

CURRICULUM VITAE

Personal Information			
Name:	Khalid Saifullah Syed		
Discipline:	Mathematics	Institution:	Bahauddin Zakariya University
Gender:	Male	Department:	CASPAM
Specialization:	Applied & Computational Mathematics	Present Position:	Tenured Professor
Address:	17-AI-Mushtaqeen, BZU Teachers Housing Project Phase II, Northern Bypass Road, Multan, Pakistan.	City:	Multan
CNIC	36302-0375535-7	Passport No.	KY5145351
Email:	khalidsaifullah@bzu.edu.pk	Phone:	+92 300 6378136 (Cell) +92-61-9210071 (2114)

Education History			
Year	Degree	Field of Study	Institution/University
1984	Matric (Ist div, 82%)	Science	Govt. Fazalka Islamia High School Pakpattan
1986	F.Sc (Ist div, 65%)	Pre-engineering	Govt. Faridia Degree College Pakpattan
1988	BA/BSc (Ist div, 70%)	Physics, Math A-Course & Math B-Course	Govt. College Sahiwal
1990	MA/MSc (Ist div, 76%)	Mathematics	Bahauddin Zakariya University Multan
1991	B.Ed.	Teaching of Mathematics	
1993	MPhil (Ist div, 85%)	Mathematics	Bahauddin Zakariya University Multan
1998	PhD	Mathematics	University of Bradford, Bradford, UK

Professional Experience			
Institution/ Organization	Position / Job Title	Period	
		From	To
Bahauddin Zakariya University Multan	Professor (Tenured)	25/10/2019	Till date
Bahauddin Zakariya University Multan	Associate Professor (Tenured)	13/03/2015	24/10/2019
Bahauddin Zakariya University Multan	Assisstant Professor (Tenured)	01/04/2014	12/03/2015
Bahauddin Zakariya University Multan	Assisstant Professor (TTS)	01/04/2008	31/03/2014
Bahauddin Zakariya University Multan	Assisstant Professor (BPS)	26/09/2000	31/03/2008
Hamdard University Karachi, Islamabad Campus	Assisstant Professor (Contract)	27/09/1999	25/09/2000
Bahauddin Zakariya University Multan	Lecturer (BPS)	21/03/1994	25/09/1999

Teaching
Courses taught at BS/MSc level (22): Calculus I, Calculus II & Calculus III, Discrete Structures, Classical Mechanics, Ordinary Differential Equations, Partial Differential Equations, Vector & Tensor Analysis, Algebra II (Group Theory), Algebra III (Linear Algebra), Algebra & its Applications, Mathematical Methods, Finite Element Methods, Functional Analysis I, Methods of Optimization,

Theory of Approximation and Splines, Optimization Theory, Numerical Analysis/Methods, Mathematical Statistics, Numerical Solutions of PDEs I, Fluid Mechanics, Heat Transfer

Courses taught at MS/MPhil level (13): Introduction to the Mathematical Literature, Research Methodology, Mathematics Teaching Techniques, Linear Algebra, Advanced Numerical Analysis, Numerical Solutions of PDEs II, Compressible Flows, An Introduction to Wavelets, Non-Linear Programming, Computational Fluid Dynamics for Laminar Flows, Mathematics of Large Scale Simulation, Computational Geometry, Advanced Fuzzy Set Theory, Control Theory

Courses taught at PhD level (8): Topics in Numerical Analysis I, Topics in Numerical Analysis II, Discontinuous Galerkin Method for Solving PDEs, Parallel Solution of Partial Differential Equations, Turbulence Modelling, Boundary Layer Flow, Wavelets Theory, Theoretical Combustion, Multiscale Modeling and Simulation, Neural Networks and Fuzzy Logic, Quantum Computing

Research Interests

Computational Fluid Dynamics, Optimal Shape/System Design, Heat Exchangers, Speech Production, Internal Combustion Engines, ANN Modeling, Intelligent Control Systems, Data-driven Systems, Fault Diagnostic Systems

