

## CURRICULUM VITAE

### **PROF. DR. MUSA KALEEM BALOCH**

Meritorious Professor (BPS 22) and Dean Faculty of Sciences,  
Gomal University, Dera Ismail Khan, N.W.F.P Pakistan,

**Phone:**+92-966-714418 (Residence), +92-966-750130 (Office)  
+92-332-724-3824 (Cell)

**Fax:** +92-966-750255 (Att. Dr. M. K. Baloch)

Email: [musakaleem2001@yahoo.com](mailto:musakaleem2001@yahoo.com), [musabloch@hotmail.com](mailto:musabloch@hotmail.com)



- |   |   |
|---|---|
| <b>1 Highest qualification</b>  | <b>Ph. D (Peshawar University)</b>  |
| <b>2 Post/pre-doctoral experience of working/studying at foreign Universities</b> | <b>5 years</b> (Charles University Prague, Karlsruhe Technical University Germany, McGill University, Canada and Bayreuth University Germany) |
| <b>3 Administrative Experience</b>  | <b>30 years</b>   |
| <b>4 Teaching/Research experience:</b>  | <b>37 years</b>   |
| <b>5 Awards</b>   | <b>Tamgha-i-Imtiaz, Izaz-i- Fazilat, Best University Teacher ,2003</b>  |

### **PERSONAL**

- 1. Date & Place of Birth:** 04-04-1953, Dera Ismail Khan, Pakistan.
- 2. Languages:** English, German, Urdu, Siraiki, Pushto.
- 3. Permanent Address:** Street #1, Gillani Town, Dera Ismail Khan, Pakistan.

### **PUBLICATIONS**

- Books: i Published** Polymer characterization and their blend: polymer blending; published by VDM Verlag Dr. Müller (February 5, 2010)
- ii. In process** Two books are in process: 1. Introduction to polymer chemistry. 2. Introduction to absorption spectroscopy.

**Research paper published: 154**

**i. Foreign Journals 114**

**ii. Pakistani International/ 40**

**Referred Journals**

**Impact factor ≈117**

**Editor in Chief /Editor  
of Scientific Journals**

1. Editor, Journal of Research in Environmental Science and Toxicology
2. Member editorial board of the **International Journal of Brain and Cognitive Sciences**.
3. Member editorial board World Journal of Chemistry
4. Associate Editor, Journal of Chemical Society of Pakistan
5. Member, Editorial board, Gomal University Research Journal
6. At the panel of reviewers of various international journals.

**Thesis supervised/supervising: 91**

**M. Sc. 49**

**M. Phil 19**

**Ph. D 23**

**Research Projects Received: 13**

### **DETAIL OF ADMINISTRATIVE EXPERIENCE**

1. **Dean of Sciences (1.3.2012 till date)** Gomal University, Dera Ismail Khan, Pakistan
2. **Director (Dec. 2005–Sept 2007 and Feb. 2009- Feb. 2012)** High Tech Research Center, Gomal University, Dera Ismail Khan, Pakistan
3. **Project Director (July 2006- September 2007)** Establishment of Research Center for Polymer, Colloid and Surface Sciences, Gomal University, Dera Ismail Khan,

4. **Senior Tutor (March 2003- Sept 2007)** Gomal University, Dera Ismail Khan, Pakistan
5. **Project Director (Dec. 2003- Dec.2005)** Project “Setting of High Tech. Resource Lab at Gomal University, Dera Ismail Khan. Pakistan
6. **Project Director (June 2001- Dec.03).** Project “Strengthening of Labs and Libraries of Science Departments, Gomal University; D.I. Khan.
7. **Chairman (1992-93 & Dec. 1997 Dec.2004)** Department of Chemistry, Gomal University Dera Ismail Khan. Pakistan
8. **In charge Chairman. (1989-1992)** Department of Chemistry, Gomal University, Dera Ismail Khan, Pakistan
9. **Head of the Sections (1983- till date)** Physical and Analytical. & Environmental Chemistry of Chemistry Department, Gomal University
10. **In-charge /Supervisor of Chem. Store (1983-2005)** Department of Chemistry, Gomal University
11. **In-charge/Supervisor Library (1983- 2005)** Department of Chemistry, Gomal University.
12. **Warden (1982 -83)** Peshawar University, Pakistan

#### **DETAIL OF TEACHING/RESEARCH EXPERIENCE**

1. **Meritorious Professor (21-1-2012)** Gomal University, Dera Ismail Khan Pakistan
2. **Professor of Chemistry (Jan.16, 2004-Decem. 12, 2011)** Department of Chemistry, Gomal University, Dera Ismail Khan, Pakistan
3. **Faculty position (Sept 2007-December 2008)** Department of Chemical Engineering and Technology, Yanbu Industrial College, Saudi Arabia.
4. **Visiting Scientist (2001-02)** Physical Chemistry, University of Bayreuth, Germany
5. **Associate Professor (May, 1989-Jan.15, 2004)** Department of Chemistry, Gomal University, Dera Ismail Khan, Pakistan.

- |   |  |
|---|--|
| <b>6. Visiting Scientist (Jan. 1986-Aug.88)</b> | Department of Chemistry, McGill University, Montreal, Canada                               |
| <b>7. Assistant Professor (1983-May 1989)</b>   | Department of Chemistry, Gomal University, Dera .Ismail .Khan, Pakistan.                   |
| <b>8. Lecturer (1982-83)</b>                    | National Center of Excellence in Physical Chemistry, University of Peshawar, Pakistan.     |
| <b>9. Visiting Scientist (1982-`1983)</b>       | Institute of Mechanical Technology and Mechanics, Karlsruhe Technical University, Germany. |
| <b>10. Research Fellow (1979-81)</b>            | National Center of Excellence in Physical Chemistry, University of Peshawar, Pakistan.     |
| <b>11. Visiting Scientist (1978-79)</b>         | Department of Physical Chemistry, Charles University, Prague, Czechoslovakia.              |
| <b>12. Research Officer (1976-78)</b>           | National Center of Excellence in Physical Chemistry, University of Peshawar, Pakistan.     |
| <b>13. Demonstrator (1975-76)</b>               | Department of Chemistry, Gomal University, Dera Ismail Khan, Pakistan                      |
| <b>14. Lecturer (NDVP Scheme, 1974-75)</b>      | Department of Chemistry, Gomal University, Dera Ismail Khan, Pakistan                      |

### **ACADEMIC AWARDS**

- |   |   |
|---|---|
| <b>1. Civil award (Tamgha –I-Imtiaz, 2010)</b>      | Government of Pakistan conferred upon me Tamgha-I-Imtiaz, in 2010.                      |
| <b>2. Presidential award (Izaz-I Fazilat, 2007)</b> | Government of Pakistan conferred upon me Izaz-I Fazilat (Academic distinction) for 2007 |
| <b>4. Best University Teacher Award (2003)</b>      | Awarded by Higher Education Commission, Islamabad, Pakistan                             |
| <b>5. Visiting Scientist (2001-02)</b>              | <b>Department of Physical Chemistry</b> , University of Bayreuth, Germany               |

- |  |   |
|--|---|
| <b>6. Visiting Scientist (1986-88)</b> | Pulp & Paper Research Institute of Canada at<br>Department of Chemistry, <b>McGill University,</b><br><b>Canada</b> |
| <b>7. Visiting Scientist (1981-82)</b> | Institute of Mechanical Technology and Mechanics,<br><b>University of Karlsruhe, Germany.</b>                       |
| <b>8. Visiting Scientist (1978-79)</b> | Department of Chemistry, <b>Charles University,</b><br><b>Prague, Czechoslovakia.</b>                               |
| <b>9. Fellowship (1979-81)</b>         | Awarded by University Grants Commission,<br>Pakistan.   |
| <b>10. Fellowship (1976-78)</b>        | Awarded by Pakistan Science Foundation.   |
| <b>11. Merit Scholarship (1972-74)</b> | Awarded by University of Peshawar, Pakistan   |
| <b>12. Merit Scholarship (1970-72)</b> | Awarded by University of Peshawar, Pakistan   |

## **EDUCATION**

- |  |   |
|--|---|
| <b>1. Matriculation (1968)</b>   | Islamia Collegiate School, Peshawar, Pakistan.  |
| <b>2. F. Sc (1970)</b>   | Islamia College, Peshawar, Pakistan.  |
| <b>3. B. Sc (1972)</b>   | Government Postgraduate College, Dera Ismail<br>Khan, Pakistan.                           |
| <b>4. M. Sc (1974)</b>   | Department of Chemistry, University of<br>Peshawar, Pakistan.                             |
| <b>5. Postgraduate Course<br/>in Macromolecular<br/>Chemistry (1979)</b>   | Department of Physical Chemistry, Charles<br>University, Prague, Czechoslovakia           |
| <b>6. Ph. D Physical Chemistry<br/>(Characterization of Polymer<br/>&amp; Colloidal Systems by<br/>Different Techniques) (1981).</b> | National Center of Excellence in Physical<br>Chemistry, University of Peshawar, Pakistan. |
| <b>7. Postgraduate Course in<br/>Chemical Engineering and<br/>Physical Chemistry (1982).</b>   | Institute of Mechanical Technology and<br>Mechanics, University of Karlsruhe, Germany     |

