

Syed Irtiza Ali Shah

Professor

School of Interdisciplinary Engineering & Sciences

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About

Dr. Syed Irtiza Ali Shah is working as Professor in the School of Interdisciplinary Engineering & Sciences. Dr. Syed Irtiza Ali Shah has a PhD in Aerospace Engineering. Dr. Syed Irtiza Ali Shah has published 46 research articles & conference papers having a citation count of 612, carried out 2 projects and filed 0 intellectual property.

Qualifications

PhD in Aerospace Engineering Georgia Institute of Technology , United States	2007 - 2010
MS in Machine Vision Robot Control Georgia Institute of Technology , United States	2007 - 2009
MS in Flight Mechanics Control Georgia Institute of Technology , United States	2006 - 2008
MS in Fluid DynamicsAerodynamics NUST, Islamabad , Pakistan	2002 - 2004
Master in Computer Sciences Al-Khair University , Pakistan	1997 - 1999
BS in Aeronautical NED UET Karachi , Pakistan	1990 - 1993

Experience

Professor School of Interdisciplinary Engineering & Sciences	2024- Present
Defence Faculty College of Aeronautical Engineering	2020 - 2020
Defence Faculty College of Aeronautical Engineering	2011 - 2020
Dean/Professor Air University , Air University	2020 - 2024
HoD / Assoc Prof NUST , NUST	2010 - 2020
Engineer Gov of Pakistan , Gov of Pakistan	1993 - 2010

Research Projects

National Projects

- Design, Analysis, Development and Ground Testing of Retractable Landing Gear System (RLGS) Mechanism for a Medium Altitude Long Endurance (MALE) Unmanned Aerial Vehicle (UAV)** 2019
Funding Agency: HEC
Amount: PKR 1,148,000.00
Status: Completed
- Design, Analysis, Development and Testing of Titanium/Carbon Metal Matrix Composite Strut for Retractable Landing Gear System (RLGS) for a Medium Altitude Long Endurance (MALE) Unmanned Vehicle (UAV) to be developed Indigenously in Pakistan** 2019
Funding Agency: HEC
Amount: PKR 1,129,000.00
Status: Completed

International Projects

Research Articles

- Experimental investigation and analysis of proposed hybrid vertical axis wind turbine design** 2023
Muhammad Ahmad Aamer Shahzad Syed Irteza Ali Shah
Energy and Environment, Pages 1-30
Impact Factor: 4.2 | Quartile: 2 | Citations: 3
DOI: 10.1177/0958305X231181675
- A Novel Framework for Qualification of a Composite-Based Main Landing Gear Strut of a Lightweight Aircraft** 2023
Muhammad Ayaz Ahmad Syed Irteza Ali Shah Sabih Ahmad Khan Haris Ali Khan Taimur Ali Shams
Polymers, Volume 15(6), Article Number 1402
Impact Factor: 4.967 | Quartile: 1 | Citations: 2
DOI: <https://doi.org/10.3390/polym15061402>
- Design optimization of Double-Darrieus hybrid vertical axis wind turbine** 2022
Muhammad Ahmad Aamer Shahzad M Farooq Bin Akram Fareed Ahmad Syed Irtiza Ali Shah
Ocean Engineering, Volume 254, Article Number 111171
Impact Factor: 3.795 | Quartile: 1 | Citations: 53
DOI: 10.1016/j.oceaneng.2022.111171
- Selection Methodology of Composite Material for Retractable Main Landing Gear Strut of a Lightweight Aircraft** 2022
Muhammad Ayaz Ahmad Hamza Rafiq Syed Irtiza Ali Shah Sabih Ahmad Khan Syed Tauqeer ul Islam Rizvi Taimur Ali Shams
Applied Sciences, Volume 12, Issue 11, Article Number 5689
Impact Factor: 2.838 | Quartile: 2 | Citations: 4
DOI: <https://doi.org/10.3390/app12115689>
- A novel solution methodology for longitudinal flight characterization of a Flying-Wing Micro Aerial Vehicle** 2022
Taimur Ali Shams Syed Irtiza Ali Shah Aamer Shahzad Muzaffar Habib Farhat Asim Mohtashim Mansoor
Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, Pages 1-19
Impact Factor: 1.056 | Quartile: 4
DOI: <https://doi.org/10.1177/09544100221081845>
- Numerical estimation of longitudinal damping derivatives of a flying wing micro aerial vehicle** 2022
Taimur Ali Shams Syed Irtiza Ali Shah Aamer Shahzad Kashif Mehmood
Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, Pages 1-20
Impact Factor: 1.056 | Quartile: 4
DOI: <https://doi.org/10.1177/09544100221082856>
- An Intelligent Hybrid Scheme for Identification of Faults in Industrial Ball Screw Linear Motion Systems** 2021
Naveed Riza Syed Irteza Ali Shah Faisal Rehman Muhammad Jawad Khan
IEEE Access, Volume 9, Pages 35136-35150
Impact Factor: 3.476 | Quartile: 2 | Citations: 23
DOI: 10.1109/ACCESS.2021.3062496

