Dr. Siraj-ul-Islam
Professor

Personal Details

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	University of Engineering and
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Citizenship:	**Pakistan**

GOOGLE SCHOLAR AND SCOPUS PROFILE:

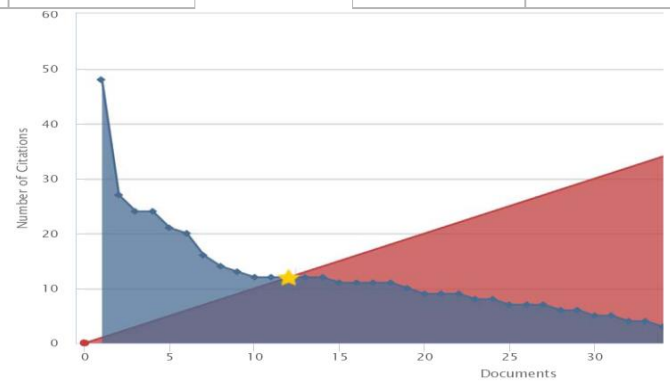**Author's Scopus ID:** 23393556100, 26325564500

Author's ORCID: http://orcid.org/0000-0001-8778-5688

Google Scholar

Citation indices	All	Since 2010
Citations	778	687
h-index	17	15
i10-index	33	30
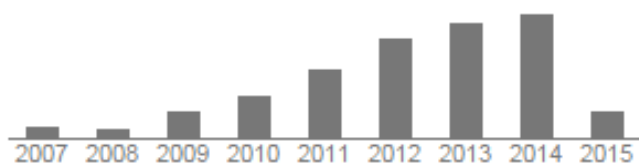
Citations Scopus

	<2013	2013	2014	2015	Subtotal	>2015	Total
Total	227	106	78	18	202	0	429

Documents (50) | h-index (12) | Citations (429) | Co-authors (37)

Research interests

Numerical Methods for PDEs, Integral Equations, Numerical Integration, Modeling and Simulation of Biological Systems, Heat Transfer, Numerical Linear Algebra, Wavelets and Radial Basis Functions

Work Experience

May 19 2011 to Present	**Professor of Mathematics** Department of Basic Sciences N.W.F.P. University of Engineering & Technology, Pakistan
09 Dec 2009 to 31 Dec 2010	**Associate Professor of Mathematics** Laboratory for Multiphase Processes University of Nova Gorica, Slovania Europe
06 Oct 2007 to 09 Dec 2009	**Associate Professor of Mathematics** Department of Basic Sciences N.W.F.P. University of Engineering & Technology, Pakistan
21 Apr 2005 to 05 Oct 2007	**Assistant Professor of Mathematics** Department of Basic Sciences N.W.F.P. University of Engineering & Technology, Pakistan
10 Oct 1997 to 20 Apr 2004	**Lecturer** Department of Basic Sciences N.W.F.P. University of Engineering & Technology, Pakistan
01 Jan 1996 to 01 Jan 1997	**Lecturer** Department of Mathematics Federal Government College, Islamabad, Pakistan
01 Jan 1994 to 31 Dec 1996	**Junior Research Assistant** Department of Mathematics Quaid-e-Azam University, Pakistan

Education

2009-2010	**Post Doctoral Fellowship** Laboratory for Multiphase Processes University of Nova Gorica Slovenia Europe
2001-2006	**PhD in Computational Mathematics** GIK Institute of Engineering Sciences & Technology, Topi Pakistan **Field of Specialization:** Numerical Solution of Ordinary and Partial Differential Equations Using Non-polynomial Spline functions
1994-1996	**M.Phil** Quaid-e-Azam University, Islamabad Pakistan Field of Specialization: Quasi Potentials on G/P
1990-1992	**Master of Science in Mathematics** University of Peshawar, Peshawar Pakistan
1987-1989	**Bachelor of Science** University of Peshawar, Peshawar PAKISTAN

Awards

1994-1996	**University Grants Commission Merit Scholarship for M. Phil Studies**
2001-2006	**Higher Education Commission Scholarship for PhD Studies**
2009-2010	**Post Doctoral Fellowship Laboratories for Multiphase Processes University of Nova Gorica Slovenia Europe**
2011	**Research Productivity Award (Pakistan Council for Science and Technology)**
2011	**Best Teacher Award (Higher Education Commission Islamabad Pakistan)**
2012	**Research Productivity Award (Pakistan Council for Science and Technology)**

Journals Publications

[2015]

