

Resume Of Sanjeev Sanghi

Name : Sanjeev Sanghi

Designation : Ram Rajindra Malhotra Chair Professor,
Applied Mechanics Department

Date of Birth : 21-09-1962

Institution : Indian Institute of Technology Delhi, India

Academic Qualification

Degree	Year	Institute	% of marks	Discipline
Ph.D.	1991	The Levich Institute, City Univ. of New York, U.S.A.	99.5	Mechanical Engineering
M.S.	1988	Cornell University, U.S.A.	98	Mechanical Engineering
B. Tech.	1985	Indian Institute of Technology, Kanpur	91 (Ranked 2nd)	Mechanical Engineering

Positions held and Experience

Post	Institute	Department	From - To
Head	I.I.T. Delhi	Applied Mechanics	September 2020 - Present
Dean, Alumni Affairs and International Programmes	I.I.T. Delhi		August 2016 – April 2020
Member, Board of Governors	I.I.T. Delhi		July 2013-December 2017
Head	I.I.T. Delhi	Educational Technology	Jan-Dec 2007 Jan 2011-Aug 2016
Co-ordinator	I.I.T. Delhi	QIP & CEP	Jan-Dec 2007
Professor	I.I.T. Delhi	Applied Mechanics	October 2006 - Present
Visiting Professor (on sabbatical)	University of Sussex, UK	Thermo Fluid Mechanics Research Centre	December 2007- November 2008
Assoc. Professor	I.I.T. Delhi	Applied Mechanics	Jan. 2000 – October 2006
Asst. Professor	I.I.T. Delhi	Applied Mechanics	Dec. 1993 – Jan. 2000

Lecturer	I.I.T. Delhi	Applied Mechanics	Jan. 1992 - Nov. 1993
Research Assistant	CUNY, New York, USA	The Levich Institute	Sep. 1988 – Dec. 1991
Teaching Assistant	Cornell University, USA	Mechanical Engineering	August 1985-September 1988

Awards won by the applicant:

1. Ram Rajindra Malhotra Chair Professor, I.I.T. Delhi, 2020-Present
2. MoUD Chair Professor, IIT Delhi, 2014-2019
3. Excellence in Teaching Award 2011, I.I.T. Delhi.
4. Distinguished Teachers Award 2003 (awarded by the C.V. Kapoor Educational Trust, New Delhi).
5. Ralph Boliagno Distinguished Teaching Assistant award 1988 (Mechanical Engg. Department, Cornell University, USA)

Memberships:

1. Fellow, Institutions of Engineers, India
2. Member, Indian Society of Mechanical Engineers
3. Member, Indian Society of Theoretical and Applied Mechanics (ISTAM)
4. Member, National Council of Fluid Mechanics and Fluid Power, India
5. Member, Aeronautical Society of India

Leadership Roles:

1. Dean Alumni Affairs and International Programmes IIT Delhi
2. Member Board of Governors, IIT Delhi
3. President, Faculty Forum, IIT Delhi
4. Secretary, Indian Society for Mechanical Engineers
5. President, Cornell India Association

Publications: (Details in Annexure I)

3 Text books

51 in refereed journals

68 in refereed International Conferences

Sponsored Research and Consultancy : (Details in Annexure II)

13 Sponsored Research Projects

45 Consultancy Projects

ANNEXURE I
Publications:

Books

1. Beer, F. P., Johnston, E. R., Mazurek, D. F., Cornwell, P. J., and Sanghi, S. **Vector Mechanics for Engineers, Statics/Dynamics**, McGraw Hill, Twelfth Edition, 2019.
2. Beer, F. P., Johnston, E.R., DeWolf, J. T., Mazurek, D. F. and Sanghi S. **Mechanics of Materials**, McGraw Hill, Eighth edition, 2020.
3. Sanghi, S., Gupta, V. and Gupta, S.K., **Teacher's Manual for Gupta and Gupta: Fluid Mechanics and its Applications**, New Age International Publishers, New Delhi, Second edition, 2010.

