Chairman, Department of Physics, UAF	Final Examinations June 10 th to 20 th , 2019
29.	Incharge, Department of Computer Science, UAF	Final Examinations June 10 th to 20 th , 2019

4.2 Business Incubation Centre (BIC)

Endowment Fund Secretariat in collaboration with HEC, USAID and competitive support fund (CSF) established Business Incubation Centre (BIC) in 2009-10.

Business Incubation is a business support process that accelerates the successful development of startup companies by providing entrepreneurs with an array of targeted resources and services. Incubators nurture young firms helping them to survive and grow during the critical startup period when they are most vulnerable. Incubators provide hands on management assistance, access to financing and exposure to critical business or technical support services. Incubators have different goals including diversifying rural economies, providing employment and transferring technology from universities. The academic affiliated business incubators have a great impact on entrepreneurs, students and universities. Business Incubation Centre (BIC) has been handed over to ORIC, UAF. Endowment Fund Secretariat is active partner office of ORIC for the Commercialization activities through financing or technical assistance and providing Exhibition Centre for hosting mega events.

EFS funds projects with some potential outcome of new product or process. In case of a successful outcome, the faculty members are advised to contact ORIC for further steps of commercialization.



Section

5

**FINANCIAL
REPORT**

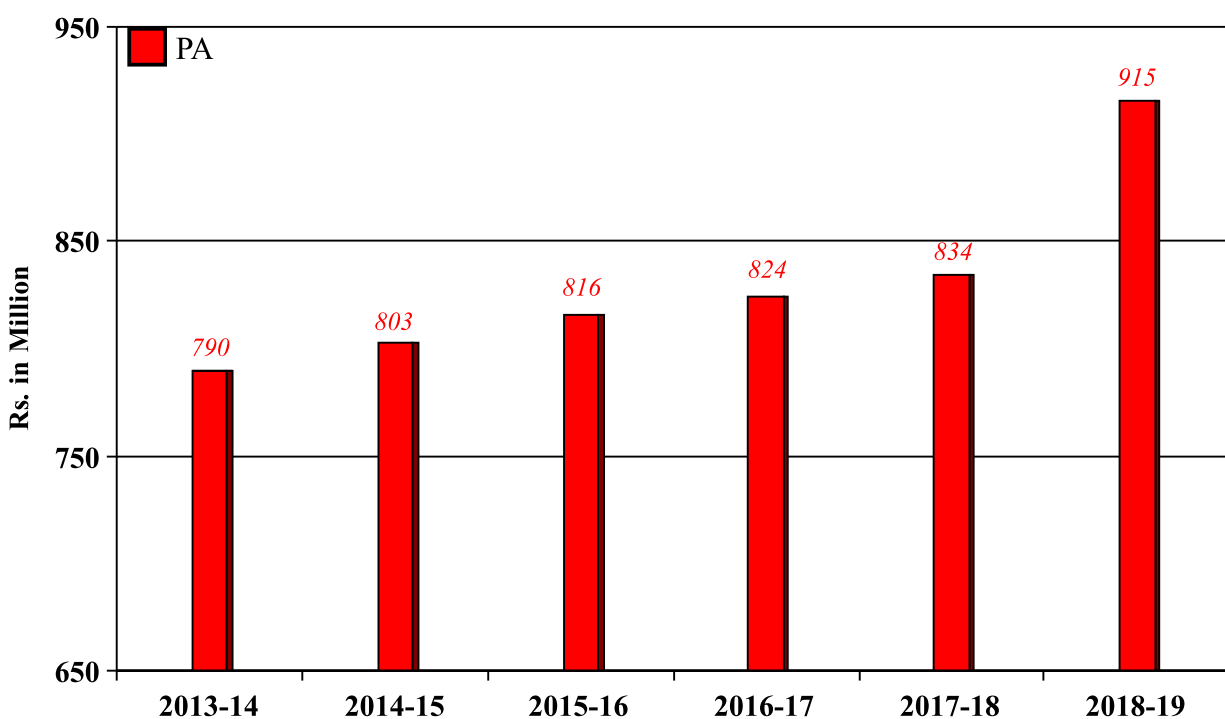
5.1 INCOME FROM ENDOWMENT FUND'S INVESTMENT

The Principal amount is invested in approved banks. A portion of its profit is retained for adding in the principal amount @ 15% of the profit to counter the impact of inflation/devaluation of rupee. The volume of principal amount at the start of financial year 2018-19 was Rs. 915.000 million which was available for investment.

(Rupees in Million)

Description	Amount	Profit
Investments in Banks	915.000	84.380
Total:	915.000	84.380

The principal amount enhanced to Rs. 915.000 million at the end of the financial year 2018-19



Growth of Principal Amount

5.2 Expenditure

The financial year 2018-19 closed with savings of Rs. 21.089 million. The Actuals of Receipts and Expenditure for the year, 2018-19 are shown in Table-I. The detail of other receipts and component wise expenditure is given in Table-II.

TABLE-I

(Rupees in Million)

RECEIPTS	Actual
Opening Balance 1 st July, 2018	52.520
Income from Investment 2018-19	84.380
Other Receipts *	4.858
Total Receipts	141.758
Transfer to Principal Amount (15% of the Income from investment)	20.000
Total Receipts	121.758

*Income from Exhibition Center, ongoing projects and savings from completed projects.

TABLE-II

(Rupees in Million)

ALLOCATION / EXPENDITURE	Revised Estimates
Faculty Development	6.537
Technology Transfer	7.071
Product Commercialization	00
Research & Development	2.895
Operation EFS	3.166
TOTAL EXPENDITURE/CASH OUTLAY	19.669
SURPLUS / SAVINGS	102.089
TRANSFER TO P.A	81.000
Closing Balance	21.089