1. Siraj-ul-Islam, Imran Aziz and Z. Ahmad" Meshless Methods For Multivariate Highly Oscillatory Fredholm Integral Equations" Engineering Analysis with Boundary Element, 2, (2015), 100-112.
2. Siraj-ul-Islam, Imran Aziz and M. Ahmad" Numerical solution of two dimensuional PDEs with nonlocal boundary conditions" Computer Mathematics with Applications, 69, (2015), 180-209.
3. Siraj-ul-Islam and Uzma Naseeb" A comparative study of meshless complex quadrature rules for highly oscillatory integrals" Engineering Analysis with Boundary Element, 52, (2015), 71-80.
4. Siraj-ul-Islam and S. Zaman" New quadrature rules for highly oscillatory integrals with stationary points" Journal of Computational and Applied Mathematics, 278, (2015) 75-89
5. I. Aziz, Siraj-ul-Islam, M. Fayyaz and M. Azram" New algorithms for numerical assessment of nonlinear integro-differential equations of second-order using Haar wavelets" 12, (2015)

[2014]

1. I. Aziz, Siraj-ul-Islam, and Fawad Khan "A new method based on Haar wavelet for numerical solution of two-dimensional nonlinear integral equations", Journal of Computational and Applied Mathematics 270 (2014) 70-80
2. Siraj-ul-Islam and N. Haider " *Numerical solution of compartmental models by meshless and finite difference methods*", Applied Mathematics and Computation 238, (2014) 408-435
3. Siraj-ul-Islam and I. Aziz and A. S. Al- Fahid "*An improved method based on Haar wavelets for numerical solution of nonlinear integral and integro-differential equations of first and higher orders*", Journal of Computational and Applied Mathematics. 260 (2014) 449-469

[2013]

4. Siraj-ul-Islam and I. Aziz and A. S. Al- Fahid and A. Shah "*A numerical assessment of parabolic partial differential equations using Haar and Legendre wavelets*", Applied Mathematical Modelling. 37 (2013) 9455-9481
5. Siraj-ul-Islam and A. S. Al-Fahid and S. Zaman "*Meshless and wavelets based complex quadrature of highly oscillatory integrals and the integrals with stationary points*", Engineering Analysis and Boundary with Element 37 (2013) 1136-1144
6. Siraj-ul-Islam and I. Aziz and M. Fayyaz "*A new approach for the numerical solution of integro-differential equations via Haar wavelets*", International Journal of Computer and Mathematics. 90 (2013) 1971-1989
7. I. Aziz and Siraj-ul-Islam "*New algorithms for numerical solution of nonlinear Fredholm and Volterra integral equations using Haar wavelets*", Journal of Computational and Applied Math. 239 (2013) 333-345
8. I. Aziz, Siraj-ul-Islam and B. Sarler "*Wavelets collocation methods for the numerical solution of elliptic BV problems*", Applied Math. Modeling 37 (2013) 676-694
9. Siraj-ul-Islam, B. Sarler and R. Vertnik "*Local Radial Basis Function Collocation Method Along With Explicit Time Stepping For Hyperbolic Partial Differential Equations*", Applied Numerical. Mathematics, 67 (2013) 136-151

4

[2012]

10. G. Yao, **Siraj-ul-Islam** and Bozidar Sarler *"Assessment of global and local meshless methods based on collocation with radial basis functions for parabolic partial differential equations in three dimensions", Engineering Analysis with Boundary Elements"*, 36 (2012) 1640–1648

11. **Siraj-ul-Islam**, Imran Aziz and Wajid Khan" *Numerical integration of multi-dimensional highly oscillatory, gentle oscillatory and non-oscillatory integrands based on wavelets and radial basis functions",* Engineering Analysis with Boundary Elements, 36 (2012) 1684–1695

12. **Siraj-ul-Islam**, R. Vertnik and B. Sarler *"Radial Basis Function Collocation Method for the Numerical Solution of the Two-Dimensional Transient Nonlinear Coupled Burgers' Equations",* Applied Math. Modeling 36 (3) (2012) 1148-1160

[2011]

13. Umut Hanoglu, **Siraj-ul-Islam** and Bozidar Sarler *"Numerical Solution of Hot Shape Rolling of Steel"* Materials and technology, 45(6) 545 (2011)

14. I. Aziz, **Siraj-ul-Islam** and Wajid. Khan *"Quadrature Rules for Numerical Integration Based on Haar Wavelets and Hybrid Functions"* Computer Mathematic with Applications 16 (2011) *2770-2781*

15. **Siraj-ul-Islam**, B. Sarler, I. Aziz and F. Haq *"Haar wavelet collocation method for the numerical solution of boundary layer fluid flow problems"* International Journal of Thermal Sciences, 52 (2011), 686-697

16. F. Haq, **Siraj-ul-Islam** and I. Aziz *"A Numerical Solution of Singularly Perturbed Two-point BVPs Using Non-uniform Haar Wavelets"* International Journal for Computational Methods in Engineering Science & Mechanics, 12 (2011) 168-175

[2010]