Journals

1. Khawar, O., Baig, F.M. and Sanghi, S., 2022, Counter-rotating Taylor-Couette flows with radial temperature gradient. **International Journal of Heat and Fluid Flow**, vol. 95, 10980.
2. S Tanweer, A Dewan, S Sanghi , 2021, Effects of wake confinement and buoyancy on three-dimensional flow transitions for a square cylinder near a moving wall. **Physics of Fluids** 114102 (2021); <https://doi.org/10.1063/5.0064916>.
3. HH Khan, SF Anwer, N Hasan, S Sanghi , 2021, Development and Optimisation of a DNS Solver Using Open-source Library for High-performance Computing. **International Journal of Computational Fluid Dynamics**, 35(6), pp. 433-450.
4. Dube, K., Sanghi, S., Gupta, A and Bahga, S.S.; 2021 Electrokinetic instability due to streamwise conductivity gradients in microchip electrophoresis. **Journal of Fluid Mechanics** vol. 925, A14, doi:10.1017/jfm.2021.672.
5. Hamid Khan, Syed Anwer, Nadeem Hasan, and Sanjeev Sanghi, 2021 Laminar to turbulent transition in a finite length square duct subjected to inlet disturbance. **Physics of Fluids** 33(6), 065128.
6. S Tanweer, A Dewan, S Sanghi, 2021, Influence of gap-ratio on flow dynamics and heat transfer for a square cylinder approaching a moving wall in turbulent regime. **International Journal of Heat and Mass Transfer** 172, 121122.
7. Khawar O., Baig, F.M. and Sanghi, S., 2021, Taylor-Couette flows undergoing orthogonal rotation subject to thermal stratification. **Physics of Fluids** 33, 035107.
8. Haroon Ahmad, Nadeem Hasan and Sanjeev Sanghi, 2020, On the formation and sustenance of the compressible vortex rings in starting axisymmetric jets: A phenomenological approach. **Physics of Fluids** 32, 126114, <https://doi.org/10.1063/5.0029187>.
9. Sartaj Tanweer, Anupam Dewan, Sanjeev Sanghi, 2020, Three-dimensional wake transitions past a rectangular cylinder placed near a moving wall: Influence of aspect and gap ratios. **Ocean Engineering**, 2020, <https://doi.org/10.1016/j.oceaneng.2020.108288>.
10. Hamid Khan, Syed Anwer, Nadeem Hasan, and Sanjeev Sanghi, 2020. Dynamics of coherent structure in turbulent square duct flow **Physics of Fluids** 32 (4), 045106.
11. Khan, H.H., Anwer, S.F., Hasan, N., Sanghi, S., 2020, The organized motion of characterized turbulent low at low Reynolds number in a straight square duct. **Springer Nature Applied Science** 2 (4), 1-13.
12. S Tanweer, A Dewan, S Sanghi, AK Shukla , 2020, Stability analysis of cross buoyancy flow past a circular cylinder using OpenFOAM - **Materials Today: Proceedings**.
13. S Tanweer, A Dewan, S Sanghi, 2020, Influence of three-dimensional wake transition on heat transfer from a square cylinder near a moving wall. **International Journal of Heat and Mass Transfer**, 148, 118986.
14. S Tanweer, A Dewan, S Sanghi, 2019, Influence of wake confinement and buoyancy on flow past a square cylinder, **Fluid Dynamics Research** 51 (3), 035502.