Publications in HEC Recognized Journals

1. Ghazala Ashraf, Sardar Bilal, Muhammad Ishaq, Syed Khalid Saifullah, A. S. Alqahtani & M.Y. Malik, Thermodynamic optimization in laminar and fully developed flow in double pipe heat exchanger with arrow-shaped extended surfaces: A novel design, *Case Studies in Thermal Engineering* 54 (2024) 103947, <https://doi.org/10.1016/j.csite.2023.103947>
2. Muhammad Ishaq, Ikram Ul Haq and Khalid Saifullah Syed, Heat transfer enhancement in finned annulus of elliptic-circular heat exchanger, *Numerical Heat Transfer, Part A: Applications*, Received 16 May 2023, Accepted 12 Oct 2023, Published online: 28 Oct 2023 <https://doi.org/10.1080/10407782.2023.2273991>
3. Saima Zainab and Khalid Saifullah Syed, Investigation of nozzle geometry and wall roughness effects on diesel injector flow, *AIP Advances*, 13, 115129 (2023), <https://doi.org/10.1063/5.0172988>
4. Muhammad Ishaq, Amjad Ali, Muhammad Amjad, Khalid Saifullah Syed and Zafar Iqbal, Diamond-Shaped Extended Fins for Heat Transfer Enhancement in a Double-Pipe Heat Exchanger: An Innovative Design, *Appl. Sci.* 2021, 11, 5954. <https://doi.org/10.3390/app11135954>, (Impact Factor: 2.679)
5. Muhammad Zahid and Khalid S. Syed, Investigation of pollutants formation in a diesel engine using numerical simulation, *Adv. Model. And Simul. in Eng. Sci.*(2021) 8 :19, <https://doi.org/10.1186/s40323-021-00204-6>, (HJRS X-Category)
6. Amjad Ali, Hamayun Farooq, Gullnaz Shahzadi, Muhammad Umar and Khalid Saifullah Syed, Benchmarking of a distributed-memory, high-order discontinuous finite element flow solver on a shared-memory parallel architecture, *AIP Advances*, 10, 035031 (2020); doi: 10.1063/5.0001521 (Impact Factor: 1.548)
7. Tahir Mushtaq Qureshi, Khalid Saifullah Syed, Asim Zafar, Non-uniform Rectilinear Grid in the Waveguide Modeling of the Vocal Tract, *Archives of Acoustics* 45(4), pp. 585–600, 2020, 10.24425/aoa.2020.135247. (Impact Factor: 0.618) <https://acoustics.ippt.pan.pl/index.php/aa/article/view/2645>
8. Tahir Mushtaq Qureshi, Khalid Saifullah Syed, Improved vocal tract model for the elongation of segment lengths in a real time, *Computer Speech and Language*, 57, 41–58, 2019 (Impact Factor: 1.753)
9. Muhammad Ishaq, Khalid Saifullah Syed, Zafar Iqbal, and Ahmad Hassan, A Conjugate Heat Transfer Analysis of a Triangular Finned Annulus Based on DG-FEM, *Mathematical Problems in Engineering* Volume 2018, Article ID 6947565, 18 pages <https://doi.org/10.1155/2018/6947565>
10. Tahir Mushtaq Qureshi, Khalid Saifullah Syed, Fulcrum-Point Based Self-Oscillatory Glottal Model with Numerical Flow Simulation, *International Journal of Acoustics and Vibration*, Vol. 23, No. 4, 2018 (<https://doi.org/10.20855/ijav.2018.23.41235> (pp. 516_528) (Impact Factor 0.340)
11. Waseem Ahmad, Khalid Saifullah Syed, Muhammad Ishaq, Ahmad Hassan and Zafar Iqbal, Numerical