17. **Siraj-ul-Islam**, I. Aziz and B. Sarler *"The Numerical Solution of Second-Order Boundary-Value Problems by Collocation with Haar Wavelets",* Mathematics and Computer Modeling, 52 (2010) 1577-1590

18. **Siraj-ul-Islam**, A. Ali and S. Haq *"A Computational Modeling of the Behavior of the Two-dimensional Reaction-diffusion Brusselator System,* Applied Math. Modeling, Vol. 34 (2010) 3896–3909

19. F. Haq, **Siraj-ul-Islam** and S. Tirmizi *"A Numerical Technique for Solution of the MRLW Equation Using Quartic B-splines"* Applied Mathematical Modeling. Vol. 34, (2010), 4151–4160

20. G. Yao, **Siraj-ul-Islam**, B. Sarler, *"A Comparative Study of Global and Local Meshless Methods for Diffusion-Reaction Equation"* Computer Modeling in Engineering & Sciences (CMES), Vol. 59, no.2, (2010) 127-154

21. S. Haq, A. Hussian, **Siraj-ul-Islam** *"Solutions of Coupled Burger's, Fifth-Order KdV and Kawahara Equations Using Differential Transform Method with Padé Approximant",* Selçuk Journal of Appl. Mathematic Vol. 11, 1, (2010), 43-62

22. M. Idrees, S. Islam, **Siraj-ul-Islam** "Application of Optimal Homotopy Asymptotic Method to Squeezing Flow" *Computers and Mathematics with applications*, Vol. 59 (11), (2010), 3858-3866

23. **Siraj-ul-Islam**, Fazal Haq, S. Tirmizi *"Collocation Method Using Quartic B-Spline for the Numerical Solution of the Modified Equal Width Wave Equation",* J. Applied. Mathematic & Informatics, Vol. 28, (2010), 611-624

24. **Siraj-ul-Islam**, I. Aziz, F. Haq *"A Comparative Study of Numerical Integration Based on Haar wavelets and Hybrid Functions",* Computer Mathematics with Applications, Vol. 59, 6, 1 (2010), 2026-2036

25. Fazal Haq, Imran Aziz, **Siraj-ul-Islam**, *"A Haar Wavelets Based Numerical Method for Eight-order Boundary Problems",* International Journal of Mathematics and Computer Sciences, Vol. 6, 1, (2010), 25-31

5

26. Javed Ali, Saeed Islam, **Siraj-ul-Islam,** "*The Solution of Multipoint Boundary-value Problems by the Optimal Homotopy Asymptotic Method",* Computer Mathematics with Applications, Vol. 59, 6, (2010), 2000-2006

[2009]

27. Imran Aziz, Fazal Haq, **Siraj-ul-Islam,** "*Numerical Solution of Sixth-order Singular Boundary-value Problems Using Haar Wavelets*", Journal of wavelets theory and its applications, Vol. 3, 1, (2009), 157-168
28. Marjan Uddin Sirajul Haq, **Siraj-ul-Islam,** "*Numerical Solution of Complex Modified Korteweg-de Vries Equation by Meshfree Collocation Method"* Computer Mathematics with Applications", Vol. 58 3 (2009) 566–578
29. S. Haq**, Siraj-ul-Islam** and M. Uddin, "*Numerical Solution of Nonlinear Schrodinger Equations by Collocation Method Using Radial Basis Functions*", Computer Modelling in Engineering and Sciences (CMES), vol. 44, (2009) 115-135
30. Sirajul Haq, **Siraj-ul-Islam,** Marjan Uddin, "*A Mesh-free Numerical Method for Solution of the Family of Kuramoto-Sivashinsky Equations"* Applied Mathematics Computation, Vol. 212 (2009) 458–469
31. Arshad Ali, **Siraj-ul-Islam,** Sirajul Haq, "*A Computational Meshfree Technique for the Numerical Solution of the Two Dimensional Coupled Burgers' Equations*" International Journal for Computational Methods in Engineering Science & Mechanics , Vol. 10, Issue 5, (2009), 406 – 422
32. Ahmad Jan Khattak, S.I.A. Tirmizi, **Siraj-ul-Islam,**" *Application of Radial Basis Functions Scheme to System of Nonlinear Partial Differential Equations",* Engineering Analysis with Boundary Elements, Vol. 33 (2009) 661-667
33. **Siraj-ul-Islam,** Sirajul-Haq, Marjanudin*,"A Mesh-free Interpolation Method for the Numerical Solution of the Coupled Nonlinear Partial Differential Equations",* Engineering Analysis with Boundary Element Vol. 33 (2009) 399-409
34. **Siraj-ul-Islam,** Sirajul-Haq, Arshad Ali*," A Meshfree Method for the Numerical Solution of RLW Equations*", Journal of Computational and Applied Mathematics Vol. 223 (2009) 997–1012
35. **Siraj-ul-Islam,** Sirajul-Haq, Javid Ali*," Numerical Solution of Special Twelfth-order Boundary Value Problems Using Differential Transform Method",* Communications in Nonlinear Science and Numerical Simulation Vol. 14, (2009), 1132–1138
36. Sirajul Haq, **Siraj-ul Islam**, Marjan Uddin, "*A Mesh-free Method for the Numerical Solution of the KdV-Burgers' Equation"* Applied Mathematical Modeling, Vol. 33 (2009) 3442-3449