**8. M. Sc. in Light Scattering**  
(2002)

Light Scattering University, Santa Barbara,  
California, U.S.A

**TRAINING RECEIVED**

1. Chemical Safety and Security Officer, Bangkok, Thailand
2. Operation of Rheometer and understanding material testing, Karlsruhe, Germany
3. Operation of NMR, Switzerland
4. Operation of DTA, TGA and DSC, London, UK
5. Operation of IR, UV spectrophotometer, New York, USA
6. Operation of Gas Chromatograph, New York, USA
7. Operation of Atomic Absorption Spectrophotometer, New York, USA
8. Operation of Static and dynamic light scattering photometers, Santa Barbara, USA
9. Chemical analysis of various food stuffs, Dhaka, Bangladesh

**Computer knowledge**

- i. Have the knowledge of using computer in teaching, research and administrative issues.
- ii. Have the knowledge of using different software like MS word, Excel, PowerPoint, uploading or downloading of material at internet etc.

**Research Interest:** Current research interests include:

1. Conformational behavior of polymers.
2. Adsorption of polymers over the solid surfaces.
3. Rheology of polymers and suspensions
4. Sedimentation of suspensions.
5. Electro-optical properties of suspension.
6. Polymer-surfactant interactions.
7. Emulsification of oil water system.
8. Solubilization of drugs.

9. Investigation and minimization of industrial impact over the environment.
10. Improvement in quality of Dhakki Dates/Mango fruits
11. Synthesis of biologically active Organometallic complexes.
12. Isolation, structure elucidation of biologically active compounds from indigenous medicinal plants.
13. Prolonging of shelf life of mango fruits

### **ACHIEVEMENTS**

1. Supervised **14** M. Phil and **14** Ph. D scholars.
2. Published **151** research papers in journal of international repute and earned the impact factor up to **151**.
3. Proposal for the establishment of Institute of Industrial Processing Technology and Management at Gomal University has been submitted.
4. Proposal for the establishment of Department of “**Applied and environmental Chemistry**” at Gomal University has been submitted.
5. Organized one day workshop over Sugar Industry University Interactions in 2011.
6. Organized an international chemistry conference as secretary of organizing committee; in February, 2007.
7. Organized One week refresher course in chemistry for in service teachers.
8. Arranged an International Chemistry Conference as member organizing committee in 1991
9. Established “**Research Center for polymer colloid and surface sciences**” at Gomal University, funded by HEC.
10. Established “**High Tech Research Center**” at Gomal University, funded by HEC.
11. Following two proposals were submitted to HEC through Mega project/ PC-1 for the establishment of:
  - i. **Institute for Isolation and Marketing of Natural Medicinal Product**
  - ii. **Food processing and packaging**
12. A proposal submitted by me has been approved by Gomal University for the establishment of an Islamic Science Academy. I hope it will start working soon
13. A proposal was submitted to PCSIR for the establishment of two research centers at Dera Ismail Khan:
  1. **Food processing and packaging.**
  2. **Material Science.**
14. Close collaboration has been established with Peshawar University, Quaid-I-Azam and Islamia University, Bahawalpur, Baluchistan University, Quetta, H.E.J., Institute of Chemistry, Karachi University. Department of Chemistry and Pharmacy, Sargodha University
15. The Department with the collaboration of HEC for the first time in its history arranged a refresher course in Chemistry for College teachers.

16. Millions of equipment, chemicals and glassware have been purchased for the Department.
17. All the formalities required for offering M. Sc. Clinical Chemistry at Department of Chemistry were completed.
18. M. Phil and Ph.D. program was initiated in the Department and now running at full swing.
19. An Analytical & Environmental Chemistry program has been offered at M. Sc, M. Phil and Ph.D. level
20. The Department has offered a new and unique program of its type "Diploma in Industrial Management and Processing"
21. The Department received several projects from different donor agencies.
22. Two instruments have been received from German Government on competition basis.
23. Several instruments and chemicals have been purchased for the Department.
24. The library of the Department has been strengthen and updated.

### **PROJECTS OBTAINED**

<b>S. No</b>	<b>Title</b>	<b>Sponsored by</b>	<b>Amount in Pak Rupees</b>	<b>P. Status</b>
1	Rheology of suspensions	DAAD, Germany	1200000.00	Completed
2	Electro-optical properties of polymers	Gomal University	150000.00	Completed
3	Characterization of polymers	Gomal University	100000.00	Completed
4	Investigating the Interaction of Polymers with surfactants	DAAD, Germany	2200000.00	Completed
5	Emulsification of oil in water	Gomal University	100000.00	Completed
6	Synthesis and Characterization of hormone-active organotin(IV) complexes	Gomal University	150000.00	Completed
7	Synthesis and Characterization of Bio-logically potent complexes	Gomal University	150000.00	Completed
8	Synthesis and Characterization of Novel polymers	Gomal University	150000.00	Completed
9	Emulsification of Oil in Water	P. S. Foundation	750000.00	Completed
10	Investigating the interaction among polymers and surfactants	H.E.C, Pakistan	1205000.00	Completed
11	Miscibility of polymers and its impact over the mechanical properties of polymer blends	H.E.C, Pakistan	2400000.00	Completed



12	Synthesis and characterization of nano-particles (I am co-PI in this project)	H.E. C Pakistan	5960000.00	Approved
13	Interactions of water soluble polymer with salts	P.S. Foundation	300000.00	Submitted
14	Investigating the impact of block-copolymers and homopolymers over the micellization behavior of surfactants	H.E.C, Pakistan	5,968,371.00	Submitted

### **MEMBERSHIP OF ACADEMIC/ ADMINISTRATIVE BODIES OF GOMAL UNIVERSITY**

1. Chairman, Prospectus committee Gomal University (2004-2005)
2. Member National Curriculum committee for Chemistry (1999-2004)
3. Chairman Transport committee, Gomal University (1999-2003, 2008-August, 2012)
4. Member Board of Studies in Chemistry (1988-todate)
5. Convener Board of Studies in Chemistry (1992-93 & 97-2004)
6. Member Board of Faculty of Natural Sciences (1989-todate)
7. Member Academic Council (1992-todate)
8. Member Gomal University Senate (1992-96 & 97 onward)
9. Member Library Committee (1992-97)
10. Member Committee for the uplift of University schools (1992-93 and 2000-03)
11. Member Statutory Committee for M. Phil, Ph. D program (1992-94)
12. Invited Member, Advance Studies and Research Board of the University.(1992-93)
13. Member, different Inquiry Committees of the University from time to time:

### **MEMBER SCIENTIFIC AND OTHER BODIES**

- Members of various social societies
- Chemical Society of Pakistan
- Association for the Advancement of Sciences
- Science International
- Working as a reviewer / expert for different foreign Scientific Journals
- Working as a reviewer / expert for different Scientific Journals of Pakistan
- Worked as an expert for Pakistan Science Foundation for different disciplines of Chemistry
- Worked as an expert for University Grants Commission for different disciplines of Chemistry
- Working as Examiner/paper Setter of different Universities of Pakistan

