

**PROF.DR. SYED GHULAM MUSHARRAF**

**PROFESSOR**

DR. PANJWANI CENTER FOR MOLECULAR MEDICINE AND DRUG  
RESEARCH,

H.E.J. RESEARCH INSTITUTE OF CHEMISTRY,

INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL  
SCIENCES, UNIVERSITY OF KARACHI, KARACHI-75270, PAKISTAN.

## **CURRICULUM VITAE**

### **PERSONAL INFORMATIONS:**

**Name:** Syed Ghulam Musharraf  
**Father Name:** Syed Ghulam Rabbani  
**Date of Birth** 14<sup>th</sup> August, 1977  
**CNIC #** 42101-9661477-1  
**Contact Details:** Lab 308  
H.E.J. Research Institute of Chemistry,  
Dr. Panjwani Center for Molecular  
Medicine and Drug Research,  
International Center for Chemical and  
Biological Sciences (ICCBS),  
University of Karachi,  
Karachi-75270, Pakistan.  
Tel #: 00-92-21-99261701-2  
00-92-21-111222292 (ext. 134)  
Mob. # 00-92-321-8270867  
Fax # 00-92-213-34819018  
00-92-99261713-4  
E. mail: [musharraf1977@yahoo.com](mailto:musharraf1977@yahoo.com)  
[musharraf@iccs.edu](mailto:musharraf@iccs.edu)

### **CURRENT STATUS:**

#### **Professor, TTS**

H.E.J. Research Institute of Chemistry,  
Dr. Panjwani Center for Molecular Medicine and Drug Research,  
International Center for Chemical and Biological Sciences (ICCBS),  
University of Karachi,  
Karachi-75270, Pakistan.

### **ACADEMICS:**

#### **Post Doctoral Fellow (2005-2006)**

Under the supervision of **Prof. Dr. Gunther Bonn**  
Institute of Analytical and Radiochemistry  
University of Innsbruck, Innsbruck  
Austria

#### **Ph. D. (Bioanalytical Chemistry, 2004)**

Under the supervision of **Prof. Dr. M. Iqbal Choudhary H.I., S.I., T.I.** (Director, ICCBS)  
H. E. J. Research Institute of Chemistry, ICCBS  
University of Karachi, Karachi 75270, Pakistan  
*Thesis Title: "Microbial Transformation of Bioactive Cyclic Natural Products."*

#### **M.Sc. (Organic Chemistry, 1<sup>st</sup> Division, 1998)**

Department of Chemistry

University of Karachi,  
Karachi-75270, Pakistan  
*Thesis Title: "Glibenclamide and Cephadrine  
Metal Interactions."*

**B.Sc. Hons. (1<sup>st</sup> Division, 1997)**

Department of Chemistry  
University of Karachi,  
Karachi-75270, Pakistan

**AREA OF INTEREST:**

➤ **Biological mass spectrometry:**

-Utilization of modern mass spectrometric approaches in addition with others fractionated tools for the searching of serological proteomics and metabolomics biomarkers in lungs, oral and breast cancers patients.

➤ **Organic mass spectrometry:**

-Development of protonated /deprotonated fragmentation pathways, gas-phase reactions studies, and structure-fragmentation relationship (SFR) studies of pharmacological important classes of natural products.

-Oil screening and optimization in Pakistani micro algae for biodiesel production.

-New MALDI matrix development for the analysis of metabolites in biological fluids.

-Ultra-fast HPLC, TLC-Densitometric and LC-MS method development for the marker compounds analysis in pharmaceutical products, agricultural products and commercially important plant extracts.

-Metabolomic profiling of Pakistani rice and mangoes by modern separation techniques including LC-MS-MS.

**AWARD AND HONOUR:**

- Selected as a **Fellow of Chemical Society of Pakistan**, 2018
- Selected as a member of **Global Young Academy (GYA)**, 2017.
- Recipient of **The Charles Wallace scholarship**, UK, 2016.
- Selected as a **TWAS young affiliates 2016** from Pakistan in 2016.
- Categorized under "**B Category Scientist**" by the Pakistan Council for Science and Technology (PCST), Productive Scientist of Pakistan 2016.
- Recipient of **Endeavour Executive Fellowship**, Australia, 2015 and 2017.
- **Atta-ur-Rahman Gold medal award** in 2013 from Pakistan Academy of Science.
- Categorized under "**A Category Scientist**" by the Pakistan Council for Science and Technology (PCST), Productive Scientist of Pakistan 2013.
- Selected as a **Member** of Pakistan Academy of Science in 2013.
- Recipient of **Erasmus Mundas Scholarship** in 2013
- Best Research Paper Award, Title "Silica-Lanthanum Oxide- Pioneer Composite of Rare Earth Metal oxide in Selective phosphopeptides Enrichment" in 2012 from HEC announced in March 2015.

- Selected as an Associate Young Scientist of the Pakistan in 2012 from Pakistan Academy of Science.
- Recipient of Cash Award of Research Productivity allowance (RPA) 2010-2011.
- Selected participants for Afro-Asia workshop in chemistry 2011 conducted by JNCASR (India) and funded by TWAS.
- Selected participants for ASDC course on mass spectrometry in 2011 conducted by VERIFIN (Finland) and funded by OPCW.
- Selected participants for CW-LSE 11 course on mass spectrometry in 2010 conducted by VERIFIN and funded by OPCW.
- Recipient of Cash Award of Research Productivity allowance (RPA) 2008-2009.
- XVIIIth Star Awards 2007 on national level under the auspices of South Asia Publication and awarded.
  - (i). A Gold-Plated Trophy
  - (ii). A Certificate of Excellence
- Recipient of Cash Award of Research Productivity allowance (RPA) 2007.
- Austrian OAD Postdoctoral Fellowship (2005-2006).
- 3rd Prize of Dr Zafar Hussain Zaidi on Poster presentation entitled Microbial Transformation of Bioactive Natural Products: 9th International Symposium on National Product Chemistry (Jan. 10-13, 2004, Karachi, Pakistan).

#### RESEARCH GRANT WON:

Title of Project	Amount	Funding Agency	Year
Understanding the Progression of Heart Failure in Ischemic Heart Disease Patients using Metabolomics tool	Rs. 585,000/-	PAS	2019
Reverse Linkage Project between Pakistan (Provider) and Kuwait (Recipient) in the Field of Halal Products Authentication	USD 2,80,000	Islamic Development Bank (IDB)	2017
Water quality assessment from the rural areas of Sindh, Pakistan	¥ 300,000/	Kurita Water and Environment Foundation (KWEF) Japan	2017
Development of an Improved Open Modification Search Workflow to Identify Protein Signatures in Tandem Mass Spectrometry Experiments for the Breast Cancer Diagnosis and Therapy (Co-PI)	Rs. 2,881,346/-	HEC (NRPU)	2017
Chemical fingerprinting of the poisonous plants of Pakistani origin by mass spectrometric methods	EUR 15,000/-	OPCW	2017
Database Development of ESI-MS/MS of Natural Products for Interactive Identification of Drug-Like Agents	Rs. 6,802,211/-	National R&D ICT	2017

Development of a Standardized Poly-herbal Phyto-pharmaceutical Product Linkus along with Standardized Dry Powder Extract	Rs. 5,206,110/-	HEC	2017
Identifying allele- specific polymorphism in fragrance gene in rice ( <i>Oryza sativa</i> L.) (Co-PI)	Rs. 3,738,305/-	HEC	2016
Improvement of Chickpea for blight and drought stress using Metabolomics and Genomics assisted breeding (Co-PI)	Rs. 8,135,500/-	PARC (Pakistan Agriculture Research Council)	2016
Metabolite Profiling and Chemometric Analyses of Acute Myeloid Leukemia and Acute Lymphoblastic Leukemia for Serological Biomarkers: An Unambiguous Approach Towards the Establishment of Early Diagnostic Picture	Rs. 2,325,000/-	HEC	2016
Mass Spectrometric Analysis of Proteins/ Peptides Associated with Top-7 Abundant Proteins of Plasma in Smoker, Non-smoker, COPD and Lung Cancer Patients: An Unambiguous Finding of Serological Biomarkers ( <i>Running</i> ).	Rs. 2,200,000/-	HEC	2013
Electrospray-Tandem Mass Spectrometric Studies on Steroidal Alkaloids of Buxus Species for Structure Fragmentation Relationship Development–Rapid Dereplication for Unambiguous Identification of Medicinally Important Steroids ( <i>Completed</i> ).	Rs. 677,000/-	OPCW	2012
Method Development and ICH Validation for Quantitative Determination of Mesterolone, WADA Prohibited Anabolic Steroid, in Human Urine by Multiple Reaction Monitoring (MRM) Mass Spectrometric Approach ( <i>Completed</i> ).	Rs. 505,931/-	PAS	2012
Metabolomics Profiling of Pakistani Healthy Persons, Smokers, and Lung Cancer Patients by Modern Mass Spectrometric Tools for the Identification of Biomarker Compounds ( <i>Completed</i> ).	Rs. 162,000/-	PSF	2012
Biodiesel Production from Algae: High-through Put Screening of Oil Contents in Pakistani Algae through Modern Mass Spectrometric Techniques ( <i>Completed</i> )	Rs. 4, 262,862/-	HEC	2007
Spare parts grant	Rs. 0.92 million	HEC	2009
Spare parts grant	Rs. 0.57 million	HEC	2011

#### HONORARY APPOINTMENTS:

- Member of the Editorial Board of “The Open Bioactive Compounds Journal” (Bentham Science Publisher) since 2017.

- Member of the Editorial Board of Scientific Reports (Nature Publishing Group) since 2014.
- Member of the Editorial Board of an international Journal, "Journal of Natural Pharmaceuticals" since 2009.
- Reviewer of "Journal of Combinatorial Chemistry" (USA), ACS publishers, since 2009.
- Reviewer of "Journal of Molecular Catalysis B: Enzymatic" (UK), Elsevier publishers, since 2011
- Reviewer of "International Journal of mass spectrometry" (USA), ACS publishers, since 2011.
- Reviewer of "Rapid Communications in mass spectrometry", John Wiley & Sons, since 2013.
- Reviewer of "Nature Communication", Nature Publishing Group, since 2013.
- Member of the Editorial Board of an international Journal, "Chemical Reports" (Nature Publishing group) since 2013.

#### PROFESSIONAL SOCIETY MEMBERSHIP:

- Life time member of Chemical Society of Pakistan since 2006

#### EXPERIENCE:

<b>Visiting Scientist</b> School of Chemistry Manchester Institute of Biotechnology The University of Manchester, Manchester, UK	1 <sup>st</sup> - 25 <sup>th</sup> February. 2017
<b>Visiting Scientist</b> University of Geneva, Switzerland	1 <sup>st</sup> August 30 <sup>th</sup> September. 2014
<b>Visiting Scientist</b> SILS, University of Amsterdam, Netherland	1-30 September. 2013
<b>Visiting Scientist</b> The Wistar Institute 3601 Spruce Street Philadelphia, PA 19104, USA	January-June. 2008
<b>Professor</b> H.E.J. Research Institute of Chemistry International Center for Chemical Sciences University of Karachi	Oct 2017-present
<b>Associate Professor</b> H.E.J. Research Institute of Chemistry International Center for Chemical Sciences University of Karachi	May 2013-Sept 2017
<b>Assistant Professor</b> H.E.J. Research Institute of Chemistry International Center for Chemical Sciences University of Karachi	April 2007-April. 2013
<b>Research Officer</b> H.E.J. Research Institute of Chemistry International Center for Chemical Sciences	Jan. 2006-March 2007

University of Karachi <b>Post Doctorate Research Fellow (OAD)</b> Institute of Analytical and Radiochemistry University of Innsbruck Austria <i>Investigation of Protein and Peptides through modern mass spectrometry techniques in Sinupret (a product of BIONORICA Company)</i>	Feb 2005-Jan. 2006
<b>Research fellow</b> H.E.J. Research Institute of Chemistry International Center for Chemical Sciences University of Karachi <i>"Microbial Transformation of Bioactive Cyclic Natural Products"</i>	March 1999-Feb. 2005
<b>Quality Control Analyst</b> Industrial Training in Quality Assurance Department of Multinational Company, Wyeth Pakistan Limited.	Oct.-Nov. 2003
<b>Junior Research Officer</b> Industrial Analytical Center H.E.J. Research Institute of Chemistry International Center for Chemical Sciences University of Karachi	Aug 2002-Dec. 2003
<b>Research Student</b> Department of Chemistry University of Karachi, Karachi-75270, Pakistan <i>Study on Drug-Metal interactions of Glibenclamide and Gliclazide</i>	Jan 1998-Dec. 2004

#### PH. D. THESIS SUPERVISED

S.No.	Name	Thesis Title	Student Status
1.	Dr. Dilshad Hussain (As a co-supervisor)	Development of Affinity Chromatographic Tools for Evaluation of Proteins/Peptides from Biological Samples	Ph. D. (2019)
2.	Dr. Muhammad Irfan Akram	Metabolite Profiling of Aromatic Constituents of Pakistani Rice and Mango by Modern Mass Spectrometric Methods	Ph. D. (2019)
3.	Dr. Najia Shahid	New Matrix Development for The Matrix Assisted Laser Desorption/ Ionization (MALDI) for the Analyses of Biomolecules and Metabolite Profiling of Oral Cancer for Biomarker Search	Ph. D. (2018)
4.	Dr. Qamar-ul-Arfeen	Development of Efficient Methods for the Quantification of Steroidal Drugs and Their Degradation Products	Ph. D. (2018)
5.	Dr. Lubna (As a co-supervisor)	Analysis and Quantification of Medicinally Important Essential Oil by Mass Spectrometry Method and Chemical Studies on Opuntia Dillenii	Ph. D. (2018)
6.	Dr. Ayesha Iqbal	Metabolite Profiling of Thalassemia	Ph. D.