[2008]

37. Sirajul Haq, **Siraj-ul-Islam**, Arshad Ali, "*A Numerical Meshfree Technique for the Solution of the MEW Equation*" Computer Modeling in Engineering & Sciences (CMES), Vol.1022, (2008) 1-23
38. **Siraj-ul-Islam**, A. J. Khattak, Ikram A. Tirmizi,"*A Meshfree Method for Numerical Solution of KdV Equation",* Engineering Analysis with Boundary Element 32 (2008) 849–855
39. Khattak*,* **Siraj-ul-Islam**,"*A Comparative Study of numerical Solutions of a Class of KdV Equation",* Applied Mathematics and Computation Vol. 199, (2008), 425-435
40. **Siraj-ul-Islam**, Ikram A. Tirmizi, Fazal Haq*,"Non-polynomial Splines Approach to the Solution of Sixth-order Boundary-value Problems",* Applied Mathematics and Computation, Vol. 195, (2008), 270-284
41. Ikram A. Tirmizi, Fazal Haq*,* **Siraj-ul-Islam**,"*Non-polynomial Spline Solution of Singularly Perturbed Boundary-value Problems"* Applied Mathematics and Computation, Vol. 196, (2008), 6-16
42. **Siraj-ul-Islam**, Ikram A. Tirmizi, Fazal Haq, Shahrukh K. Taseer, "*A Family of Numerical Methods Based on Non-polynomial Splines for Solution of Contact Problems",* Communications in Nonlinear Science and Numerical Simulation, Vol. 13, (2008) 1448-1460

[2007]

43. **Siraj-ul-Islam**, M. A Khan, S. I. Tirmizi,"*Quartic Non-polynomial Spline Approach to the Solution of a System of Third-order Boundary-value Problems",* Journal of Mathematical Analysis and Applications, Vol. 335, (2007) 1095-1104

44. **Siraj-ul-Islam**, F. Haq, S. I. Tirmizi,"*Quadratic Non-polynomial Spline Approach to the Solution of a System of Second-order Boundary-value Problems*", International Journal of High Performance Computing, Vol. 21, (2007), 42-49

[2006]

45. **Siraj-ul-Islam**, S. I. Tirmizi, *"A Smooth Approximation for the Solution of Special Third-order Nonlinear Boundary-value Problems"*, International Journal of Computer Mathematics., Vol. 83, (2006), 397-408
46. **Siraj-ul-Islam**, M. A Khan, *"A Class of Methods Based on Polynomial Sextic Spline Functions for the Solution of Special Fifth-order Boundary-value Problems"*, Applied Mathematics Computation, Vol. 181, 1, (2006), 356-361
47. *Siraj-ul-Islam*, M. A. Noor, S. I. A. Tirmizi, M. A. Khan, *"Quadratic Non-polynomial Spline Approach to the Solution Second-order Boundary-value Problems"*, Applied Mathematics Computation, Vol. 179, Issue 1, 1, (2006), 153-160
48. M. A. Khan, **Siraj-ul-Islam**, S.I.A.Tirmizi, E.H.Twizell, Saadat Asharaf, *"A Class of Methods Based on Non-polynomial Sextic Spline Functions for the Solution of Special Fifth-order Boundary-value Problems"*, Journal of Mathematical Analysis and Applications Vol. 321, (2006) 651-660
49. **Siraj-ul-Islam**, S.I.A.Tirmizi, Saadat Asharaf, *"A Class of Methods Based on Non-polynomial Spline Functions for the Solution of Special Fourth-order Boundary-value Problems with Engineering Applications"*, Applied Mathematics Computation, Vol. 174, Issue 2, (2006), 1169-1180
50. **Siraj-ul-Islam**, S.I.A.Tirmizi, *"Non-Polynomial Spline Approach to the Solution of a System of Second-Order Boundary-Value Problems"*, Applied Mathematics Computation, Vol. 173, Issue 2, (2006), 1208-1218

[2005]
51. **Siraj-ul-Islam**, S.I.A.Tirmizi, M. A. Khan, E. H. Twizell, *"A Non-polynomial Spline Approach to the Solution of a System of Third-order Boundary-Value problems Using Non-polynomial Splines"*. Applied Mathematics Computation Vol.168 (1), (2005), 152-163
52. S. I. A. Tirmizi, E.H. Twizell, **Siraj-ul-Islam**,"*A Numerical Method for Third-order Non-linear Boundary-value Problems in Engineering*", Issue (82) International Journal of Computer Math., (2005), 103-109