## **WORKSHOPS/SYMPOSIA/CONFERENCES ATTENDED**

1. All Pakistan Urdu Science Conference held at Baha-ud-Din Zakria University, Multan, December 1977.
2. 5th Bratislavia IUPAC Sponsored International Conference on Modified polymers held at Bratislavia, Czechoslovakia, 3-6 July 1979.
3. Workshop on Radio Chemistry held at Nuclear Institute of Karlsruhe, Germany 7 - 25 Sep. 1981.
4. Workshop/Dechema Mit Praktikum held at DECHEMA, Frankfurt, Germany 12-23 Oct, 1981.
5. First National polymer Science Symposium held at Peshawar University, 14 Sep. 1982
6. All Pakistan Science Conference held at Islamia University, Bahawalpur, Dec 1982.
7. The Eighth International Technical Conference on Slurry Transportation held at San Francisco, California, U.S.A, 15-18 March 1983.
8. Second National Polymer Science Symposium held at Bara Gali, Peshawar University, 18-25 July 1983.
9. Workshop on Field Oriented Analytical Chemistry held at Dhaka University, Bangladesh, 11-20 May 1985.
10. Gordon Research Conference on Polymer Colloids held at Tilton N.H; U.S.A. 6-10 July 1987.
11. 62nd Colloid and Surface science symposium held at Penn State University, U.S.A., 19-22 June 1988.
12. Third National Polymer Science Symposium held at Bara Gali, Peshawar University, Sep. 1989.
13. International Meeting on Rheology and Polymer Processing held at Seoul, Korea, 27-29 Sep. 1990.
14. 4th National polymer science symposium held at Bara Gali, Peshawar University, 24-30 August 1991.
15. 3rd National Chemistry Conference held at Gomal University, Dera Ismail Khan. 1991
16. 4th National Chemistry Conference held at Islamia University, Bahawalpur, 1992.
17. Executive Management Seminar on Environmental Pollution Monitoring Techniques, held at Islamabad. 24-26 March. 2000.
18. 13th National and First International Chemistry Conference held at Peshawar University. 2001
19. A VANCE ID/2D Training Course on High Resolution Nuclear Magnetic Resonance at Bruker Biospin AG Switzerland, March 25-27, 2002.
20. International Conference on Environmental Challenges held at Peshawar University, 11-13th March 2004.
21. Conference on Nano-Science and Technology in Pakistan held at Islamabad, 13-14 June 2005.
22. Paper was presented in 1 st International Chemistry Conference, held at Muzafarabad, Kashmir, 2005.

23. 8th Japan-Australia Colloid and Interface Science Gakkai, Sydney Australia 27-30 Nov.2005,
24. Paper was presented in First international festival and symposium on Date Palm, Hormoz, Bandarabbas, Iran, on September 28-29 (2005).
25. Paper was presented in 10th International Symposium on Natural Products Chemistry held at Karachi, on January 6-9 (2006)
26. Paper was presented in Third international Date Palm conference, UAE, February 17-19. (2006)
27. Papers were presented in 7<sup>th</sup> International Chemistry Conference arranged by Gomal University in 2007
28. Papers were presented in 9<sup>th</sup> International Chemistry Conference arranged by Kohat University of Science and Technology in 2009
29. Papers were presented in 10th International Chemistry Conference arranged by Quid-I-Azam University, Islamabad in 2010.
30. Participated in First Workshop on contribution of NEC in Physical Chemistry in National Developing held at National Centre of Excellence in Physical Chemistry, University of Peshawar, January, 2011
31. Participated in workshop/conference on "Use of GIS for Natural Resource Conservation, Environment Protection & Disaster Management" held at Gomal University, Dera Ismail Khan, Pakistan, 2012

### **LIST OF PUBLICATIONS**

1. K. Prochazka, **Musa Kaleem Baloch** and Z. Tuzar: Photochemical Stabilization of Micelles; Makromol. Chem; 180(10) 2521-2523 (1979).
2. N. Ahmad; S. Noor and **Musa Kaleem Baloch**. Characterization of Polymers by Light Scattering Technique; J. Sci. & Tech.4,(1-2), 1-7 (1980).
3. N. Ahmad, S. Noor and **Musa Kaleem Baloch**; Dissymmetry and Radii of Gyration of Cellulose Acetate by Light scattering Techniques; J. Chem. Soc. Pak. 3(4), 159-166 (1981).
4. N. Ahmad, **Musa Kaleem Baloch** and S. Noor; Temperature Dependence of the Refractive Index Increments of Cellulose Acetate in Acetone Solution: Pak. J. Sci. Ind. Res., 26 (3) 118-122 (1983).
5. N. Ahmad, **Musa Kaleem Baloch** and S. Noor: Micellization of Styrene / Butadiene / Styrene, Block Copolymers in Mixed Solvents: J. Colloid & Polymer Sci: 261, 898-902 (1983).
6. N. Ahmad, **Musa Kaleem Baloch** and M. Saeed: Effect of Temperature on Viscosity of Micelles in Different Selective Solvents: J. Chem. Soc. Pak., 5(3) 155-158 (1983).
7. W. Gleissle and **Musa Kaleem Baloch**, Flow Behavior of Concentrated Suspensions at High Shear Stresses and Shear Rates: Proceedings of the " Eighth International Technical Conference on Slurry Transportation: held at San Francisco, California, U.S.A., 103-109 (1983).

8. N. Ahmad: **Musa Kaleem Baloch** and M.T.Malik; Effect of Concentration and Molecular Weight on Dissymmetry of Cellulose Acetate; Pak. J. Phys. Chem, 3,67-74 (1983).
9. A. Rauf and **Musa Kaleem Baloch**; Pigments and Their Uses in Polymers; Proceedings of Polymer Sci. Symp. held at Bara Gali, Peshawar University Campus, Pakistan (1983).
10. N. Ahmad, Inayatullah Khan, M.T.Malik and **Musa Kaleem Baloch**, Viscosity Studies of Nylon-12 in Metacresol, Proceedings of Polym. Sci. Symp, held at Bara Gali, Peshawar University campus, Pakistan (1983).
11. N. Ahmad and **Musa Kaleem Baloch**; Variations in the Refractive Index Increments of Cellulose Acetate with Respect to Concentration and Temperature; J. Chem. Soc. Pak 6,161-165 (1984).
12. **Musa Kaleem Baloch** and N. Ahmad; Determination of Size and Shape of Micelles by Dissymmetry Method in Different Selective Solvents, J. Chem. Soc. Pak; 7, 89-92 (1985).
13. W. Gleissle and **Musa Kaleem Baloch**, Reduced Flow Functions of Suspensions; Based on Newtonian and non-Newtonian Liquids: Proceedings of IX International, Congress on Rheology, held at Acapulco, Mexico (1984).
14. **Musa Kaleem Baloch**, A. Rauf and S. H. Mughal; Effect of Thermodynamic Quality of Solvent and Temperature on Viscosity of Polystyrene; J. Chem. Soc. Pak,8, 315-317 (1986).
15. N. Ahmad and **Musa Kaleem Baloch**, Viscometric Estimation of Unperturbed Chain Dimensions of Polymers; J. Macromolecular Sci. Chem., 24, 1241-1261(1987).
16. **Musa Kaleem Baloch** and N. Ahmad; Molecular Weight Distribution of Cellulose Acetate and its Relation to Different Parameters; J. Chem. Soc., Pak 10 (1),1-9 (1988).
17. **Musa Kaleem Baloch**; The Newtonian Viscosity of Polymer Solutions; J. Macromol. Sci. Chem., A 25(4) 363-372 (1988).
18. **Musa Kaleem Baloch**; The Newtonian Viscosity of Polymer Solutions: Scaling Relationships; J. Macromolecular Science- Physics, B 27(2&3),151-180 (1988).
19. **Musa Kaleem Baloch**; The Newtonian Viscosity of Polymer Solutions: Over a wide Range of Concentration: J. Chem. Soc. Pak. (1989).
20. **Musa Kaleem Baloch** and N. Ahmad. Photochemical Cross linking and Isolation of Poly (Styrene / Butadiene /Styrene) Triblock Copolymer in Selective. Solvents; J. Surf. Sci Tech; 3(2), 85-89 (1987).
21. **Musa Kaleem Baloch** and A.Rauf, Rheological Properties of Moderately Concentrated Solutions of Polystyrene-block-Polybutadiene-block-Polystyrene in Different Selective Solvents and at Different Temperatures: Makromol Chem. 189, 1517-1522 (1988).
22. **Musa Kaleem Baloch** and T.G.M. van de Ven, Transient Light Scattering of Suspension of Charged No-spherical Particles Subjected to an Electric Field: J Colloid and Interface Sci. 129, 91-104 (1989).
23. **Musa Kaleem Baloch**, Steady Shear Behavior of Coal-oil Suspensions, Rheologica Acta 28,316-320 (1989).