		Patients Treated with Hydroxyurea	(2018)
7.	Dr. Shagufta Sahar (As a co-supervisor)	Mutation Analysis of Gene Responsible for Aroma and Quantification of Potent Fragrance Compound (2AP) in Rice Varieties of Pakistan	Ph. D. (2017)
8.	Dr. Naila Irum Hadi (As a co-supervisor)	Potential Metabolomic Biomarkers in Breast Cancer: Role in Diagnosis and Prediction of Clinico-Pathological Characteristics	Ph. D. (2017)
9.	Dr. Syed Kashif Raza	Investigation of Acute Leukemia and Preleukemic Disease Samples for the Identification of Protein Biomarkers	Ph.D. (2017)
10.	Dr. Nayab Kanwal	Chemical Fingerprinting of <i>Fagonia indica</i> and Medicinally Important Lichen Species	Ph.D. (2017)
11.	Dr. Amna Jabbar Siddiqui	Mass Spectrometric Investigation of Acute Myeloid Leukemia and Acute Lymphoblastic Leukemia for Pattern-based Metabolite Profiling of Human Serum	Ph. D. (2016)
12.	Dr. Arslan Ali	Mass Spectrometric Fingerprinting of Withanolides for Screening in <i>Withania</i> Species	Ph. D. (2015)
13.	Dr. Muhammad Arif Ahmed	Microalgal oil Screening for Biodiesel Production by Mass Spectrometric Techniques	Ph. D. (2015)
14.	Dr. Muhammad Shoaib (As a co-supervisor)	Quantification of inorganic Toxins in Tobacco Products and Study of the correlated effects on Metabolic Plasma Profiling by Mass Spectrometry and TLC Densitometry	Ph. D. (2015)
15.	Dr. Naveed Iqbal	Chromatographic Method development for Guggulsterone quantification in <i>Commiphora mukul</i> and Phytochemistry Investigation of <i>Sarcococca</i> Alkaloids	Ph. D. (2015)
16.	Dr. Shumaila Mazhar	Low Molecular Weight Metabolites Profiling of Plasma Samples by Mass spectrometry: A Screening for Lung Cancer Biomarker.	Ph. D. (2015)
17.	Dr. Madiha Goher	Electrospray Tandem mass Spectrometric (ESI-MS/MS) analyses of pharmacologically important terpenes and related compounds for the identification of diagnostic fragments and their fragmentations pathways.	Ph. D. (2014)
18.	Dr. Shazia Perveen (As a co-supervisor)	Study of Molecular Recognition Host-Guest Interaction between Different Hosts and Guests (Like Cyclodextrin with Viologens)	Ph.D. (2014)
19.	Dr. Urooj Fatima (As a co-supervisor)	Drug Degradation Investigation of Corticosteroid in Presence of Antibiotic.	Ph. D. (2014)



20.	Dr. Naghma Hashmi	Application of modern mass spectrometric approaches for the identification of markers in the blood sample of lung cancer patient.	Ph. D. (2012)
-----	-------------------	---	------------------

### M. PHIL. THESIS SUPERVISED

S.No.	Name	Thesis Title	Student Status
1.	Ms. Zaib-un-Nisa	Metabolomic Analysis of Agricultural Crops Using Mass Spectrometry	M. Phil (2019)
2.	Ms. Mariam Ameer	Analysis of Pharmaceutical Drugs and Related Compounds Using Matrix-Assisted Laser Desorption/ Ionization (MALDI) Mass Spectrometry	M. Phil (2019)
3.	Mr. Saeed Ur Rehman	Phytochemical Analysis and Chemical Fingerprinting of Adhatoda Vasica Based on Modern Spectroscopic Techniques	M. Phil (2019)
4.	Mr. Faisal Khan	Proteomic Profiling of Thalassemia Patients Using Mass Spectrometric Techniques	M. Phil (2018)
5.	Mr. Muhammad Naveed Javed (As a co-supervisor)	Heterocyclization and Condensation of Carbonyl Compounds in Aqueous Medium and in Ionic Liquids and Characterization through Mass Spectrometry Tools	M. Phil (2018)
6.	Mr. Saqib Hassan	Metallomic Fingerprinting to Assess Metal Toxicity in Commercially Important Agricultural Products	M. Phil (2018)
7.	Ms. Adeeba Abbas	Infrared Spectroscopy Study of Oral Cancer Samples	M. Phil (2017)
8.	Ms. Fareeha Siddiqui	Mass Spectrometric Analysis of Lichens and Their Metabolites	M. Phil (2017)
9.	Ms. Ina Faraz	Electrospray Tandem Mass Spectrometry for the Rapid Identification of Pharmacologically Important Compounds	M. Phil (2017)
10.	Ms. Wardah Mazhar	Metallomic Fingerprinting to Assess Metal levels in Hydroxyurea Treated samples of $\beta$ -Thalassemia Patients	M. Phil (2017)
11.	Ms. Fizza Iftikhar	Identification of Lead Compounds for the Cure of $\beta$ -Thalassemia from Medicinal Plant	M. Phil (2017)
12.	Ms. Sabiha	Metallomics Profiling of Thalassemia Patients by Mass Spectrometry	M. Phil (2017)
13.	Mr. Hamad Ali	Identification of Potential Fetal Hemoglobin Inducers for the Treatment of Beta Thalassemia	M. Phil (2017)
14.	Ms. Mahwish Saleem	Mass Spectrometric Studies of Proteins and Peptides in Lung Diseases	M.Phil. (2016)
15.	Ms. Bibi Zareena	Electrospray Tandem Mass Spectrometric Study of Bioactive Compounds of Plants	M.Phil. (2016)

		Origin	
16.	Mr. Umair Gulzar	Chromatographic method development and validation for the simultaneous analysis of anabolic steroids, Testosterone and its ester derivatives	M. Phil. (2013)
17.	Ms. Iffat Azeem	Toxic effects of POPs including Organochlorine pesticides on selected Aquatic and Terrestrial Organisms	M.Phil. (2012)
18.	Ms. Aisha Bibi	Method development for the analysis of low molecular weight compounds and peptides by matrix assisted laser desorption /ionization (MALDI) technique	M.Phil. (2012)
19.	Mr. Muhammad Shoaib (As a co-supervisor)	Method development and validation for nicotine analysis in various tobacco formulations	M.Phil. (2009)

### CONFERENCE AND WORKSHOP ATTENDED (NATIONAL /INTERNATIONAL)

2018

- Lecture in SKLEOC-ICCBS Belt and Road Initiative Chemistry Forum, Nankai University, Tianjin, China, January 2-6, 2018, entitled, "Application of Modern Mass Spectrometry Tools: Some Recent Examples".
- Invited lecture in International Conference on Chemical and Pharmaceutical Sciences: Recent Approaches in Research & Applications, Forman Christian College (A Chartered University), Lahore, Pakistan, January 17-19, 2018, entitled, "Mass Spectrometry Frontiers for Sensitive Analysis of Pharmaceutical Drugs and its related Compounds: Some Recent Examples".
- Invited lecture in Role of Proteomics, Genomics and Metabolomics in Managing Beta Thalassemia with Hydroxyurea, National Institute of Blood Diseases and Bone Marrow Transplantation (NIBD & BMT), Karachi, Pakistan, February 3, 2018, entitled, "Multi-omics Approaches in the Treatment of Beta Thalassemia using Advance Mass Spectrometry".
- Lecture in Regional Conference to Promote Safe and Secure Science in the Middle East, South and Southeast Asia, Sunway University, Selangor, Malaysia, February 5-9, 2018, entitled, "Effective Utilization of Mass Spectrometry for the Promotion of Safe and Secure Science: Some Recent Examples".
- Lecture in One Day International Seminar-cum-Training Workshop on "Halal Food and Non-Food Science/Management", H.E.J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences (ICCBS), University of Karachi, Karachi, in association with SANHA Halaal Associates Pakistan, April 24, 2018, entitled, "Mass Spectrometry Frontiers in Halaal Research".
- Attended the ARABLAB 2018, Dubai International Exhibition Centre, Dubai, UAE, March 18-21, 2018.
- Invited lecture in 2nd International Conference "Natural Sciences, Climate and Biodiversity", The University of Azad & Jammu Kashmir, Muzaffarabad, Pakistan, September 15-17, 2018, entitled, "Unfolding of Natural Product Chemistry using Mass Spectrometric Tools".

- Invited lecture in 2nd International Symposium on Natural Products for the Future (ISNPF-2), H.E.J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences (ICCBS), University of Karachi, Karachi, Pakistan, November 4-6, 2018, entitled, "Phytochemical Analysis using Liquid Chromatography-Mass Spectrometry: A Solution or a Challenge".
  - Lecture in 30th International Symposium on the Chemistry of Natural Products, National and Kapodistrian University of Athens (UoA), Athens, Greece, November 25-29, 2018, entitled, "Mass Spectrometric Dereplication of Natural Products Using Mass Spectrometry Integrated Approach".
  - Invited lecture in World Halal Summit 2018 (WHS 2018), Istanbul, Turkey, November 29- December 1, 2018, entitled, "Metabolomic Approach cum Advanced Mass Spectrometry Tools for Meet Differentiation of Zabeha and Non-Zabeha Slaughtered Animals: Chicken as a Case Study".
  - Invited lecture in Asian Symposium on Medicinal Plants, Spices, and other Natural Products XVI (ASOMPS XVI), University of Peradeniya, Colombo, Sri Lanka, December 12-14, 2018, entitled, "Mass spectrometry Integrated Approach for Rapid Dereplication of Natural Products".
- 
- Invited Lecture entitled "Mass Spectrometry Frontiers for the Rapid Dereplication of Medicinal Plants: Withania somnifera as a Case Study", January 9<sup>th</sup>-11<sup>th</sup> 2017, 4th Hamdard International Conference on Unani Medicine – 2017, Organized by Bait al-Hikmah Auditorium, Hamdard University, Madinat al-Hikmah, Karachi, Pakistan.
  - Invited Lecture entitled "Mass spectrometry applications in Phytomics and diseased-based metabolomics: some recent examples from the International Centre for Chemical and Biological Sciences", February 13 2017, University of Manchester, UK.
  - Invited Lecture entitled "Mass Spectrometric Applications in Biomedical Sciences: Some Recent Examples from the ICCBS" April 27<sup>th</sup> -30<sup>th</sup> 2017, Abbottabad University of Science & Technology, Abbottabad, Pakistan.
  - Attended 7th International Conference of Young Scientists and GYA Annual General Meeting, May 15<sup>th</sup>-19<sup>th</sup> 2017, Organized by Global Young Academy (GYA), Aviemore, Scotland, UK.
  - Attended 3rd worldwide meeting of Young Academies, July 19<sup>th</sup>-22<sup>nd</sup> 2016, Organized by South African Young Academy of Science and Global Young Academy, Pretoria, South Africa.
  - Invited Lecture entitled "Digging of Phytochemicals using Mass Spectrometry Machines" August 22<sup>nd</sup>-24<sup>th</sup> 2017, 1st International Conference of TWAS Young affiliates network (TYAN), Rio de Janeiro, Brazil.
  - Resource person of the workshop entitled "Binational Capacity Building Workshop on Phytochemical Research and Development", October 22<sup>nd</sup>-27<sup>th</sup> 2017, Organized by Al-Farabi Kazakh National University, Almaty, Kazakhstan.
  - Invited Lecture entitled "Mass Spectrometry in Biomedical Research: Some Recent Examples from the ICCBS" October 9<sup>th</sup> 2017, Organized by Center for Research in Molecular Medicine (CRiMM)/Institute of Molecular Biology and Biotechnology (IMBB), The University of Lahore, Lahore, Pakistan.

