Program Details:

Keynote Lecture 1:
Prof. Dr. Iqbal Choudhary
H.I/S.I/T.I
H.E.J., Karachi

Keynote Lecture 2:
Prof. Dr. Shazia Anjum
Director CIDS

Islamia University Bahawalpur, Pakistan

Lecture 3:
Dr. Zille e Huma Nazli
Government College For Women University, Faisalabad
Lecture 4:
Dr. Shaukat Ali
University of Agriculture, Faisalabad
Lunch and Prayer Break 1:00-2:00

Lecture 5:
Dr. Muhammad Shahid
University of Agriculture, Faisalabad
Lecture 6:
Dr. Nazish Jahan
University of Agriculture, Faisalabad
Lecture 7:
Dr. Maryam Aslam
Government College For Women University, Faisalabad
Poster Session: 3:30-4:00
Closing Ceremony: 4-00-4:30

ORGANIZERS

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Prof. Dr. Nasir Amin
Vice Chancellor
Govt. College University, Faisalabad, Pakistan
Convener:
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Dr. Razia Noreen
Dr. Shagufta Kamal
Dr. Nosheen Aslam
Dr. Arruje Hameed
Miss Kinza Aslam
Mrs. Ambrene Anjum
Mrs. Aqdas Noreen

There will be a parallel session of short presentations after lunch

One-Day Conference

Emerging Role of Applied Chemical Sciences in Current Scenario

March 15, 2019

Organized by:

VENUE:
Student Teacher Center (STC) Hall
New Campus, Government College University, Faisalabad, Pakistan
Tel: (Off): 92-41-9200037

REGISTRATION FEE
Students: Rs 300-
Faculty/Professionals: Rs 1000
Dr. Mirza Nadeem Ahmad

INTRODUCTION

During the last few decades, the unprecedented developments in the field of science and technology has changed the face of the earth. In this very regard, the field of applied chemical sciences has emerged as a leading forefront catering the needs of modern world at super pace. Historically, the majority of new drugs have been generated from natural products (secondary metabolites) and from compounds derived from natural products. During the past 15 years, pharmaceutical industry research into natural products has declined, in part because of difficulties in obtaining high quality natural products. New strategies must be adopted to reverse this trend. However, recent natural-product-based lead-identifying strategies have successfully and rapidly integrated rational approaches that exploit and evolve the structural diversity provided by nature. These rational approaches include the application of structure- and ligand-based design, relationship building between biosynthetic enzymes and targets as well as within the target and natural product scaffold space, and biology-oriented synthesis-guided library design. Further, the use of genomics- and proteomics-based target discovery efforts can aid the process by dramatically increasing the number of novel, more highly validated targets in discovery. Various novel techniques including ultrasound-assisted extraction, microwave-assisted extraction, supercritical fluid extraction, and accelerated solvent extraction have been developed for the extraction of nutraceuticals from plants in order to shorten the extraction time, decrease the solvent consumption, increase the extraction yield, and enhance the quality of extracts.

Natural sources offer a wealth of chemically diverse compounds that have been evolutionary preselected to modulate biochemical pathways. Several industrial and academic groups are accessing this source using advanced technology platforms. Methods have been reported to generate large and diverse natural-product libraries optimized for high-throughput screening (HTS) and for a fast discovery process. In addition to pre-fractionated and pure natural-product libraries, parallel synthesis gives access to synthetic, semi-synthetic and natural-product-like libraries. Natural-product chemistry and organic synthesis are powerful tools for optimizing natural leads and for generating new diversity from natural scaffolds. The amalgamation of both has become an important strategy in future drug design.

In addition, natural products programs based on bioassay-guided isolation, structure elucidation and subsequent production scale-up are challenged to meet the rapid cycle times that are characteristic of the modern HTS approach. Fortunately, new technologies in mass spectrometry, NMR and other spectroscopic techniques are greatly facilitating the efficient creation of high-quality natural products libraries, bimolecular target or cell-based screening, and early hit characterization. Mass spectrometry in the form of methods such as ESI-ICRFTMS and FACS-MS, as well as NMR methods such as SAR by NMR and STD-NMR have been utilized to effectively screen molecular libraries. Overall, emerging advances in mass spectrometry, NMR etc are making it possible to overcome the challenges encountered in today's drug discovery environment.

It’s the need of the hour to train our young researchers with the aforementioned powerful cutting-edge techniques to enable them to tackle the recent challenges in natural and synthetic drug designing strategies. To meet this objective, this workshop is planned to train our young mind with the latest technological abovementioned advancements. Further, participants will be trained to characterize and elucidate the structural features of lead molecules by employing modern spectroscopic approaches.

Program Details

Inaugural Session

Welcome Address:

Dr. Tahsin Gulzar
Chairperson/Conference Convener
Department of Applied Chemistry
Government College University, Faisalabad

Presidential Address:

Prof. Dr. Nasir Amin
Vice Chancellor
Government College University, Faisalabad

Session 1

Keynote Lecture 1 by Prof. Dr. Iqbal Choudhary
Keynote Lecture 2 by Prof. Dr. Shazia Anjum

Tea Break

Session 2

Lectures
Lunch & Prayer Break
Lectures
Poster Session: 3:30-4:00

CLOSING CEREMONY

Certificate Distribution
Vote of Thanks (Conference Secretary)