24. **Musa Kaleem Baloch**, M.Siddiq and A.Rauf, Rheological study of Coal Oil suspensions; As Effected by size of the Particles; Proceeding of 3<sup>rd</sup> National Polymer Science Symposium held at Bara Gali, Peshawar University, (1989).
25. A.Rauf, M.Ashfaq and **Musa Kaleem Baloch**, Recent Developments in Organometallic Polymers with Reference to Their Applications; Proceedings of 3rd National Polymer Science symposium held at Bara Gali, Peshawar University, (1989).
26. **Musa Kaleem Baloch** and T.G.M. van de Ven, Light scattering from Semi-dilute Dispersions of No-spherical Latax Particles Subjected to an Electric Field; J. Colloid and Interface Sci; 135, (2) 594-597 (1990).
27. T.G.M van de Ven and **Musa Kaleem Baloch**, Frequency Dependence of Electrically Induced Alignment of Anisometric Colloidal Particles; J. Colloid and Interface Sci. 136 (2) 494-508 (1990).
28. **Musa Kaleem Baloch**. Unperturbed Chain Dimensions of Polyisobutylene in Different Solvents and at Different Temperatures, Polymer Bulletin, 25, 245-251 (1991).
29. **Musa Kaleem Baloch**, M.Siddiq and A. Bano, Flow Behavior of Concentrated suspensions: in non-Newtonian Fluids, Physical Chemistry (Pak.) 12,103-124 (1993).
30. **Musa Kaleem Baloch**, Muhammad Ashfaq; Met. Chem. 17, 1 8 (1994)
31. **Musa Kaleem Baloch**, Influence of Temperature on Newtonian Viscosity of Nylon-12, Polymer Bulletin; 34, 469-475 (1995).
32. **Musa Kaleem Baloch**, G. Hamid and A. Bano, Mathematical Modeling of Emulsification of Oil in Water; Science International, 8(3) 231-239 (1996).
33. A. Bano and **Musa Kaleem Baloch**, The spectrum of an Operator, Like a  $= (P-Q)/2$  J. Sci Technology; 20,9-12,(1996).
34. A. Bano, **Musa Kaleem Baloch**; M. Matrices and its Splitting Through Jacobi Iterative Method, J.Sci. Technology, 21,45-55 (1997).
35. W .A. Baloch, **Musa Kaleem Baloch** S .A. Saleem and A. K. Baloch; Stability of Tomato Powder at Intermediate Moisture level; P.J. Biological Sciences 3(1) 100-103 (2000).
36. **Musa Kaleem Baloch**, I. Jan and Sheikha T.Ashour, Effect of Septic Tank Effluents on Quality of Ground Water; Pakistan Journal of Food Sciences 10(3-4) 25 (2000)
37. B. Muhammad and **Musa Kaleem Baloch**; Flash Vacuum Thermolysis of Aminoboranes: A Powerful Synthetic Techniques; Presented in 2nd Science International Symposium held at Punjab University, Lahore, Pakistan on 26-28 Oct. (2000).
38. **Musa Kaleem Baloch**, S .T .Ashour, M. Ashfaq and S.J Shah Environmental Impact of Industrial Effluents with reference to the Quality of Ground Water ;Pakistan J .Analytical Chemistry, 2 (1) 48 (2001)
39. M Siddiq, **Musa Kaleem Baloch** and Yahya Khan; Rheological and Sedimentation study of Model Suspensions; Mehran University Research Journal of Eng. & Tech., 20(4), 209-216 (2001).

40. M .Shoib Khan, I.Ali, A.Salam and **Musa Kaleem Baloch**; Semen Characteristics of Infertile Pakistani Men, Presented in 38<sup>th</sup> Annual Medical Symposium, J.P.M.C., Karachi, Feb.,13-15 (2001)
41. M .Siddiq, Chi Wu, M. Nawaz, **Musa Kaleem Baloch**, K. Mahmood and B. Muhammad; Dilute Solution Properties of Phenolphthalein Poly (Aryl-ether Ketone); J. Chem. Soc. Pak.; 23, (4) 200 (2001)
42. **Musa Kaleem Baloch**, Mukhtiar Hussan and Mumtaz Khan, Investigating Lead level in Blood and the Associated risk Factors; The Sciences 1(4) 272-275 (2001).
43. S .A. Saleem, **Musa Kaleem Baloch**; K. Ahmad and A.K. Baloch; Effect of Ripening by Microwave Radiations on quality of Dhaki Dates; Journal of Biological Sciences; 2(4) 238-242, (2002).
44. I. Ali, M. Shoib Khan, **Musa Kaleem Baloch** and G. M. Khan; Biochemical Analysis of Patients having Oligospermia and Azospermia , The Journal of Medical Sciences; 2(2),47-48 (2002).
45. **Musa Kaleem Baloch** and A.Bano, A Novel Approach to the Rheological Properties of Polydispersed Suspensions; Mehran University Research Journal of Eng. & Tech; 21(2) 57-64 (2002).
46. **Musa Kaleem Baloch**, G. Hamid, and A. Bano, Effect of Electrolyte Concentration and Temperature on CMC of Surfactants, P.J. Chem. Soc. 24(2) 77-86 (2002).
47. M. Ashfaq, A.Majeed, **Musa Kaleem Baloch**, A.K.W.Khanzada and W.Shah; Synthesis Characterization and Bioactivity of Novel Organotin(IV) Complexes with Phthaloyl-D-Valine, J. Chinese. Chem. Soc., 50; 361-8 (2003)
48. Gulrez Fatima Durrani, Mukhtiar Hassan, **Musa Kaleem Baloch**, Gulzar Hameed; Effect of traffic pollution on photosynthesis; Journal of Environmental Extension; 4 51-54 (2003)
49. A.K. Baloch, S.A.Saleem, N.G.Dar, W. A. Baloch and **Musa Kaleem Baloch** Influence of microwave radiation on ripening of Dhakki dates; Journal of Food Processing and Preservation; 27(3) 181-193(2003).
50. S.Farid and **Musa Kaleem Baloch**; and M. Hassan; Impact of Paper Industry on Environmental; The Environ Monitor III(7)14-16 (2003)
51. M.Ashfaq, M.I.Khan, **Musa Kaleem Baloch** and A.Malik; Biologically Potent Organotin(IV) Complexes of 2-maleimioacetic Acid; J. Organometallic Chemistry; 689 (1),238-245 (2004)
52. Muhammad Ashfaq, M.I. Khan and **Musa Kaleem Baloch**; Investigation of Novel Bio-diorganotin(IV) Esters of N-maleoylglycine; J. Med. Sci. 4(1), 36-40; (2004).
53. Irshad Ali, Ikram Ullah Khan, **Musa Kaleem Baloch**, Ghulam Mustafa. Comparative Lipid profile studies in Cardiac and Diabetic conditions P.J.Pharmaceut. Sci. 17(1) 25-30.(2004)
54. M.Shoib Khan, I. Ali, **Musa Kaleem Baloch**; Semen Parameters and Hormonal Profile of Infertile Patients: Hamdard Medicus, XLVII(2) (2004)
55. W. Rehman, **Musa Kaleem Baloch**, A.Badsh Khattak and Bakhtiar Muhammad, Khalid M. Khan: Characteristic Spectral Studies and *invitro* Antifungal activity of some Schiff bases and their Organotin (IV) Complexes: Chinese Science Bulletin 49,2,119-122 (2004)

56. Gulrez Fatima and **Musa Kaleem Baloch**, Effect of Environmental Pollution on the Growth Rate of Plants, presented in "International Conference on Environmental Challenges held at Peshawar University, Pakistan; 11-13<sup>th</sup> March, (2004)
57. Gulrez Fatima Durani, **Musa Kaleem Baloch** and Mukhtiar Hussan; Effect of Industrial Pollution on Photosynthesis; J. Chem. Soc.Pak.,26(1)94-96(2004)
58. Gulrez Fatima Durani, **Musa Kaleem Baloch**, Gulzar Hamid and Mukhtiar Hussan; Effect of Traffic Pollution on Plants Photosynthesis, J. Chem. Soc., Pak 26(2) 176-179 (2004)
59. A U. Qaisrani, M. Khalid, **Musa Kaleem Baloch** Phase Diagram of Catalytic Oxidation of CO on the Surface–Subsurface of a Body-Centred Cubic Structure with Eley–Rideal Process: A Monte Carlo Simulation Chinese Phys. Lett. **21** 1838-1841(2004)
60. M.I. Khan and **Musa Kaleem Baloch**; Muhammad Ashfaq; Biological Aspects of New Organotin(IV) compounds of 3- maleimidopropionic acid; J. Organometallic Chemistry 689, 21,3370-3378 (2004)
61. **Musa Kaleem Baloch**, G. Fatima, Gulzar Hameed, Flow and Conductance Behavior of Polyethyleneoxide in the presence of some Inorganic Salts; J. Chem. Soc. Pak 26 (3), 191-197 (2004)
62. W. Rehman, A.Badshah Khattak, **Musa Kaleem Baloch**, Saqib Ali, Gulzar Hamid: Khalid Mehmood; Synthesis characterization and Biological screening of Tri-benzyl tin (IV) Complexes of some Schiff bases: J. Chinese Chemical Society, 51(5) 929-935 (2004)
63. S.Farid **Musa Kaleem Baloch**, S. Zubair and A.Razaque; Extent of dust pollution in Faisal Abad city at different industrial sites; The Environ Monitor; IV (9) 17-22 (2004).
64. Shahzada A. Saleem, Ahmad K. Baloch, **Musa Kaleem Baloch**, Ambrene A Shahzadi and A.Ghafoor; Influence of Hot Water on Ripening/Curing of Dhakki Dates; Pakistan Journal of Biological Sciences 7 (12): 2034-2038, (2004).
65. Gulrez Fatima Durani, **Musa Kaleem Baloch**, and Gulzar Hamid; Effect of Traffic Pollution on Plants Photosynthesis; The Nucleus. **40** (1-4) 63-66 (2004).
66. Rauf Ahmad, **Musa Kaleem Baloch**, Aftab Ahmad, R. Rauf, H. Siddiqui and M.Y. Khokher; Evaluation of Toxicity due to Commercial Pesticides in Female Workers; Pakistan Journal of Medical Sciences;20 (4) 392-96 (2004)
67. M. Soaib Khan, F.Tahir, M.A.Sheikh, F.Subhani, B.M.kazi, A.S.Dil, F.Deepa, S.Sultan, I.Ali and **Musa Kaleem Baloch**, A Study of Genotypic Frequency of Various Blood Group Alies; Proc. Pakistan Academy of Science. 4(12) 89-93 (2004)
68. S. Farid and **Musa Kaleem Baloch**; Water pollution threat to environment by Urea Plant, Arab Fertilizer, 40, 35-42 (2004)
69. Imam Bakhsh Baloch, **Musa Kaleem Baloch**, Qazi Najam-us-Saqib and Mansoor Ahmad; 16-hydroxyingenol Diterpine ester from latex of Euphorbia cauducifolia; International Chemical, pharmaceutical and Medical Journal, Vol. 1(2) 107-111 (2004).
70. M. Shoaib Khan, F.Tahir, M.A.Sheikh, F.Subhani, B.M.kazi, A.S.Dil, F.Deepa, I. Ali and **Musa Kaleem Baloch**, An Analysis of Genotype Frequency of Blood