Refereed Conference Papers

1. **Aziz Imran, Siraj-ul- Islam** "An improved wavelet collocation method for numerical solution of two dimensional elliptic partial differential equations" Third International Conference on Computational Methods for Thermal Problems ThermaComp 2014 June 02-04, Lake Bled Slovenia.
2. **Siraj-ul-Islam and Saeedulla Jan**"Evolution modeling of NPZ and SIR models with and without diffusion" International Conference in Pure and Applied Mathematics (ICRAPAM14) Nov. 06-09, 2014 Anatalya Turkey, Istanbule Commerce University.
3. **Siraj-ul-Islam (Keynote Speaker) and Rahim Zaman** "Modelling and Simulation of Biological System" National Conference on Computational Methematical Sciences Sep. 03-06 2014 University of Malakand.
4. **M. Zaheer and Siraj-ul-Islam** "Numerical Numerical Solution of Highly Oscillatory Fredholm Integral Equation – A Mesh free Approch" Second Conference on Sustanibilty in Process Industry SPI-2014 22nd of May 2014 University of Engineering and Technology Peshawar Pakistan
5. **M. Tariq and Siraj-ul-Islam** "Numerical Solution Method of Highly Oscillatory 1D Fredholm Integral Equation" Second Conference on Sustanibilty in Process Industry SPI-2014 22nd of May 2014 University of Engineering and Technology Peshawar Pakistan
6. **M. Ahsan and Siraj-ul-Islam** "Numerical simulation of pure diffusion model by Haar wavelets" Second Conference on Sustanibilty in Process Industry SPI-2014 22nd of May 2014 University of Engineering and Technology Peshawar Pakistan

7. M. Ahmad and Siraj-ul-Islam "Solving two-dimensional Poisson equation with nonlocal boundary conditions by meshless method" Second Conference on Sustanibilty in Process Industry SPI-2014 22nd of May 2014 University of Engineering and Technology Peshawar Pakistan

8. Uzama Naseeb and Siraj-ul-Islam "Meshless based complex quadrature solution for highly oscillatory integrals" Second Conference on Sustanibilty in Process Industry SPI-2014 22nd of May 2014 University of Engineering and Technology Peshawar Pakistan

9. S. Jan and Siraj-ul-Islam "Numerical Solution of SIR Model by Meshless and Finite Difference Methods" Second Conference on Sustanibilty in Process Industry SPI-2014 22nd of May 2014 University of Engineering and Technology Peshawar Pakistan

10. Siraj-ul-Islam (Keynote Speaker) "Radial Basis Functions in Numerical Computing" International Workshop on Computational Methematics with Application 2014 Shaheed Benazir Bhutto Women University Peshawar March 10.

11. Nadeem Haider and Siraj-ul-Islam "Numerical Solutions Of SVIRES Model ByMeshless And Finite Difference Methods" International Conference on Computational & Social Sciences December 19-20, 2013 AWKUM Mardan Pakistan

12. S. Zaman and Siraj-ul-Islam "Numerical solution of highly oscillatory integrals" ICOMS 2013 Air University Islamabad Nov 24-27.

13. M. Majid and Siraj-ul-Islam "Approximation of Two-dimensional functions using radial basis functions and wavelets" ICOMS 2013 Air University Islamabad Nov 24-27.

14. M. Taufiq and Siraj-ul-Islam "Approximation of one-dimensional functions using radial basis functions and wavelets" ICOMS 2013 Air University Islamabad Nov 24-27.

15. Siraj-ul-Islam Mehnaz Gul "Numerical solution of one one-dimentional PDEss using radial basis functions " ICOMS 2013 Air University Islamabad Nov 24-27.

16. Siraj-ul-Islam (Keynote Speaker) " Wavelets and Radial basis functions in scientific computing" ICOMS 2013 Air University Islamabad Nov 24-27.