On the meshfree particle methods for fluid-structure interaction problems <i>Farrukh Mazhar Ali Javed Jing Tang Xing Aamer Shahzad Mohtashim Mansoor Adnan Maqsood Syed Irteza Ali Shah Kamran Asim</i> <i>Engineering Analysis with Boundary Elements</i> , Volume 124, Pages 14-40 Impact Factor: 3.250 Quartile: 1 Citations: 38 DOI: 10.1016/j.enganabound.2020.11.005	2021
Estimation of Stability Parameters for Wide Body Aircraft Using Computational Techniques <i>Muhammad Ahmad Syed Irteza Ali Shah Zukhruf Liaqat Hussain Taimur Ali Shams</i> <i>Applied Sciences</i> , Volume 11(5), Article Number 2087 Impact Factor: 2.838 Quartile: 2 Citations: 22 DOI: doi.org/10.3390/app11052087	2021
A semi-analytical approach for flutter analysis of a high-aspect-ratio wing <i>Muhammad Khizer Ali Khan Rana Fahad Latif Ali Javed Syed Irteza Ali Shah Syed Tauqeer Ul Islam Rizvi</i> <i>Aeronautical Journal</i> , Volume 125, Issue 1284, Pages 410-429 Impact Factor: 1.222 Quartile: 4 Citations: 8 DOI: https://doi.org/10.1017/aer.2020.71	2021
Comprehensive design of an oleo-pneumatic nose landing gear strut <i>Muhammad Ayaz Ahmad Syed Irteza Ali Shah Taimur Ali Shams Ali Javed Syed Tauqeer ul Islam Rizvi</i> <i>Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering</i> , Pages 1-18 Impact Factor: 1.056 Quartile: 4 Citations: 9 DOI: DOI: 10.1177/0954410020979378	2020
A Novel 2-D Current Signal-Based Residual Learning With Optimized Softmax to Identify Faults in Ball Screw Actuators <i>Naveed Riaz Syed Irteza Ali Shah Faisal Rehman Syed Omer Gilani Emad Udin</i> <i>IEEE Access</i> , Volume 8, Pages 115299-115313 Impact Factor: 3.367 Quartile: 1 Citations: 29 DOI: 10.1109/ACCESS.2020.3004489	2020
A review of principles of MEMS pressure sensing with its aerospace applications <i>Yaser Javed Mohtashim Mansoor Syed Irteza Ali Shah</i> <i>Sensor Review</i> , Volume: 39 Issue: 5 Pages: 652-664 Impact Factor: 1.217 Quartile: 4 Citations: 108 DOI: 10.1108/SR-06-2018-0135	2019
A Robust Scheme of Vertebrae Segmentation for Medical Diagnosis <i>Faisal Rehman Syed Irteza Ali Shah Naveed Riaz Syed Omer Gilani</i> <i>IEEE Access</i> , Volume 7 Impact Factor: 3.745 Quartile: 1 Citations: 24 DOI: 10.1109/ACCESS.2019.2936492	2019
A region-based deep level set formulation for vertebral bone segmentation of osteoporotic fractures <i>Syed Omer Gilani Faisal Rehman Syed Irteza Ali Shah Naveed Riaz Faiza R.</i> <i>Journal of Digital Imaging</i> , Vol:33, No. 01; Pages:13 Impact Factor: 3.697 Quartile: 1 Citations: 52 DOI: 10.1007/s10278-019-00216-0	2019
Computational analysis of integrated Engine exhaust nozzle on a supersonic fighter aircraft <i>Muhammad Irsalan Arif Jehanzeb Masud Syed Irteza Ali Shah</i> <i>Journal of Applied Fluid Mechanics</i> , Volume 11, Issue 6, Pages 1511-1520 Impact Factor: 0.914 Quartile: 4 Citations: 15 DOI: 10.29252/jafm.11.06.28989	2018
Comparative flow field analysis of Boundary Layer Diverter Intake and Diverterless Supersonic Intake Configuration <i>Muhammad Irsalan Arif Shuaib Salamat Mudassir Ahmed Faiz Qureshi Syed Irteza Ali Shah</i> <i>Journal of Applied Fluid Mechanics</i> , Volume 11, Issue 4, Pages 1125-1131 Impact Factor: 0.914 Quartile: 4 Citations: 6 DOI: 10.29252/jafm.11.04.27928	2018
An appraisal of nodules detection techniques for lung cancer in CT images <i>Muhammad Zia ur Rehman Muzzamil Javaid Syed Irteza Ali Shah Shahid Ikramullah Butt Syed Omer Gilani Mohsin Jamil</i> <i>Biomedical Signal Processing and Control</i> , Volume 41, Pages 140-151	2018

