

**NATIONAL CENTRE OF EXCELLENCE IN
ANALYTICAL CHEMISTRY,**

University of Sindh, Jamshoro

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Annual Report for the Period of

1st January 2016 – 31st December 2016

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Summary

The National Centre of Excellence in Analytical Chemistry, University of Sindh, during last **13** years has emerged as a strong institution of higher learning at par with other prestigious R & D institutions. Significant achievements are production of skilled manpower i.e. M.Phil and Ph.D's, international research publications, several national / international conferences / seminars, presentation of plenary lectures in conferences at home / abroad and providing continuous services to the local industry as well as the community. Several funded research projects are ongoing and few of them have completed. Their details are given in the report later.

The total number of international publications (listed in this report) is **41** in internationally recognized Journals. Beside this there are number of awards won by the faculty and the research students of this Centre during the reported period. This Center has developed academic linkages with Middle East Technical University, Turkey, Selcuk University, Konya, Turkey, Hacettepe University, Ankara, Turkey and Charles University, Prague, Czech Republic and Wake Forest University, Winston-Salem, USA. As a result of all these efforts this Centre is now being recognized internationally. The Centre has thus contributed significantly in raising the academic ranking of the University of Sindh, Jamshoro.

Faculty Strength

1. Prof. Shahabuddin Memon, Ph.D (Turkey) Postdoc. (*USA*)
(**Director**)
2. Prof. Tasneem G. Kazi, Ph.D (SU), Postdoc. (*USA*) (on Contract)
3. Prof. Shafi M. Nizamani, Ph.D. (*Perdue*, U.S.A), Postdoc. (*USA*) (on Contract)
4. Prof. Tufail Hussain Sheerazi, Ph.D. (SU), Postdoc. (*Canada*)
5. Prof. Sirajuddin, Ph.D. (Pesh. Univ.) Postdoc. (*Australia*)
6. Associate Prof. Dr. Najma Memon, Ph.D. (SU), Postdoc. (*USA*)
7. Associate Prof. Dr. Amber Rehana Solangi, Ph.D. (SU), Postdoc. (*Australia*)
8. Associate Prof. Dr. Farah Naz Talpur, Ph.D. (SU), Postdoc. (*Turkey*)
9. Assistant Prof. Dr. Hassan Imran Afridi, Ph.D. (SU), Postdoc. (*Ireland*)
10. Assistant Prof. Dr. Sarfaraz Ahmed Mahesar, Ph.D. (SU), Postdoc. (*Turkey*)
11. Assistant Prof. Dr. Aamna Baloch, Ph.D. (SU) Postdoc. (*Malaysia*)
12. Assistant Prof. Dr. Jameel Ahmed Baig Mughal, Ph.D. (SU), Postdoc. (*Turkey*)
13. Assistant Prof. Dr. Ayaz Ali Memon, Ph.D. (SU)
14. Lecturer Dr. Huma Ishaque Shaikh, Ph.D. (SU)

Awards achieved

- **HEC Best Research Paper Award 2016**

HEC awarded “Best Research Paper Award 2016” to **Prof. Tasneem Gul Kazi** on research publication of her group under the title “Evaluation of high levels of fluoride, arsenic species and other physicochemical parameters in underground water of two sub districts of Tharparkar, Pakistan: A multivariate study”, *Water Research*, 47(3) 1005-1020.

- **PAS Gold Medal 2016, in Chemical Sciences, including Pharmaceutical Sciences**

The Council of the Pakistan Academy of Sciences has awarded Prof. Dr. Tufail Hussain Sherazi **PAS Gold Medal 2016, in Chemical Sciences, including Pharmaceutical Sciences** in recognition of his outstanding research work in the subject.

- **Dr. Atta-ur-Rahman Gold Medal (2016), in Chemistry for Scientists under 40**

The Council of the Pakistan Academy of Sciences has awarded Dr. Jameel Ahmed Baig **Dr. Atta ur Rahman Gold Medal (2016) in Chemistry** for Scientists under 40 in recognition of his outstanding research work in the subject.

- **Post Doctoral Research Completed in Turkey**

During the current period the following Post-Doc Research Fellow of this Centre completed scholarship for one year under “**Research Fellowship Program for Foreign Citizens**” awarded by Technical Research Council of Turkey (**TUBITAK**).

Name of Research Fellow	Name of host University
Dr. Asif Ali Bhatti	Department of Chemistry, Selçuk University, Konya 42031, Turkey
Dr. Naeem Ullah	Erciyes University, Fen-Edebiyat Faculty, Department of Chemistry, 38039, Kayseri-Turkey

- **Part of Ph. D Research by Turkish Fellowship Grants (Completed)**

During the current period the following Research Fellows of this Centre completed scholarship for one year under “**Research Fellowship Program for Foreign Citizens**” awarded by Technical Research Council of Turkey (**TUBITAK**). They did part of their Ph.D. research in respective universities of Turkey.