- study of conjugate heat transfer in a double-pipe with exponential fins using DGFEM, *Applied Thermal Engineering* 111, 1184–1201, 2017 (Impact factor 2.739) (Online 3 October 2016) (<http://dx.doi.org/10.1016/j.applthermaleng.2016.09.171>)
12. Zafar Iqbal, Khalid Saifullah Syed and Muhammad Ishaq, Optimum configurations of annulus with triangular fins for laminar convection, *Thermal Science*, 21 (1A), 161-173, 2017 (Impact Factor 1.222) (Online 12 July 2016) (<http://thermalscience.vinca.rs/online-first/1993> , doi: 10.2298/TSCI130805139I)
 13. Z. Iqbal, K.S. Syed and M. Ishaq, Fin Design for Conjugate Heat Transfer Optimization in Double Pipe, *International Journal of Thermal Sciences*, 94, 242-258, 2015 (Impact Factor: 2.629)
 14. Z. Iqbal, K.S. Syed and M. Ishaq, Optimum convection through parabolic fins in annulus of double pipe, *Journal of Thermophysics and Heat Transfer*, 29(3), 572-586, 2015 (Impact Factor: 0.833)
 15. K.S. Syed, Muhammad Ishaq, Z. Iqbal & A. Hassan, Numerical Study of an innovative design of a Finned Annulus with Variable Fin-Tip Thickness, *Energy Conversion and Management* 98, 69-80, 2015 (Impact Factor: 4.380)
 16. Tahir Mushtaq Qureshi, Khalid Saifullah Syed, Two dimensional featured one dimensional digital waveguide model for the vocal tract, *Computer Speech and Language*, 33, 47–66, 2015 (Impact Factor: 1.753)
 17. Mazhar Iqbal, K. S. Syed, "Analysis of thermally developing laminar convection in the finned double-pipe", *Heat Transfer Research*, 45(1), 1-21, 2014 (Impact Factor: 0.477)
 18. Z. Iqbal, M. Ishaq and K.S. Syed, Optimization of laminar convection on the shell-side of double pipe with triangular fins, *Arab J Sci Eng*, 39, 2307–2321, (March 2014) (Impact Factor: 0.367)
 19. Z. Iqbal, K.S. Syed, M. Ishaq, Optimal fin Shape in Finned Double Pipe with Fully Developed Laminar Flow, *Applied Thermal Engineering*, 51(1-2), 1202–1223, 2013 (Impact Factor: 2.624)
 20. Muhammad Ishaq, K.S. Syed, Zafar Iqbal, Ahmad Hassan, Amjad Ali, DG-FEM based Simulation of Laminar Convection in an Annulus with Triangular Fins of Different Heights, *International Journal of Thermal Sciences*, 72, 125-146, 2013 (Impact Factor: 2.563)
 21. A Ali, KS Syed, An outlook of high performance computing infrastructures for scientific computing *Advances in Computers*, 91, 87-118, 2013
 22. K.S. Syed, Z. Iqbal, M. Ishaq, Optimal Convective Heat Transfer in a Double Pipe with Parabolic Fins, *International Journal of Heat and Mass Transfer*, 54(25-26), 5415-5426, 2011 (Impact Factor: 2.407)
 23. K.S. Syed, Z. Iqbal, M. Ishaq, Optimal configuration of finned annulus in a double pipe with fully developed flow, *Applied Thermal engineering*, 31, 1435-1446, 2011 (Impact Factor: 2.064)
 24. Tahir Mushraq Qureshi; Khalid Saifullah Syed, A new approach in parametric modeling of glottal flow, *Archives of Acoustics*, 36(4), 695-712, 2011 (Impact Factor: 0.847)
 25. Tahir Mushtaq Qureshi; Khalid Saifullah Syed, One Mass Physical Model of Vocal Folds with Seesaw-like Oscillations, *Archives of Acoustics*, 36(1), 1-13, 2011 (Impact Factor: 0.847)
 26. K. S. Syed, Muhammad Ishaq & Muhammad Bakhsh, Convective heat transfer in the annulus region of triangular finned double-pipe heat exchanger, *Computers & Fluids*, 44(1), 43-55, 2011 (Impact Factor: 1.810)
 27. Iqbal, M & Syed, K.S., Thermally Developing Flow in Finned Double Pipe Heat Exchanger, *International Journal for Numerical Methods in Fluids*, 66(7), 906-918, 2011 (Impact Factor: 1.176)
 28. Muhammad Ashraf, K. S. Syed and M. Anwar Kamal, Numerical simulation of flow of micropolar fluids in a channel with a porous wall, *International Journal for Numerical Methods in Fluids*, 65(10), 1145-1159, 2011 (Impact Factor: 1.176)
 29. Muhammad Ashraf, Anwar Kamal and K. S. Syed, Numerical Study of Asymmetric Laminar Flow of Micropolar Fluids in a Porous Channel, *Computers and Fluids*, 38(10), 1895-1902, 2009 (Impact Factor: 1.270)
 30. Muhammad Ashraf, M. Anwar Kamal and K. S. Syed, Numerical investigations of asymmetric flow of a micropolar fluid between two porous disks, *Acta Mechanica Sinica*, 25(6), 787-794, 2009 (Impact Factor: 0.865)
 31. Muhammad Ashraf, M. Anwar Kamal and K. S. Syed, Numerical simulation of flow of a micropolar

fluid between a porous disk and a non-porous disk, *Applied Mathematical Modeling*, 33(9), 1933-1943, 2009 (Impact Factor: 1.375)

32. K. S. Syed, Mazhar Iqbal & N. A. Mir, Convective Heat Transfer in the Thermal Entrance Region of Finned Double-Pipe, *Heat and Mass Transfer*, 43(5), 449-457, 2007 (Impact Factor: 0.485)

33. M Anwar Kamal, Muhammad Ashraf and K. S. Syed, Numerical solution of steady viscous flow of a micropolar fluid driven by injection between two porous disks, *Applied Mathematics and Computation*, 179 (1), 1-10, 2006 (Impact Factor: 0.816)

34. Tahir Mushraq Qureshi; Khalid Saifullah Syed, A Numerical Simulation of Unsteady Flow in a Quasi-Seesaw Glottal Model, *World Applied Sciences Journal*, 32 (6), 1074-1086, 2014 (ISI Indexed)

35. K. S. Syed, Shahzad Ahmad, Muhammad Ashraf, Study of magnetohydrodynamic and thermal characteristics of axisymmetric stagnation point flow with viscous dissipation over a shrinking surface, *World Applied Sciences Journal*, 18 (1), 43-54, 2012 (ISI Indexed)

36. Shahzad Ahmad, Muhammad Ashraf and K.S. Syed, Effects of Thermal Radiation on MHD Axisymmetric Stagnation Point Flow and Heat Transfer of a Micropolar Fluid over a Shrinking Sheet, *World Applied Sciences Journal*, 15 (6), 835-848, 2011 (ISI Indexed)

37. Amjad Ali, Ahmad Hassan, Khalid S. Syed, Muhammad Ishaq, and Idrees Ahmad. Towards application of a parallel, high order discontinuous Galerkin method for reacting flow simulations, *Pakistan Journal of Engineering and Applied Sciences*, 13, 134-147, 2013 (HEC Approved Journal)