Impact Factor: 2.943 Quartile: 2 Citations: 50 DOI: https://doi.org/10.1016/j.bspc.2017.11.017	
Integrated CLOS and PN guidance for increased effectiveness of surface to air missiles <i>Binte Fatima Tuz Zahra Syed Tauqeer ul Islam Rizvi Syed Irtiza Ali Shah</i> <i>INCAS Bulletin</i> , Volume 9, Issue 2, Pages 141-156 Impact Factor: N/A Citations: 4 DOI: 10.13111/2066-8201.2017.9.2.11	2017
Trajectory optimisation for a rocket-assisted hypersonic boost-glide vehicle <i>Xu Dajun He LinShu Syed Irtiza Ali Shah Syed Tauqeer Ul Islam</i> <i>Aeronautical Journal</i> , Volume 121, Issue 1238, Pages 469-487 Impact Factor: 0.696 Quartile: 4 Citations: 12 DOI: doi.org/10.1017/aer.2017.11	2017
A novel approach to CAD system for the detection of lung nodules in CT images <i>Muzzamil Javaid Muhammad Zia-ur-Rehman Syed Irtiza Ali Shah</i> <i>Computer Methods and Programs in Biomedicine</i> , Volume 135, Pages 125-139 Impact Factor: 2.503 Quartile: 1 Citations: 133 DOI: https://doi.org/10.1016/j.cmpb.2016.07.031	2016
An Appraisal of the Advancement of Emerging Technologies in Hearing Aids <i>Muhammad Zia-ur-Rehman Syed Irtiza Ali Shah Syed Omer Gilani Mohsin Jamil Faisal Amin</i> <i>Indian Journal of Science and Technology</i> , Volume 9, Issue 25, Pages 1-6 Impact Factor: - DOI: doi:10.17485/ijst/2016/v9i25/96607	2016
Monocular Vision-based Signer-Independent Pakistani Sign Language Recognition System using Supervised Learning <i>Habib Ahmed Syed Omer Gilani Mohsin Jamil Yasar Ayaz Syed Irtiza Ali Shah</i> <i>Indian Journal of Science and Technology</i> , Volume 9, Issue 25, Pages 1-6 Impact Factor: - Citations: 1 DOI: doi:10.17485/ijst/2016/v9i25/96615	2016
Adaptive thresholding technique for segmentation and juxta-pleural nodules inclusion in lung segments <i>Muhammad Zia-ur-Rehman Syed Omer Gilani Syed Irtiza Ali Shah Mohsin Jamil Irfanullah Shahid Ikramullah Butt</i> <i>International Journal of Bio-Science and Bio-Technology</i> , Volume 8, Issue 5, Pages 105-114 Impact Factor: - Citations: 13 DOI: doi:10.14257/ijbsbt.2016.8.5.10	2016
Audio signal's test in designing a cost-effective hearing aid device using a microcontroller <i>Muhammad Zia-ur-Rehman Syed Irtiza Ali Shah Muzzamil Javaid Syed Omer Gilani Umar Ansari</i> <i>International Journal of Biomedical Engineering and Technology</i> , Volume 20, Issue 3, Pages 195-207 Impact Factor: - Citations: 3 DOI: DOI:10.1504/IJBET.2016.075421	2016
Selection of Unmanned Aerial System (UAS) for Disaster Relief Operations: A Comparison <i>Umair Iqbal Syed Irtiza Ali Shah Mohsin Jamil Syed Omer Gillani Yasar Ayaz</i> <i>Science International (Lahore)</i> , Volume 27(4), Pages 3199-3203 Impact Factor: N/A DOI: -	2015

