Dr. Nadeem Ahmed Sheikh

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Career Highlights:

I am serving as Dean of Faculty of Engineering & Technology & Professor of Energy Engineering in the Department of Mechanical Engineering at International Islamic University. In addition, I am also a visiting Professor at Aston and TEESSIDE Universities in the UK. Author of more than 55 Impact Factor Journals of high international repute; my combined impact factor is more than 110. My key areas of research & development is low-cost, eco-friendly, Energy technologies and related power systems. In addition, I am interested in Building/envelope Energy Modelling with the context of BIM & recent advancements of AI, IoT & smart electro-mechanical systems.

Detailed list of publications can be found at https://scholar.google.com/citations?user=_6R_agwAAAAJ&hl=en .

Consultancy & Advisory works

1. **Development of Policy Brief on "Impact assessment of COVID-19 on Energy and Power Sector of Pakistan", Hina Aslam, Nadeem Ahmed Sheikh – www.think-asia.org. (SPDI & Think- Asia)**
2. **Development of Energy Policy on "Reform Priorities for Pakistan's Energy Sector, Perspective in the backdrop of Paris Accord", Hina Aslam, Vaqar Ahmed, Micheal Williamson, Faran Rana, Nadeem Ahmed Sheikh & Ubaid-Ur-Rehman Zia – Sponsored by UNESCAP**
3. **Technical Consultancy: Kortech Pvt Ltd. In the "Development of robust heat transfer equipment for power sector industries".**
4. **Technical Consultancy: Koldkarft Pvt Ltd. In the "Development of low carbon-foot print technologies for Industrial sectors of Pakistan".**
5. **PI & Co-PI of several projects related to the development of renewable energy resources and technologies in the fields of CO2 power cycles, Combined Heat & Power Cycle (CHP) & Waste-heat recovery units & cycles.**

Administrative & Honorary Positions

1. **Dean Faculty of Engineering & Technology**
2. **Chairman ICT subcommittee on Technical Evaluation of CMS/ERP Solution for IIUI**
3. **Acting Head of Department at Capital University of Science & Technology (2015)**
4. **Director of High Performance Computing Lab at CUST (2012-2014 & 2014-2017)**
5. **Member of ASHRAE Technical Committee Pakistan Chapter.**
6. **Engineering Program Evaluator of Pakistan Engineering Council on Outcome Based Education.**
7. **Member of the HEC National Curriculum Review Committee (NCRC) for the Mechanical Engineering Curriculum.**
8. **Member of Academic Council, Board of Faculty/Studies, Curriculum Review Committee, Department Quality Assurance Committee, Postgraduate Research Committee & other several university, faculty & departmental committees**

Education and Training

2014: **Postdoctoral Fellowship in Upstream Petroleum Research Centre**

	King Abdullah University of Science & Technology (KAUST), KSA
2011:	Ph.D. Mechanical Engineering
	Wolfson School Loughborough University, United Kingdom
2006:	M.Sc. Mechanical Engineering
	University of Engineering and Technology, Taxila, Pakistan
2003:	B.Sc. Mechanical Engineering
	National University of Science and Technology, Islamabad, Pakistan

Work Experience

05/2018–Present:	Professor, International Islamic University, Islamabad, Pakistan
02/2018-04/2018	Associate Professor, International Islamic University, Islamabad, Pakistan
09/2017 – 02/2018:	Associate Professor, HITEC University, Taxila, Pakistan
03/2012 – 09/2017:	Associate Professor, Capital University of Science and Technology, Pakistan
07/2007 – 02/2011:	Research Associate at Loughborough University, United Kingdom
05/2003 – 05/2006:	Assistant Manager, NESCOM, Pakistan

Publications Highlights (Combined Impact Factor ~110)

1. Muhammad Haroon, Abubakar Ayub, Nadeem Ahmed Sheikh, Muhammad Imran. "Exergetic performance and comparative assessment of bottoming *power cycles operating with carbon dioxide–based binary mixture* as working fluid". International Journal of Energy Research. (2020): 1– 17.
2. Invernizzi, C.M. and Ahmed Sheikh, N., 2018*. High-efficiency small-scale combined heat and power organic binary Rankine cycles*. Energies, 11(4), p.994.
3. Ayub, A., Sheikh, N.A., Tariq, R., Khan, M.M. and Invernizzi, C.M., 2018. Exergetic optimization and comparison of *combined gas turbine supercritical CO2 power cycles*. Journal of Renewable and Sustainable Energy, 10(4), p.044703.
4. Khalid, O., Ali, M., Sheikh, N.A., Ali, H.M. and Shehryar, M., 2016. Experimental analysis of *an improved Maisotsenko cycle design* under low velocity conditions. Applied Thermal Engineering, 95, pp.288-295.
5. Khan, M.M., Sheikh, N.A., Khalid, A. and Lughmani, W.A., 2018. Experimental characterization of *gasoline sprays under highly evaporating conditions*. Heat and Mass Transfer, 54(5), pp.1531-1543.