2016

- Invited Speaker at the MMDR entitled, "Understanding the Progression of Preleukemic diseases towards Leukemia using Multi Omics Approach with Advanced Mass Spectrometric Tools", November 6<sup>th</sup>-9<sup>th</sup> 2017, Organized by Dr. Panjwani Center for Molecular Medicine and Drug Research, ICCBS, University of Karachi, Karachi, Pakistan.
- Invited Lecture entitled "Application of Modern Mass Spectrometry Tools in Foodomics: Some Recent Examples", December 18<sup>th</sup>-20<sup>th</sup> 2017, at the 11th International Conference of Pakistan Society for Microbiology, organized by the Institute of Food Science and Nutrition, Bahauddin Zakariya University, Multan, Pakistan.
- Invited Speaker at "11th International Symposium on Analytical and Environmental Chemistry (ISAEC-2016)" entitled, "Probing of molecules in finely powdered plant material to plant extract based on advanced mass spectrometric techniques", March 7<sup>th</sup>-8<sup>th</sup> 2016, National Centre of Excellence in Analytical Chemistry, University of Sindh, Jamshoro, Pakistan.
- Resource Person of the One-day Seminar cum workshop entitled "The Use of Advance Mass Spectrometry Tools in Research", July 22<sup>nd</sup> 2016, Bahadur Khan Wali University, Quetta, Pakistan.
- Invited speaker at the "27th National and 15th International Conference of Chemistry" entitled "Untargeted Metabolomics Snapshot of Cancer Samples for Biomarker Search", August 21<sup>st</sup>-25<sup>th</sup> 2016, Department of Chemistry, University of Malakand, Malakand, Pakistan.
- Invited Speaker at Three-day Colloquium on Role of Chemistry in Environmental Protection and Drug entitled, "Digging of Phytochemicals using Mass Spectrometry Machines", September 1<sup>st</sup>-3<sup>rd</sup> 2016, Department of Chemistry, Jinnah University for Women, Karachi, Pakistan.
- Invited speaker at the "29th International Symposium on the Chemistry of Natural Products (ISCNP-29) and the 9th International Conference on Biodiversity (ICOB-9), entitled, "Mass Spectrometric Dereplication of Natural Products using Structure-Fragmentation Relationship (SFR) Approach", September 24<sup>th</sup>-27<sup>th</sup> 2016, İzmir-Turkey.
- Invited Speaker at 14<sup>th</sup> Eurasia Conference on Chemical Sciences, entitled, "Untargeted Metabolomics Digging for Cancer Biomarker Search using Mass Spectrometry Machines" December 15<sup>th</sup>-18<sup>th</sup>, 2016 HEJ Research institute of Chemistry, ICCBS, University of Karachi.

2015

- 5<sup>th</sup> MMDR organized by PCMD, ICCBS from 12-15 January 2015 at ICCBS, Karachi, Pakistan.
- Resource Person at NASIC conference cum workshop on "herbal drug development for socio-economic uplift in developing world", delivered lecture on Modern Extraction and Isolation Techniques, organized by The University of Jordan from 6-8 September 2015 at University of Jordan, Amman, Jordan.
- Invited Lecture on 1st International Conference on Natural Products and Drug Discovery Mass Spectrometric entitled "Dereplication Approach for Plant Extract and Plant Powder: A Case Study on *Withania somnifera*" organized by The University of Jordan from 9-11 September 2015 at University of Jordan, Amman, Jordan.

- Invited Lecture on Seminar in the use of Mass spectrometry in organic chemistry, entitled "Probing of Molecules Using ESI and MALDI Mass Spectrometry" at 18, November 2015, organized by Department of Chemistry, Urdu Science University.
  - Invited Lecture delivered on "Probing of Molecules in Finely Powdered Plant Materials to Plant Extract Based on Advanced Mass Spectrometric Tehniques", 5-8 October 2015, organized by The Islamia University of Bahawalpur Pakistan.
- 2014
- 20<sup>th</sup> International Mass Spectrometry Conference (IMSC), 24–29, August, 2014, Geneva, Switzerland.
  - 2<sup>nd</sup> International conference Driving Research towards Economy IFS, 13-14, November, 2014, Kandy, Srilanka.
  - NASIC Workshop on Modern Spectroscopic Techniques and their Applications in Structure Determination, 1-3 December 2014, HEJRIC, ICCBS, Karachi, Pakistan.
- 2013
- 14<sup>th</sup> Asian Symposium on Medicinal Plants, Spices and Other Natural Products, 09-12 December, 2013, HEJRIC, ICCBS, Karachi, Pakistan.
  - KDU international Research Symposium, 22-23 August 2013 at General Sir John Kotelawala Defence University, Srilanka
  - ASEA-UNINET Plenary Meeting, 17 to 22 February, 2012 at University Putra Malaysia, Kola Lumpur, Malaysia.
  - International & 24<sup>th</sup> National Chemistry Conference, October 28-30, 2013 at Institute of Chemical Society Bahauddin Zakariya University Multan, Pakistan.
  - 4<sup>th</sup> International Symposium-cum-Training course on Molecular Medicine and Drug Research, January 7-10, 2013 at ICCBS, Karachi, Pakistan.
- 2012
- 11<sup>h</sup> International & 23<sup>rd</sup> National Chemistry Conference, 15-17<sup>th</sup> October, 2012, University of Peshawar, Peshawar, Pakistan.
  - Workshop on Contract Negotiations with Donors from 5 June, 2013 at Sustainable Development Policy Institute, Islamabad.
  - 13<sup>th</sup> International Symposium on Natural Products Chemistry, 22-25<sup>th</sup> September, 2012, Karachi, Pakistan.
  - BioCon2012-Biochemistry in the Post Genomics Era, 9-12 July 2012, Department of Biochemistry, Karachi University.
  - Training course on "Innovation and Future Studies for Sustainable Development", March 5-9, 2012, COMSTECH, Islamabad
  - IUPAC sponsored International Conference on Agrochemicals, February 15-18, 2012, New Delhi, India
  - National Sciences Conference, Roadmap of Cutting Edge Technologies, 10<sup>th</sup>-12<sup>th</sup> January 2012, PMAS-Arid Agriculture University, Rawalpindi-Pakistan.
  - ANRAP-IFFASA workshop on Natural products for Diabetes, 31<sup>st</sup> Dec. 2011-3<sup>rd</sup> January 2012, Dhaka, Bangladesh.
- 2
- The 1<sup>st</sup> Annual Conference of Middle-Eastern Association for Cancer Research

- |      |  |
|------|--|
| 2010 | <ul style="list-style-type: none"> <li>➤ (MEACR), 27<sup>th</sup>-29<sup>th</sup> December 2011, Tanta University, Egypt.</li> <li>➤ 10<sup>th</sup> Shaukat Khanum Memorial Cancer Symposium, 18-20<sup>th</sup> November, 2011 Lahore, Pakistan”.</li> <li>➤ 10<sup>th</sup> International and 22<sup>nd</sup> National Chemistry Conference” held on 21<sup>st</sup>-23<sup>rd</sup> November, 2011 at Agriculture University, Faisalabad.</li> <li>➤ 3<sup>rd</sup> Chemistry Conference 2011 on Recent Trends in Chemistry, <i>October 17-19, 2011 Organized by Chemistry Division, PINSTECH, Islamabad, Pakistan.</i></li> <li>➤ Improving Capacities of Research and Identification of Marketable Science and Technology Research Graha Widya Bhakti, 10 -13 October 2011, Serpong – Indonesia.</li> <li>➤ Afro-Asia workshop on Advance topics in Chemistry 2011 conducted by JNCASR June 3-17, Bangalore (India), funded by TWAS.</li> <li>➤ Training course on "Intellectual Property Rights and Innovation Policy" (6 - 10 June, 2011) conducted by COMSTECH, Islamabad, Pakistan.</li> <li>➤ 9<sup>th</sup> International and 21<sup>st</sup> National Chemistry Conference (15-17 March, 2011, Karachi, Pakistan).</li> <li>➤ Special course on “Analytical Skill Development Course” at the Institute for Verification of the Chemical Weapons Convention (VERIFIN), Helsinki Finland, organized and funded by OPCW, 07-21 January 2011.</li> <li>➤ 3<sup>rd</sup> International Symposium-cum-Training Course on Molecular Medicine and Drug Research (MMDR-3). January 03-06, 2011.</li> </ul> |
| 2010 | <ul style="list-style-type: none"> <li>➤ Special course on “The Enhancement of Laboratory Skills in Using Liquid Chromatography-Mass Spectrometry to Analyze Chemicals Related to the Chemical Weapons Convention (CW-LSE)”, Institute for Verification of the Chemical Weapons Convention (VERIFIN), Helsinki Finland, organized and funded by OPCW, 10-21 May 2010.</li> <li>➤ 8<sup>th</sup> International and 20<sup>th</sup> National Chemistry Conference (15-17 Feb., 2010, Islamabad, Pakistan).</li> </ul>  |
| 2009 | <ul style="list-style-type: none"> <li>➤ 2<sup>nd</sup> International Symposium on Molecular Medicine and Drug Research, January 12-15, 2009, International Center for Chemical and Biological Sciences, University of Karachi, Karachi, Pakistan.</li> </ul>  |
| 2008 | <ul style="list-style-type: none"> <li>➤ 11<sup>th</sup> International Symposium of Natural Product Chemistry, Oct. 29–Nov. 01, 2008, (Karachi, Pakistan).</li> <li>➤ 58<sup>th</sup> ASMS Conference on Mass Spectrometry, Denver, USA (5-7 June, 2008)</li> </ul>  |
| 2007 | <ul style="list-style-type: none"> <li>➤ Research Protocol Development Workshop (8-10, March, 2007).</li> <li>➤ 7<sup>th</sup> International and 17<sup>th</sup> National Chemistry Conference (26-28 Feb., 2007, DI Khan, Pakistan).</li> <li>➤ 1<sup>st</sup> International Symposium and Workshop-cum-Training Course on Molecular Medicine and Drug Research (16-30, Jan., 2007 Karachi-Islamabad).</li> </ul>   |
| 2006 | <ul style="list-style-type: none"> <li>➤ 1<sup>st</sup> International Workshop/Seminar on Global Recognition of Patent System (13-14, Dec., 2006).</li> </ul>  |

- |      |   |
|------|---|
| 2006 | <ul style="list-style-type: none"><li>➤ “Workshop on New Instrumentation and Applications of Mass Spectrometry” (7-9 Aug., 2006, Karachi).</li><li>➤ Federation of Asian Chemical Society Symposium Japan and EXCO meeting (29-30, March, 2006).</li><li>➤ 3rd International Symposium of the Austrian Proteomics Platform (16-19, Jan., 2006, Tyrol, Austria)</li></ul>  |
| 2004 | <ul style="list-style-type: none"><li>➤ IDB-COMSTECH-INTROM-IMR Workshop on Herbal Standardization. 16<sup>th</sup> –20<sup>th</sup> February, 2004, “Phytochemical Analysis and Determination of Markers in Medicinal Plants” (Herbal Medicine Research Center, Institute for Medical Research, Kuala Lumpur, Malaysia).</li><li>➤ Pak-China Bi-national Workshop on The Pharmacology and Standardizations of Herbal Medicines (22-27, Oct., 2004, Karachi, Pakistan).</li><li>➤ 9<sup>th</sup> International Symposium on Natural Product Chemistry (10-13, Jan., 2004, Karachi, Pakistan).</li></ul>   |
| 2003 | <ul style="list-style-type: none"><li>➤ Work shop on the development of Medicine from Plants (8-12, Sep., 2003 Karachi, Pakistan).</li></ul>  |
| 2002 | <ul style="list-style-type: none"><li>➤ 7<sup>th</sup> Eurasia Conference on Chemical Sciences (09-12, March, 2002, Karachi, Pakistan).</li><li>➤ IDB-COMSTECH-INTROM-IMR Workshop on Herbal Medicine. “Medical Plant Screening for Anti-Malaria” 1<sup>st</sup>–6<sup>th</sup> April, 2002. (Herbal Medicine Research Center, Institute for Medical Research, Kuala Lumpur, Malaysia).</li><li>➤ 2<sup>nd</sup> International and 12<sup>th</sup> National Chemistry Conference (4-6, Feb., 2002 Jamshoro, Pakistan).</li><li>➤ Pakistan Bangladesh Binational Conference on Natural Product Chemistry (24-26, Sep., 2002).</li><li>➤ 3rd International and 13<sup>th</sup> National Chemistry Conference.(28-31Dec., 2002).</li><li>➤</li><li>➤ Work shop on Animal cell culture (December 2002).</li></ul> |
| 2000 | <ul style="list-style-type: none"><li>➤ 8<sup>th</sup> International Symposium on Natural Product Chemistry (18-22, Jan., 2000, Karachi, Pakistan)</li></ul>  |

## CONFERENCE /WORKSHOPS ORGANIZED:

### (A)- As an Organizing Sectary:

- 1 14th International Symposium on Natural Product Chemistry (ISNPC-14), organized by H.E.J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences (ICCBS), University of Karachi, Karachi, Pakistan, November 6th-8th, 2018.