- Group Antigens from Bannu Region (N.W.F.P) in Pakistan; Gomal Journal of Medical Sciences. 2(1) 1-5 (2004)
71. M. A. Sheikh, M. S. Khan, A. Turabi, K. A. Shakoor, I. Ali and **Musa Kaleem Baloch**, The semen and hormonal analysis of patients having Azoospermia and oligozoospermia, *Int. Chem. Pharm. Med. J.*, 1(2) 131-33 (2004).
  72. M.I. Khan and **Musa Kaleem Baloch**; Muhammad Ashfaq and G. J. Peter; *In vivo* Toxicological effects and Spectral studies of Organotin(IV) Carboxylates of N-maleoylglycine; *Applied Organometallic Chemistry*, 19, **1**, 132-139 (2005)
  73. **Musa Kaleem Baloch** and M. Nawaz; Conformational Behavior of Nylon-6 in Mixed Solvents; *J. Polymer Science Part B Polymer Physics*; 43, **(5)**, 534-541 (2005)
  74. **Musa Kaleem Baloch**, Gulzar Hameed; Emulsification of oil in water: As affected by different parameters; *J. Colloid and Interface Science*; 285 (2) 804-813 (2005).
  75. Shahzada A. Saleem, Ahmad K. Baloch, **Musa Kaleem Baloch** and Waqar Ahmad Baloch; Accelerated Ripening of Dhakki Dates by Artificial Means: Ripening by Acetic Acid and Sodium Chloride, *Journal of Food Engineering*; 70 (1) 61-66 (2005)
  76. M. Shoaib Khan, F.Tahir, M.A.Sheikh, F.Subhani, B.M.kazi, A.S.Dil, F.Deepa, S.Sultan, I.Ali and **Musa Kaleem Baloch**, Evaluation of the gonadotropic ratios among men with varying sperm quality; *Pakistan Journal of Medical Research*, 44 (1). 19-22 (2005)
  77. Sajid Farid, **Musa Kaleem Baloch**, Ahtsham Razaquea and Syed Amjad Ahmad; Water Pollution Threat to the Environment by a Urea Plant; *J. Chin. Chem. Soc.*, 52(2) 283-85 (2005)
  78. Rauf Ahmad, R. Rauf, **Musa Kaleem Baloch**, H. Siddiqui and M. Naeemullah; Y. Soomoro and Aftab Ahmad; Evaluation of Correlation between diabetes and hypertension and contributing various factors; *Pakistan J. Medical Research*; Vol.44 **(1)** 32-37 (2005)
  79. **Musa Kaleem Baloch**, Applications of nano-particles in medical and other biological sciences, proceeding of the conference on Nano-Science and Technology in Pakistan held at Islamabad, 13-14 June 2005
  80. S .Farid **Musa Kaleem Baloch**, A. Razaq and S. M. Ahmad; Impact of Sugar Cane Industry on Environment, *Pakistan Journal of Scientific & Industrial Research*; 48(3) 209-211 (2005)
  81. W. Rehman, **Musa Kaleem Baloch**, A.Badshah Khattak and Saqib Ali, Synthesis and Characterization of biologically potent di-organotin(IV) complexes of monomethyl glutarate; *J. Chinese Chemical Society* 52(2), pp.231-236 (2005)
  82. W. Rehman, **Musa Kaleem Baloch**, and A.Badshah Khattak; Comparative study of structure– activity relationship of di and triorganotin(IV) complexes of monomethyl glutarate. *Journal of Brazilian Chemical Society*, 16(4) 827-834 (2005)
  83. W. Rehman, **Musa Kaleem Baloch**, A.Badsh and S.Ali, Synthesis and *in vitro* Fungicidal Study of Organotin(IV) Complexes of Monomethyl Glutarate; *Russian Journal of Coordination Chemistry* ,31, (12),902-906 (2005)



84. A. K. Baloch, Sh. A. Saleem, **Musa. Kaleem Baloch**; Optimization of Ripening in Dhakki Dates using Sodium Chloride and Acetic Acid as Stimulant; First international festival and symposium on Date Palm, Hormoz, Bandarabbas, Iran, September 28-29 (2005).
85. M. Siddiq, K. Mahmood and **Musa Kaleem Baloch**, Characterization of Phenolphthalein Poly(acryl ether Sulfone); J. Chem. Soc. Pak 27 (2) 148-153 (2005)
86. Imam Bakhsh Baloch **Musa Kaleem Baloch**, and Qazi Najam us Saqib; Tumor-Promoting Diterpenes from the Latex of Euphorbia Cauducifolia L; Helvetica Chimica Acta, 88, 3145-3150 (2005).
87. Ahmad Khan Baloch, **Musa Kaleem Baloch**, Sh. A. Saleem and Waqar A. Baloch; Impact of water activity and controlled atmosphere on the stability of Dhakki Dates, Asia Pacific Drying Conference, Calcutta, India, December 13-15 (2005).
88. Gulrez Fatima Durani and **Musa Kaleem Baloch**; Environmental Pollution: A threat to photosynthesis in healthy plants; Presented in 1st International Chemistry Conference held at Muzarfarabad, Jammu & Kashmir (2005)
89. **Musa Kaleem Baloch**, G. Hameed and S. Iqbal, Effect of different parameters over the quality of emulsion, presented in 8<sup>th</sup> Japan-Australia Colloid and Interface Science Gakkai, 27-30<sup>th</sup> Nov. 2005.
90. Rauf Ahmad, R. Rauf, **Musa Kaleem Baloch**, Rizwana Rauf, M.Salim and M.Ashiq: Medicinal and Nutritional Importance of Rice Bran; Science, Technology and Development, 24, 39-44 (2005)
91. A. K. Baloch, S. A. Saleem, Waqar A. Baloch, **Musa. Kaleem Baloch**; Shelf Stability of Dhakki Dates as Influenced by Water Activity and Headspace atmosphere; Third international Date Palm conference, UAE, February 17-19. (2006)
92. **Musa Kaleem Baloch**, Shahzada A. Saleem, Ahmad K. Baloch, and W.A.Baloch; Impact of Storage Atmosphere on Stability of Dhakki Dates; Lebensmittel-Wissenschaft und-Technologie Food Science and Technology; 39, 671-676 (2006).
93. W. Rehman, **Musa Kaleem Baloch**, A. Badshah Khattak, and Saqib Ali Synthesis characterization and biological study of di-organotin(IV) complexes of monomethyl phthalate. Spectrochim. Acta A; 65; 689-694 (2006)
94. **Musa Kaleem Baloch**, M. Nawaz; Effect of the composition of m-cresol/H<sub>2</sub>O solvent on hydrodynamic properties of Nylon 6, Chinese Journal of Polymer Science; 24, 369-377 (2006).
95. M.I. Khan and **Musa Kaleem Baloch**; Muhammad Ashfaq, Abdul Malik; Biologically Potent New Organotin(IV) complexes of N- Maleoyl tranexamic Acid; Bulletin of the Chemical Society of Japan ,79 (7), 1054-1059 (2006).
96. W. Ahmad, M. Pervez, Musa Kaleem Baloch and M. Khalid, The effect of oxygen-oxygen repulsion in the production of water form hydrogen-oxygen reaction on the surface: A computer simulation study, Physica A; 365,2, 307-316 (2006)