Selected projects:

1. Development of Desiccant based Air conditioner funded by: Technology Development Fund HEC, Pakistan. Role: PI.
2. Development of Compound Parabolic Trough funded by: NRPU, Higher Education Commission, Pakistan. Role: PI.
3. Flow of generalized Newtonian flow in porous media funded by: King Abdullah University of Science and Technology and ARAMCO, KSA. Role: PI.
4. Higher order effects in granular flows funded by EPSRC. Role: PI.
5. Evaluation of constitutive relationships for simple granular flows funded by Wolfson School Loughborough University. Role: PI.

Selected Research Grants/Projects/awards

1. Laser processing of dissimilar materials funded by: University of Malaya. Role: PI.
2. Optical techniques for novel platelet substitutes funded by iNET/ haemostatix. Role: PI.
3. Porous media flow & influence of foams & non-Newtonian fluids, funded by KAUST, Role Co-PI
4. Natural Air conditioning, funded by: HEC, Role: Co-PI
5. Presidential Gold medal
6. Chief of army staff Gold medal
7. Visiting Professorship in Aston University
8. Visiting Professorship in TEESSIDE University

List of Publications

Book Chapters:

1	Renewable Energy Application for Solar Air Conditioning R Kousar, M Ali, NA Sheikh, F Hamad, MK Amjad Renewable Energy Resources, Challenges and Applications	2020
2	Extreme Learning Machine in Laser-Assisted Machining Using Waste Palm Cooking Oil F Yasmin, KF Tamrin, NA Sheikh Natural Food Products and Waste Recovery Healthy Foods, Nutrition Design and Extraction of Valuable Compounds	2020
3	Laser drilling of composite material: A review KF Tamrin, NA Sheikh, SM Sapuan Hole-Making and Drilling Technology for Composites 1, 89-100	2019

Journal Articles (W category/ISI Indexed):

Sr. No	PUBLICATION DATE	TITLE OF PAPER	COMPLETE NAME OF THE JOURNAL with ISSN (print) No./ISBN No.	HEC CATEGORY (W,X,Y,Z) / IMPACT FACTOR	VOL.NO.	ISSUE NO.	PAGE NO.	
							FROM	TO
1.	2020/2/21	Regression-Based Empirical Modeling of Thermal Conductivity of CuO-Water Nanofluid using Data-Driven Techniques	International Journal of Thermophysics ISSN: 0195-928X https://doi.org/10.1007/s10765-020-2619-9	W/ 0.853	41	43	1	12
2.	2020/2/15	Building thermal load management through integration of solar assisted absorption and desiccant air conditioning systems: A model-based simulation-optimization approach	Journal Of Building Engineering ISSN: 2352-7102	W/2.378	30	2020	101279	-

			https://doi.org/10.1016/j.jobe.2020.101279					
3.	2020/2/3	Assessment of thermo-hydraulic performance of inward dimpled tubes with variation in angular orientations	Applied Thermal Engineering ISSN: 1359-4311 https://doi.org/10.1016/j.applthermaleng.2020.115040	W/4.026	170	2020	115040	-
4.	2020/02	Experimental and numerical investigation on multi-pass laser cutting of natural fibre composite	International Journal of Advanced Manufacturing Technology ISSN: 0268-3768 https://doi.org/10.1007/s00170-020-05121-3	W/ 2.496	107	4	1483	1504-
5.	2020/1/29	Exergetic performance and comparative assessment of bottoming power cycles operating with carbon dioxide–based binary mixture as working fluid	International Journal of Energy Research ISSN:1099-114X https://doi.org/10.1002/er.5173	w/ 3.343	2020;	2	1	17
6.	2019/3/26	Transient cross flow and heat transfer over a rotationally oscillating cylinder subjected to gust impulse	International Journal of Heat & Mass transfer ISSN: 0017-9310 https://doi.org/10.1016/j.ijheatmasstransfer.2019.03.113	w/4.346	137	, July 2019	108	123