17. G. Yao, Siraj-ul-Islam, Bozidar Sarler "*Comparison of global and local meshless methods based on collocation with radial basis functions for parabolic and hyperbolic partial differential equations in two and three dimensional space*" Fourth International Conference on Mathematical Sciences ICM 2012 United Arab Emirates University Al Ain (March 11-14, 2012)

18. Umut Hangole, Siraj-ul-Islam, Bozidar Sarler," *Hot Shape Rolling of Steel*" International conference on material and technology 2010, Congress Center Portorz Slovenia (Nov 15-17)

19. Siraj-ul-Islam, Bozidar Sarler," Non-Oscillatory *Local Radial Basis Function Collocation Method for Hyperbolic Differential Equations*" International conference on Numerical Analysis NumAn 2010, Chania Crete Greece (Sep 14-18)

20. Bozidar Sarler, Siraj-ul-Islam, Umut Hangole," *Solution of Hot Shape Rolling by the Local Radial Basis Function Collocation Method*" International conference on boundary element method Beteq 2010 Berlin Germany (July 11-14)

21. Siraj-ul-Islam, Sirajul Haq, Marjan Uddin," *A meshfree collocation method for numerical solution of the modified Burgers' equation*" International conference on Experimental Engineering and Sciences ICCES MM'08 Suzchou, China (13-17 October 2008)

22. Siraj-ul-Islam, S.I.A. Tirmizi, *"A meshfree method for the numerical solution of KdV equation"*, 22nd BIENNIAL Conference on Numerical Analysis University of Dundee, Scotland UK (26th – 29th June, 2007).

23. Azzam-ul-Asar, Siraj-ul-Islam, M. Sadeeq, *"An Adaptive Perturbation Scheme in Finite-Difference Gradient Approximation"*, 6th International IEEE Conference, Islamabad Pakistan (7th– 9th August 2007).

24. Siraj-ul-Islam, S.I.A. Tirmizi, *"A non-polynomial spline based family of methods for the solution of one dimensional diffusion equation"*, SANUM 2007 Unversity of Stellenbosch South Africa (2nd 4th April 2007).

25. Siraj-ul-Islam, S.I.A. Tirmizi, Saadat Ashraf *"Quadratic non-polynomial spline approach to the solution of a system of second-order boundary-value problems"*, International Conference on Computational Science and Engineering, Informatics Institute Istanbul Technical University, Istanbul, Turkey (27th -30th June 2005).

26. Siraj-ul-Islam, S.I.A. Tirmizi, Saadat Ashraf, *"Non-polynomial spline approach to the solution of a system of second-order boundary-value problems"*, 4th International Bhurban Conference on Applied Sciences and Technologies (IBCAST), Bhurban, Pakistan (16th -18th June 2005).

27. **Siraj-ul-Islam**, S.I.A. Tirmizi, *"A smooth approximation for the solution of special non-linear third-order boundary-value problems based on quartic non polynomial splines"*, School of Mathematical Sciences GC University Lahore, **Pakistan** (4th - 6th March 2005).
28. Nouri H., Kharin S.N., Tirmizi S.I., **Siraj-ul-Islam**, *"Modeling of ARC duration and erosion in electrical contacts of circuit breakers"* 39th International **IEEE** Universities Power Engineering Conference, University of Bristol **England** UPEC 2004 - Conference Proceedings (2004).

International Conferences and Seminars Attended:

1. International Conference in Pure and Applied Mathematics (ICRAPAM14) Nov.06-09, 2014 Anatalya Turkey, Istanbule Commerce University.
2. National Conference on Computational Methematical Sciences Sep. 03-06 2014 University of Malakand (Keynote Speaker)
3. Second Conference on Sustanibilty in Process Industry SPI-2014 22nd of May 2014 **University of Engineering and Technology Peshawar Pakistan**
4. First International Workshop on Computational Mathematics with Application 2014 Shaheed Benazir Bhutto Women University Peshawar March 10 (Keynote Speaker)
5. First International Conference on Modeling and Simulation ICOMS 2013 **Islamabad Pakistan** Air University Islamabad (Nov 24-27, 2013) (Keynote Speaker)
6. Fourth International Conference on Mathematical Sciences ICM 2012 **United Arab Emirates** University Al Ain (March 11-14, 2012)
7. International Conference International conference on material and technology, 2010 Congress Center Portorz **Slovenia** (Nov 15-17)
8. International Conference on Numerical Analysis NumAn , 2010 Chania Crete **Greece** (Sep 14-18)
9. International Conference on Boundary Element Method Beteq 2010 Berlin **Germany** (July 11-14)
10. International Conference on Experimental Engineering and Sciences ICCES MM'08 Suzchou, **China** 13-17 October 2008.
11. International Conference on Computational and Mathematical Methods in Science and Engineering, **Dundee Scotland UK** (20th -23th Sept 2007).
12. International Conference on Computational and Mathematical Methods in Science and Engineering, University of Stollenbosh, **South Africa** (20th - 23th Sept 2006).
13. *International Conference on Computational Science and Engineering, Informatics Institute, Istanbul Technical University, Istanbul, **Turkey** (27th -30th June 2005).*
14. 4th International Bhurban Conference on Applied Sciences and Technologies *(IBCAST),* Bhurban **Pakistan** (16th -18th June 2005).
15. International Conference on Models and Methods in Fluid Dynamics, COMSATS Islamabad **Pakistan.** (4th – 6th July 2005).
16. *Second World Conference on the 21st Century Mathematics*, School of Mathematical Sciences GC University Lahore, **Pakistan.** (4th - 6th March 2005).
17. 3rd International Conference on Numerical Analysis and Applications, Rousse, **Bulgaria** (29th June – 3rd July 2004).
18. 1st Chilean Wokshop on Numerical Analysis of Partial Diff. Equations, Universided de Concepcion **Chile** (13th – 16th January 2004).
19. Mathematical Modeling, Simulation, and related issues, COMSATS Headquarters, G-5, Islamabad **Pakistan.** (29th Oct – 2nd Nov 2002).
20. Two days workshop on Mathematics, Holiday Inn, Islamabad **Pakistan** (29th – 30th July, 2002).
21. 3rd Pure Mathematics Conference, Allama Iqbal Open University, Islamabad **Pakistan** (9th -10th Aug 2002).
22. *International Nathiagali Conference on Computational Fluid Dynamics (CFD),* PC Bhurban Murree **Pakistan** (July 2001).