Name of Research Fellow	Institution
Mr. Abdul Qayoom Laghari	Department of Chemistry, Karadeniz Technical University, Trabzon 61080, Turkey
Mr. Ashfaque Bhatti	Department of Chemistry, Karadeniz Technical University, Trabzon 61080, Turkey
Ms. Kosar Rajar	Department of Physics and Engineering, Istanbul Technical University, Istanbul, Turkey
Mr. Razuim Soomro	Department of Chemistry, Fatih University, Istanbul, Turkey
Ms. Tahira Qureshi	Department of Chemistry, Hacettepe University, Ankara-Turkey
Mr. Jamshed Ali	Gaziosmanpasa University, Faculty of Science and Arts, Chemistry Department, 60250 Tokat, Turkey

- **Part of Ph. D Research by Turkish Fellowship Grants (Ongoing)**

During the current period the following Research Fellows of this Centre were granted scholarship for one year under “**Research Fellowship Program for Foreign Citizens**” awarded by Technical Research Council of Turkey (**TUBITAK**). They are pursuing their research at respective universities of Turkey.

Name of Research Fellow	Institution
Mr. Aijaz Ahmed Bhutto	Department of Chemistry, Suleyman Demirel University, Isparta, Turkey
Ms. Almas Fatima Sindhu	Dept. of Chemistry, Ankara University, Ankara, Turkey
Ms. Tayyaba Shaikh	Nanotechnology Research Center, Sabanci University, Istanbul, Turkey
Mr. Muhammad Tariq Shah	Dept. of Physics Engineering, Istanbul Technical University, Turkey
Ms. Sanam Soomro	Department of Chemistry, Selcuk Univerity, Konya, Turkey
Mr. Pertab Menghwar	Department of Chemistry, Erciyes University, Kayseri, Turkey
Mr. Abdul Haleem Panwer	Faculty of Arts & Sciences, Gazi Usman Pasha University, Tokat, Turkey
Mr. Tasawar Ali	Faculty of Arts & Sciences, Ondokuz Mayis University, Samsun, Turkey
Mr. Masood Hussain	Department of Chemistry, Selcuk Univerity, Konya, Turkey

- **Ongoing HEC Indigenous Ph.D. Fellowships**

The following Ph.D. Scholar of this center has been awarded HEC indigenous 5000 Fellowships fully funded by HEC.

1. **Mr. Anwar Ali Chandio** working on “*Synthesis and characterization of Calix [4] arene metal complexes and their applications*”

Details of Research Projects

- **Ongoing Funded Research Projects**

- **Nationally Funded**

- Research project on “*Nutritional Assessment of Selected Non-Traditional Vegetables of Sindh*” has been funded by HEC. The total cost of the project is Rs. 6.25 millions. PI: Prof. S.A. Sheikh, Co-PI: Prof. S.M. Nizamani (April 2015- April 2017).
- Research project on “*Metal Ion Imprinted Polymers (Miips): Novel Material for Pre-concentration and Separation of Total Arsenic in Aqueous Systems*” has been funded by Pakistan Science Foundation. The total cost of the project is Rs. 2.0 millions. P.I. Dr. Aamna Balouch, Co-PI: Prof. Dr. Muhammad Iqbal Bhangar (2016-2018).

- **Internationally Funded**

- Research project on “*Evaluation of Chromium Speciation in Drinking Water, Domestic Waste Water and Industrial Effluents of Sindh, Pakistan and its Bio-Remediation*” has been funded by The World Academy of Sciences (TWAS). The total cost of the project is Rs. 1.2 millions. PI: Dr. Jamil Ahmed Baig (Duration 18 months).
- Research project on “*Empowering of Pakistani Women through translational research in the sciences: Waste-to-Energy Conversion, and Water Purification Technology Development*” has been funded by Higher Education Commission under Pak-US Science and Technology Cooperation Program. The total cost of the project is Rs. 21.05 millions. PI: Dr. Najma Memon.
- Research project on “*Characterization, Separation and Encapsulation of Valuable Components from Canola Oil Deodorizer Distillates*” has been funded by The Research Institute of Food Science and Technology (RIFST), Mashhad, Iran. The total cost of the project is Rs. 1.15 millions. P.I. Prof. Dr. Tufail Hussain Sherazi.

Degrees Awarded

- Ph.D Degrees Awarded**

Total 05 Research Scholars of the Center successfully fulfilled the requirements for the award of Ph.D. degree. They were awarded degree of Ph.D. by University of Sindh.