38. Amjad Ali, Hong Luo, Khalid S. Syed, and Muhammad Ishaq. A Parallel Discontinuous Galerkin Code for Compressible Fluid Flows on Unstructured Grids, *Journal of Engineering and Applied Sciences*, 29 (1), 2010 (HEC Approved Journal)

39. G Ashraf, KS Syed, M Ishaq, [Finite Difference Solution of Conjugate Heat Transfer in Double Pipe with Trapezoidal Fins](#), Book Chapter in Numerical Modeling and Computer Simulation, Pages: 39, 2019, IntechOpen

Students Supervised M.Phil.: 64-----Ph.D.: 13

S.No.	Name of student	Dissertation	Title	Year of graduation
1	Mubeen-ul-Haq Hashmi	MPhil	Numerical Study of Micropolar Fluids Flow between Porous Walls	1995
2	Farooq Ahmad	MPhil	Optimization of Finned Double Pipe for Convective Heat Transfer	2004
3	Muhammad Farooq Iqbal	MPhil	Study of Laminar Convective Heat Transfer in a Finned Duct using Uniform Local Grid Refinement	2005
4	Ahmad Hassan	MPhil	Multigrid Methods for Boundary Value Problems	2005
5	Muhammad Ashraf	MPhil	Simulation of Fluid Flow through an Abrupt Circular Channel	2005
6	Shazia Ambreen	MPhil	Numerical Study of Some Problems in Micropolar Fluids	2005
7	Mazhar Iqbal	PhD	Numerical Study of Laminar Heat Transfer through a Finned Double-pipe Heat Exchanger	2007
8	Aneela Razzaq	MPhil	Numerical study of Laminar Heat Transfer in the Circular Annulus with Triangular Fins	2007
9	Muhammad Mughees	MPhil	Neural Network Models for Convective Heat Transfer in a Double-pipe Heat Exchanger	2008
10	Waqar Hussain	MPhil	An Algorithm for Automatic Surface Generation	2008
11	Allah Yar	MPhil	Automatic Unstructured Mesh Generation on Surfaces	2008
12	Muhammad Bakhsh	MPhil	Finite Element Solution of Some Problems in Fluid Dynamics	2008

13	Summaira Naz	MPhil	Laminar Forced Convection in Finned	2009
14	Muhammad Zubair Akbar Qureshi	MPhil	Application of Wavelet-based Finite Element Method to Flow Problems	2009
15	Ikhlaq ahmad	MPhil	Numerical study of Turbulent Convection in Nano-Fluids in Circular Annulus	2009
16	Tahir Mushtaq	MPhil	Control Volume Based Text to Speech Synthesizer	2009
17	Kashif Ali	MPhil	Laminar Mixed Convection in a Finned Double Pipe	2010
18	Abdul Majeed	MPhil	An Exact Solution of Navier Stokes Equations	2010
19	Maryam Ihsan	MPhil	Computer implementation of automatic generation of triangulation	2011
20	Hira Shafiq	MPhil	Nodal DGFEM solution of some compressible flow problems using quadrilateral elements	2011
21	Nighat Yasmin	MPhil	DGFEM solution of some compressible flow problems using p-multigrid method	2011
22	Rubina Sher Jang	MPhil	Numerical Simulation of Turbulent Flow in a Finned Double Pipe	2012
23	Rafique Ahmed Memon	PhD	Finite Element Modelling of Complex Rotational Flows	2012
24	Amjad Ali	PhD	An efficient Implementation of Discontinuous Galerkin Method on Commodity Parallel System	2013
25	Zafar Iqbal	PhD	Optimal Shape Design of Finned Annulus in Double Pipe	2013
26	Muhammad Ishaq	PhD	FEM based Numerical Solutions of Incompressible Flows in a Finned Double Pipe	2013
27	Saima Zainab	MPhil	Numerical simulation of turbulent flow in a square duct using $\kappa - \varepsilon$ model	2013
28	Sumaira Kanwal	MPhil	Direct numerical simulation of turbulent flow in a square duct	2013
29	Naila Rafiq	PhD	Numerical Solution of Non-linear Equations	2014
30	Rabia Andleeb	MPhil	Direct numerical simulation of turbulent channel flow with backward and forward steps	2014
31	Ghazala Ashraf	MPhil	Numerical study of conjugate heat transfer in a double pipe with trapezoidal fins	2014
32	Tahira Perveen	PhD	Modeling of Interaction of EMR With Rod Metamaterials	2015
33	Amjad Islam	PhD	Determination of Effective Parameters of Metamaterials with Spherical Inclusion at GHZ Frequencies	2015
34	Rabia Siddique	MPhil	Numerical Simulation of Port Flow in Combustion Chamber of CI Engine	2015
35	Tahir Mushtaq	PhD	Modeling and Simulation for Speech Production	2016
36	Nusrat Fatima	MPhil	Numaical Simulaion of Cavitating Flow in a Conical Nozzle	2016
37	Sidra Akhter	MPhil	CFD Investigation of Diesel Vaporization in a Nozzle with Sudden Contraction	2016
38	Naureen Akhter	MPhil	Numerical Simulation of Slider-Crank Mechanism	2016
39	Hasnain Danish	MPhil	Modeling and simulation of oil transport between the liner and the piston in CI Engine	2017
40	Nosheen Saleem	MPhil	Modeling and Simulation of Ducted Axial Fan Flow	2017
41	Sayyab Khuzra	MPhil	Simulating the Airflow of a Ceiling Fan for Room Air-	2017