7.	2019/1/27	Recovering waste energy in an indirect evaporative cooler – A case for combined space air conditioning for human occupants and produce commodities	Building and Environment ISSN: 0360-1323 https://doi.org/10.1016/j.buildenv.2019.01.038	w/4.82	152	April 2019,	105	121
8.	2019	Analysis of Maisotsenko humid air bottoming cycle employing mixed flow air saturator	Heat and mass transfer ISSN1432-1181 https://doi.org/10.1007/s00231-018-2531-z	w/1.551	55	2	1477	1489
9.	2018	Numerical Heat Transfer Analysis of Maisotsenko Humid Air Bottoming Cycle – A Study Towards the Optimization of the Air-Water Mixture at Bottoming Turbine Inlet	Applied Thermal Engineering, ISSN: 1359-4311 https://doi.org/10.1016/j.applthermaleng.2018.01.024	W/ 4.026	133	March 2018	49	60
10.	2018	Experimental performance analysis of low concentration ratio solar parabolic trough collectors with nanofluids in winter conditions	Renewable Energy, ISSN: 0960-1481 https://doi.org/10.1016/j.renene.2017.11.062	W/ 5.439	118	April 2018	742	752
11.	2018	Experimental characterization of gasoline sprays under highly evaporating conditions	Heat and Mass Transfer Online ISSN1432-1181 https://doi.org/10.1007/s00231-017-2251-9	W/1.551	-54	May 2018	1531	1543
12	2018	Experimental evaluation of a solid desiccant system integrated with cross flow Maisotsenko cycle evaporative cooler	Applied Thermal Engineering, ISSN: 1359-4311 https://doi.org/10.1016/j.applthermaleng.2017.09.105	W/4.026	128	Jan 2018	1476	1487

13	2017	Gust response of a rotating circular cylinder in the vortex suppression regime	International Journal of Heat and Mass transfer ISSN: 0017-9310 https://doi.org/10.1016/j.ijheatmasstransfer.2017.08.059	W/4.436	115-B	2017	763	776
14	2017	Performance Investigation of Air Velocity Effects on PV Modules under Controlled Conditions	International Journal of Photoenergy https://doi.org/10.1155/2017/3829671	W/2.026	2017	August 2017	1	10
15	2017	Air Entrainment in High Pressure Multihole Gasoline Direct Injection Sprays	Journal of Applied Fluid Mechanics ISSN 1735-3572, EISSN 1735-3645 10.18869/acadpub.jafm.73.241.27628	W/0.918	10	4	1223	1234
16	2017	Experimental and Numerical Study of Flash Boiling in Gasoline Direct Injection Sprays	Applied Thermal Engineering, ISSN: 1359-4311 **https://doi.org/10.1016/j.applthermaleng.2017.05.102**	W/4.026	123	August 2017	243	255
17	2017	Numerical study of hydrogen peroxide thermal decomposition in a shock tube	Journal of Thermal Science Print ISSN1003-2169 https://doi.org/10.1007/s11630-017-0935-6	W/1.228	26	3	235	244
18	2017	Experimental characterization of high pressure gasoline direct injection sprays	Journal of Mechanical Science and Technology,	W/1.221	31	4	2015	2022

			https://doi.org/10.1007/s12206-017-0351-6					
19	2017	Performance Analysis of a Low Capacity Solar Tower Water Heating System in Climate of Pakistan	Energy and Buildings ISSN: 0378-7788 https://doi.org/10.1016/j.enbuild.2017.02.031	W/4.495	143	2017	84	99
20	2018	Parametric investigation of a counter-flow heat and mass exchanger based on Maisotsenko cycle	Thermal Science https://doi.org/10.2298/TSCI160808296A ISSN: 0354-9836	W/1.541	22	6 Part B	3099	3106
21	2016	Hydrodynamic description of a vibrofluidized granular bed driven at high frequency	Eur. Phys. J. Appl. Phys https://doi.org/10.1051/epjap/2154 ISSN: 1286-0042	W/0.800	75	3	31101	-
22	2016	Identification and characterization of coherent structures in gasoline injector nozzle flow using proper orthogonal decomposition	Journal of Mechanical Science and Technology, https://doi.org/10.1007/s12206-017-0351-6	W/1.221	30	8	3673	3680
23	2016	Experimental analysis of an improved maisotsenko cycle design under low velocity conditions	Applied Thermal Engineering, ISSN: 1359-4311 https://doi.org/10.1016/j.applthermaleng.2015.11.030	W/4.026	95	Feb 2016	288	295
24	2016	Grain refinement of ASTM A356 aluminum alloy using sloping plate process through gravity die casting	Alexanderia engineering journal ISSN: 1110-0168 https://doi.org/10.1016/j.aej.2016.03.016	W/3.696	55	3	2431	2438