S. No.	Name of Student	Topic	Supervisor
1.	Ms. Sadaf Sadia	Concentration of toxic elements (As, Cd, Ni, Pb, Cu and Hg) in different smokeless tobacco products consumed in Pakistan and its impact on consumers	Prof. Tasneem Gul Kazi, Dr. Hassan Imran Afridi
2.	Mr. Sibghatullah Memon	Synthesis of sorbent material for the removal of persistent organic pollutants(POPs) from aqueous media	Prof. Shahabuddin Memon, Dr. Najma Memon
3.	Ms. Sana Jawaid	Assessment of adulterants in dairy milk	Dr. Farah Naz Talpur Prof. Shafi Muhammad Nizamani
4.	Mr. Razium Soomro	Synthesis, Characterization and applications of metal and metal oxide nanostructures	Prof. Sirajuddin, Dr. Najma Memon, Prof. Tufail Hussain Sherazi
5.	Mr. Naeem Ullah	Development of advance extraction methods for the determination of metals in different environmental samples	Prof. Tasneem Gul Kazi, Dr. Hassan Imran Afridi

M.Phil Degrees Awarded

Total 08 Research Scholars of the Center successfully fulfilled the requirements for the award of M.Phil degree. They were awarded degree of M.Phil by University of Sindh.

S. No	Name of Student	Topic	Supervisor
1.	Ms. Aamna Najeeb	Development of capillary elctrophoresis method for the determination of skin whitening agents in cosmetic products	Dr. Amber R. Solangi Dr. Najma Memon
2.	Ms. Sadia Shakeel	Fabrication of gold nanoparticles and their applications	Dr. Hassan Imran Afridi, Prof. Tasneem Gul Kazi, Prof. Sirajuddin, Dr. Farah Naz Talpur
3.	Ms. Erum Akhund	Synthesis and Characterization of Nickel Nano Particles and Their Applications	Dr. Amber R. Solangi Prof. Sirajuddin
4.	Ms. Shabana Gul Mugheri	Phytochemical and antioxidant study <i>ocimum Basilicum</i> (sweet basil)	Prof. Shahabuddin Memon, Dr. Najma Memon
5.	Mr. Manzar Khan Shaikh	Assessment of toxic compounds in smokeless tobacco products available in hyderabad, sindh	Dr. Ayaz Memon
6.	Mr. Zakir Hussain	Fabrication of electrospun ultrafine membranes for clean-up of preservatives	Dr. Najma Memon
7.	Ms. Ruqayya Shaikh	Preparation and characterization of Functional Metal-Nanoparticles and Their Application in Preconcentration/colorimetric Detection of Metal Ions.	Dr. Najma Memon Dr. Amber R. Solangi
8.	Mr. Muhammad Saqaf Jagirani	Application of Gold Nanoparticles for the Sensing of Anti-cancer Drugs	Dr. Sarfaraz Ahmed Mahesar, Prof. Dr. Tufail Hussain Sherazi, Prof. Dr. Sirajuddin

- **Ph.D. Thesis Submitted for Examination**

Following Research Fellows of the Centre have completed work and submitted their Ph.D. thesis during the current year to the University of Sindh for Examination:

1. Mr. Ashfaqe Bhatti
2. Mr. Kapil Dev brahman
3. Mr. Sham Kumar Wadhwa
4. Ms. Salma Aslam

- **Enrolled M.Phil / Ph.D. Research Fellows**

A total of **139** research fellows are continuing their research work in this Center, out of which **93** are M. Phil and **46** are Ph.D. research fellows.

The batches of **35** M. Phil Research Fellows and **20** Ph.D. Research Fellows have been recently inducted for academic session 2016-17.

Seminars / Conference / Workshops / Lectures Organized

The following activities were organized during 2016 by this Center;

- **NCEAC Lecture Series**

- **Prof. Pervaiz Masood** from Department of Chemistry, University of Calgary, Alberta, Canada delivered lecture on “*X-ray Crystallography*”.

- **Workshops Organized**

- **Application of Bio-analytical Techniques in the field of Physiology**

National Center of Excellence in Analytical Chemistry jointly organized with ISRA University a one day workshop on “**Application of Bio-Analytical Techniques in the field of Physiology**”. The participants were given demonstrations on different analytical instruments present in this Center.

- **Role of Chromatography in the analysis of biological compounds**

National Center of Excellence in Analytical Chemistry jointly organized with HEC a three days workshop on “**Role of Chromatography in the analysis of biological compounds**” from 26th to 28th September, 2016. The participants were given detailed training of GC-MS, GC- μ ECD, HPLC and IC for the analysis of biological compounds. The eminent professors of NCEAC, HEJ and Agricultural University, Faisalabad also participated efficiently in workshop and delivered lectures under the umbrella of workshop topic.