15. S Tanweer, A Dewan, S Sanghi, 2019, Study on effects of Prandtl number on cross buoyancy flow past a square cylinder using OpenFOAM, **Journal of Applied Fluid Mechanics**, 12 (1), 257-269.
16. BS Shishodia, S Sanghi, P Mahajan , 2018, Computational and subjective assessment of ventilated helmet with venturi effect and backvent, **International Journal of Industrial Ergonomics**, 68, 186-198.
17. Syed Mohd Yahya, Syed Fahad Anwer, Sanjeev Sanghi, 2018, Proper Orthogonal Decomposition: A tool to study the underlying Physics of Turbulence, **Jurnal Teknologi**, Vol. 79, 7-3.
18. Shishodia, B.S., Sanghi, S. and Mahajan, P., 2017, Numerical Investigation of Ventilation and Human Thermoregulation for Predicting Thermal Comfort of a Rider Wearing Ventilated Helmet. **Journal of Fluids Engineering**, 139 (6).
19. N Arora, A Gupta, S Sanghi, H Aono, W Shyy , 2016, Flow patterns and efficiency-power characteristics of a self-propelled, heaving rigid flat plate, **Journal of Fluids and Structures**, 66, 517-542.
20. BS Shishodia, S Sikri, S Sanghi, P Mahajan, 2016, Air flow, heat transfer and impact study of ventilated and non-ventilated full-face motorcycle helmet, **International Journal of Crashworthiness**, 1-10.
21. Deshpande, V., Eshpuniyani, B. and Sanghi, S., 2015, Computational study of supersonic flow past non-stationary obstructions part-I – moving ramp, **Progress in Computational Fluid Dynamics**, Vol. 15, Issue III, pp. 144-156.
22. Deshpande, V., Eshpuniyani, B. and Sanghi, S., 2015, Computational study of supersonic flow past non-stationary obstructions part-II – moving protrusion, **Progress in Computational Fluid Dynamics**, Vol. 15, Issue III, pp. 157-167.
23. Yahya S. M., Anwer, S.F. and Sanghi, S., 2015 LES of stably stratified flow with varying thermophysical properties, **Numerical Heat transfer Part A**, vol 67, issue 12, pp. 1408-27.
24. Yahya S. M., Anwer, S.F. and Sanghi, S., 2014, Turbulent forced convective flow in an an isothermal channel, **International Journal of Thermal Sciences** 88, pp. 84-95.
25. Yahya S. M., Anwer, S.F. and Sanghi, S., 2014, Variable Expansivity: A key changing parameter in modeling of thermal conductivity of nanofluid, **Nanoscience and Nanotechnology Letters** 6(10), pp. 942-946.
26. Arora, N., Gupta, A., Sanghi, S., Aono, H and Shyy, W. 2014, Lift-drag and flow structures associated with the clap and fling motion, **Physics of Fluids**, Volume: 26 Issue: 7, Article Number: 71906, July 2014.
27. Yahya S. M., Anwer, S.F. and Sanghi, S., 2013, Enhanced Heat Transfer and Fluid Flow in a Channel Behind a Photovoltaic Panel in a Hybrid Photovoltaic/Thermal System, **Industrial and Engineering Chemistry Research**, dx.doi.org/10.1021/ie402460n (in press).
28. Yahya S. M., Anwer, S.F. and Sanghi, S., 2013, Phenomenological and statistical analyses of turbulence in forced convection with temperature-dependent viscosity under non-Boussinesq condition, **The European Physical Journal E** 36 (10), 1-14.
29. Dewan A., Gupt, D.P. and Sanghi S., 2013, Enhancement of heat transfer through jet impingement by using detached ribs, **International Review of Mechanical Engineering**, Volume 7, Issue 2, pp. 308-317.
30. Qamar, A. and Sanghi, S., 2012, Aerodynamic characteristics of axisymmetric surface protuberance in supersonic regime, **Engineering Applications of Computational Fluid Dynamics**, Vol. 6, No.3, 2012, pp. 313-335.
31. Yahya, S.M., Anwer, S.F. and Sanghi, S., 2012, A conservative pressure-correction method on collocated grid for Low Mach number flows **World** 2, 253-261.
32. Yahya, S.M., Anwer, S.F. and Sanghi, S., 2012, Performance of different SGS models of LES for low Mach number channel flow **Procedia Engineering** 38, 1192-1208.
33. Deshpande, V., Sanghi, S. and Eshpuniyani, B., 2011, Computational Study of Supersonic Flow Over a Flat Plate with Protrusion, **Journal of Aerospace Science and Technologies** 63 (4), pp.266-276.