Conference Proceedings

Challenges Associated with Limited Motion Capture System <i>Syeda Aleena Abbas Zartasha Mustansar Syed Irtiza Ali Shah</i> <i>12th International Conference on Industrial Engineering and Applications (ICIEA 2025)</i> , res.country(259,)	2025
System identification of a closed loop mechanical system using physics inspired neural network <i>Muhammad Yousuf Eisa Muhammad Saqib Nazir Hassan Moin Shahbaz Khan Syed Irtiza Ali Shah Zartasha Mustansar</i> <i>2025 International Conference on Emerging Technologies in Electronics, Computing, and Communication (ICETECC)</i> , res.country(177,)	2025
Citations: N/A DOI: 10.1109/ICETECC65365.2025.11070267	

Investigation of Deep Learning Methods for Disease Detection in Cotton Fields using UAV Imagery <i>Anwar Iqbal Kunwar Faraz Shahbaz Khan Syed Irtiza Ali Shah Zartasha Mustansar Muhammad Azhar Javeed</i> <i>IEEE 2nd International Conference on Emerging Technologies in Electronics, Computing and Communication (ICETECC)</i> , res.country(177,) Citations: N/A DOI: Nil	2025
Enhanced Signature Recognition and Fraud Detection with Deep Learning <i>Saqilain Ayub Syed Irtiza Ali Shah Zartasha Mustansar Muhammad Waleed Khan</i> <i>IEEE International Conference on Emerging Technologies in Electronics, Computing and Communication (ICETECC)</i> , res.country(177,) Citations: N/A DOI: Nil	2025
Modular and Multi-Legged Design Analysis for Stability Enhancement of Elderly Walkers <i>Fizza Ellahi Zartasha Mustansar Syed Irtiza Ali Shah</i> <i>IEEE International Conference on Emerging Technologies in Electronics, Computing and Communication (ICETECC)</i> , res.country(177,) Citations: N/A DOI: 10.1109/ICETECC65365.2025.11070240	2025
Innovative Modeling Approach to Investigate Joint Loading in Astronaut Biomechanics <i>Ayesha Jan Zartasha Mustansar Syed Irtiza Ali Shah</i> <i>14th International Conference on Software and Computer Applications (ICSCA 2025)</i> , res.country(157,) Citations: N/A DOI: doi 10.1145/3731806.3743505	2025
Experimental Investigation of Wing Rock on a Low Aspect Ratio Flying Wing Micro Aerial Vehicle using Pyramidal Balance <i>Taimur Ali Shams Irtiza Ali Shah Ayaz Ahmad Aamer Shahzad Tauqeer Ul Islam Zahid Mehmood</i> <i>AIAA SciTech Forum 2023</i> , res.country(233,) Citations: N/A DOI: 10.2514/6.2023-0814	2023
Design, Analysis and Fabrication of Composite Curing Compressive Mold for Aerospace Applications <i>Muhammad Ayaz Ahmad Sabih Ahmad Khan Dr Syed Irtiza Ali Shah Hamza Akbar Khan Taimur Ali Shams</i> <i>Seventh International Conference on Aerospace Science & Engineering (ICASE)</i> , res.country(177,) Citations: N/A DOI: pp. 220-227. IEEE, 2021. https://bit.ly/3cBStqv	2021
Design and structural analysis of composite strut for a lightweight aircraft <i>Muhammad Ayaz Ahmad Syed Irtiza Ali Shah Taimur Ali Shams Sabih Ahmad Khan Areena Tariq</i> <i>ICAEM 2021 - 2021 International Conference on Applied and Engineering Mathematics, Proceedings</i> , res.country(177,) Citations: N/A DOI: 10.1109/ICAEM53552.2021.9547168	2021
Drone selection using multi-criteria decision-making methods <i>Muhammad Sohaib Khan Syed Irtiza Ali Shah Ali Javed Dr M Nafees Mumtaz Qadri Nadeem Hussain</i> <i>2021 International Bhurban Conference on Applied Sciences and Technologies (IBCAST)</i> , res.country(177,) Citations: N/A DOI: 10.1109/IBCAST51254.2021.9393291	2021
A critical analysis of small but heavy-lift multirotor and their flight controllers <i>Muhammad Sohaib Khan Syed Irtiza Ali Shah Ali Javed Dr M Nafees Mumtaz Qadri Nadeem Hussain</i> <i>2021 International Bhurban Conference on Applied Sciences and Technologies (IBCAST)</i> , res.country(177,) Citations: N/A DOI: 10.1109/IBCAST51254.2021.9393264	2021
On the Unsteady Aerodynamics and Design of Flapping Wing Vehicles <i>Farrukh Mazhar Syed Irtiza Ali Shah</i> <i>17th International Bhurban Conference on Applied Sciences and Technology, IBCAST 2020</i> , res.country(177,) Citations: N/A DOI: 10.1109/IBCAST47879.2020.9044501	2020
Semi-Analytical Flutter Analysis of a Light UAV Wing <i>Rana Fahad Latif Syed Tauqeer-ul-Islam Rizvi Ali Javed Syed Irtiza Ali Shah</i> <i>2020 17th International Bhurban Conference on Applied Sciences and Technology (IBCAST)</i> , res.country(177,) Citations: N/A	2020