97. Waqar Ahmad and, **Musa Kaleem Baloach**, Monte Carlo Study of CO–NO Catalytic Surface Reaction Including CO–CO Repulsion, *Chinese Phys. Lett.* **23** 1034-1037(2006)
98. W. Ahmad, M. Pavez, M. Khalid, **Musa Kaleem Baloach** and A. U. Qaisrani; A non-thermal lattice gas model for a dimer-trimer reaction on a catalytic surface: A computer simulation study, *Appl. Surf. Sci.*; 253(2) 600-605 (2006)
99. W. Ahmad, **Musa Kaleem Baloach** and M. Parvez, Computer Simulation of the NO-CO Reaction Introducing CO-CO Repulsion on a Catalytic Surface, *Chinese Journal of Physics* , 44, (6) 440-453 (2006)
100. Rauf Ahmed, G.A. Miana, **Musa Kaleem Baloch** and R. Rizwana. Status of Hazara areas healing plants of Pakustan, 10<sup>th</sup> International Symposium on Natural Products Chemistry held at Karachi, on January 6-9 (2006)
101. M.I. Khan and **Musa Kaleem Baloch**; Muhammad Ashfaq In vivo Toxicological effects and spectral studies of New Triorganotin(IV) –N-maleoyltriamexamates; *Journal of Organometallic Chemistry* 691, 2554–2562 (2006)
102. S Farid, **Musa Kaleem Baloch**, Tafzeel Khaliq and Ahtsham Razaque; Status of cadmium concentration in soils and vegetables irrigated with city effluent; *Chinese Journal of Applied and Environmental Biology*; 12, 414-419 (2006).
103. M. I. Khan, **Musa Kaleem Baloch**, M. Ashfaq, M.Rehmat Enzyme inhibition effect and solid-state Spectral analysis of biologically active diorganotin (IV) ester of N-Maleoy-L-Alanine, *Main Group Metal Chemistry*: 29, (6) 201-213 (2006).
104. Imam Bakhsh Baloch **Musa Kaleem Baloch**, and Qazi Najam us Saqib; Cytotoxic Diterpenes Esters from *E.cornigera* Boiss; *Plant Medica*: 72, 830-834 (2006)
105. M. I. Khan, **Musa Kaleem Baloch**, M. Ashfaq, Obaidullah, Synthesis characterization and in vitro cytotoxic effect of new organotin (IV)-2-maleimidopropanoates, *Appl. Organometallic chemistry*,20, 463-470 (2006)
106. Sajid Farid, **Musa Kaleem Baloch**, Tafzeel Khaliq and Ahtsham Razaque; Usage of untreated sewage effluent for irrigation and its impact on vegetables quality"; *Asian Journal of Water, Environment and Pollution*: 3 (2), 1-6 (2006)
107. M. I. Khan, **Musa Kaleem Baloch**, M. Ashfaq; Spectral Analysis and *in vitro* cytotoxicity profiles of novel organotin(IV) esters of 2-maleimidopropanoic acid; *J. Enzyme Inhibition and Medicinal Chemistry*, 22.343-350(2007)
108. W. Rehman, , **Musa Kaleem Baloch** and Amin Badshah Comparative structural and fungicidal studies of Mono-methyl phthalate and its Tin(IV) derivative, *Russ. J. Inorg. Chem.* 52, (1) 140-145 (2007)
109. W. Ahmad and **Musa Kaleem Baloch**; The effect of inactive impurities on a surface in NO–CO reaction: A Monte Carlo simulation; *Applied Surface Science*, 253 (20) 8447-8452.(2007).
110. **Musa Kaleem Baloch**, Monaza Qayum, Mohsin Nawaz and Sher Akber; Solvent Quality and Solution Behavior of Nylon 12, *Chinese Journal of Polymer Science* 25 (5): 483-490 (2007).
111. G. Fatima Durani; **Musa Kaleem Baloch** and Muhammad Atif Zahoor, Physico-chemical Analysis of Industrial Effluents of H.I.E Harripur, *J. Chem. Soc. Pakistan* , 29(4) 328-331(2007)

112. A. Rauf, **Musa Kaleem Baloch** Fida M. Abbasi, M. Riaz Chattha and T. Z. Mahmood ; Status, utilization and trade of Hazara areas healing plants of Pakistan, *Journal of Food, Agriculture & Environment*; 5 (2) 236-243 (2007)
113. Imam Bakhsh Baloch, **Musa Kaleem Baloch** and Qazi Najam us Saqib; Anti-tumor 12-Deoxyphorbol Esters from *Euphorbia cornigera*, *European Journal of Medicinal Chemistry* 43(2)274-281(2008).
114. W. Rehman, A. Badshah, **Musa Kaleem Baloch** and B. Muhammad; Synthesis, spectroscopic Characterization, and in vitro Fungicidal Activity of Some Organotin(IV) Complexes; *Russian Journal of Coordination Chemistry*, 34,(4). 256–258. (2008).
115. M.I.Khan, Saima Gul, **Musa Kaleem Baloch** and Wilayat Ahmed; Synthesis and Characterization of New Dicarboxylatotetra-N-Butyl-Di-Stannoxanes Dimers Formed with N-Maleimido-Protected Amino Acids, *Main Group Metal Chemistry* 31, 5, 256-263(2008)
116. W. Rehman, **Musa Kaleem Baloch**, Amin Badshah, Synthesis, spectral, characterization and bio-analysis of some organotin (IV) complexes *European Journal of Medicinal Chemistry* 43, 2380-2385 (2008).
117. Mohsan Nawaz, Faiza Jan Iftikhar, **Musa Kaleem Baloch**, Wajid Rehman, and Iftikhar Ahmad; The Influence of Sr and Fe on the Conductance of Magneto-resistant Compounds; *Russian Journal of Physical Chemistry A*; 82,(13) 2169-2173\_(2008).
118. M. I. Khan, **Musa Kaleem Baloch**, Muhammad Ashfaq, and Saima Gul. Organotin(IV) Esters of 4-Maleimido-benzoic Acid: Synthesis, Characterization and *in vitro* Anti-leishmanial Effects; *J. Braz. Chem. Soc.*, 20 (2) 341-347(2009)
119. Mohsan Nawaz and **Musa Kaleem Baloch**, Investigating the Homogeneity of Nylon-6 and Polyvinyl Alcohol Blend; *Russian Journal of Physical Chemistry A*, 83(4), 637–641 (2009).
120. Imam Bakhsh Baloch, **Musa Kaleem Baloch**, Ahmad Khan Baloch Bio-active Compounds from *Euphorbia cornigera* Boiss. *European Journal of Medicinal Chemistry*, 44 (8), 3188-3194 (2009)
121. **Musa Kaleem Baloch**, Farzana Ahmad, Abdur Rauf and Gulrez Fatima Durrani; Effect of Polyethylene oxide and Sodium chloride over the Micellization behavior of Sodium dodecylsulphate; *Journal of Applied Polymer Science*; 114 (3) 1444 – 1448 (2009)
122. Imam Bakhsh Baloch, **Musa Kaleem Baloch**, Ahmad Khan Baloch, Schistosomiasis Suppressing Deoxyphorbol Esters from *Euphorbia cauducifolia* L. Latex; *Planta Medica*, 75, 1-6 (2009)
123. Gulrez Fatima Durrani, **Musa Kaleem Baloch**, Environmental pollution, A threat to photosynthesis in healthy plants, *Pakistan Journal of Chemical Society*, 31,851-856 (2009)
124. **Musa Kaleem Baloch**, G. Hameed and S Iqbal, M. Hassan: Effect of stirring time over the quality of emulsion. Gomal University, *Research journal*, 25, 23-29 (2009).
125. Mohsan Nawaz, **Musa Kaleem Baloch** and Wajid Rehman; investigating the compatibility of polymers in common solvent; *J. Chil. Chem. Soc.*,54, (5) 90-93 (2010)