			Conditioning		
42	Sabeeh Khaliq	MPhil	A Parametric Study of Cavitation in Injector Nozzle	2017	
43	Zainab Bukhari	MPhil	Force & Moment Balancing of Slider Crank Mechanism	2017	
44	Anique Ahmad	MPhil	Design & Simulation of Cooling Fan for Diesel Engine	2017	
45	Sadaf Bashir	MPhil	Numerical Study of HCCI Combustion of Some Surrogate Fuels	2018	
46	Zopash Rasool	MPhil	Numerical Study of Combustion Properties of Some Surrogate Fuel	2018	
47	Muhammad Hasan	MPhil	Numerical Study of Soot Formation in the Combustion of Some Hydrocarbon	2018	
48	Sajjad Hussain	MPhil	Numerical Study of Formation of Pollutant Gases in the Combustion of Some Hydrocarbon	2018	
49	Mamoon Siddique	MPhil	Numerical Study of Fuel Spray in Combustion Chamber of Diesel Engine	2018	
50	Nabeel Ahmad	MPhil	Numerical Study of Aerodynamics of a Centrifugal Fan	2019	
51	Aymon Zahra	MPhil	Numerical study of reaction mechanism for methane combustion	2019	
52	Tehreem Imran	MPhil	Numerical study of reaction mechanism for hydrogen combustion	2019	
53	Rabia Sajid	MPhil	Optimal dynamic balancing and shape design of the slider-crank mechanism	2019	
54	Sana Iram	MPhil	Numerical study of aerodynamics of a wind turbine	2019	
55	Munawwar Abbas	MPhil	Numerical investigation of exhaust port flow of a heavy-duty diesel engine	2019	
56	Waheed Khan	MPhil	Modeling and simulation of dynamic recrystallization behaviors of some magnesium alloy	2019	
57	Aamir	MPhil	FEM based solution of some vortex flow problem	2020	
58	Shajar	MPhil	FEM based solution of some turbulent flow problem	2020	
59	Saba	MPhil	Numerical Study of Reduced Order Modeling in CFD	2020	
60	Fareeha	MPhil	Finite element solution of some combustion problem	2020	
61	Muhammad Waseem	MPhil	Numerical investigation of CH ₄ /O ₂ reaction mechanism	2020	
62	Amna Waheed	MPhil	One Dimensional Modeling and Simulation of Diesel Engine	2021	
63	Rida Fatima	MPhil	Modeling and Simulation of Droplet Combustion	2021	
64	Raim Riaz	MPhil	Numerical Study of Knocking in Diesel Engine	2021	
65	Muhammad Zeeshan	MPhil	Numerical Study of Kinetic Effects on HCCI Combustion	2021	
66	Ahmad Hassan	PhD	Numerical Simulation of Reacting Flows by Discontinuous Galerkin Method	2021	
67	Muhammad Zahid	PhD	Numerical Simulation of Combustion in a Chamber of Diesel Engine	2021	
68	Mahnoor Waseem	MPhil	Spray Modeling and Simulation in Diesel Engines	2022	
69	Muhammad Waseem	MPhil	Designing Cam Profile using the NURBS	2022	
70	Hamza Rehman	MPhil	0D Modeling and Neuro-fuzzy Control of High Torque Low Speed Diesel Engines	2022	
71	Raja Muhammad Akbar	MPhil	Optimal design of slider-crank mechanism	2022	
72	Hafiz Waseem Ahmad	PhD	Numerical Study of Heat Transfer Enhancement in a	2023	

			Double Pipe Heat Exchanger		
73	Saima Zainab	PhD	Numerical Study of Some Pre-Combustion Phenomena in Diesel Engine Chamber	2023	
74	Muhammad Naeem	MPhil	Development of Efficient 2D Solver for System of Scalar Transport Equations	2023	
75	Hina Saleem	MPhil	Simulating an Internal Combustion Engine for Design and Analysis	2023	
76	Amna Batool	MPhil	An Intelligent Control System of a Diesel Engine	2023	
77	Sana Tariq	MPhil	Modeling and Simulation of Permanent Magnet Brushless DC Motors for Electric Vehicles	2023	