DOI: 10.1109/IBCAST47879.2020.9044521	
Capability Analysis of Global Hypersonic Wind Tunnel Facilities for Aerothermodynamic Investigations	2020
Taimur Ali Shams Syed Irtiza Ali Shah Muhammad Ayaz Ahmad	
17th International Bhurban Conference on Applied Sciences and Technology (IBCAST), res.country(177,)	
Citations: N/A	
DOI: 10.1109/IBCAST47879.2020.9044523	
Aerodynamic Design Considerations for a Soccer Ball	2019
Syed Baleegh Hussain Syed Irtiza Ali Shah Muhammad Khizer Ali Khan	
Sixth International Conference on Aerospace Science and Engineering, res.country(177,)	
Citations: N/A	
DOI: 10.1109/ICASE48783.2019.9059099	
Comparative Study of Heat Flux Instrumentation for Hypersonic Ground Test Facilities	2018
Taimur Ali Shams Syed Irtiza Ali Shah Muhammad Ayaz Ahmad Ali Javed	
2018 IEEE 21st International Multi-Topic Conference (INMIC) , res.country(177,)	
Citations: N/A	
DOI: 10.1109/INMIC.2018.8595699	
Study of Low Reynolds Number Aerodynamics for Low Aspect Ratio MAV Wing	2018
Taimur Ali Shams Syed Irtiza Ali Shah Muhammad Ayaz Ahmad	
2018 IEEE 21st International Multi-Topic Conference (INMIC), res.country(177,)	
Citations: N/A	
DOI: 10.1109/INMIC.2018.8595611	
Monocular Vision-Based Obstacle Detection Technique using Projected Grid Deformation	2018
Habib Ahmed Muhammad Hamza Asif Nizami Syed Irtiza Ali Shah Yasar Ayaz	
2018 IEEE International Conference on Information and Automation (ICIA), res.country(48,)	
Citations: N/A	
DOI: 10.1109/ICInfA.2018.8812333	
Development of low cost radio range testing system for unmanned disaster relief helicopter	2014
Umair Iqbal Syed Irtiza Ali Shah Fazl-e-Umer Mohsin Jamil Yasar Ayaz	
2014 International Conference on Robotics and Emerging Allied Technologies in Engineering (iCREATE), res.country(177,)	
Citations: N/A	
DOI: 10.1109/iCREATE.2014.6828375	
Centre of mass avoidance planner using radius of gyration for Reciprocal Velocity Obstacles	2014
Shahwar Yaseen Yasar Ayaz Khawaja Fahad Iqbal Naveed Muhammad Syed Omer Gilani Mohsin Jamil Syed Irtiza Ali Shah	
2014 International Conference on Robotics and Emerging Allied Technologies in Engineering (iCREATE), res.country(177,)	
Citations: N/A	
DOI: 10.1109/iCREATE.2014.6828351	