

# CURRICULAM VITAE



**Dr. Abdur Rahim**

**Professor**

**Department of Mechanical Engineering Jamia Millia Islamia University  
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**Date of Birth:** 25<sup>th</sup> May, 1964

**Nationality :** INDIAN

**Designation :** Professor (since July, 2012)

**Areas of Interest:** Fluid Mechanics, Turbomachinery, Computational Fluid Dynamics (CFD) and Thermodynamics

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## **EDUCATIONAL QUALIFICATIONS:**

<i>Exams. Passed</i>	<i>University/ Board</i>	<i>Year</i>	<i>Division / Grade</i>	<i>Specialization/ Subjects</i>
Ph. D.	Indian Institute of Technology (IIT) Delhi	2005	8/10 (CGPA)	Gas Turbine Combustor
M. Tech.	A. M. U., Aligarh	1991	First	Thermal Engg.
B. Tech.	A. M. U., Aligarh	1988	First	Mechanical Engg.

**Title of Ph.D. Thesis:** “*Flow Studies in the Annulus of a Can Type Model Gas-Turbine Combustor*”

## **PUBLICATIONS:**

**Journals: 14, Conferences: 31 (16 International & 15 National)**

## **TEACHING & RESEARCH EXPERIENCE:**

1. Teaching Experience : 33 yrs.
2. Ph. D. Theses Supervised : 04 (completed) + 4 (ongoing)
3. M. Tech. Supervisor : 11 (completed)
4. B. Tech. Supervisor : 26 (completed).

## Ph. D. Supervision:

<i>S. No.</i>	<i>Name of student</i>	<i>Topic</i>	<i>Status</i>
1.	Vakkar Ali	A comparative study of factors influencing aerodynamic drag resulting fuel consumption in different vehicle models	Awarded in 2007
2.	Dhirgham A H Alkhafagiy	An Aerodynamic Study of Diffuser-combustor Flow Interaction	Awarded in 2009
3.	Abdul Jabbar Muttair Ahmed	3-D Flow of Recirculating Air within a Room with Internal Obstruction	Awarded in 2012
4.	Netra Pal Singh	Some Aerodynamic Studies in Divided Y-shaped Intake Ducts	Awarded in 2013
5.	Mohit Bansal	Combustor Aerodynamics	Ongoing
6.	Satyam Dewivedi	Gas Turbine Combustor	Ongoing
7.	Mariyam Ali	Vortex Shedding	Ongoing
8.	Talha Mujeeb	Patient Specific Aortic Dissection	Ongoing

## PUBLICATIONS:

### Journals:

1. **Rahim A**, Veeravalli SV, Singh SN, 2002, "Effect of inlet swirl and dump-gap on the wall pressure distribution of a model can combustor", *Indian journal of Engineering & Material Sciences*, Vol. 9, pp. 472-479.
2. Ali V, Islam M, **Rahim A**, Ahmad N, 2006, "Boundary layer flow and drag estimation on the body of moving car", *Int. Journal of Fluid Mechanics and Research*, Vol. 33, No. 6, pp. 489-499.
3. **Rahim A**, Singh SN, Veeravalli SV, 2007, "Liner dome shape effect on the annulus flow characteristics with and without swirl for a can-combustor model", *ImechE Vol. 221 Part A: J. Power and Energy*, pp. 359-369.
4. Dhirgham Al-Khafagiy, **Rahim A**, 2009, "Effect of Casing Geometry on Can-Combustor Flow", *The Iraqi Journal for Mechanical & Materials Engg.*, No. 2, Vol. 9, pp. 279-292.
5. Abduljabbar M A, Ahmad M, **Rahim A**, 2010, "Effect of Size of Heated Obstruction within room on 3D Air Flow Characteristics", *American J. of Engineering and Applied Sciences*, 3 (2): pp. 372-379.
6. Abduljabbar M A, Ahmad M, **Rahim A**, 2010, "Numerical Prediction of Effect on Air Flow Rate in the Presence of Heated Obstruction within a Room", *Int. Review of Mechanical Engineering*, Vol. 4, N. 6. Pp. 702-710.
7. Abduljabbar M A, Ahmad M, **Rahim A**, 2011, "Investigation of 3D Air Flow Characteristics and Effect of Heated Obstruction within Room", *J Heat and Mass Transfer, Springer Link, Berlin*, Vol.47, No. 9, pp. 1147-1157.
8. Abduljabbar M A, Ahmad M, **Rahim A**, 2011, "Investigation of Air Flow Rates Effect in Presence of Heated Obstruction within Room", *Int. Journal of Fluid Mechanics and Research*, Vol. 38, No. 2, pp. 153-166.
9. **Rahim A**, 2011, "An Experimental Study of Flow through a Dump Combustor Model with Inlet Swirl", *Int. Journal of Mechanical Engg. Research*, Vol. 1, No. 1, pp. 179-187.
10. Dhirgham Al-khafagiy, **Rahim A**, 2012, "The Computation of Swirling Flows", *Int. Journal of Mechanical Engg. And Robotics Research*, Vol. 1, No. 1, pp. 30-37.
11. Netrapal Singh, **Rahim A**, Islam M, 2012, "The Effect of Yaw Angles on Flow Characteristics of a Symmetric Y-Shaped Diffusing Duct with 300 mm  $C_L$  & 382 mm  $R_C$  at Different Cross Sections: An Experimental Investigation", *International Review of Aerospace Engineering*, Vol. 5, N. 3. Pp. 67-79.
12. Netrapal Singh, **Rahim A**, Islam M, 2013, "Flow Characteristics of a Symmetric Y-Shaped Diffusing Duct with zero Yaw Angle", *Indian journal of Engineering & Material Sciences*, Vol. 20, pp. 125-131.
13. **Rahim A** and Khan T.A., 2017, "Effect of quarl angle of liner air-casing on annulus flow of gas turbine combustor", *Int. Journal of Renewable Energy*, Vol. 7, No. 4, pp. 224-228.
14. **Abdur Rahim** and Satyam Dewivedi, 2019, "Aerodynamic analysis of Blade NACA 65<sub>3</sub>-218 of Horizontal Axis Wind Turbine (HAWT) using Computational Fluid Dynamics", *J. of Material Science and Mechanical Engg. (JMSME)*, Volume 6, pp. 59-64.