- **Symposiums Organized**

- **11th International Symposium on Analytical & Environmental Chemistry**

11th International Symposium on Analytical and Environmental Chemistry was held on 7th and 8th March 2016 in Shaheed Mohtarma Benazir Bhutto Convention Center, University of Sindh Jamshoro under the auspicious funding of Higher Education Commission of Pakistan and

Pakistan Science Foundation. The symposium was organized by the National Centre of Excellence in Analytical Chemistry (NCEAC), University of Sindh, Jamshoro.

Seminars / Conference / Workshops / Lectures attended by faculty in other Organizations / Universities during 2016

- **1st International Conference on Chemical Engineering & Exhibition**

Dr. Sarfaraz Ahmed Mahesar participated in 1st International Conference on Chemical Engineering and Exhibition organized by MUET, Jamshoro, Pakistan from January 14–16, 2016.

- **27th National & 15th International Chemistry Conference**

The University of Malakand organized 27th National & 15th International Chemistry Conference on Innovation & Sustainability. The Chemical Society of Pakistan organizes the most prestigious scientific event “**The National and International Chemistry Conference**” each year. This year the event was planned to be hosted by the Department of Chemistry, University of Malakand. This international event was held on August 22-25, 2016. The Faculty members and Research Scholars of National Center of Excellence in Analytical Chemistry participated actively and during the conference 6 keynote lectures were delivered by Professors and Associate Professors whereas, scholars have presented their work as oral and poster presentations. There were 13 oral and 21 poster presentations from faculty and research scholars of NCEAC. The first and second prizes for the best poster presentations were also won by the research scholars of the Center. The Director, National Center of Excellence in Analytical Chemistry, Prof. Dr. Shahabuddin Memon was awarded a shield by the organizing committee of the conference for his contributions to the progress and development of chemical sciences.

- **2nd three days training workshop on “FOOD & BIO PROCESSING”**

Dr. Ayaz Ali Memon participated in 2nd three days training workshop on “FOOD & BIO PROCESSING” held from 22nd-24th September 2016; organized by Department of Chemical Engineering, Mehran University of Engineering & Technology, Jamshoro Pakistan

Course Work

- Details of Courses taught to M. Phil.

Code	Course Title	CH	Teachers
1st Semester (from July to Dec)			
CHEM-701	Atomic Spectroscopy	2	<i>Prof. T.G.Kazi Dr. Hassan Imran Afridi</i>
CHEM-702	Molecular Spectroscopy	2	<i>Dr. Amber R. Solangi, Dr. Ayaz Ali Memon Dr. Sarfaraz Ahmed Mahesar</i>
CHEM-703	NMR/MS	3	<i>Prof. S. T. H. Sherazi Prof. Shahabuddin Memon Dr. Farah Naz</i>
CHEM-704	Electroanalytical Techniques	2	<i>Prof. Sirajuddin Dr. Amber R. Solangi</i>
CHEM-705	Chemometrics	2	<i>Dr. Hassan Imran Afridi, Dr. Aamna Balauch</i>
CHEM-706	Lab Work, Computer Lab	N.C	<i>Dr. Ayaz Memon</i>
CHEM-707	Environmental Chemistry	2	<i>Dr. Najma Memon Prof. S.M. Nizamani,</i>
CHEM-708	Chemical Safety	1	<i>Dr. Huma Ishaque Shaikh</i>
CHEM-751	Chromatographic Techniques	2	<i>Dr. Najma Memon Dr. Farah Naz Talpur</i>
Sub-Total		16	
2nd Semester (from Jan to June)			
CHEM-752	Nanotechnology/Biosensors	2	<i>Prof. Sirajuddin</i>
CHEM-753	Chemometrics-II	1	<i>Dr. Hassan Imran Afridi Dr. Jameel Ahmed Baig</i>
CHEM-754	Polymer Chemistry	2	<i>Prof. Shahabuddin Memon Dr. Huma Ishaque Shaikh</i>
CHEM-755	Electronics & Chemical Instrumentation	1	<i>Dr. Sarfaraz Ahmed Mahesar Dr. Ayaz Ali Memon</i>
CHEM-756	Environmental Analytical Chemistry	1	<i>Prof. S.M. Nizamani Dr. Amber R. Solangi</i>
CHEM-758	Thermal Methods	1	<i>Prof. T. G. Kazi</i>
CHEM-759	Scientific Writing in Analytical Chemistry	N.C	<i>Prof. T. G. Kazi Prof. Shahabuddin Memon</i>
Sub-Total		08	
Courses-Total		24	