Students' Supervision in progress M.Phil.: 05-----Ph.D.: 04

S.No.	Name of student	Degree	Title	
1	Rafia Waqar	PhD (Thesis submitted)	Numerical Investigation of Some Aspects of Combustion in Diesel Engine	
2	Anam Ali	PhD (In Progress)	Numerical Study of Spray and Combustion in a Diesel Engine	
3	Javaid Rafiq	PhD (In Progress)	On piston design and its mathematical analysis for a high power diesel engine	
4	Ayesha Bushra Khakwani	PhD (In Progress)	Towards clean and efficient combustion in a heavy-duty diesel engine	
5	Aliza Saman	MPhil (In Progress)	Modeling and Simulation of Lithium Ion Battery for Electric Vehicles	
6	Fiza Abrar	MPhil (In Progress)	Modeling and Simulation of Intelligent Emissions Control System for Diesel Engines	
7	Asia Asghar	MPhil (In Progress)	Modeling and Simulation of Intelligent Air-Fuel Control System for Diesel Engines	
8	Abdul Basit	MPhil (In Progress)	Modeling and Simulation of Transmission Control System for Diesel Engines	
9	Iqra Rana	MPhil (In Progress)	Optimizing Power and Fuel Efficiency of Diesel Engines	

Research Grants/Projects

1. "Numerical Study of the Effects of Wall and Fin Conductivity on Convective Heat Transfer Through a Finned Double-Pipe Heat Exchanger" (Rs. 69000/-)

By: Bahauddin Zakariya University Multan (2002-2003) Khalid Saifullah Syed

2. "Application of Wavelet-based Finite Element Method to Flow Problems" (Rs.100,000/-)

By: Bahauddin Zakariya University Multan (2008-2009) Khalid Saifullah Syed Muhammad Zubair Qureshi

3. Numerical Investigation of Some Aspects of Combustion in a Diesel Engine (Rs. 300,000),

By: Bahauddin Zakariya University Multan (2019-2022) Khalid Saifullah Syed & Rafia Waqar (PhD Scholar)

4. Design of High Torque Low Speed Diesel Engine (Rs.300,000), by HIT & PSF

NOTE: I am HEC approved PhD supervisor. I have been able to bring funds of around Rs. 10 million in the university through PhD supervision of 8 HEC awardees under HEC Indigenous Ph.D. Fellowship Program.

Conferences/Seminars/Workshops

1.	Syed, K. S., Tupholme, G. E., Wood, A. S. and Heggs, P. J., <i>Laminar forced convection on the shell side of a finned double-pipe heat exchanger</i> , presented in the <u>International Symposium on Advances in Computational Heat Transfer</u> , Cesme, Turkey, 26-30 May 1997.	
2.	Syed, K. S., Tupholme, G. E. and Wood, A. S., <i>Iterative solution of fluid flow in finned tubes</i> . In C. Taylor & J.T. Cross (Editors), <i>Proceedings of the 10th International Conference on Numerical</i>	

	Methods in Laminar and Turbulent Flow, pp.429-440, Pineridge Press, Swansea, UK, 21-25 July 1997.	
3.	Participated in “Two Day Workshop on Computational Mathematics and Related Topics”, Islamabad, Pakistan, 29-30 July 2002.	
4.	Participated in “International Conference on Models and Methods in Fluid Mechanics”, Abbotabad, Pakistan, 23-26 June 2003.	
5.	Syed, K. S., Tupholme, G. E., Wood, A. S. and Heggs, P. J., <i>Conjugate Heat Transfer in a Double Pipe Heat Exchanger</i> , Presented my work in <u>3rd International Bhurban Conference on Applications of Science and Technology</u> , Bhurban, Pakistan, 07-09 June 2004.	
6.	Participated in “Second International Conference on Mathematical Models and Methods in Fluid Mechanics”, COMSATS Islamabad, Pakistan, July 04-06, 2005.	
7.	Participated in “LUMS International Conference on Mathematics and its Applications in Information Technology”, Lahore, Pakistan, Nov 27-30, 2005.	
8.	Participated in “National Conference on Semester System”, Bahauddin Zakariya University Multan, Pakistan, Jan 24-25, 2006.	
9.	Participated in “Third International Conference on Mathematical Models and Methods in Fluid Mechanics”, COMSATS Islamabad, Pakistan, July 16-18, 2006.	
10.	Khalid S. Syed, F. Ahmad & M. Iqbal, <i>Optimal Design of a Finned Double Pipe for Laminar Convection</i> , Presented in <u>International Conference on Mathematics</u> , Department of Mathematics, Quaid-I-Azam University, Islamabad, Pakistan, Sep 12-14, 2006.	
11.	Shazia Ambreen, K.S. Syed & M.A. Kamal, <i>Similarity Solutions For Two Dimensional Gravity Currents In Micropolar Fluids</i> Presented in Symposium on <u>Computational Complexities, Innovations and Solutions (CCIS)</u> , COMSATS, Abbottabad, May 8-9, 2007.	
12.	Participated in “Fourth International Conference on Mathematical Models and Methods in Fluid Mechanics”, COMSATS Islamabad, Pakistan, July 07-09, 2008.	
13.	Syed, K.S., Mughees, M., & Ishaq, M., <i>Neural Network Models for Convective Heat Transfer in Double-Pipe Heat Exchanger</i> , presented in “Second International Conference on Recent Developments in Fluid Mechanics”, organized by Fluid Mechanics Group, Department of Mathematics, Quaid-i-Azam University, Islamabad, Pakistan, Aug 11-13, 2008.	
14.	Syed, K.S., Iqbal, Z. and Ishaq, M, Optimization of Finned Annulus in a Double Pipe Heat Exchanger, presented in International Conference On Energy Systems Engineering ICESE-2010, October 25 - 27, 2010, ISLAMABAD, PAKISTAN	
15.	A Ali, KS Syed, M Ishaq, A Hassan & H Luo, A communication-efficient, distributed memory parallel code using discontinuous Galerkin method for compressible flows, 2010 IEEE 6 th International Conference on Emerging Technologies (ICET), 331-336.	
16.	Anjad Ali, Hong Luo, Ahmad Hassan, Khalid Saifullah Syed, and Muhammad Ishaq, <i>On Parallel Performance of a Discontinuous Galerkin Compressible Flow Solver Based on Different Numerical Fluxes</i> , “49 th AIAA Aerospace Sciences Meeting”, Florida, USA, 4-7 Jan. 2011	
17.	A Ali, KS Syed, A Hassan, I. Ahmad, MA Ismail, <i>On Parallel Performance of an Implicit discontinuous Galerkin Compressible Flow Solver Based on different linear solvers</i> , 2011 IEEE 14 th International Multitopic Conference, 182-187	
18.	Syed, K.S., Iqbal, Z. and Ishaq, M, Optimum Configurations of Finned Ducts, Keynote talk in NUST Conference on Mathematical Sciences NCMS-2011, November 17-19, 2011, Islamabad, Pakistan	
17.	Khalid S. Syed, Zafar Iqbal & Muhammad Ishaq, Optimization Of Convective Heat Transfer In Finned Double Pipes, Keynote talk in International Workshop On Nonlinear Problems In Mathematics, COMSTECH, October 9-11, 2012, Islamabad, Pakistan	
18.	K. S. Syed, M. Ishaq, Z. Iqbal & A. Hasan, Numerical Simulation of Laminar Convection in the Annulus with Triangular Fins of Different Heights, Keynote talk in 5 th International Conference on “Recent Developments in Fluid Mechanics”, , June 24-26, 2013, Quaid-i-Azam University Islamabad, Pakistan	
19.	K. S. Syed, Anam Ali & Rabia Siddique, Flow Analysis in the combustion chamber of a	