34. Qamar, A., Hasan, N. and Sanghi, S., 2010, A new spatial discretization strategy of the convective flux term for the hyperbolic conservation laws, **Engineering Applications of Computational Fluid Dynamics**, Vol.4, No.4, 2010, pp. 593-611.
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37. Qamar, A. and Sanghi, S., 2009, Steady supersonic flow-field predictions using proper orthogonal decomposition technique, **Computers & Fluids**, 38 (6) pp. 1218-1231.
38. KV Pagalthivarthi, JS Ravichandra, S Sanghi, PK Gupta, 2009, Wear Prediction in Fully Developed Multi-Size Particulate Flow in Horizontal Pipelines, **The Journal of Computational Multiphase Flows** 1 (3), 263-282.
39. Singh, S., Mukherjee, S., Sanghi, S., 2008, Study of a self-impacting double pendulum, **Journal of Sound and Vibration**, 318 (4-5) pp. 1180-1196.
40. Mishra A. A, Hasan N, Sanghi S., and Kumar, R., 2008, Two-dimensional buoyancy driven thermal mixing in a horizontally partitioned adiabatic enclosure, **Physics of Fluids**, Volume: 20 Issue: 6, Article Number: 063601, June 2008.
41. Pagalthivarthi, K. V., Mittal, A., Ravichandra, J.S. and Sanghi, S., 2007, Prediction of pressure drop in multisize particulate pipe flow using correlation and neural network techniques, **Progress in Computational Fluid Dynamics**, Volume 7, No. 7., 2007, pp. 414-426.
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44. Qamar, A., Hasan, N. and Sanghi, S., 2006, New scheme for the computation of compressible flows, **AIAA Journal**, Vol.44, No.5, May 2006, pp. 1025-39.
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46. Pagalthivarthi, K.V., Ravichandra, J.S. & Sanghi, S., 2005, Multi-Size Particulate Flow in Horizontal Ducts: Modeling and Validation. **Progress in Computational Fluid Dynamics**, Volume 5, No. 8, 2005, pp. 466-481.
47. Anwer, S.F., Hasan, N. and Sanghi, S., 2005. Study of unsteady flow past a circular cylinder using a new computational approach at the outflow boundary. **Computational Solid and Fluid Mechanics**, Third MIT conference on Computational Fluid and Solid Mechanics, Cambridge, MA, USA, ed. Bathe, K.J., 14-17 June 2005, **El Sevier** publications, pp. 572-577.
48. Hasan, N., Anwar, S. F., and Sanghi, S., 2005, Natural convection in a bottom heated cylinder. **Physics of Fluids**, 17(6), June 2005, pp. 1-17.
49. Hasan, N., Anwar, S. F. and Sanghi, S., 2004. On the outflow boundary condition for external incompressible flows: A new approach. **J. Computational Physics**, 206 (2005) pp.661-683.
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51. Ravichandra, J. S., Pagalthivarthi, K.V., and Sanghi, S., 2004. Finite element study of multi-size particulate flow in horizontal pipes. **Progress in Computational Fluid Dynamics**, Volume 4, No.6, 2004, pp. 299-308.
52. Mukherjee, S. and Sanghi, S., 2004, Design of a six link mechanism for a micro air vehicle. **Defence Science Journal**, Vol. 54, No.3, July 2004, pp. 271-276.
53. Sridhar, P. S. V. S., Pagalthivarthi, K.V., and Sanghi, S., 2003. Simulation of particle impact with a wedge in dilute two-phase flows. **Defence Science Journal**, Vol. 53, No. 2, April 2003, pp.199-204.
54. Sanghi, S., Dube, G. P. & Dumir, P.C., 2002. Some reflections on the achievement level of B. Tech. (M.E. & C.E.) students in the area of applied mechanics and mathematics. The **Indian Journal of Technical Education**, Vol. 25, No. 1, 69-78.

55. Sanghi S. and Aubry N., 1993. Mode-interaction models for near-wall turbulence. ***Journal of Fluid Mechanics.***, 247, 1993, pp. 455-88.
56. Sanghi, S. & Aubry, N., 1991. Models for the structure and dynamics of near wall turbulence. ***Studies in turbulence: in recognition of contributions by John Lumley***, pp. 190-206.
57. Aubry, N. & Sanghi, S., 1989. Bifurcation and bursting of streaks in the turbulent wall layer. ***Turbulence 89: Organized Structures and Turbulence in Fluid Mechanics***, pp. 227-251.
58. Aubry, N. & Sanghi, S., 1989. Streamwise and spanwise dynamics in the turbulent wall layer. ***Forum on Chaotic Flow***: Proceedings of 3rd joint ACSE-ASME mechanics conf., UCSD, La Jolla, 1989, pp. 110-118.