25	2016	Free stream flow and forced convection heat transfer around a rotating circular cylinder subjected to a single gust impulse	International Journal of Heat and Mass transfer ISSN: 0017-9310 https://doi.org/10.1016/j.ijheatmasstransfer.2016.04.045	W/4.436	99	2016	851	861
26	2016	On Laminar Flow of Non-Newtonian Fluids in Porous Media	Transport in Porous Media https://doi.org/10.1007/s11242-015-0592-8 Print ISSN0169-3913	W/1.997	111	1	253	264
27	2015	Multi-criteria optimization in CO2 laser ablation of multimode polymer waveguides	Optics and Lasers in Engineering https://doi.org/10.1016/j.optlaseng.2015.06.010 ISSN: 0143-8166	W/4.059	75	Dec 2015	48	56
28	2015	Free stream flow and forced convection heat transfer across rotating circular cylinder in steady regime: effects of rotation, Prandtl number and thermal boundary condition	Journal of Mechanical Science and Technology, https://doi.org/10.1007/s12206-015-0351-3 Print ISSN1738-494X	W/1.221	29	4	1781	1797
29	2015	Enhancement and integration of desiccant evaporative cooling system model calibrated and validated under transient operating conditions	Applied Thermal Engineering, ISSN: 1359-4311 https://doi.org/10.1016/j.applthermaleng.2014.10.064	W/4.026	75	Jan 2015	1093	1105
30	2015	Laser spot welding of thermoplastic and ceramic: An experimental investigation	Materials and Manufacturing Processes https://doi.org/10.1080/10426914.2015.1019108	W/3.350	30	9	1138	1145
31	2015	Performance investigation of solid desiccant evaporative cooling system configurations in different climatic zones	Energy Conversion and Management	W/7181	97	Jan 2015	323	339

			https://doi.org/10.1016/j.enconman.2015.03.025 ISSN: 0196-8904					
32	2015	Variation of heat flux at lower frequencies of vibration in a vibrated granular bed	Advances in Condensed Matter Physics http://dx.doi.org/10.1155/2015/598354 ISSN: 1687-8108 (Print) ISSN: 1687-8124 (Online)	W/0.653	2015	598354	1	6
33	2014	A modified non-linear model for high mass ratio square cylinder	Journal of Mechanical Science and Technology, https://doi.org/10.1007/s12206-015-0351-3	W/1.221	28	12	4989	4996
34	2014	Numerical Simulation of Meltpool Instability in the Selective Laser Melting (SLM) Process	Lasers in Engineering http://www.oldcitypublishing.com/journals/lie-home/lie-issue-contents/lie-volume-28-number-5-6-2014/lie-28-5-6-p-319-336/ ISSN: 0898-1507 Old City Publishing	W/0.34	28	5	319	336
35	2014	Heat transfer suppression in flow around a rotating circular cylinder at high Prandtl number	Arabian Journal for Science and Engineering https://doi.org/10.1007/s13369-014-1337-7 Print ISSN1319-8025 Online ISSN2191-4281	W/0.93	39	11	8051	8063
36	2014	Determination of optimum parameters using grey relational analysis for multi-performance characteristics in CO2 laser joining of dissimilar materials	Optics and Lasers in Engineering https://doi.org/10.1016/j.optlaseng.2014.01.011 ISSN: 0143-8166	W/4.059	57	June 2014	40	47

37	2014	Nuclear magnetic resonance measurements of velocity distributions in an ultrasonically vibrated granular bed	Philos Trans A Math Phys Eng Sci. DOI: 10.1098/rsta.2013.0185 ISSN: 1471-2962	W/3.039	372	May 2015	20130185	
38	2013	Wear mechanism analysis in milling of Ti-6Al-4V alloy	Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture https://doi.org/10.1177/0954405413481210 ISSN: 09544054	W/1.752	227	8	1148	1156
39	2013	Evaluating Energy Flux in Vibrofluidized Granular Bed	Advances in Mechanical Engineering https://doi.org/10.1155/2013/327379 ISSN: 16878140	W/1.024	5	July 2013	-	-
40	2013	Vortex-induced vibrations of a square cylinder with damped free-end conditions	Advances in Mechanical Engineering https://doi.org/10.1155/2013/204974 ISSN: 16878140	W/1.024	5	Jan 2013	-	-
41	2012	Density-driven convection roll in annular vibrated granular bed	Eur. Phys. J. Appl. Phys https://doi.org/10.1051/epjap/2120 ISSN: 1286-0042	W/0.800	59	1	11101	-
42	2012	Comparison of Constitutive Relationships for Dilute Granular Flow in a Vibrofluidized Cell	Advances in Condensed Matter Physics http://dx.doi.org/10.1155/2012/906598 ISSN: 1687-8108 (Print) ISSN: 1687-8124 (Online)	W/0.653	2012	Feb 2012	906598	-