- 2 2nd International Symposium on Natural Products for the Future (ISNPF-2), organized by H.E.J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences (ICCBS), University of Karachi, Karachi, Pakistan, November 4th-6th, 2018
- 3 One Day International Seminar-cum-Training Workshop on “Halal Food and Non-Food Science/Management”, organized by H.E.J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences (ICCBS), University of Karachi, Karachi, in association with SANHA Halaal Associates Pakistan, April 24th, 2018.
- 4 14<sup>th</sup> Eurasia Conference on Chemical Sciences, December 15<sup>th</sup>-18<sup>th</sup>, 2016 HEJ Research institute of Chemistry, ICCBS, University of Karachi.
- 5 13th International Symposium on Natural Products Chemistry, September 22<sup>nd</sup>-25<sup>th</sup>, 2012, Karachi, Pakistan.
- 6 A Two-days workshop entitled “Training Course cum Workshop on Application of Modern Mass Spectrometry for Natural Products-based Drug Development” at HEJ Research institute of Chemistry, ICCBS, University of Karachi, November 26<sup>th</sup>-27<sup>th</sup>, 2010.
- 7 Organizing Secretary of “Workshop on New Instrumentation and Applications of Mass Spectrometry” at the H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, Karachi, Pakistan August 7<sup>th</sup>-9<sup>th</sup>, 2006.

**(B)-Others (as an active organizing member):**

- 1 6<sup>th</sup> International Symposium-cum-Training Course on Molecular Medicine and Drug Research (MMDR-6) at Dr. Panjwani Center for Molecular Biology and Drug Designing (PCMD), Karachi, Pakistan (November 06-09, 2017).
- 2 5<sup>th</sup> International Symposium-cum-Training Course on Molecular Medicine and Drug Research (MMDR-6) at Dr. Panjwani Center for Molecular Biology and Drug Designing (PCMD), Karachi, Pakistan (12-15 January 2015).
- 3 As a Technical Coordinator in 14th Asian Symposium on Medicinal Plants, Spices and Other Natural Products (ASOMPS) at HEJRIC, ICCBS, Karachi, Pakistan (December 09-12, 2013).
- 4 4<sup>th</sup> International Symposium-cum-Training Course on Molecular Medicine and Drug Research (MMDR-6) at Dr. Panjwani Center for Molecular Biology and Drug Designing (PCMD), Karachi, Pakistan (January 7-10, 2013).
- 5 As a Technical Coordinator in 13<sup>th</sup> International Symposium on Natural Products Chemistry at the H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, Karachi, Pakistan (September 22-25, 2012).
- 6 3<sup>rd</sup> International Symposium-cum-Training Course on Molecular Medicine and Drug Research (MMDR-3) at Dr. Panjwani Center for Molecular Biology and Drug Designing (PCMD), Karachi, Pakistan (January 03-06, 2011).
- 7 11<sup>th</sup> International Symposium of Natural Product Chemistry”, at the H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, Karachi, Pakistan (Oct. 29–Nov. 01, 2008).
- 8 1<sup>st</sup> International Symposium and Workshop-Cum-Training Course on Molecular Medicine and Drug Research at Dr. Panjwani Center for Molecular Biology and Drug



Designing (PCMD), (16-30, January 2007 Karachi-Islamabad).

- 9 Active Organizing Member of "First Pak-France Binational Workshop on Natural Product Chemistry" at the H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, (Jan. 14-15, 2004, Karachi, Pakistan).

**MISCELLANEOUS INSTITUTIONAL RESPONSIBILITIES:**

- 1 In-Charge Academic Coordination of ICCBS, University of Karachi
- 2 In-Charge Mass Spectrometric Section of ICCBS, University of Karachi
- 3 In-Charge HPLC Section of ICCBS, University of Karachi.
- 4 In-Charge Maintenance of ICCBS, University of Karachi

**LIST OF PUBLICATIONS:****(A) Research Publications**

S. No.	Name of Authors	Journal Title	Title	Year	Volume	Page start	Impact factor
1.	Khalid, A., Siddiqui, A. J., Ansari, S.H., Musharraf, S. G.	Scientific Reports	Reflection of treatment proficiency of hydroxyurea treated $\beta$ -thalassemia serum samples through nuclear magnetic resonance based metabonomics	2019	9		4.259
2.	Hesham, R., Khalifa, S.A., Taher, E.A., Farag, M.A., Saeed, A., Gamal, M., Hegazy, M.E.F., Youssef, D., Musharraf, S.G., Alajlani, M.M., Xiao, J.	Pharmacological Research	Cardenolides: Insights from chemical structure and pharmacological utility	2019	141	123	4.897
3.	Saleem, M., Raza, S.K., Musharraf, S.G.,	Experimental Biology and Medicine	A comparative protein analysis of lung cancer, along with three controls using a multidimensional proteomic approach	2019	244	36	2.413
4.	Javed, M. N., Muhammad, S., Hashmi, I. A., Bari, A., Musharraf, S. G., Ali, F. I.	Journal of Molecular Liquids	Newly designed pyridine and piperidine based Ionic Liquids: Aggregation behavior in ESI-MS and catalytic activity in CC bond formation reactions	2018	272	84	4.513
5.	Shahid, N., Iqbal, A., Siddiqui, A. J., Shoaib, M., Musharraf, S. G.	Head & Neck	Plasma metabolite profiling and chemometric analyses of tobacco snuff dippers and patients with oral cancer: Relationship between metabolic signatures.	2018			2.471
6.	Kanwal, N., Siddiqui, A.J., Haq, F., El-Seedi, H.R., Musharraf, S.G.	RSC Advances	Two-stage mass spectrometry approach for the analysis of triterpenoid glycosides in <i>Fagonia indica</i>	2018	8	41023	2.936

7.	Iqbal, A., Ansari, S.H., Parveen, S., Khan, I.A., Siddiqui, A.J., Musharraf, S.G.	Scientific Reports	Hydroxyurea Treated $\beta$ -Thalassemia Children Demonstrate a Shift in Metabolism Towards Healthy Pattern	2018	8		4.259
8.	Khalid, A., Siddiqui, A. J., Huang, J. H., Shamsi, T., Musharraf, S. G.	Scientific Reports	Alteration of Serum Free Fatty Acids are Indicators for Progression of Pre-leukaemia Diseases to Leukaemia	2018	8		4.259
9.	Jalib, M. A., Nabeel, M., Ali, F. I., Bari, A., Musharraf, S. G., Hashmi, I. A.	Journal of the Chemical Society of Pakistan	Synthesis of Reversed C-glycopeptide Mimics Monomer from Galactose via Passerini Reaction	2018	40	792	0.28
10.	Lubna, Ali, R.A., Siddiqui, F., Fazil, P., Farooq, A.D., Siddiqui, A.J., Musharraf, S.G.	Journal of the Chemical Society of Pakistan	Cytotoxic activity of extracts of Ixora species and their GC-MS analysis	2018	40	941	0.28
11.	Irfan, M., Bhayo, A.M., Musharraf, S.G., Malik, M.I.,	Journal of separation science	Chromatographic Characterization of Amphiphilic Di-and Tri-block Copolymers of Poly (ethylene oxide) and Poly ( $\epsilon$ -caprolactone).	2018			2.415
12.	Bhayo, A.M., Abdul-Karim, R., Musharraf, S.G., Malik, M.I.	RSC Advances	Synthesis and characterization of 4-arm star-shaped amphiphilic block copolymers consisting of poly (ethylene oxide) and poly ( $\epsilon$ -caprolactone)	2018	8	28569	2.936
13.	Samuel, R.V., Farrukh, S.Y., Rehmat, S., Hanif, M.U., Ahmed, S.S., Musharraf, S.G., Durrani, F.G., Saleem, M., Gul, R.	Molecular Biotechnology	Soluble Production of Human Recombinant VEGF-A121 by Using SUMO Fusion Technology in Escherichia coli	2018			1.815
14.	Adeeba, Siddiqui, A.J., Sherazi, S.T.H., Ahmed, S., Choudhary, M I., Musharraf, S.G.	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	A comparative profiling of oral cancer patients and high risk niswar users using FT-IR and chemometric analysis	2018	203	177	2.536
15.	Farooq, S., Mazhar, W., Siddiqui, A.J., Ansari, S.H., Musharraf, S.G.	Biomedical Chromatography	Quantitative assessment of metal dysregulation in $\beta$ -thalassemia patients in comparison with healthy controls by ICP-MS and chemometric analyses	2018			1.613

16.	Jan, N.U., Ali, A., Ahmad, B., Iqbal, N., Adhikari, A., Ali, A., Ali, S., Jahan, A., Ali, H., Ali, I., Ullah, A., Musharraf, S.G.	Biomedicine & Pharmacotherapy	Evaluation of antidiabetic potential of steroidal alkaloid of <i>Sarcococca saligna</i>	2018			2.759
17.	Iqbal, A., Siddiqui, A.J., Huang, JH., Ansari, S.H., Musharraf, S.G.	Metabolomics	Impact of hydroxyurea therapy on serum fatty acids of $\beta$ -thalassemia patients	2018	14		3.692
18.	Raza, S.K., Saleem, M., Shamsi, T., Choudhary, M.I., Musharraf, S.G.	Scientific Reports	5D proteomic approach for the biomarker search in plasma: Acute myeloid leukaemia as a case study	2017	7	16440	4.259
19.	Musharraf, S.G., ul Arfeen, Q., Ali, A., Siddiqi, F., Ahmad, M.S., Sultan, G., Choudhary, M.I.	Metabolomics	Fungi as a source of marker compounds for the control of illicit use of drugs: mesterolone as a case study.	2017	13	150	3.692
20.	Musharraf, S.G., Siddiqi, F., Ali, A., Thadhani, V.M.	Journal of Pharmaceutical and Biomedical analysis	Sensitive analysis of bioactive secondary metabolites in Lichen species using liquid chromatography mass spectrometry	2017	In press		3.255
21.	Kanwal, N., Adhikari, A., Hameed, A., Hafizur, R.M., Musharraf, S.G.	Phytochemistry	Isolation and characterization of non-sulfated and sulfated triterpenoid saponins from <i>Fagonia indica</i>	2017	143	151	3.205
22.	Musharraf, S.G., Arfeen, Q., Haq, F., Khatoon, A., Ali, R.A.	Journal of Chromatographic Science	Stability-Indicating TLC-Densitometric Assay for Methyltestosterone and Quantum Chemical Calculations	2017		1	0.984
23.	Sahar, S., Galani, S., Musharraf, S.G., Azhar, A.	Pakistan Journal of Botany	Allele specific genotyping assay of fgr gene and seed quality evaluation of rice varieties of Pakistan	2017	49	145	0.69
24.	Tufail, M.K., Abdul-Karim, R., Rahim, S., Musharraf, S.G. and Malik, M.I.	RSC Advances	Analysis of individual block length of amphiphilic di- & tri-block copolymers containing poly (ethylene oxide) and poly (methyl methacrylate).	2017	7	41693	2.936
25.	Mazhar, W., Farooq, S., Iqbal, A., Ansari, S.H., Choudhary, M.I., Atta-Ur-Rahman, Musharraf, S.G.	RSC Advances	Metallomic profiling to evaluate the response to drug treatment: Hydroxyurea as a case study in $\beta$ -thalassemia patients	2017	7	23882	2.936