- **Details of Courses Taught to Ph.D.**

Code	Course Title	CH	Teacher
1st Semester			
CHEM-900	Supramolecular Chemistry	2	<i>Prof. Shahabuddin Memon, Dr. Huma Ishaque Shaikh</i>
CHEM-901	Special Topics	1	<i>Concerned Supervisor</i>
CHEM-902	Food Analytical Chemistry	2	<i>Prof. T. G. Kazi, Dr. Farah Naz, Dr. Najma Memon, Dr. Sarfaraz Ahmed Mahesar</i>
CHEM-903	Advanced Chromatographic Techniques	2	<i>Dr. Najma Memon</i>
CHEM-904	Bioanalytical Chemistry	2	<i>Prof. T. G. Kazi, Prof. S. M. Nizamani, Dr. Farah Naz</i>
Sub-Total		9	
2nd Semester			
CHEM-905	Forensic Analytical Chemistry	2	<i>Prof. T. G. Kazi, Prof. S. M. Nizamani, Dr. Najma Memon</i>
CHEM-906	Advances in Analytical Spectroscopy	2	<i>Dr. Sarfaraz Ahmed Mahesar Dr. Ayaz Ali Memon</i>
CHEM-907	Advanced Electroanalytical Techniques	1	<i>Prof. Sirajuddin</i>
CHEM-908	Surface Characterization Techniques	2	<i>Dr. Amber R. Solangi</i>
CHEM-909	Green Analytical Chemistry	1	<i>Dr. Amber R. Solangi Prof. S. M. Nizamani</i>
CHEM-910	Chemoinformatics	1	<i>Dr. Hassan Imran Afridi Dr. Jameel Ahmed Baig</i>
Sub-Total		9	
Courses-Total		18	

• **Faculty Seminars of Research Fellows held During 2016**

A total of 69 M. Phil and 13 Ph. D seminars of the Research Scholars of this Centre were held during this period.

S.No	Name of Student	Title of Seminar	Name of Supervisors
1.	Ms. Salma Aslam Final Ph.D. Seminar	Imbalance of Micrountrients in Scalp Hair of Hepatitis Patients	Prof. Tasneem Gul Kazi, Dr. Hassan Imran Afridi
2.	Mr. Jamshed Ali Ph.D. 2 nd Seminar	Chemical Analysis of Arsenic and Mercury in Coal of Thar Coalfield and Their Interaction with Adjoining Aquifer Water and Solid Matrices: An Environmental Impact Study.	Prof. Tasneem Gul Kazi, Dr. Hassan Imran Afridi & Dr. Jameel Ahmed Baig
3.	Mr. Abdul Haleem Panhwar Ph.D. 2 nd Seminar	Calcium and Magesium Contents in Scalp Hair of Subjects having Different Physiological Disorders	Prof. Tasneem Gul Kazi, Dr. Hassan Imran Afridi
4.	Ms. Mariam Shahzadi Ph.D. 2 nd Seminar	Evaluate the level of Aluminum and Manganese in scalp hair samples of human subjects having different neurological disorders	Dr. Hassan Imran Afridi,
5.	Mr. Gul Ameer Sumbal Ph.D. 2 nd Seminar	Decontanminatiopn of Poulrry Feed from Mycotaxins	Prof. Syed Tufail Hussain Sherazi, Prof. Muhammad Iqbal Bhangar, Prof. Shafi Muhammad Nizamani, Dr. Sarfaraz Ahmed Mahesar
6.	Ms. Farah Amin Ph.D. 2 nd Seminar	Biosorption of fluoride from aqueous system by fungal biomass	Dr. Farah Naz Talpur
7.	Mr. Muhammad Ali Surhio Ph.D. 2 nd Seminar	Biodegradation of phthalate esters by selected microorganisms	Dr. Farah Naz Talpur Prof. Shafi Muhammad Nizamani
8.	Ms. Almas Fatima Ph.D. 2 nd Seminar	Determination of selected flavonoids from biological and natural samples using capillary electrophoresis	Dr. Amber R. Solangi, Dr. Saima Memon, Dr. Najma Memon
9.	Ms. Kosar Rajar Ph.D. 2 nd Seminar	Catalytic application of metal & metal oxide nanoparticles	Prof. Dr. Sirajuddin, Dr. Aamna Balouch, Prof. Dr. Muhammad Iqbal Bhangar
10.	Mr. Abdul Sattar Chang M.Phil 2 nd Seminar	Isolation of valuable products from palm oil deodorizer distillate	Prof. Tufail Hussain Sherazi, Dr. Sarfaraz A. Mahesar, Dr. Aftab Ahmed Kandhro
11.	Ms. Saba Muneer M.Phil 1 st and Ph.D. 2 nd Seminar	Synthesis and bioactivity evaluation of some calix[n]arene derivatives	Prof. Shahabuddin Memon
12.	Ms. Fozia Chang	Synthesis, Characterization and	Dr. Najma Memon, Prof.