diesel engine, Keynote talk in 6 th International Conference on “Recent Developments in Fluid Mechanics”, Mar 17-19, 2015, SNS, NUST, Islamabad, Pakistan	
20. K. S. Syed, Muhammad Zahid, Optimal Design of Piston Crown for the Enhancement of Air-Fuel mixing in Compression Ignition Engines, Keynote talk in DICE-IET 2016, Oct 31- Nov 1, 2016, COMSATS Institute of Information Technology Sahiwal, Pakistan	
21. K. S. Syed, Nusrat Fatima & Sidra Sheikh, CFD Investigation of Vaporization in DI Diesel Injector Nozzles (Invited Talk), International Conference on Mathematics and Physics, February 14-16, 2017, Air University, Islamabad, Pakistan.	
22. K. S. Syed, Sidra Sheikh & Nusrat Fatima, Numerical Simulation of Port Flow in Combustion Chamber of CI Engine (Invited Talk), National Conference of Science, May 4-6, 2017, Govt. Sadiq College Women University, Bahawalpur, Pakistan.	
23. K. S. Syed & Sabeeh Khaliq, A parametric Study of Cavitation in Injector Nozzle (Invited Talk), National Conference on Mathematics & Applications, April 09-10, 2018, University of Sargodha, Sargodha	
24. K. S. Syed & Aymon Zahra, Numerical Study of Reaction Mechanism of Methane (Invited Talk) International Conference on Recent Advances in Applied Mathematics (ICRAAM-2019)", February 21-23, 2019, Department of Mathematics CUI, Lahore, Pakistan.	
25. K. S. Syed & Anam Ali, In-Cylinder Combustion Investigation with Mesh Sensitivity Analysis For A Heavy-Duty Diesel Engine, 1st International Conference on Mathematics for a Sustainable Future (ICMSF-2022) from 12-14 December 2022, Department of Mathematics, Women University Multan, Pakistan.	
26. Delivered seminar on “The Role of Mathematics in Modern Technology World”, June 12, 2023, Department of Mathematics, Emerson University, Multan.	
Examiner of Universities / Member Board of Studies etc	
<ol style="list-style-type: none"> 1. Evaluated M.Phil. & PhD theses of Quaid-e-Azam University, Islamabad, Pakistan 2. Evaluated PhD theses of COMSATS, Islamabad, Pakistan 3. Evaluated M.Phil. theses of Punjab University Lahore, Pakistan 4. Evaluated M.Phil. thesis of Wifaqi Urdu University Karachi, Pakistan 5. Evaluated M.Phil. & PhD theses of Islamia University Bahawalpur, Pakistan 6. Evaluated M.Phil. thesis of Gomal University, D.I.Khan, Pakistan 7. Member, Board of Studies, Bahauddin Zakariya University Multan, Pakistan 	
Reviewer of journals No. 04	
<ol style="list-style-type: none"> 1. <i>International Journal for Numerical Methods in Heat & Fluid Flow</i> 2. <i>Heat and Mass Transfer</i> 3. <i>International Journal for Numerical Methods in Fluids</i> 4. <i>Heat Transfer Research</i> 	
Events Organisation:	
<ol style="list-style-type: none"> 1. Worked as a member of the organising committee for conducting “First Mathematics Conference at CASPAM” July 27-28 2007, Bahuddin Zakariya University Multan, Pakistan 2. Worked as Convener in the Organising Committee and Chairman, Technical Committee, for holding “1st CASPAM Regional Olympiad of Mathematics” on March 12, 2014, Bahuddin Zakariya University Multan, Pakistan 3. Worked as Convener in the Organising Committee and Chairman, Technical Committee, for Holding “2nd CASPAM Regional Olympiad of Mathematics” on April 29, 2015, Bahuddin Zakariya University Multan, Pakistan 4. Worked as Convener in the Organising Committee and Chairman, Technical Committee, for holding “3rd CASPAM Regional Olympiad of Mathematics” on May 12, 2016, Bahuddin 	