26.	Raza, S.K., Shamsi, T., Musharraf, S.G.	RSC Advances	Serum amyloid A1 and plasminogen as predictory proteins to monitor the progression of preleukemic diseases towards acute lymphoblastic leukaemia	2017	7	29218	2.936
27.	Hadi, N.I., Jamal, Q., Iqbal, A., Shaikh, F., Somroo, S., Musharraf, S.G.	Scientific Reports	Serum Metabolomic Profiles for Breast Cancer Diagnosis, Grading and Staging by Gas Chromatography-Mass Spectrometry	2017	7		4.259
28.	Musharraf, S.G., Bhatti, M.S., Choudhary, M.I., Rahman, A.-U.	European Journal of Pharmaceutical Sciences	Screening of inhibitors of angiotensin- converting enzyme (ACE) employing high performance liquid chromatography- electrospray ionization triple quadrupole mass spectrometry (HPLC-ESI-QqQ-MS)	2017	101	182	3.756
29.	Abdul-Karim, R., Musharraf, S.G., Malik, M.I.	Journal of Polymer Science	Synthesis and characterization of novel biodegradable di- and tri-Block copolymers based on ethylene carbonate polymer as hydrophobic segment	2017	55	1887	3.113
30.	Ali, A., Haq, F., Arfeen, Q., Sharma, K., Adhikari, A., Musharraf, S.G.	Biomedical Chromatography	Sensitive quantification of coixol, a potent insulin secretagogue, in Scoparia dulcis extract using high-performance liquid chromatography combined with tandem mass spectrometry and UV detection	2017			1.613
31.	Musharraf, S.G., Iqbal, A., Ansari, S.H., Parveen, S., Khan, I.A., Siddiqui, A.J.	Scientific Reports	$\beta$ -Thalassemia Patients Revealed a Significant Change of Untargeted Metabolites in Comparison to Healthy Individuals	2017	7		4.259
32.	Fatima, I., Sadaf, S., Musharraf, S.G., Hashmi, N., Akhtar, M.W.	Scientific Reports	CD5 molecule-like and transthyretin as putative biomarkers of chronic myeloid leukemia - an insight from the proteomic analysis of human plasma	2017	7		4.259
33.	Ali, A., Shahid, N., Musharraf, S.G.	RSC Advances	Application of dyes as doping agents in MALDI- MS matrices for the signal enhancement of proteins	2017	7	6598	2.936

34.	Akram, M.I., Vincent, M.I., Siddiqui, A.J., Musharraf, S.G.	Journal of Cereal Sciences	Polymeric hydrophilic interaction liquid chromatography coupled with Orbitrap mass spectrometry and chemometric analysis for untargeted metabolite profiling of natural rice variants	2017	73	165	2.223
35.	Siddiqui, A.J., Musharraf, S.G., Choudhary, M.I., Rahman, A.-U.	Food Chemistry	Application of analytical methods in authentication and adulteration of honey	2017	217	687	4.529
36.	Musharraf, S.G., Ameer, M., Ali, A.	Journal of Pharmaceutical and Biomedical Analysis	MALDI-MS analysis and theoretical evaluation of olanzapine as a UV laser desorption ionization (LDI) matrix	2017	132	190	3.255
37.	Ghazanfar, S., Fatima, I., Aslam, M., Musharraf, S.G., Sherman, N.E., Moskaluk, C., Fox, J.W., Akhtar, M.W., Sadaf, S.	Journal of Proteomics	Identification of actin beta-like 2 (ACTBL2) as novel, upregulated protein in colorectal cancer	2017	152	33	3.914
38.	Musharraf, S.G., Siddiqui, A.J., Shamsi, T., Naz, A.	Hematological Oncology	SERUM metabolomics of acute lymphoblastic leukaemia and acute myeloid leukaemia for probing biomarker molecules	2017	35	769	3.118
39.	Hussain, D., Musharraf, S.G., Najam-Ul-Haq, M.	Analytical and Bioanalytical Chemistry	Development of diamond-lanthanide metal oxide affinity composites for the selective capture of endogenous serum phosphopeptides	2016	408	1633	3.431
40.	Musharraf, S.G., Ambreen Fatima, S., Siddiqui, A.J., Iqbal Choudhary, M., Atta-Ur-Rahman	Analytical Methods	<sup>1</sup> H-NMR fingerprinting of brown rice syrup as a common adulterant in honey	2016	8	6444	1.9
41.	Akhtar, A., Kazi, T.G., Afridi, H.I., Musharraf, S.G., Talpur, F.N., Khan, N., Bilal, M., Khan, M.	Environmental Science and Pollution Research	Vortex-assisted ionic liquid-based dispersive liquid-liquid microextraction for assessment of chromium species in artificial saliva extract of different chewing tobacco products	2016	23	25288	2.741
42.	Musharraf, S.G., Uddin, J., Siddiqui, A.J., Akram, M.I.	Food Chemistry	Quantification of aroma constituents of mango sap from different Pakistan mango cultivars using gas chromatography triple quadrupole mass spectrometry	2016	196	1355	4.529

43.	Ayyub, A., Saleem, M., Fatima, I., Tariq, A., Hashmi, N., Musharraf, S.G.	International Journal of Biochemistry and Cell Biology	Glycosylated Alpha-1-acid glycoprotein 1 as a potential lung cancer serum biomarker	2016	70	68	3.505
44.	Gull, Y., Rasool, N., Noreen, M., Altaf, A.A., Musharraf, S.G., Zubair, M., Nasim, F.-U.-H., Yaqoob, A., DeFeo, V., Zia-Ul-Haq, M.	Molecules	Synthesis of N-(6-Arylbenzo[d]thiazole-2-acetamide derivatives and their biological activities: An experimental and computational approach	2016	21		2.861
45.	Irfan, M., Oh, J., Musharraf, S.G., Shah, M.R., Ahmed, S., Malik, M.I.	RSC Advances	Synthesis and meticulous molecular, morphological and thermal characterization of linear and star-shaped polycaprolactones	2016	6	98117	2.936
46.	Musharraf, S.G., Shahid, N., Naqvi, S.M.A., Saleem, M., Siddiqui, A.J., Ali, A.	Scientific Reports	Metabolite Profiling of Preneoplastic and Neoplastic Lesions of Oral Cavity Tissue Samples Revealed a Biomarker Pattern	2016	6		4.259
47.	Musharraf, S.G., Siddiqui, A.J., Shamsi, T., Choudhary, M.I., Rahman, A.-U.	Scientific Reports	Serum metabonomics of acute leukemia using nuclear magnetic resonance spectroscopy	2016	6		4.259
48.	Musharraf, S.G., Ahmed, M.A., Zehra, N.	Analytical Methods	Quantification of FAMES in biodiesel blends of various sources by gas chromatography tandem mass spectrometry	2015	7	3372	1.9
49.	Musharraf, S.G., Arfeen, Q.U., Haq, F.U., Ahmed, H.	Analytical Methods	Post-derivative TLC densitometric stability indicating assay for mesterolone and quantum chemical calculations	2015	7	8412	1.9
50.	Musharraf, S.G., Kanwal, N., Thadhani, V.M., Choudhary, M.I.	Analytical Methods	Rapid identification of lichen compounds based on the structure-fragmentation relationship using ESI-MS/MS analysis	2015	7	6066	1.9
51.	Ahmed, M.A., Khan, I., Hashim, J., Musharraf, S.G.	Analytical Methods	Sensitive determination of glycerol by derivatization using a HPLC-DAD method in biodiesel samples	2015	7	7805	1.9
52.	Ali, H., Musharraf, S.G., Iqbal, N., Adhikari, A., Abdalla, O.M., Ahmed Mesaik, M., Kabir, N.	International Immunopharmacology	Immunosuppressive and hepatoprotective potential of Sarcococca saligna and its biomarker components	2015	28	235	2.956

53.	Hayat, A., Jahangir, T.M., Khuhawar, M.Y., Alamgir, M., Hussain, Z., Haq, F.U., Musharraf, S.G.	Journal of Cereal Science	HPLC determination of gamma amino butyric acid (GABA) and some biogenic amines (BAs) in controlled, germinated, and fermented brown rice by pre-column derivatization	2015	64	56	2.223
54.	Ali, A., Uddin, J., Ansari, H.N., Firdous, S., Musharraf, S.G.	Journal of Chromatography and Separation Sciences	Electrospray Tandem Mass Spectrometric Study of a Furo-Furan Lactone in Heliotropium eichwaldi	2015	6	307	1.01
55.	Ahmad, I., Bano, R., Musharraf, S.G., Sheraz, M.A., Ahmed, S., Tahir, H., Ul Arfeen, Q., Bhatti, M.S., Shad, Z., Hussain, S.F.	Journal of Photochemistry and Photobiology A: Chemistry	Photodegradation of norfloxacin in aqueous and organic solvents: A kinetic study	2015	302	1	2.625
56.	Ayyub, A., Saleem, M., Musharraf, S.G., Naz, M., Tariq, A., Hashmi, N.	Molecular Medicine Reports	Mass spectrometric identification, characterization and validation of the haptoglobin $\beta$ -chain protein as a lung cancer serum biomarker	2015	12	3755	1.554
57.	Ikram, H.M., Rasool, N., Ahmad, G., Chotana, G.A., Musharraf, S.G., Zubair, M., Rana, U.A., Zia-Ul-Haq, M., Jaafar, H.Z.	Molecules	Selective C-arylation of 2,5-dibromo-3-hexylthiophene via Suzuki cross coupling reaction and their pharmacological aspects	2015	20	5202	2.861
58.	Iqbal, N., Adhikari, A., Kanwal, N., Abdalla, O.M., Mesaik, M.A., Musharraf, S.G.	Phytochemistry Letters	New immunomodulatory steroidal alkaloids from <i>Sarcococa saligna</i>	2015	14	203	1.418
59.	Rahman, T.U., Khattak, K.F., Liaqat, W., Zaman, K., Musharraf, S.G.	Records of Natural Products	Characterization of one novel flavone and four new source compounds from the bark of <i>milletia ovalifolia</i> and in-vitro inhibition of carbonic anhydrase-II by the novel flavonoid	2015	9	553	0.859
60.	Musharraf, S.G., Mazhar, S., Choudhary, M.I., Rizi, N., Atta-Ur-Rahman	Scientific Reports	Plasma metabolite profiling and chemometric analyses of lung cancer along with three controls through gas chromatography-mass spectrometry	2015	5		4.259



61.	Ali, A., Maher, S., Khan, S.A., Chaudhary, M.I., Musharraf, S.G.	Steroids	Sensitive quantification of six steroidal lactones in <i>Withania coagulans</i> extract by UHPLC electrospray tandem mass spectrometry	2015	104	176	2.282
62.	Musharraf, S.G., Goher, M., Zareena, B.	Steroids	Quantification of steroidal alkaloids in <i>Buxus papillosa</i> using electrospray ionization liquid chromatography-triple quadrupole mass spectrometry	2015	100	5	2.282
63.	Iram, H., Rasool, N., Riaz, M., Ullah, A., Bokhari, T.H., Musharraf, S.G., Tareen, R.B., Zubair, M., Ercisli, S., Zia-Ul-Haq M.	Oxidation Communications	GC-MS analysis, antioxidant and antimicrobial studies of <i>Sophora mollis</i> essential and fixed oil	2015	38	689	0.489
64.	Ahmad, I., Bano, R., Musharraf, S.G., Ahmed, S., Sheraz, M.A., ul Arfeen, Q., Bhatti, M.S., Shad, Z.	AAPS PharmSciTech	Photodegradation of moxifloxacin in aqueous and organic solvents: a kinetic study	2014	15	1588	2.451
65.	Musharraf, S.G., Siddiqui, A.J., Mazhar, S.	Bioanalysis	Direct infusion ESI-MS analysis for metabolite profiling of human plasma using various fractionation techniques	2014	6	2057	2.673
66.	Hayat, A., Jahangir, T.M., Khuhawar, M.Y., Alamgir, M., Siddiqui, A.J., Musharraf, S.G.	Journal of Cereal Science	Simultaneous HPLC determination of gamma amino butyric acid (GABA) and lysine in selected Pakistani rice varieties by pre-column derivatization with 2-Hydroxynaphthaldehyde	2014	60	356	2.223
67.	Musharraf, S.G., Ali, A., Choudhary, M.I., Atta-Ur-Rahman	Journal of the American Society for Mass Spectrometry	Probing of metabolites in finely powdered plant material by direct laser desorption ionization mass spectrometry	2014	25	530	2.786
68.	Ali, H., Kabir, N., Muhammad, A., Shah, M.R., Musharraf, S.G., Iqbal, N., Nadeem, S.	Phytomedicine	Hautriwaic acid as one of the hepatoprotective constituent of <i>Dodonaea viscosa</i>	2014	21	131	3.526
69.	Fatima, B., Najam-Ul-Haq, M., Jabeen, F., Majeed, S., Ashiq, M.N., Musharraf, S.G., Shad, M.A., Xu, G.	Analyst	Ceria-based nanocomposites for the enrichment and identification of phosphopeptides	2013	138	5059	3.885