	M.Phil 1 st seminar	Analytical Application of metal organic framework	Shahabuddin Memon
13.	Ms. Sanam Anam M.Phil 1 st seminar	Generation of Food Composition for Pakistan	Dr. Najma Memon, Prof. Shahabuddin Memon
14.	Ms. Samia Siddiqui M.Phil 1 st and Ph.D 2 nd seminars	Bimetallic nanoparticles and their applications in sensors and catalysis	Prof. Sirajuddin, Dr. Farah Naz
15.	Ms. Marvi Kanwal Talpur M.Phil 1 st Seminar	Extraction, purification and Characterization of Anthocyanins from selected Indigenous Fruits of Sindh, Pakistan	Dr. Farah Naz, Prof. Shafi Muhammad Nizamani
16.	Ms. Shahneela Almani M.Phil 1 st Seminar	Omega-3 fatty acids and conjugated linoleic acid in fresh and processed meat market in Hyderabad	Dr. Farah Naz, Dr. Najma Memon
17.	Mr. Muneer Ahmed Mugheri M.Phil 1 st Seminar	The Level of Nickel and Cadmium in Blood and Pleural Fluid of Patients Having Lung Disorders.	Dr. Hassan Imran Afridi & Prof. Tasneem Gul Kazi
18.	Ms. Tahira Sarwar M.Phil 1 st and Ph.D. 2 nd Seminars	Synthesis of functional materials and their application as drug delivery systems	Prof. Shahabuddin Memon
19.	Ms. Safia Sanam M.Phil 2 nd Seminar	Drug Based Synthesis of Precious Metal Nanoparticles and Their Application for Electrochemical Sensing.	Prof. Sirajuddin, Dr. Amber R. Solangi
20.	Ms. Saba Waris M.Phil 2 nd Seminar	Microbial Production of Conjugated Linolenic Acid By Linolenic Acid	Dr. Farah Naz Talpur, Dr. Amber R. solangi
21.	Mr. Zakir Hussain M.Phil 2 nd Seminar	Fabrication of electrospun ultrafine membranes for clean-up of preservatives	Dr. Najma Memon
22.	Ms. Paras Azadi M.Phil 2 nd Seminar	Adsorptive Removal of Thiophenic Compounds from Hydrocarbon Fuel	Dr. Najma Memon, Dr. Amber R. Solangi
23.	Mr. Tarique Panhwar M.Phil 2 nd Seminar	Production of biodiesel from blends of cotton and castor seed oil	Dr. Sarfaraz A. Mahesar, Dr. Aftab Ahmed Kandhro Dr. Farah Naz Talpur
24.	Mr. Zahid Hussain Laghari M.Phil 2 nd Seminar	Essential oil characterization from the waste of pomegranate fruit	Prof. Tufail Hussain Sherazi, Prof. Sirajuddin, Dr. Sarfaraz A. Mahesar
25.	Mr. Manzar Khan Shaikh M.Phil 2 nd Seminar	Assessment of toxic compounds in smokeless tobacco products available in hyderabad, sindh	Dr. Ayaz Memon
26.	Ms. Roomia Memon M.Phil 2 nd Seminar	Nutrient profiling of wheat varieties in sindh	Dr. Ayaz Memon, Dr. Najma Memon
27.	Mr. Anwar Ali Chandio M.Phil 2 nd Seminar	Synthesis of calix[4]aren metal complex and their application	Prof. Shahbuddin Memon Dr. Ayaz Memon
28.	Mr. Muhammad Waris M.Phil 2 nd Seminar	Evaluation of roxarson in poultry feed and litter	Dr. Jamil Ahmed Baig
29.	Mr. Muhammad Kashif Channa	Chromium speciation and remediation in industrial effluents	Dr. Jamil Ahmed Baig