126. **Musa Kaleem Baloch**, Abdur Rauf, Farzana Ahmad, Gulrez Fatima Durani, Gulzar Hameed, Investigating the Micellization Behavior of Cetyltrimethylammonium Bromide: As affected by the Contents of Poly(ethylene oxide) and Temperature of the System, *Journal of Applied Polymer Science*, 116, (4) 2133-2142 (2010).
127. **Musa Kaleem Baloch**, Arshad Ali, Gulrez Fatima Durani and Abdur Rahim; Impact of industrial effluents of Gadoon Amazi Industries over quality of ground water: A case study, *Asian Journal of Water and Environmental pollution*; 7(2) 65-71(2010) .
128. Abdur Rauf, **Musa Kaleem Baloch** and Gulrez Fatima Durrani, Effect of Molecular Mass of Polyethylene oxide over its Aggregation behavior *Journal of Chemical Society, Pakistan*, 32, 168-171 (2010).
129. Imam Bakhsh Baloch, **Musa Kaleem Baloch**; Irritant and Co-carcinogenic Diterpene Esters from Latex of *Euphorbia cauducifolia* L. *Journal of Asian Natural products Research*, 12, 600 - 613 (2010).
130. Farzana Ahmad, **Musa Kaleem Baloch**, M. Jamil, Y. J. Jeon; Characterization of polystyrene-b-poly (ethylene oxide) di-block copolymer and investigation of its micellization behavior in water; *J. Applied Polymer Science* 118, 1704–1712 (2010)
131. Imam Bakhsh Baloch, **Musa Kaleem Baloch**, Isolation and Characterization of Cytotoxic Compounds from *Euphorbia cornigera* Boiss, *Journal of Asian Natural products Research*,. 12. (11), 985–991. (2010).
132. Wajid Rehman, S.W.H. Shah, K. Younis, M.Nawaz, **Musa Kaleem Baloch**, G. Hamid, A comparative study of various grains from the different cities of Pakistan in the following paginated issue of *Environmental Monitoring and Assessment*: 175 (1), 151-156 (2011).
133. **Musa Kaleem Baloch**, Malik Jehan Zeb Khurram and Gulrez Fatima Durrani, Application of Different Methods for the Thermogravimetric Analysis of Polyethylene Samples; *Journal of Applied Polymer Science*, 120, (6), 3511–3518 (2011)
134. **Musa Kaleem Baloch**, Gulzar Hameed, Shahid Iqbal, Arjamand Bano and Wajid Rehman; Extension of Taylor Equation for Oil-Water-Surfactant System and Investigating the Impact of Surfactant Concentration over the Quality of Emulsion, *J Dispersion Science Technology*, 32, (4), 498 - 506 (2011).
135. Imam Bakhsh Baloch **Musa Kaleem Baloch**, Isolation and characterization of ingenol esters from *Euphorbia cornigera*; *Chinese Chemical Letters* 22, (4) 451-454 (2011)
136. Gulzar Hameed, **Musa Kaleem Baloch**, Mohsan Nawaz, Wajid Rehman, Impact of Intensity of Ultrasonication on the Properties of n-Hexane–Water Emulsion, *Russian Journal of Physical Chemistry*, 85 (5) 792-796 (2011).
137. Irfan Ullah, **Musa Kaleem Baloch**, and Gulrez Fatima Durrani; Solubility of nonsteroidal anti-inflammatory drugs (NSAQIDs) in aqueous solution of non-ionic surfactants, *Journal of Solution Chemistry*, 40:1341–1348 (2011).
138. **Musa Kaleem Baloch**, Mohsan Nawaz and Arjamand Bano; Effect of temperature and thermodynamic quality of solvent over unperturbed chain

- dimensions of nylon 6, *Journal of Applied Polymer Science* , 122, (4) 2351–2358 (2011)
139. **Musa Kaleem Baloch**, Farzana Bibi and M. Saleem Jilani, Quality and Shelf Life of Mango (*Mangifera Indica* L) Fruit: As Affected by Cooling at Harvest Time; *Scientia Horticulturae* 130, 642–646 (2011)
  140. Muhammad Iqbal, Imam Bakhsh Baloch and **Musa Kaleem Baloch**, Synthesis and Structural Characterization of Novel Monoesters of Succinic Anhydride with Aryl Alcohols, *Journal of Chemistry*, 02 (01) 48-55 (2012)
  141. Irfan Ullah, Musa Kaleem Baloch, and Gulrez Fatima Durrani, Solubility of lidocaine in ionic, nonionic and zwitterionic surfactants, *Journal of Solution Chemistry* 41:215–222 (2012) DOI 10.1007/s10953-012-9792-9
  142. Qaisar Abbas Bhatti, Musa Kaleem Baloch, Simona Schwarz & Gudrun Petzold, Impact of Various Parameters over the Adsorption of Polyvinylpyrrolidone onto Kaolin; *Journal of Dispersion Science and Technology* (in Press) DOI: 10.1080/01932691.2011.629530
  143. Sajid Farid and **Musa Kaleem Baloch**, Heavy metal ions in milk samples collected from animals feed with city effluent irrigated fodder, *Greener Journal of Physical Sciences* 2 ,(2). 010-017 (2012).
  144. **Musa Kaleem Baloch**, Farzana Bibi and Muhammad Saleem Jilani, Effect of Coatings over the Quality and Shelf Life of Mango (*Mangifera Indica* L.) Fruit, *J Food processing and Preservation* (in press) DOI: 10.1111/j.1745-4549.2011.00614.x
  145. Sajid Farid and **Musa Kaleem Baloch**, Water pollution-Major issue in urban areas.” *International Journal of Water Resources and Environmental Engineering* (available on line).
  146. Farzana Bibi, **Musa Kaleem Baloch**, Effect of coatings over the postharvest quality and shelf life of mango (*Mangifera indica* L.) fruit. *Journal of food processing and preservation*, *J Food processing and Preservation* DOI: 10.1111/j.1745-4549.2012.00800.x
  147. **Musa Kaleem Baloch**, Farzana Bibi, Effect of harvesting and storage conditions on the post-harvest quality and shelf life of mango (*Mangifera indica* L.) fruit, *South African journal of botany* (in press).
  148. Zain Ullah, **Musa Kaleem Baloch**, Jameel Ahmed Khader, Naser Mohamed AbdElsalam, Riaz Ullah, Arif-ullah Khan, Muhammad Talha, Naeem Khan and Iqbal Hussain, Comparative analysis of distinct diuretics through urine analysis, *African Journal of Pharmacy and Pharmacology*; 6(26), 1977-1981, 15 (2012).
  149. Mohsan Nawaz and G.J. Price, **Musa Kaleem Baloch**, Imamd-ud-Din, B.M. Shafi, Synthesis and Characterization of PS-PEO block copolymers employing electron microscopy and viscosity measurements, *Journal of Applied Polymer Science* (accepted for publication).
  150. Noor Saeed Khattak, Gulrez Fatima Durani, **Musa Kaleem Baloch** Effect of Temperature and Naproxen Sodium (drug) over the micellization Behavior of CTAB, *Asian Journal of Chemistry*, 24, 2012 (in Press).
  151. Irfan Ullah, **Musa Kaleem Baloch** and Imran Ullah, Apparent Solubility of Ibuprofen in DDAPS Micelles, DDAPS/Butanol mixture and in Oil -in -Water Microemulsion Stabilized by DDAPS, *Journal of Solution Chemistry* (accepted for publication).
  152. Shahid Iqbal, Gulzar Hameed, **Musa Kaleem Baloch** & , David Julian McClements; Formation of semi-solid lipid phases by aggregation of protein

- microspheres in water-in-oil emulsions, *Food Research International* (2012), doi: 10.1016/j.foodres.2012.04.020
153. Shahid Iqbal, Gulzar Hameed, Musa Kaleem Baloch, David Julian McClements, Structuring Lipids by Aggregation of Acidic Protein Microspheres in W/O Emulsions, *LWT - Food Science and Technology*, doi: 10.1016/j.lwt.2012.10.014
154. Shahid Iqbal, **Musa Kaleem Baloch**, Gulzar Hameed & Arjamand Bano Impact of Various Parameters over the Stability of Water-In-vegetable Oil Emulsion; *Journal of Dispersion Science and Technology* (2012) DOI:10.1080/01932691.2012.743307