### International Conferences:

1. **Rahim A**, Veeravalli SV, Singh SN, 2002, "Effect of inlet swirl on the flow characteristics in the annulus of gas turbine combustor model", *2<sup>nd</sup> International & 29<sup>th</sup> National Conference on FMFP*, IIT-Roorkee, India, pp. 854-863.
2. **Rahim A**, Veeravalli SV, Singh SN, 2004, "Flow characteristics in the annulus of a can-combustor model", *2<sup>nd</sup> BSME-ASME International Conference on Thermal Engineering*, Dhaka, Bangladesh, pp. 568-574.
3. **Rahim A**, Singh SN, Veeravalli SV, 2004, "Some design aspects of modern turbine combustor", *International Conference on Energy & Environment*, JMI, New Delhi India, pp. 59-62.
4. **Rahim A**, Veeravalli SV, Singh SN, 2005, "Experimental study of isothermal swirling flows through an abrupt axisymmetric expansion", *50<sup>th</sup> Congress of ISTAM (An International Meet) IIT-Kharagpur*, India, pp. 179-186.
5. Ali V, Islam M, **Rahim A**, Ahmad N, 2006, "Effect of boundary layer drag on power consumption of a moving car", *International Conference on Advances in Mechanical Engineering (AME-2006)*, Fatehgarh Sahib, Punjab, pp. 158-163.
6. Dhirgham Al-khafagiy, **Rahim A**, 2006, "Modelling of combustor flow; A review", *International Conference on Advances in Mechanical Engineering (AME-2006)*, Fatehgarh Sahib, Punjab, pp. 175-185.
7. Dhirgham Al-khafagiy, **Rahim A**, 2008, "A computational study of annulus flow for can-combustor", *ICPER 2008*, Selangon, Malaysia, pp. 126-134.
8. Abduljabbar, Ahmad M, **Rahim A**, 2008, "CFD simulation of air flow within a room with heated floor", *ICAME-2008*, Surat, India, pp. 66-71.
9. **Rahim A**, 2011, "An Experimental Study of Flow through a Dump Combustor Model with Inlet Swirl", *International Conference on Emerging Trends in Mechanical Engineering*, (ICETME-2011), Patiala, India, pp. 695-700.
10. **Rahim A**, Alkhafagiy D, Talukdar P, 2012, "Effect of casing geometry on flow characteristics in a model can-combustor", *ASME 2012 Gas Turbine India Conference, (GTIndia2012)* Mumbai, India.
11. **Rahim A**, Ahmad M, 2014, "CFD Analysis of Flow Through Gas Turbine Combustor", *International Conference on Advancements in Mechanical Engineering, (ICAME-2014)*, Al-Falah University, India.
12. **Rahim A**, 2016, "Flow Measurements in a Dump Combustor Model with Inlet Swirl", *6<sup>th</sup> International Conference on Fluid Mechanics & Fluid Power (FMFP-2016)*, MNNIT, Allahabad India.
13. Md Hassan, Satyam Dewivedi, Hammad Khurshid, Gulam Hasnain Warsi, Mansha Alam and **Rahim A**, 2022, "Computational Study on the Diffuser of Formula Student Racing Car", *FLAME-2022*, Amity University, Noida.
14. Mohit Bansal, Satyam Dewivedi and **Rahim A**, 2022, "Computational Analysis of the Thermo Hydrodynamic Characteristics in a Can Type Gas Turbine Combustor", *FMFP 2022*, IIT Roorkee.
15. Mariyam Ali and **Rahim A**, 2023, "Comparative Study of Numerical Simulation of Vortex Shedding on Cylinder of Different Configurations", *FMFP 2023*, IIT Jodhpur.
16. Dewivedi S and **Rahim A**, 2024, "Computational Study of Swirling flow in Burner of Gas Turbine Combustor", *FMFP 2024*, AMU, Aligarh.