70.	Musharraf, S.G., Mazhar, S., Siddiqui, A.J., Choudhary, M.I., Atta-ur-Rahman	Analytica Chimica Acta	Metabolite profiling of human plasma by different extraction methods through gas chromatography-mass spectrometry-An objective comparison	2013	804	180	4.95
71.	Mohammad, M.Y., Musharraf, S.G., Al-Majid, A.M., Ur-Rahman, A.-., Choudhary, M.I.	Biocatalysis and Biotransformation	Biotransformation of mestanolone and 17-methyl-1-testosterone by Rhizopus stolonifer	2013	31	153	0.836
72.	Musharraf, S.G., Arfeen, Q.U., Mazhar, W., Kanwal, N.	Chemistry Central Journal	A validated stability-indicating TLC-densitometric method for the determination of stanozolol in pharmaceutical formulations	2013	7		2.442
73.	Musharraf, S.G., Bibi, A., Shahid, N., Najam-ul-Haq, M., Ambreen, N., Khan, M., Khan, K.M., Choudhary, M.I., Rahman, A.U.	Chemistry Central Journal	Benzimidazole, coumrandione and flavone derivatives as alternate UV laser desorption ionization (LDI) matrices for peptides analysis	2013	7		2.442
74.	Musharraf, S.G., Kanwal, N., Arfeen, Q.U.	Chemistry Central Journal	Stress degradation studies and stability-indicating TLC-densitometric method of glycyrrhetic acid	2013	7		2.442
75.	Iqbal Choudhary, M., Mohammad, M.Y., Musharraf, S.G., Atta-ur-Rahman	Jordan Journal of Pharmaceutical Sciences	Epoxidation of ferutinin by different fungi and antibacterial activity of its metabolite	2013	6	23	0.11
76.	Musharraf, S., Shoaib, M., Kumar, D., Najam-UI-Haq, M.	Journal of Planar Chromatography - Modern TLC	Effective separation and simultaneous quantification of permethrin isomers in household products by validated TLC-densitometric method	2013	26	14	0.291
77.	Iqbal Choudhary, M., Mohammad, M.Y., Musharraf, S.G., Onajobi, I., Mohammad, A., Anis, I., Shah, M.R., Atta-Ur-Rahman	Phytochemistry	Biotransformation of clerodane diterpenoids by Rhizopus stolonifer and antibacterial activity of resulting metabolites	2013	90	56	3.205

78.	Musharraf, S.G., Goher, M., Shahnaz, S., Choudhary, M.I., Atta-Ur-Rahman	Rapid Communications in Mass Spectrometry	Structure-fragmentation relationship and rapid dereplication of Buxus steroidal alkaloids by electrospray ionization-quadrupole time-of-flight mass spectrometry	2013	27	169	1.998
79.	Musharraf, S.G., Ali, A., Khan, N.T., Yousuf, M., Choudhary, M.I., Atta-Ur-Rahman	Steroids	Tandem mass spectrometry approach for the investigation of the steroidal metabolism: Structure-fragmentation relationship (SFR) in anabolic steroids and their metabolites by ESI-MS/MS analysis	2013	78	171	2.282
80.	Badar, Z., Khan, S., Saifullah, Ali, K., Musharraf, S.G., Choudhary, M.I.	Pakistan Journal of Botany	In vitro and biotransformational studies of aloe barbadensis mill	2013	46	679	0.69
81.	Najam-ul-Haq, M., Jabeen, F., Hussain, D., Saeed, A., Musharraf, S.G., Huck, C.W., Bonn, G.K.	Analytica Chimica Acta	Versatile nanocomposites in phosphoproteomics: A review	2012	747	7	4.95
82.	Jabeen, F., Hussain, D., Fatima, B., Musharraf, S.G., Huck, C.W., Bonn, G.K., Najam-Ul-Haq, M.	Analytical Chemistry	Silica-lanthanum oxide: Pioneer composite of rare-earth metal oxide in selective phosphopeptides enrichment	2012	84	10180	6.32
83.	Musharraf, S.G., Hashmi, N., Choudhary, M.I., Rizvi, N., Usman, A., Atta-Ur-Rahman	Biomarkers	Comparison of plasma from healthy nonsmokers, smokers, and lung cancer patients: Pattern-based differentiation profiling of low molecular weight proteins and peptides by magnetic bead technology with MALDI-TOF MS	2012	17	223	2.006
84.	Musharraf, S.G., Ahmed, M.A., Zehra, N., Kabir, N., Choudhary, M.I., Rahman, A.-U.	Chemistry Central Journal	Biodiesel production from microalgal isolates of southern Pakistan and quantification of FAMES by GC-MS/MS analysis	2012	6		2.442
85.	Musharraf, S.G., Shoaib, M., Kumar, D., Najam-ul-Haq, M.	Chemistry Central Journal	Validated TLC-densitometry method for the simultaneous analysis of pyrethroid insecticides in agricultural and domestic products	2012	6		2.442

86.	Musharraf, S.G., Naz, S., Najeeb, A., Khan, S., Choudhary, M.I.	Chemistry Central Journal	Biotransformation of perfumery terpenoids, (-)-ambrox® by a fungal culture <i>Macrophomina phaseolina</i> and a plant cell suspension culture of <i>Peganum harmala</i>	2012	6		2.442
87.	Musharraf, S.G., Shoaib, M., Siddiqui, A.J., Najam-ul-Haq, M., Ahmed, A.	Chemistry Central Journal	Quantitative analysis of some important metals and metalloids in tobacco products by inductively coupled plasma-mass spectrometry (ICP-MS)	2012	6		2.442
88.	Musharraf, S.G., Gulzar, U.	Chemistry Central Journal	Effective separation and simultaneous analysis of anabolic androgenic steroids (AAS) in their pharmaceutical formulations by a validated TLC-densitometry method	2012	6		2.442
89.	Musharraf, S.G., Fatima, U., Sultana, R.	Chemistry Central Journal	Stress degradation studies and development of stability-indicating TLC-densitometry method for determination of prednisolone acetate and chloramphenicol in their individual and combined pharmaceutical formulations	2012	6		2.442
90.	Orhan, I.E., Şener, B., Musharraf, S.G.	Experimental and Toxicologic Pathology	Antioxidant and hepatoprotective activity appraisal of four selected <i>Fumaria</i> species and their total phenol and flavonoid quantities	2012	64	205	1.975
91.	Musharraf, S.G., Goher, M., Wafo, P., Kamdem, R.S.T.	International Journal of Mass Spectrometry	Electrospray tandem mass spectrometric analysis of duboscic acid, exploring the structural features of a new class of triterpenoids, dubosane	2012	310	77	1.702
92.	Musharraf, S.G., Uddin, J., Akhter, M., Parvez, M., Saifullah, Khan, S., Yousuf, S., Khan, S., Choudhary, M.I.	Journal of Molecular Catalysis B: Enzymatic	Biotransformation of an antimalarial drug, artemether by plant and fungal cell cultures	2012	82	80	2.48
93.	Shaheen, F., Rizvi, T.S., Musharraf, S.G., Ganesan, A., Xiao, K., Townsend, J.B., Lam, K.S., Choudhary, M.I.	Journal of Natural Products	Solid-phase total synthesis of chirimolacyclopeptide e and discovery of more potent analogues by alanine screening	2012	75	1882	3.281

94.	Musharraf, S.G., Ul Arfeen, Q., Shoaib, M.	Journal of Planar Chromatography - Modern TLC	Development and validation of TLC-densitometric method for the quantification of a steroidal drug, danazol in its pharmaceutical formulations	2012	25	331	0.291
95.	Musharraf, S.G., Goher, M., Ali, A., Adhikari, A., Choudhary, M.I., Atta-Ur-Rahman	Steroids	Rapid characterization and identification of steroidal alkaloids in <i>Sarcococca coriacea</i> using liquid chromatography coupled with electrospray ionization quadrupole time-of-flight mass spectrometry	2012	77	138	2.282
96.	Musharraf, S.G., Bibi, A., Shahid, N., Najam-ul-Haq, M., Khan, M., Taha, M., Mughal, U.R., Khan, K.M.	American Journal of Analytical Chemistry	Acylhydrazide and Isatin Schiff Bases as Alternate UV-Laser Desorption Ionization (LDI) Matrices for Low Molecular Weight (LMW) Peptides Analysis	2012	3	779	1.29
97.	Musharraf, S.G., Goher, M., Hussain, A., Choudhary, M.I.	Chemistry Central Journal	Electrospray tandem mass spectrometric analysis of a dimeric conjugate, salvialerifone and related compounds	2012	6		2.442
98.	Daniel, B., Innocent, E., Mbwambo, Z.H., Musharraf, S.G.	International Journal of Pharma and Bio Sciences	Comparison of mosquito larvicidal activity of <i>Annona squamosa</i> leaves growing in different eco-zones in Tanzania	2011	2	566	0.223
99.	Yousuf, S., Musharraf, S.G., Iqbal, N., Adhikari, A., Choudhary, M.I.	Acta Crystallographica Section E: Structure Reports Online	3-Dimethylamino-20-(N-methylacetamido)-pregn-5-ene	2011	67		0
100.	Yousuf, S., Musharraf, S.G., Khan, I., Samiullah, Fun, H.-K.	Acta Crystallographica Section E: Structure Reports Online	Absolute configuration of (2S)-4-(4-hydroxyphenyl)butan-2-ol	2011	67		0
101.	Musharraf, S.G., Najeeb, A., Hareem, S., Choudhary, M.I.	Biocatalysis and Biotransformation	Biotransformation of 5 $\alpha$ -hydroxycaryophylla-4(12),8(13)-diene with <i>Cunninghamella elegans</i> and <i>Rhizopus stolonifer</i>	2011	29	141	0.836
102.	Musharraf, S.G., Ahmed, M.A., Ali, R.A., Choudhary, M.I.	Biocatalysis and Biotransformation	Hydroxylation of (+)-menthol by <i>Macrophomina phaseolina</i>	2011	29	77	0.836
103.	Musharraf, S.G., Najeeb, A., Ali, R.A., Ali, A.A., Choudhary, M.I.	Journal of Agricultural and Food Chemistry	Metabolites of the fungistatic agent 2 $\beta$ -methoxyclovan-9 $\alpha$ -ol by <i>macrophomina phaseolina</i>	2011	59	3234	3.154

104.	Musharraf, S.G., Iqbal, N., Ahmed, M.A., Mazhar, S., Choudhary, M.I.	Journal of Liquid Chromatography and Related Technologies	Screening of E-and Z-guggulsterones in the gum-resin exudates of some common plants and method validation in raw, extracted, and pharmaceutical formulations of Commiphora mukul by HPLC	2011	34	2103	0.697
105.	Musharraf, S.G., Iqbal, N., Gulzar, U., Ali, A., Choudhary, M.I., Atta-ur-Rahman	Journal of Pharmaceutical and Biomedical Analysis	Effective separation and analysis of E- and Z-guggulsterones in Commiphora mukul resin, guggulipid and their pharmaceutical product by high performance thin-layer chromatography-densitometric method	2011	56	240	3.255
106.	Musharraf, S.G., Shoaib, M., Najam-UI-Haq	Journal of Planar Chromatography - Modern TLC	TLC-densitometric method development and validation for the quantification of nicotine in tobacco smoked, sniffing, dipping, and chewing products	2011	24	381	0.291
107.	Jan, S., Abbaskhan, A., Musharraf, S.G., Sattar, S.A., Samreen, Resayes, S.I., Al-Othman, Z.A., Al-Majid, A.M., Atta-Ur-Rahman, Choudhary, M.I.	Planta Medica	Three new cycloartane triterpenoids from Astragalus bicuspis	2011	77	1829	2.324
108.	Iqbal, A., Azim, M.K., Hashmi, N., Ali, S.A., Musharraf, S.G.	Protein and Peptide Letters	Structural characterization of metalloprotease vibriolysin of cholera pathogen vibrio cholerae	2011	18	287	0.694
109.	Musharraf, S.G., Ali, A., Ali, R.A., Yousuf, S., Rahman, A., Choudhary, M.I.	Rapid Communications in Mass Spectrometry	Analysis and development of structure-fragmentation relationships in withanolides using an electrospray ionization quadropole time-of-flight tandem mass spectrometry hybrid instrument	2011	25	104	1.998
110.	Musharraf, S.G., Najeeb, A., Khan, S., Pervez, M., Ali, R.A., Choudhary, M.I.	Journal of Molecular Catalysis B: Enzymatic	Microbial transformation of 5 $\alpha$ -hydroxycaryophylla-4(12), 8(13)-diene with Macrophomina phaseolina	2010	66	156	2.48