## THESIS SUPERVISED

### a. M.Sc. thesis            49

1. Micellization of Poly (Styrene/Butadiene / Styrene) in Selective Solvents and at Different Temperatures. (Aqil Khan, 1979).
2. Study of Micellization of Poly (Styrene/Butadiene/Styrene) in Different Selective Solvents, Viscometrically. (M .Saeed, 1980).
3. Emulsification of Oil in Water: As Effected by Temperature (M.Obedullah, 1984).
4. Emulsification of Oil in water: As Effected by Chain Length of the Oil, (Zulfiqar Ali, 1984).
5. Flow Behaviour of Marble Powder Suspended in Different Fluids (M.Munir, 1985).
6. Flow Behaviour of Coal Oil Suspensions in Newtonian Fluids.(M.Siddiq,1985).
7. Flow Behaviour of Coal Oil Suspensions in non-Newtonian Fluids.(M.Sharif, 1985).
8. Effect of Thermodynamic Quality of the Solvents on Flow Properties of Polymer Solutions. (S.H.Mughal, 1985).
9. Effect of Inorganic Salts on Conductance and Viscosity of Polyethylene oxide. (F.Akhtar Siddiqi, 1989).
10. Flow Behaviour of Kaolin suspended in Different fluids (M. Saleem, 1990).
11. Solution properties of Polyethylene oxide in Mixed (Alcohol / water) Solvents. (Qazi Arif Jamal Afridi 1990).
12. Rheological and Sedimentation Properties of Concentrated Suspensions: As Affected by Viscosity of the Fluids used. (Yahya Khan 1990).
13. Rheological Properties of Concentrated Suspensions: As Affected by Size and Size Distribution of Solid Particles. (Muti-ul-Haq, 1990).
14. Flow Behavior of Calcium Carbonate Suspend in Different Fluids. (M.Amin, 1991).
15. Viscometric Study of Polyethyleneoxide in the Presence of some Inorganic Salts. (Syeda Anjum, 1991).
16. Viscometric Study of Poly (Vinyl alcohol) in the presence of some Inorganic salts (Shanila Noshee, 1991).
17. Flow Properties of Nylon-6 in Mixed Solvents as a Function of Thermodynamic Quality of the Solvent (M. Zahid, 1991).
18. Rheological and Sedimentation Properties of concentrated suspensions: As Effected by Particles Size Distribution. (Masrur Ahmad, 1994).

19. Rheological and Sedimentation Properties of Concentrated Suspensions: As Effected by Viscosity and Density of Fluids used (Sohail Afzal, 1994).
20. Micellization of Surfactants and Effect of Different Parameters on their CMC. (Rubina Wahid, 1995).
21. Micellization of Surfactants and Effect of Ionic Strength on their CMC. (Salma Sajid, 1995).
22. Effect of Mono - and divalent cat ions on the Solution Viscosity of Polymers. (Mushtaq-ur-Rehman, 1996).
23. Effect of Viscosity and Density of Fluids used, upon Rheological Behaviour of Concentrated Suspensions. (M. Ibrahim, 1996).
24. Sedimentation Properties of Kaolin Suspensions: As Effected by Viscosity of fluids and Ionic strength of the media. (Nisar Hayat 1997).
25. Viscometric Behaviour of Poly (Styrene Acrylonitrile) As a Function of Thermodynamic Quality of the Solvent (R.Khan, 1997).
26. Impact of Effluents of Sugar and Woolen Mills, on Quality of Ground Water (S. Javed Shah, 1997).
27. Investigating the Effect of Distinct Diuretic Medicines through Urine Analysis (Zarshad Ali, 1998)
28. Effect of Surfactants on Rate of Sedimentation of Kaolin Suspended in Different Fluids (Naila 1998).
29. Flow behaviour of Copolymers as Affected by Thermodynamic Quality of Solvent (S. Haroon 1998).
30. Adsorption of Sodium & Potassium by Different Soil Samples of Dera Ismail Khan (Zar Ali Khan, 1998).
31. Adsorption of Different metals on Soil of D.I.Khan (Nawab Sultan 1998).
32. Environmental Impact of Septic Tank to the Quality of Ground Water.(Inam Ullah Jan, 1998).
33. A Comparative Study of Fresh Fruit and Juices available in the Market with Reference to Nutrients and Elemental Constituents (Rana Gul, 1998).
34. Aging Effect upon Different Juices (Zubaida Khatoon, 1998).
35. Influence of polyelectrolyte on Sedimentation of Kaolin (Nadir Khan, 1999).
36. Viscosity of poly (Vinyl alcohol) and the affect of pH and polarity of solvent upon it (Naveed Jan, 1999).
37. Role of Smoke upon the Concentration of Different Ions in Blood of healthy peoples (Mumtaz Khan, 1999).
38. Adsorption / desorption process in Soil of D.I.Khan (Fehmeeda Naseer, 1999).
39. Adsorption of Different Metals on Soil and Role of Shaking period on it (Safia Amin, 1999).
40. Aging Effect upon Nutrient Values of Tomatoes (Shazia Aslam, 1999).
41. Sedimentation of Kaolin Suspended in Emulsion (Saleem Ahmad Jan, 2000)
42. Sedimentation of Kaolin Suspended in different Polymer Solutions (Abdullah, 2000).
43. Emulsification of Silicone oil in water and effect of Poly (Vinyl alcohol) concentration on its stability. (Nawab Khan, 2000)
44. Role of different oils over CMC of SDS (Attaullah 2003)
45. Interactions of PVA and SDS (Rauf 2003)

46. Effect of surfactants over sedimentation of solid particles (Amir Khan 2003)
47. Investigation of polymer surfactant interaction (Ferzana Ahmad 2004).
48. Role of polymer for the enhancement of CMC of surfactants (Aniqa, 2004)
49. Adsorption of acid over different compounds (Sajida, 2004).

**b. M. Phil thesis (Supervised/co-supervised/supervising) 19**

1. Supervised/ co-supervised the following **Three M. Phil** students who submitted their thesis to National Center of Excellence in Physical Chemistry, University of Peshawar over different polymer material with a general topic as “Characterization of polymers by different techniques”.  
(1) Ali Khan, (2) Khalid Mehmood , (3) Akhtar Saeed
2. Biochemical, Microbiological & Hormonal Studies in Patients having Azoospermia & Oligospermia (M. Shoib, 2002) I was one of the supervisors.
3. “Synthesis and Characterization of Poly (acrylamide)” (Abdul Hadi 2004)
4. “Synthesis of bioactive organometalic complexes” (Abdullah 2004) I was one of the supervisors.
5. Physico-chemical Analysis of Polluted Soil from Industrial Area (Nazir Ahmad Khan Niazi, 2006)
6. Emulsification of Oil in Water (Shahid Iqbal, 2006)
7. Synthesis Characterization And Biological Elucidatoin Of Tin (Iv) Carbamates: (Nabila Yunus, 2007)
8. Impact of industries over the water, soil and crop of Gadoon Amazi area of Pakistan: (Arshad Ali, 2007).
9. Investigation of Polymer Surfactant Interactions (Farzana Ahmad, 2008)
10. Effect of different parameters over the ultimate strength and settling rate of cement (Hizbullah, 2009).
11. Investigating the Adsorption Properties of An Indigenous Adsorbent (Fly Ash of Sugar Industry) (Muhammad Shakeel, 2011).
12. Miscibility of polymers and its Impact over the mechanical properties of polymers (Arshiya Iqbal, 2012).
13. Effect of different parameters over the rheology of emulsion (Fazal Wali, 2012)
14. Presently **Six** students are working over different projects under my supervisor

**c. Ph. D thesis (Supervised/co-supervised/supervising) 22**

1. Supervised/ co-supervised the following **Four Ph. D.** students who submitted their thesis to National Center of Excellence in Physical Chemistry, University of Peshawar on different polymer material with a general topic as “Characterization of polymers by different techniques”.  
(1) Dr. Inayat Ullah, (2) Dr. Muhammad Javed, (3) Dr. Khalid Mehmood (4) Dr. Ali Khan.
2. “Characterization of polymers and their blends” (Mohsin Nawaz 2005).
3. "Synthesis and Characterization of Biologically Active Organotin(IV) Complexes of Donor Legends"(Wajid Rehman Gora 2005).



4. "Emulsification of oil in water and effect of different parameters over it". (Gulzar Hamid 2005).
5. "Synthesis, characterization and biological activities of organotin (IV) complexes of hormone-inhibitor moieties" (M. Iqbal Khan Gori 2005).
6. "Dhaki Dates preservation and dehydration" (Shehzada Saleem 2005); I was one of the supervisors.
7. Role of Zn in male fertility (M. Shoib, 2007); I was one of the supervisors
8. Isolation, Purification, Characterization and Biological Screening of Anti-Cancer Drugs from *Euphorbiaceae* (*Euphorbia cauducifolia* L. and *Euphorbia cornigera* Boiss.) (I.B. Baloch, 2008).
9. Harmful Impact of City Effluents and Their Safe Disposal (Sajid Farid, 2010).
10. Investigation of polymer surfactant interactions (Rauf Ahmad, 2011)
11. Strategies for Enhancing the Quality and Shelf Life of Mango (*Mangifera Indica* L.) Fruit Grown Under the Environmental Conditions of Dera Ismail Khan (Farzana Bibi, 2012); I was one of the supervisors
12. Adsorption of polymers over solid surfaces (Kaiser to be submitted)
13. Presently **Eight** students are working under my supervision.