### National Conferences:

1. **Rahim A**, Rizvi SMA, 1994, "Numerical calculations of turbulent flow in axially symmetric combustor", *IX<sup>th</sup> ISME National Conference on Mechanical Engineering*, Roorkee, India, pp. 73-78.
2. **Rahim A**, Veeravalli SV, Singh SN, 2000, "Flow characteristics in the annulus of a model can-combustor", *27<sup>th</sup> National Conference on FMFP*, Palghat, India, pp. 424-430.
3. **Rahim A**, Singh SN, Veeravalli SV, Anand RB, 2003, "Numerical simulation of flow characteristics in a combustor model", *30<sup>th</sup> National Conference on FMFP*, Surathkal, India, pp. 392-396.
4. **Rahim A**, Singh SN, Veeravalli SV, 2004, "Measurements in Swirling Flow through a Combustor Model", *31<sup>st</sup> National Conference on FMFP*, Jadavpur University, Kolkata, pp. 771-777.
5. **Rahim A**, Ahmad M, Ali V, 2006, "Numerical study of turbulent flow through axisymmetric combustor", *National Conference on Advances in Mechanical Engineering (AIME -2006)*, JMI, New Delhi, pp. 664-668.
6. Ali V, Islam M, **Rahim A**, Ahmad N, 2006, "Boundary layer flow over an aerodynamic body", *National Conference in Mechanical Engineering (NCME 2006)*, Institute of Engineering & Technology, Patiala, Punjab, pp.1-12.
7. Ali V, Islam M, **Rahim A**, Ahmad N, 2006, "Effect of Boundary layer Drag on Power Consumption of a Moving Car", *International Conference on Advances in Mechanical Engineering-2006 (AME 2006)*, B.B.S.B. Engineering College, Fatehgarh Sahib, Punjab, pp.1-06.

8. Ali V, Islam M, **Rahim A**, Ahmad N, 2006, “Drag estimation due to boundary layer flow over a flat surface”, *National Conference on Trends and Advances in Mechanical Engineering*, YMCA Institute of Engineering, Faridabad, Haryana, pp.1-7.
9. Dhirgham Al-khafagi, **Rahim A**, 2007, “Application of CFD in combustor design technology”, *National Conference on State of the Art Technologies in Mechanical Engg. (STEM-2007)*, GBPUAT, Pantnagar, Nainital, pp. 311-316.
10. Netrapal Singh, **Rahim A**, Mohd Islam, 2011, “An experimental study of flow characteristics of a symmetric Y-shaped intake diffusing duct at different cross sections”, *38<sup>th</sup> National Conference on FMFP*, MANIT, Bhopal.
11. Abdul Jabbar, **Rahim A**, Ahmad M, 2011, “An experimental study of selected reference temperature to calculate film coefficient within a room”, *38<sup>th</sup> National Conference on FMFP*, MANIT, Bhopal.
12. Abdul Jabbar, **Rahim A**, Ahmad M, 2012, “Prediction of airflow patterns for mixing and displacement ventilation within a room with internal heated obstruction”, *National Conference on Emerging Trends in Mechanical Engineering (ETME-2012)*, ITM, Gurgaon, pp. 373-378.
13. Netrapal Singh, **Rahim A**, Mohd Islam, 2012, “An overall evaluation of flow characteristics and performance parameters of Y-shaped diffusing duct with small angle of turn and different centerline length & radius of curvature”, *TAME 2012, YMCAUST, Faridabad*, pp.142-152.
14. **Rahim A**, S M Saad Jameel, 2012, “Shell side cfd analysis of a small shell-and-tube heat exchanger considering the effects of baffle inclination on fluid flow”, *TAME 2012, YMCAUST, Faridabad*, pp.167-173.
15. Bansal, M. and **Rahim, A.**, 2018, “Numerical Solution of Turbulent flow in Axisymmetric Diffuser”, *19<sup>th</sup> ISME Conference, NIT, Jalandhar*.

#### **ASSOCIATION WITH PROFESSIONAL BODIES:**

1. Life Member, The Institution of Engineers (India). (M/121113/1)
2. Life Member, National Society of Fluid Mechanics & Fluid Power. (LM-459)

#### **REFEREES:**

1. **Prof. S. Mahdi Abbas Rizvi:** Dept. of Mechanical Engineering, AMU, Aligarh –202001 INDIA. (Phone: +91-9897826671), E-mail: [mahdirizvi@yahoo.com](mailto:mahdirizvi@yahoo.com))
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