23. Symposium on Applications of Group Theory, Department of Mathematics, Quaid-i-Azam University, Islamabad **Pakistan**. (26th – 27th April 2000).
24. International Conference on Models and Methods in Fluid Dynamics, COMSATS Campus Abottabad, **Pakistan** (21st - 27th June 2004).

Editorial Activities

- Member of Editorial Board of **International Journal of Computer Mathematics (IJCM)** published by Taylor and Francis
- Member of Editorial Board of **International Journal of** International Journal of Novel Ideas: Mathematics published by Science Tech Publishers

Peer-review Activities

1. Engineering Analysis with Boundary Element (Elsevier)
2. Journal of Computational Physics (Elsevier)
3. Journal of Computational and Applied Mathematics (Elsevier)
4. International journal of Computer mathematics with Applications (Elsevier)
5. International Journal of Computer Mathematics (Taylor & Francis)
6. Applied Mathematics and Computation (Elsevier)
7. Journal of Non-linear Dynamics (Springer)
8. Applied Mathematics Letters (Elsevier)
9. Journal of Mathematical Analysis and its Application (Elsevier)
10. Mathematics and Computer Modeling (Elsevier)
11. Journal of Applied Mathematics and Computing (Springer)
12. Computer Physics Communications (Elsevier)
13. Journal of Applied Sciences and Engineering (Hindawi)
14. Journal of the Franklin Institute (Elsevier)
15. Communications in Nonlinear Science and Numerical Simulations (Elsevier)

Committee Services

- Chief Organizer International Workshop on Computational Mathematics with Application 2014 Shaheed Benazir Bhutto Women University Peshawar March 10
- Member of external evaluation committee PhD thesis COMSATS Islambad
- Member of graduate committee Shaheed Banizer Bhutto Unversity Peshawar
- **(Session Chair)** ICOMS 2013 Air University Islamabad
- **(Session Chair)** ICM 2012 University Al Ain United Arab Emirates
- **(Member Organizing Committee)** 7th Annual ICCES Symposium on "Meshless & Other Novel Computational Methods" held in Zonguldak, Turkey, during 6-9 September 2011
- **(Member Organizing Committee)** Joint International Workshop on Trefftz Method VI and Method of Fundamental Solutions II, Department of Applied Mathematics National Yat-Sen University Coahsiung Taiwan March 15-18, 2011
- **(Member Organizing Committee)** ICCES Special Symposium on Meshless & Other Novel Computational Methods   held in Busan Korea 17-21 September 2010
- **(Member Organizing Committee)** *ICCES Special Symposium on* Meshless & Other Novel Bistra Castle, Ljubljana, Slovenia Computational Methods Aug 31- Sep 2, 2009,
- **(Member Organizing Committee)** International Conference on Information Technology KUST 2007 Kohat University of Science and Technology
- **Member of Board of Advance Studies and Research** (BOSAR) NWFP UET NWFP University of Engg. & Tech. Peshawar
- **Member of Board of Studies** Frontier Woman University Peshawar
- **Member of Board of Studies** Malakand University Chakdara

- **Member of Board of Studies** Islamia College University Peshawar
- **Member of Board of Studies** department of mathematics AWKUM
- **Convener** of departmental research evaluation committee
- **Convener** of departmental vigilance committee and quality enhancement

Research Students Supervision

MS level Supervision (Completed)