111.	Choudhary, M.I., Mohammad, M.Y., Musharraf, S.G., Parvez, M., Al-Aboudi, A., Atta-ur- Rahman	Steroids	New oxandrolone derivatives by biotransformation using <i>Rhizopus stolonifer</i>	2009	74	1040	2.282
112.	Bulugahapitiya, V.P., Musharraf, S.G.	Ruhuna Journal of Science	Microbial transformation of sesquiterpenoid ketone, (+) Nootkatone by <i>Macrophomia</i> <i>phaseolina</i>	2009	4	13	0
113.	Choudhary, M.I., Azizuddin, Jalil, S., Musharraf, S.G., Atta-ur-Rahman	Chemistry and Biodiversity	Fungal transformation of dydrogesterone and inhibitory effect of its metabolites on the respiratory burst in human neutrophils	2008	5	324	1.444
114.	Choudhary, M.I., Begum, A., Abbaskhan, A., Musharraf, S.G., Ejaz, A., Atta-ur- Rahman	Chemistry and Biodiversity	Two new antioxidant phenylpropanoids from <i>Lindelofia stylosa</i>	2008	5	2676	1.444
115.	Choudhary, M.I., Jan, S., Abbaskhan, A., Musharraf, S.G., Samreen, Sattar, S.A., Atta-ur-Rahman	Journal of Natural Products	Cycloartane triterpenoids from <i>Astragalus</i> <i>bicuspis</i>	2008	71	1557	3.281
116.	Ali, L., Musharraf, S.G., Shaheen, F.	Journal of Natural Products	Solid-phase total synthesis of cyclic decapeptide Phakellistatin 12	2008	71	1059	3.281
117.	Al-Aboudi, A., Mohammad, M.Y., Musharraf, S.G., Choudhary, M.I., Atta-ur- Rahman	Natural Product Research	Microbial transformation of testosterone by <i>Rhizopus stolonifer</i> and <i>Fusarium lini</i>	2008	22	1498	1.828
118.	Choudhary, M.I., Naheed, N., Abbaskhan, A., Musharraf, S.G., Siddiqui, H., Atta-ur-Rahman	Phytochemistry	Phenolic and other constituents of fresh water fern <i>Salvinia molesta</i>	2008	69	1018	3.205
119.	Choudhary, M.I., Khan, N.T., Musharraf, S.G., Anjum, S., Atta-ur-Rahman	Steroids	Biotransformation of adrenosterone by filamentous fungus, <i>Cunninghamella elegans</i>	2007	72	923	2.282

120.	Nasib, A., Musharraf, S.G., Hussain, S., Khan, S., Anjum, S., Ali, S., Atta-Ur-Rahman, Choudhary, M.I.	Journal of Natural Products	Biotransformation of (-)-ambrox by cell suspension cultures of <i>Actinidia deliciosa</i>	2006	69	957	3.281
121.	Choudhary, M.I., Siddiqui, Z.A., Khan, S., Saifullah, Musharraf, S.G., Atta-Ur-Rahman	Zeitschrift fur Naturforschung - Section B Journal of Chemical Sciences	Biotransformation of (-)-caryophyllene oxide by cell suspension culture of <i>Catharanthus roseus</i>	2006	61	197	0.69
122.	Choudhary, M.I., Musharraf, S.G., Nawaz, S.A., Anjum, S., Parvez, M., Fun, H.-K., Atta-Ur-Rahman	Bioorganic and Medicinal Chemistry	Microbial transformation of (-)-isolongifolol and butyrylcholinesterase inhibitory activity of transformed products	2005	13	1939	2.93
123.	Choudhary, M.I., Musharraf, S.G., Siddiqui, Z.A., Khan, N.T., Ali, R.A., Atta-ur-Rahman	Chemical and Pharmaceutical Bulletin	Microbial transformation of mestranol by <i>Cunninghamella elegans</i>	2005	53	1011	1.12
124.	Choudhary, M.I., Siddiqui, Z.A., Musharraf, S.G., Nawaz, S.A., Atta-ur-Rahman	Natural Product Research	Microbial transformation of prednisone	2005	19	311	1.828
125.	Choudhary, M.I., Ranjit, R., Atta-ur-Rahman, Devkota, K.P., Musharraf, S.G., Shrestha, T.M.	Phytochemistry	Hydroxylation of the sesterterpene leucosceptrine by the fungus <i>Rhizopus stolonifer</i>	2005	67	439	3.205
126.	Choudhary, M.I., Musharraf, S.G., Sami, A., Atta-Ur-Rahman	Helvetica Chimica Acta	Microbial transformation of sesquiterpenes, (-)-Ambrox® and (+)-sclareolide	2004	87	2685	1.11
127.	Choudhary, M.I., Musharraf, S.G., Ali, R.A., Atif, M., Atta-ur-Rahman	Zeitschrift fur Naturforschung - Section B Journal of Chemical Sciences	Microbial transformation of antifertility agents, norethisterone and 17 $\alpha$ -ethynylestradiol	2004	59	319	0.69
128.	Choudhary, M.I., Musharraf, S.G., Mukhmoor, T., Shaheen, F., Ali, S., Atta-ur-Rahman	Zeitschrift fur Naturforschung - Section B Journal of Chemical Sciences	Isolation of bioactive compounds from <i>Aspergillus terreus</i>	2004	59	324	0.69



129.	Choudhary, M.I., Musharraf, S.G., Anjum, S., Rahman, A.A., Fun, H.-K., Atta-Ur-Rahman	Acta Crystallographica Section E: Structure Reports Online	17-Ethynyl-3,17 $\alpha$ -dimethoxy-5 $\beta$ -estra-1,3,5(10)-triene	2003	59		0
130.	Choudhary, M.I., Musharraf, S.G., Khan, M.T.H., Abdelrahman, D., Parvez, M., Shaheen, F., Atta-ur-Rahman	Helvetica Chimica Acta	Microbial Transformation of Isolongifolen-4-one	2003	86	3450	1.11
131.	Choudhary, M.I., Sultan, S., Yaqoob, M., Musharraf, S.G., Yasin, A., Shaheen, F., Atta-Ur-Rahman	Natural Product Research	Microbial transformation of cortisol and prolyl endopeptidase inhibitory activity of its transformed products	2003	17	389	1.828
132.	Choudhary, M.I., Shah, S.A.A., Musharraf, S.G., Shaheen, F., Atta-Ur-Rahman	Natural Product Research	Microbial transformation of dehydroepiandrosterone	2003	17	215	1.828
133.	Choudhary, M.I., Musharraf, S.G., Shaheen, F., Atta-Ur-Rahman	Natural Product Letters	Microbial transformation of (+)-androsta-1,4-diene-3,17-dione by <i>Cephalosporium aphidicola</i>	2002	16	377	0.555
134.	Musharraf, S.G., Rahman, A., Choudhary, M.I., Sultan, S.	Natural Product Letters	Microbial Transformation of (+)-Adrenosterone	2002	16	345	0.555

**(B)-Conference Proceedings**

**1)-Oral Presentations**

1. Lecture in SKLEOC-ICCBS Belt and Road Initiative Chemistry Forum, Nankai University, Tianjin, China, January 2-6, 2018, entitled, "Application of Modern Mass Spectrometry Tools: Some Recent Examples".
2. Invited lecture in International Conference on Chemical and Pharmaceutical Sciences: Recent Approaches in Research & Applications, Forman Christian College (A Chartered University), Lahore, Pakistan, January 17-19, 2018, entitled, "Mass Spectrometry Frontiers for Sensitive Analysis of Pharmaceutical Drugs and its related Compounds: Some Recent Examples".
3. Invited lecture in Role of Proteomics, Genomics and Metabolomics in Managing Beta Thalassemia with Hydroxyurea, National Institute of Blood Diseases and Bone Marrow Transplantation (NIBD & BMT), Karachi, Pakistan, February 3, 2018, entitled, "Multi-omics Approaches in the Treatment of Beta Thalassemia using Advance Mass Spectrometry".
4. Lecture in Regional Conference to Promote Safe and Secure Science in the Middle East, South and Southeast Asia, Sunway University, Selangor, Malaysia, February 5-9, 2018, entitled, "Effective Utilization of Mass Spectrometry for the Promotion of Safe and Secure Science: Some Recent Examples".
5. Lecture in One Day International Seminar-cum-Training Workshop on "Halal Food and Non-Food Science/Management", H.E.J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences (ICCBS), University of Karachi, Karachi, in association with SANHA Halaal Associates Pakistan, April 24, 2018, entitled, "Mass Spectrometry Frontiers in Halaal Research".
6. Invited lecture in 2nd International Conference "Natural Sciences, Climate and Biodiversity", The University of Azad & Jammu Kashmir, Muzaffarabad, Pakistan, September 15-17, 2018, entitled, "Unfolding of Natural Product Chemistry using Mass Spectrometric Tools".
7. Invited lecture in 2nd International Symposium on Natural Products for the Future (ISNPF-2), H.E.J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences (ICCBS), University of Karachi, Karachi, Pakistan, November 4-6, 2018, entitled, "Phytochemical Analysis using Liquid Chromatography-Mass Spectrometry: A Solution or a Challenge".

8. Lecture in 30th International Symposium on the Chemistry of Natural Products, National and Kapodistrian University of Athens (UoA), Athens, Greece, November 25-29, 2018, entitled, "Mass Spectrometric Dereplication of Natural Products Using Mass Spectrometry Integrated Approach".
9. Invited lecture in World Halal Summit 2018 (WHS 2018), Istanbul, Turkey, November 29-December 1, 2018, entitled, "Metabolomic Approach cum Advanced Mass Spectrometry Tools for Meet Differentiation of Zabeeha and Non-Zabeeha Slathered Animals: Chicken as a Case Study".
10. Invited lecture in Asian Symposium on Medicinal Plants, Spices, and other Natural Products XVI (ASOMPS XVI), University of Peradeniya, Colombo, Sri Lanka, December 12-14, 2018, entitled, "Mass spectrometry Integrated Approach for Rapid Dereplication of Natural Products".
11. Invited speaker at the 4th Hamdard International Conference on Unani Medicine entitled, "Mass Spectrometry Frontiers for the Rapid Dereplication of Medicinal Plants: *Withania somnifera* as a Case Study", organized by Hamdard University from 9-11 January, 2017 at Hamdard University, Karachi.
12. Invited Lecture entitled "Mass spectrometry applications in Phytomics and diseased-based metabolomics: some recent examples from the International Centre for Chemical and Biological Sciences", February 13 2017, University of Manchester, UK.
13. Invited Lecture entitled "Mass Spectrometric Applications in Biomedical Sciences: Some Recent Examples from the ICCBS" April 27-30 2017, Abbottabad University of Science & Technology, Abbottabad, Pakistan.
14. Invited Lecture entitled "Digging of Phytochemicals using Mass Spectrometry Machines" August 22-24 2017, 1st International Conference of TWAS Young affiliates network (TYAN), Rio de Janeiro, Brazil.
15. Resource person of the workshop entitled "Binational Capacity Building Workshop on Phytochemical Research and Development", October 22-27 2017, Organized by Al-Farabi Kazakh National University, Almaty, Kazakhstan.
16. Invited Lecture entitled "Mass Spectrometry in Biomedical Research: Some Recent Examples from the ICCBS" October 9 2017, Organized by Center for Research in Molecular Medicine (CRiMM)/Institute of Molecular Biology and Biotechnology (IMBB), The University of Lahore, Lahore, Pakistan.
17. Invited Speaker at the MMDR entitled, "Understanding the Progression of Preleukemic diseases towards Leukemia using Multi Omics Approach with Advanced Mass Spectrometric Tools", November 6-9 2017, Organized by Dr. Panjwani Center for Molecular Medicine and Drug Research, ICCBS, University of Karachi, Karachi, Pakistan.

18. Invited Lecture entitled "Application of Modern Mass Spectrometry Tools in Foodomics: Some Recent Examples", December 18-20 2017, at the 11th International Conference of Pakistan Society for Microbiology, organized by the Institute of Food Science and Nutrition, Bahauddin Zakariya University, Multan, Pakistan.
19. Invited lecture on 14<sup>th</sup> EuAsC<sub>2</sub>S entitled "Untargeted Metabolomics Digging for Cancer Biomarker Search using Mass Spectrometry Machines" organized by HEJ, ICCBS from 15-18 December 2016 at ICCBS, Karachi, Pakistan.
20. Invited speaker at the 27th National and 15th International Conference of Chemistry entitled "Untargeted Metabolomics Snapshot of Cancer Samples for Biomarker Search" organized by the Department of Chemistry, University of Malakand, Malakand, Pakistan during August 21-25, 2016.
21. Invited speaker at the 11th International Symposium on Analytical and Environmental Chemistry (ISAEC-2016) entitled, "Probing of molecules in finely powdered plant material to plant extract based on advanced mass spectrometric techniques", organized by National Centre of Excellence in Analytical Chemistry, University of Sindh, Jamshoro, Pakistan., from 7-8 March, 2016.
22. Invited speaker at the Three-day Colloquium on Role of Chemistry in Environmental Protection and Drug entitled, "Digging of Phytochemicals using Mass Spectrometry Machines", Organized by Department of Chemistry, Jinnah University for Women, Karachi, from 1-3 September, 2016.
23. Invited speaker at the 29th International Symposium on the Chemistry of Natural Products (ISCNP-29) and the 9th International Conference on Biodiversity (ICOB-9) entitled, "Mass Spectrometric Dereplication of Natural Products using Structure-Fragmentation Relationship (SFR) Approach", in Izmir-Turkey during September 24-27, 2016.
24. Resource person of the one-day Seminar cum workshop entitled "the Use of Advance Mass Spectrometry Tools in Research" organized by Bahadur Khan Wali University, Quetta, Pakistan on 22nd July, 2016
25. Invited lecture on MMDR entitled "Lung Cancer Metabolomics and Chemometric Analysis: A Promising Approach for Early Diagnosis" organized by PCMD, ICCBS from 12-15 January 2015 at ICCBS, Karachi, Pakistan.
26. Resource Person at NASIC conference cum workshop on "herbal drug development for socio-economic uplift in developing world", delivered lecture on Modern Extraction and Isolation Techniques, organized by The University of Jordan from 6-8 September 2015 at University of Jordan, Amman, Jordan.
27. Invited Lecture on 1st International Conference on Natural Products and Drug Discovery Mass Spectrometric entitled "Dereplication Approach for Plant Extract and Plant Powder: A Case Study on *Withania somnifera*" organized by The University of Jordan from 9-11 September 2015 at University of Jordan, Amman, Jordan.