	M.Phil 2 nd Seminar		
30.	Ms. Nusrat Shahab Memon M.Phil 2 nd Seminar	Evaluation of Calcium, Iron, Manganese and Lead in the biological samples of Thyroid Patients.	Prof. Tasneem Gul Kazi, Dr. Jameel Ahmed Baig
31.	Mr. Oan Muhammad M.Phil 2 nd Seminar	Study of poultry waste as a source of heavy metals to vegetables	Prof. Tasneem Gul Kazi, Dr. Jameel Ahmed Baig
32.	Mr. Shahnawaz Balouch M.Phil 2 nd Seminar	Evaluation lithium levels in drinking water and scalp hair samples of psychiatric patients	Prof. Tasneem Gul Kazi, Dr. Jameel Ahmed Baig
33.	Ms. Shazia Bhurguri M.Phil 1 st and 2 nd Seminar	Biodegradation of engine oil by selected microorganisms	Dr. Farah Naz, Prof. Shafi Muhammad Nizamani
34.	Ms. Aamna Khatoon M.Phil 2 nd Seminar	Development of capillary elctrophoresis method for the determination of skin whitening agents in cosmetic products	Dr. Amber R. Solangi Dr. Najma Memon
35.	Ms. Shabana Gul Mugheri M.Phil 2 nd Seminar	Phytochemical and antioxidant study <i>ocimum Basilicum</i> (sweet basil)	Prof. Shahabuddin Memon, Dr. Najma Memon
36.	Ms. Sadia Shakeel M.Phil 2 nd Seminar	Fabrication of gold nanoparticles and their applications	Dr. Hassan Imran Afridi, Prof. Tasneem Gul Kazi, Prof. Sirajuddin, Dr. Farah Naz Talpur
37.	Ms. Erum Akhund M.Phil 2 nd Seminar	Synthesis and Characterization of Nickel Nano Particles and Their Applications	Dr. Amber R. Solangi Prof. Sirajuddin
38.	Mr. Muhammad Saqaf Jagirani M.Phil 2 nd Seminar	Application of Gold Nanoparticles for the Sensing of Anti-cancer Drugs	Dr. Sarfaraz Ahmed Mahesar, Prof. Dr. Tufail Hussain Sherazi, Prof. Dr. Sirajuddin
39.	Mr. Mustafa Khan M.Phil 1 st and 2 nd Seminar	Variation in the level of Calcium, Copper, Iron, Cadmium and Lead in Kindney and Gallstone	Prof. Dr. T. G. Kazi Prof. Dr. Sirajuddin Dr. Hassan Imran Afridi
40.	Ms. Asma Akhtar M.Phil 1 st and 2 nd Seminar	Determination of iron, chromium and mercury in different smokeless tobacco products	Dr. Hassan Imran Afridi, Prof. T.G.Kazi, Dr. Jameel Baig
41.	Mr. Ashfaq Ali Bhutto M.Phil 1 st and 2 nd Seminars	Speciation of chromium in water samples by different analytical techniques	Dr. Jameel Baig, Dr. Hassan Imran Afridi
42.	Mr. Noman Khan M.Phil 1 st and 2 nd Seminar	Correlation of Calcium and Magnesium with Cadmium in Biological samples of different types of Blood Cancer Patients	Dr. Hassan Imran Afridi, Prof. T.G. Kazi, Dr. Muhammad Balal
43.	Ms. Areeba Khan M.Phil 1 st and 2 nd Seminar	Analytical characterization of guar and guar gum	Dr. Farah Naz Talpur, Dr. Hassan Imran Afridi
44.	Ms. Shagufta Qambrani M.Phil 1 st Seminar	Analysis of anthocyanin from selected vegetables	Prof. Shafi Muhammad Nizamani, Dr. Farah Naz Talpur, Dr. Aamna Balauch