43	2011	Convection in three-dimensional vibrofluidized granular beds	Journal of Fluid Mechanics https://doi.org/10.1017/jfm.2011.209 ISSN: 0022-1120 (Print), 1469-7645 (Online) Cambridge Press	W/3.137	682	Sep 2011	185	212
44	2018	Experiment and Prediction of Ablation Depth in Excimer Laser Micromachining of Optical Polymer Waveguides	Advances in Materials Science and Engineering https://doi.org/10.1155/2018/5616432 ISSN: 1687-8434 (Print) ISSN: 1687-8442 (Online)	W/1.399	2018	Jan 2018	5616432	-
45	2018	Performance Analysis of Solar Assisted Desiccant Cooling System Cycles in World Climate Zones	ASME Journal of Solar Energy Engineering https://doi.org/10.1115/1.4039426	W/1.19	140	4	041009	-
46	2018	High-Efficiency Small-Scale Combined Heat and Power Organic Binary Rankine Cycles	Energies MDPI https://doi.org/10.3390/en11040994	W/2.707	11	4	994	
47	2018	Numerical Study of a Regenerative Counter Flow Evaporative Cooler using Alumina Nanoparticles in Wet Channel	Energy and Buildings ISSN: 0378-7788 https://doi.org/10.1016/j.enbuild.2018.03.086	W/4.495	169	June 2018	430	443
48	2018	Numerical investigation of transient response of a coupled two-degrees-offreedom symmetric airfoil before flutter	International Journal of Aeroacoustics https://doi.org/10.1177/1475472X18774051 eISSN: 20484003 | ISSN: 1475472X	W/0.866	17	3	275	294

49	2018	An innovative air saturator for humidification-dehumidification desalination application	Applied Energy Publisher: Elsevier ISSN: 0306-2619 https://doi.org/10.1016/j.apenergy.2018.06.135	W/8.426	228	Oct 2018	789	807
50	2018	Transient fluid flow and heat transfer over a rotating circular cylinder near a wall subject to a single gust impulse	International Journal of Heat and Mass transfer ISSN: 0017-9310 https://doi.org/10.1016/j.ijheatmasstransfer.2018.05.065	w/4.346	126 Part A	Nov 2018	1178	1193
51	2018	Integration of solar assisted solid desiccant cooling system with efficient evaporative cooling technique for separate load handling	Applied Thermal Engineering ISSN: 1359-4311 https://doi.org/10.1016/j.applthermaleng.2018.05.081	W/4.026	140	July 2018	696	706
52	2018	EFFECT OF PROCESS PARAMETERS IN LASER JOINING OF STAINLESS STEEL AND 3D-PRINTED SHEET	Lasers in Engineering http://www.oldcitypublishing.com/journals/lie-home/ ISSN: 0898-1507 Old City Publishing	W/0.32	41	06	393	408
53	2020	Predicting the Structural Reliability of LNG Processing Plate-Fin Heat Exchanger for Energy Conservation	Energies MDPI https://doi.org/10.3390/en13092175	W/2.707	13	09	2175	
54	2020	Improved Analysis on the Fin Reliability of a Plate Fin Heat Exchanger for Usage in LNG Applications	Energies MDPI https://doi.org/10.3390/en13143624	W/2.707	13	14	3642	
55	2020	Effect of efficient multi-stage indirect evaporative cooling on performance of solar assisted desiccant air conditioning in different climatic zones.	Heat & Mass Transfer https://doi.org/10.1007/s00231-020-02900-2	W/1.867	56		2725	2741

56	2020	Experimental Analysis of a Solar Assisted Desiccant-based Space Heating and Humidification System for Cold and Dry Climates	Applied Thermal Engineering https://doi.org/10.1016/j.applthermaleng.2020.115371	W/4.725	175		115371	
57	2020	Exergetic, Economic and Exergo-Environmental Analysis of Bottoming Power Cycles Operating with CO2-Based Binary Mixture	Energies MDPI	W/2.707		Accepted for Publication	-	-