28. Invited Lecture delivered on “Probing of Molecules in Finely Powdered Plant Materials to Plant Extract Based on Advanced Mass Spectrometric Tehniques”, 5-8 October 2015, organized by The Islamia University of Bahawalpur Pakistan.
29. Invited Lecture on Seminar in the use of Mass spectrometry in organic chemistry, entitled “Probing of Molecules Using ESI and MALDI Mass Spectrometry” at 18, November 2015, organized by Department of Chemistry, Urdu Science University.
30. Delivered a lecture enlilted, “Analysis of plant materials by Direct Laser Desorption Ionization (DALDI) Mass spectrometry” at University of Geneva, Switzerland.
31. Lecture in 2nd International conference Driving Research towards Economy IFS, entitled, “Comprehensive Metabolomics Analysis of Human Plasma by GCMS: A Case Study on Metabolomics Fingerprinting of Lung Cancer Patients”, from 13-14, November 2014, at Kandy, Srilanka,.
32. Lecture in NASIC Workshop on Modern Spectroscopic Techniques and their Applications in Structure Determination, entitled, “Mass Spectrometry for Proteomics and Metabolomics”, organized by H. E. J. Research Institute of Chemistry, ICCBS, under the auspices of Network of Academies of Science in Islamic Countries (NASIC) from 1-3, December, 2014, at ICCBS, Karachi, Pakistan
33. Lecture in NASIC Workshop on Modern Spectroscopic Techniques and their Applications in Structure Determination, entitled, “Application of Tandem Mass Spectrometry in Structural Elucidation”, organized by H. E. J. Research Institute of Chemistry, ICCBS, under the auspices of Network of Academies of Science in Islamic Countries (NASIC) from 1-3, December, 2014, at ICCBS, Karachi, Pakistan.
34. Invited speaker at 14th Asian Symposium on Medicinal Plants, Spices and Other Natural Products entitled, “High-Throughput Analysis of Plant Metabolites Based on Recent Mass Spectrometric Techniques: Molecules in Finely Powdered Plant Material to Plant Extract”, organized by HEJRIC, ICCBS from 09-12 December at ICCBS, Karachi, Pakistan.
35. Plenary session Speaker at KDU international Research Symposium entitled “Pattern-based Peptide Profiling of Lung Cancer Patients by MALDI-TOF-MS and Chemometrics analysis” from 22-23 August 2013 at General Sir John Kotelawala Defence University, Srilanka.
36. Invited presentation entitled, “Metabolomics and Cancer Research” from 23th June 2013 at Institute of Sustainable Halophyte Utilization, University of Karachi, Pakistan.
37. Invited speaker entitle “Mass Spectrometry: from lead compounds identification to disease biomarker identification” from 23 march 2013 at Bahauddin Zakariya University Multan, Pakistan.
38. Invited speaker at International & 24th National Chemistry Conference entitled, “Direct Laser Desorption Ionization Mass Spectrometry (DLDI-MS) for Plant Metabolites Analysis: An Ambient and High-throughput Mass Spectrometry Approach”, organized by Chemical Society of Pakistan from October 28-30, 2013 at Institute of Chemical Society Bahauddin Zakariya University Multan, Pakistan.

39. Session speaker at 4th International Symposium-cum-Training course on Molecular Medicine and Drug Research entitled, "Comprehensive Metabolites Profiling of Human Plasma by Applying Different Fractionation Techniques through GCMS", organized by PCMD, ICCBS from January 7-10, 2013 at ICCBS, Karachi, Pakistan.
40. Lecture delivered at 11th International & 23rd National Chemistry Conference, 15-17th October, 2012, University of Peshawar, Peshawar, Pakistan entitled, "Plasma analysis of Non-smokers, Smokers and Lung Cancer Patients for Pattern-Based Differentiation Profiling of Proteins and Peptides by Magnetic Bead Technology with MALDI-TOF MS"
41. Lecture delivered at 13th International Symposium on Natural Products Chemistry, 22-25th September, 2012, Karachi, Pakistan entitled, "Rapid Dereplication Approach in Natural Products Chemistry Based on Liquid Chromatography Electrospray Tandem Mass Spectrometry (LC-ESI-MS/MS)- A case Study on *Sarcococca Coriacea*".
42. Lecture delivered at BioCon2012-Biochemistry in the Post Genomics Era, 9-12 July 2012 entitled "Pattern-Based Differentiation Profiling of Low Molecular Weight Proteins and Peptides in Plasma Samples of Non-smokers, Smokers and Lung Cancer Patients by Magnetic Bead Technology with MALDI-TOF MS"
43. Invited Lecture delivered at International Conference held in New Delhi, during February 15-18, 2012, entitled TLC Densitometric Method Development and Validation for the Simultaneous Determination of Insects and Pests Controlling Agents, Permethrin, Esbiothrin, Alpha-cypermethrin and Deltamethrin in House-hold Products
44. Lecture delivered at National Sciences Conference, Roadmap of Cutting Edge Technologies, 10th-12th January 2012, PMAS-Arid Agriculture University, Rawalpindi-Pakistan entitled, "New Classes of Compounds as Alternate Laser Desorption/ Ionization Matrices".
45. Lecture delivered at ANRAP-IFFASA workshop on Natural products for Diabetes, 31st Dec. 2011-3rd January 2012, Dhaka, Bangladesh, entitled, "Mass Spectrometric Advancement for High-throughput Phytochemical Analysis.
46. Lecture delivered at The 1st Annual Conference of Middle-Eastern Association for Cancer Research (MEACR), 27th-29th December 2011, Tanta University, Egypt, entitled, "Plasma analysis of Non-smokers, Smokers and Lung Cancer Patients for Pattern-Based Differentiation Profiling of Proteins and Peptides by Magnetic Bead Technology with MALDI-TOF MS".
47. Lecture delivered at Cancer Conference organized by Shoukhat Khanum Cancer Memorial Hospital, 18-20th November, 2011 entitled, "Pattern-Based Differentiation Profiling of Low Molecular Weight Proteins and Peptides in Plasma Samples of Non-smokers, Smokers and Lung Cancer Patients by Magnetic Bead Technology with MALDI-TOF MS".
48. 10th International and 22nd National Chemistry Conference" held on 21st-23rd November, 2011 at Agriculture University, Faisalabad. Lecture entitled, "Rapid Dereplication Approach in Natural Product Chemistry based on Liquid Chromatography

- Electrospray tandem mass spectrometry (LC-ESI-MS/MS)-A Case Study on *Withania somnifera*".
49. 3rd Chemistry Conference 2011 on Recent Trends in Chemistry, October 17-19, 2011, Organized by Chemistry Division, PINSTECH entitled HPTLC-Densitometry Mass Spectrometric Utilization in the Chemical Fingerprinting of Herbal Drugs-A Case Study on *Commiphora mukul*
  50. Improving Capacities of Research and Identification of Marketable Science and Technology Research Graha Widya Bhakti, 10 -13 October 2011, Serpong - Indonesia entitled "Marketable Science Research of the International Center for Chemical and Biological Sciences (ICCBS)"
  51. Afro-Asia workshop on Advance topics in Chemistry 2011 conducted by JNCASR June 3-17, Bangalore (India), funded by TWAS. entitled "Plant Steroids: Chromatographic Method Development and SFR Studies".
  52. 3rd International Symposium-cum-Training Course on Molecular Medicine and Drug Research (mmdr-3). January 03-06, 2011, entitled "Comparative Profiling of Low Molecular Weight Proteins in Healthy, Smokers and Lung Cancer Plasma by Magnetic Bead Technology with MALDI-TOF MS".
  53. 12th International Symposium on Natural Product Chemistry, International Center for Chemical and Biological Sciences, University of Karachi, Karachi, Pakistan, November 22-25, 2010, entitled "ESI-QqTOF-MS/MS Analysis and Development of Structure-Fragmentation Relationship (SFR) in Withanolides".
  54. 8th International and 20th national conference, 15-17th February, 2010, organized by Chemical Society of Pakistan, Islamabad, entitled "Chromatographic Method Development and Validation for the Quantification of E- and Z-Guggulsterones in *Commiphora mukul* from Raw Materials to Finish Products".
  55. Workshop on Separation Science and the OMICS, School of Biological Sciences, University of the Punjab, Lahore, Pakistan, April 6-10, 2009, entitled "Applications of Mass Spectrometry in Proteomics".
  56. Research Protocol Development Workshop, 8-10, March, 2007, L.E.J. University of Karachi, Pakistan, entitled "Ethics in Research".
  57. 7th International and 17th National Chemistry Conference", 26-28 Feb., 2007, D. I. Khan, Pakistan, entitled "Biotransformation of Bioactive Natural Product".
  58. Federation of Asian Chemical Society Symposium and EXCO meeting, March 29-30, 2006, Japan, entitled "Novel Methods for Bioconversion of Bioactive Natural Products".
  59. Pak-China Bi-national Workshop on The Pharmacology and Standardization of Herbal Medicines Karachi, Pakistan, Oct. 22-27, 2004, entitled "Use of Analytical Instruments in the Standardization of Herbal Extracts".
  60. 3rd International and 13th National Chemistry Conference, Karachi, Pakistan, December 28-31, 2002, entitled "Microbial Transformation of Ambrox and Sclareolide".

61. 2nd International and 12th National Chemistry Conference, Karachi, Pakistan, February 4-6, 2001, entitled "Microbial Transformation of Steroids".

## 2)-Poster Presentations

1. **S. G. Musharraf**, M. I. Choudhary and Atta-ur-Rahman, Microbial Transformation of Bioactive Natural Products: 9<sup>th</sup> International Symposium on National Product Chemistry, Karachi, Pakistan, Jan. 10-13, 2004 (**Award Wining Poster**).
2. S. Adnan Ali Shah, M. I. Choudhary and Atta-ur-Rahman, **S. G. Musharraf**, F. Shaheen, "Solid Phase Hydroxylation of Steroids by *Aspergillus niger*, *Fusarium linni* and Plant Pathogen *Rhizopus stolonifer*", 9<sup>th</sup> International Symposium on National Product Chemistry, Karachi, Pakistan, Jan. 10-13, 2004.
3. Z. A. Siddiqui, S. M. I. Choudhary, **S. G. Musharraf** and M. Atif, "Fungal Transformation of Diosgenin", 9<sup>th</sup> International Symposium on National Product Chemistry, Karachi, Pakistan, Jan. 10-13, 2004.
4. **S. G. Musharraf**, M. I. Choudhary, F. Shaheen and Masood Pervez, "Microbial Transformation of Isolongifolen-9-one", 7th Eurasia Conference on Chemical Sciences, Karachi, Pakistan, March 9-12, 2002.
5. **S. G. Musharraf**, M. I. Choudhary and Atta-ur-Rahman, "Microbial Transformation of Antifertility Agents", Ethiestrone and Norethiesterone, Pakistan Bangladesh Bi-National Conference, Karachi, Pakistan, September 24-26, 2002.

## (C)- Patents

- 1 Novel hydroxylated enantiomers of (-) 3a, 6, 6, 9a-tetramethylperhydronaphtho [2, 1-b] furan as perfuming agents derived from a fungal fermentation process. Atta-ur-Rahman, M. I. Choudhary, **S. G. Musharraf**, A. Sami, US Patent # 20120301956, Publication date 2012/11/29

## (D)- Chapter in Books

- 1 "Microbial Transformation of Natural Products-A Tool for the Synthesis of Novel Analogues of Bioactive Substances" Atta-ur-Rahman, Choudhary, M. I., **Musharraf, S. Ghulam**. "Frontiers in Natural Product Chemistry", Bentham Science Publishers, p. 133 (15), Vol. 1, (2005).