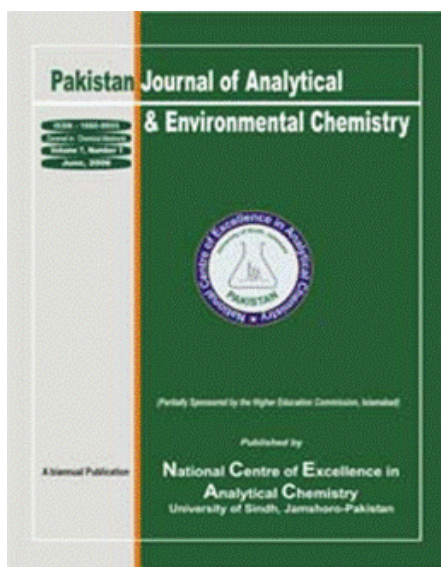
45.	Mr. Shahzad Laghari M.Phil 1 st Seminar	Biodegradation of selected pesticides by Bacillus sp	Dr. Farah Naz Talpur
46.	Mr. Taimoor Hassan M.Phil 1 st Seminar	Assessment of Trans Fat Content in Commercially Available Snack Foods	Dr. Sarfaraz Ahmed Mahesar, Prof. Dr. Tufail Hussain Sherazi
47.	Mr. Saeed Ahmed Lakho M.Phil 1 st Seminar	Electroanalytical Determination of Pharmaceuticals Using Clay Modified Electrode	Dr. Sarfaraz Ahmed Mahesar
48.	Mr. Majid Ali Baladi M.Phil 1 st Seminar	Determination of Vitamin A in Vegetable oils by FTIR Spectroscopy	Prof. Dr. Tufail Hussain Sherazi, Dr. Sarfaraz Ahmed Mahesar
49.	Ms. Anam Arain M.Phil 1 st Seminar	Evaluation of Fatty Acids Compositions Present in the Seed Oil of Psidium Guajava	Prof. Dr. Tufail Hussain Sherazi
50.	Ms. Hina Dawood Memon M.Phil 1 st and 2 nd Seminars	Assessment of Toxic Metals in Poultry Feed and Supplement	Dr. Jameel Baig
51.	Mr. Muhammad Bilal M.Phil 1 st and 2 nd Seminar	Development of advance extraction methods for the determination of heavy metals in water samples of different lakes	Prof. Dr. T. G. Kazi, Dr. Jameel Baig, Dr. Muhammad Balal Arain
52.	Ms. Saman Sabir M.Phil 1 st and 2 nd Seminar	Heterogeneous Catalysis for Biodiesel Production from Ziziphus Seed Oil	Dr. Aamna Balauch, Dr. Ayaz Memon
53.	Ms. Mariya Saleh M.Phil 1 st and 2 nd Seminar	Phytochemical Analysis of Cusenta Reflexa (Bay Paari)	Prof. Shahabuddin Memon, Dr. Ayaz Memon
54.	Mr. Raja Karim M.Phil 1 st and 2 nd Seminar	Determination of Polycyclic Aromatic Hydrocarbons in Vegetables Grown in Sindh, Pakistan	Dr. Amber R. Solangi
55.	Mr. Sanallah M.Phil 1 st Seminar	Nutritional Profiling of Non-Leafy Vegetables Cultivated in Sindh, Pakistan	Dr. Amber R. Solangi
56.	Ms. Sana Ahmed M.Phil 1 st and 2 nd Seminar	Development of Electro-analytical method for the detection of selected Triazine herbicides.	Dr. Huma Ishaque Shaikh, Dr. Amber R. Solangi
57.	Mr. Abdullah M.Phil 1 st Seminar	Pre-concentration and separation of selected toxic metals in aqueous systems by Metal Ion Imprinted polymers	Dr. Aamna Balauch
58.	Mr. Ali Muhammad M.Phil 1 st Seminar	Synthesis of pt-pd bimetallic nanoparticles on solid substrate by liquid phase deposition method and its application	Dr. Aamna Balauch
59.	Ms. Sehrish Khatri M.Phil 1 st Seminar	Development of Electrospun Cyclodextrin Fibers Based Stationary Phases in Thin	Dr. Najma Memon

		Layer Chromatography for Separation of Chiral Compounds	
60.	Ms. Aisha Kanwal M.Phil 1 st Seminar	Arsenazo-blended cellulose acetate nanofiber for selective and efficient removal of uranium from aqueous systems	Dr. Najma Memon, Prof. Dr. Shahabuddin Memon
61.	Ms. Kanwal Memon M.Phil 1 st Seminar	Synthesis and Applications of Trimetallic nanoparticles	Prof. Dr. Sirajuddin, Prof. Dr. Tufail Hussain Sherazi
62.	Mr. Ranjhan M.Phil 1 st and 2 nd Seminar	Synthesis of Calix [4] arene based material for Online Solid Phase Extraction	Prof. Dr. Shahbuddin Memon
63.	Mr. Abdul Qayoom M.Phil 1 st and 2 nd Seminar	Development of Electroanalytical method for the determination of Toxic metal ions in water	Prof. Dr. Sirajuddin, Prof. Dr. Tufail Hussain Sherazi
64.	Ms. Shahneela Shah M.Phil 1 st and 2 nd Seminar	Synthesis and applications of Aluminum selective biocompatible polymeric materials	Dr. Huma Ishaque Shaikh, Dr. Najma Memon
65.	Mr. Mustafa Khan M.Phil 1 st and 2 nd Seminar	Variation in the level of Calcium, Copper, Iron, Cadmium and Lead in Kindney and Gallstone	Prof. Dr. T. G. Kazi Prof. Dr. Sirajuddin Dr. Hassan Imran Afridi

Journals Published During 2016

PAKISTAN JOURNAL OF ANALYTICAL & ENVIRONMENTAL CHEMISTRY Volume 17 No. 1 2016 &
Volume 17 No. 2 2016

Two issues of the **Pakistan Journal of Analytical and Environmental Chemistry** had been brought in time. The copies of the journal were issued to all Universities and R&D organizations in the country and few abroad. The journal has now been recognized by the Higher Education Commission in “Y” category.



Available on line: <http://www.ceacsu.edu.pk/JOURNAL-1.htm>

: Directory of World Open Access Journals

LIST OF RESEARCH PAPERS PUBLISHED DURING 2016

IN NATIONAL/INTERNATIONAL JOURNALS

1. Ali J, Kazi TG, Afridi HI, Baig JA, Arain MS, Naeemullah, et al. The evaluation of sequentially extracted mercury fractions in Thar coal samples by using different extraction schemes. *International Journal of Coal Geology*. 2016;156:50-8.
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