1. Hamid Khan   A New Algorithm for Matrix Inversion, 2007
2. Miss Tania Arshad   Numerical solution of Differential Equations Using Wavelets, 2009
3. Javid Ali   Differential Transform Methods for High-order boundary-value Problems, 2009
4. Fazal Haq   Numerical Solution of Boundary-Value Problems Using Non-Polynomial Spline Functions, 2006
5. Izaz Ali   Meshfree methods for Parabolic PDEs, 2009
6. Marjan Uddin   Num. Solution of PDEs by Meshfree Collocation Mehtod, 2009
7. Iltaf Hussian   A Computational Messfree Technique for the Numer. Solution of Two Dimensional Burgers' Equation, 2009
8. Rehan Ali   A Computational Meshfree Technique for the Numer. Solution of Reaction Diffusion PDEs, 2009
9. Arshad Hussian   Application of Modified Differential Transform Methods To Partial Differential Equation, 2009
10. Tania Arshad   The Use of Semi-orthogonal Wavelets for the Numerical Solution of Second-order Boundary Value Problems, 2009
11. Mohammad Shoiab   Given a One Step Numerical Scheme, On Which Ordinary Differential Equation is Exact 2010
12. Wajid Khan   Wavelets and Hybrid Functions Based Rule for Numerical Integration 2011
13. Ajmal Shah   Numerical solution of Partial Differential Equations Using Wavelets and Hybrid Functions 2012
14. M. Fayyaz   Numerical methods for Integro-Differential equations 2012
15. Sakhi Zaman   Numerical methods for one dimensional highly oscillatory Integrals 2013
16. Nadeem Haider   Numerical Solution of Epedimic Models by Meshless and Finite Difference Methods 2013
17. Miss H. Maheen   Numerical methods for PDEs based on B-splines 2013
18. Miss Mehnaz   Meshless Methods for Numerical solution of Kdv class of PDEs 2013
19. Miss Amina Nousheen   A comparative study Meshless Methods for numerical solution of PDEs 2013
20. Miss Skeena Skindar   Numerical Solution of GKDV Equations by meshless methods (2014)
21. M. Taufiq   One Dimensional Function Reconstruction through Radial Basis Functions and Haar wavelets
22. M. Majid   Two Dimensional Function Reconstruction through Radial Basis Functions and Haar wavelets
23. Saeedullah Jan   Modeling and Simulation of Marin Biological System consisting of Nitrogen PhytoPlankton and ZooPhylankton
24. M. Ahsan   Construction of efficient numerical methods for Parabolic PDEs
25. M. Masood   Numerical formulation of non-local Parabolic PDEs
26. Uzma Naseeb   Efficient and accurate evaluation highly oscillatory integrals
27. Zaheeruddin   Efficient and accurate evaluation of highly oscillatory Voltera integral equations

28. Rahim Zaman   Modeling and simulation of population dynamics

MS level Supervision (In progress)

1. **Khuram Hina Janjua**   **Simulation of two dimentional cubic nonlinear Schrodinger equation**
2. **Fouzia Munawwar**   **Modeling and Simulation of Fiber Optics Model**
3. **M. Tariq**   **Efficient and accurate evaluation of highly oscillatory Fredholm integral equations**
4. **Tayyebba Javed**   **Optimization algorthims for open PIT Mines**
5. **Asmara Kenwal**   **Mathematical Modelling and Simulation of heat transfer in concrete structures**

PhD level Supervision (Completed)

1. **Fazal Haq**   **Numerical Solution of Boundary-Value Problems Using Non-polynomial Spline Functions (2009)**
2. **Arshad Ali**   **Meshfree Methods for highly nonlinear coupled PDEs (2009)**
3. **Imran Aziz**   **Wavelets and Radial Basis Functions in Scientific Computing (2014)**

PhD level (Supervision in Progress)

1. **Sakhi Zaman**   **Quadrature Methods for Highly Oscillatory Integrals with and without Stationary Points**
2. **Imtiaz Ahmad**   **Numerical Methods for Option Pricing**
3. **Wajid Khan**   **Modelling and Simulation of PDEs models by optimum meshless procedures in strong and weak forms**

Courses Taught

Graduate level (1999-2013)

- Numerical Solution of Partial Differential Equations
- Advance Numerical Methods For PDEs
- Graph Theory and its Applications to Mining Engineering
- Computational Fluid Dynamics
- Advance Numerical Methods for Chemical Engineers
- Advance Numerical Methods of Ordinary Differential Equations
- Numerical Linear Algebra
- Advance Numerical Methods for Structures in Civil Engineering
- Meshless and Spectral Methods
- Theory and Application of Splines and Wavelets
- Probability and Measure Theory

Undergraduate level (1997-2013)

- Numerical Analysis
- Calculus I
- Calculus II
- Differential Equations
- Linear Algebra
- Numerical Linear Algebra
- Complex Variables
- Discrete Mathematics

- Mathematical Statistics

Tehcnical Skills

Programming in Matlab, C++, Mathematica and Word processor Latex

References

1. **Prof. Dr. Bozidar Sarler**   Head of the Laboratory for Multiphase Processes
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   300 College Park Dayton, OH 45469-2316.
   Email: Muhammad.Usman@notes.udayton.edu