<p>Zakariya University Multan, Pakistan</p> <ol style="list-style-type: none"> 5. Worked as Convener in the Organising Committee and Chairman, Technical Committee, for holding “4th ASPAM Regional Olympiad of Mathematics” on April 13, 2017, Bahuddin Zakariya University Multan, Pakistan 6. Worked as Convener in the Organising Committee and Chairman, Technical Committee, for holding “5th CASPAM Regional Olympiad of Mathematics” on April 19, 2018, Bahuddin Zakariya University Multan, Pakistan 7. Worked as Convener in the Organising Committee and Chairman, Technical Committee, for holding “6th CASPAM Regional Olympiad of Mathematics” on April 16, 2019, Bahuddin Zakariya University Multan, Pakistan 8. Worked as Convener in the Organising Committee and Chairman, Technical Committee, for holding “7th CASPAM Regional Olympiad of Mathematics” on March 31, 2022, Bahuddin Zakariya University Multan, Pakistan 9. Worked as Convener in the Organising Committee and Chairman, Technical Committee, for holding “8th CASPAM Regional Olympiad of Mathematics” on December 14, 2023, Bahuddin Zakariya University Multan, Pakistan
<p>10. Development of Courses:</p> <ul style="list-style-type: none"> • Developed and introduced the following course at BS / MSc level: Heat Transfer • Developed and introduced the following courses at MS / MPhil level: An Introduction to Wavelets, Compressible Flows, Non-linear Programming and Computational Fluid Dynamics for Laminar Flows, Mathematics of Large Scale Simulation, Computational Geometry, Advanced Fuzzy Set Theory, Control Theory • Developed and introduced the following courses at PhD level: Turbulence Modeling, Discontinuous Galerkin Method for Solving PDEs, Parallel Solution of Partial Differential Equations, Boundary Layer Flow, and Wavelets Theory, Theoretical Combustion, Multiscale Modeling and Simulation, , Neural Networks and Fuzzy Logic, Quantum Computing
<p>Membership of professional societies</p> <ul style="list-style-type: none"> ○ SIAM (USA) ○ Pakistan Mathematical Society ○ All Pakistan Mathematics Association
<p>Membership university / departmental committees</p> <ol style="list-style-type: none"> 1. Member, Curriculum Committee of CASPAM. 2. Member, Admission Committee for admissions in M.S. / M.Phil. and PhD programs at CASPAM 3. Member, Departmental Examination Committee of CASPAM 4. Worked as Member, Program Assessment Team for self assessment of MS/MPhil Program at CASPAM 5. Worked as Member, Transport Committee, Bahauddin Zakariya University, Multan 6. Worked as program coordinator of MS/MPhil program
<p>Documents / Reports preparation</p> <p>I have been involved in the preparation of various documents and reports like prospectus departmental annual budget estimates, departmental purchases, various types of departmental information documents to be supplied to higher authorities and HEC, etc.</p>

Summary of Achievements

S. No.	Item	Details
1	Total Experience	More than 28 Years
2	Post PhD Experience	Around 24 Years
3	Publications	33
4	Total Impact Factor	34.725
5	Research Supervision	MPhil Students: (a) Completed: 56 (b) In progress: 05 PhD Students: (a) Completed: 07 (b) In progress: 05
6	No. of Conferences	24
7	No. of Research Grants	(a) Completed: 04 (b) In progress: 02
8	Membership of Professional Societies	03

REFERENCES

1. Prof. Dr. A. S. Wood
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2. Prof. Dr. Muhammad Anwar Chaudhry
(Ex-Foreign Professor & Director, CASPAM, Bahauddin Zakariya University, Multan)
Chairman, Department of Mathematics,
Institute of Southern Punjab, Multan, Pakistan
Email: muhammadanwarchaudhry44@gmail.com
3. Prof. Dr. Muhammad Ashfaq Bokhari
Department Of Mathematics
King Fahad University Of Petroleum and Minerals, Dhahran, Saudi Arabia
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