Conferences (refereed)

1. Khawar, O., Baig. M. F. and Sanghi, S, 2020, Taylor-Couette flows subject to radial temperature gradient" , International Conference on Advances in Chemical and Petroleum Engineering ACAPE 2020, February 22-24, 2020, Aligarh Muslim University, Aligarh, India
2. Khan, H.H., Anwer, S. F., Sanghi, S. and Hasan, N., 2019" Comparison of minimal, marginal and fully turbulent flow in a square duct", 46th National Conference on Fluid Mechanics and Fluid Power (FMFP 2019), PSG College of Technology, Coimbatore
3. Khan, H.H., Anwer, S. F., Sanghi, S. and Hasan, N., 2019, "Proper orthogonal decomposition of turbulent flow in a straight square duct", Proc. 16th Asian Cong. of Fluid Mechanics, JNCASR Bengaluru, Lecture Notes in Mechanical Engineering, Springer.
4. S. Tanweer, A. Dewan and S. Sanghi, 2019, Influence of Buoyancy on Flow Past a Circular Cylinder Near a Moving Wall, Proc. 16th Asian Cong. of Fluid Mechanics, JNCASR Bengaluru, Lecture Notes in Mechanical Engineering, Springer.
5. Kumar N., Arora, N., Gupta, A. and Sanghi, S, 2018, A Numerical Framework For Linear Stability Analysis Of Two Dimensional Steady Flows, Fifth International Conference on Computational Methods for Thermal Problems, THERMACOMP2018, July 9-11, 2018, Indian Institute of Science, Bangalore, INDIA, N. Massarotti, P. Nithiarasu, Pradip Dutta and C. Ranganyakalu (Eds.)
6. Obaidullah Khawar, M.F.Baig and Sanjeev Sanghi, 2018, Effect of thermal stratification on turbulent Taylor-Couette flows in horizontal configuration", Proceedings of the 7th international and 45th National conference on Fluid Mechanics and Fluid Power (FMFP) December 10-12, 2018, IIT Bombay, Mumbai, India.
7. S. Tanweer, A. Dewan, and S. Sanghi, 2018, Flow Past a Square Cylinder Near a Wall in the Absence of Wall Boundary-Layer, Proc. 7th Int. and 45th National Fluid Mechanics and Fluid Power (FMFP) Conf., IIT Bombay, Mumbai.
8. Khan, H.H., Anwer, S. F., Sanghi, S. and Hasan, N., 2017, Direct Numerical Simulation of Marginally Turbulent Flow in A Square Duct, ASCH& 2017, 6th Asian Symposium on Computational Heat Transfer and Fluid Flow, 10-13 December 2017, IIT Madras, Chennai, India.
9. Shishodia B.S., Sanghi S., Mahajan P. (2017) Redesigning of Motorcycle Helmet for Improved Air Ventilation Using Numerical Simulations. In: Saha A., Das D., Srivastava R., Panigrahi P., Muralidhar K. (eds) Fluid Mechanics and Fluid Power – Contemporary Research. Lecture Notes in Mechanical Engineering. Springer, New Delhi.
10. S. Tanweer, A. Dewan and S. Sanghi, 2017, Computational Study of Mixed Convection Past a Heated Square Cylinder Placed Near a Moving Wall, Proc. 24th National and 2nd Int. ISHMT-ASTFE Heat and Mass Transfer Conf., BITS Pilani, Hyderabad.
11. Yahya S.M., Anwer S.F., S. Sanghi, N. Hasan (2017) Peculiar Behavior of Thermally Stratified Channel Flow Under Non-Boussinesq Condition. In: Saha A., Das D., Srivastava R., Panigrahi P., Muralidhar K. (eds) Fluid Mechanics and Fluid Power – Contemporary Research. Lecture Notes in Mechanical Engineering. Springer, New Delhi
12. Khan, H.H., Siddiqua, M.J., Anwer, S.F. and Sanghi, S., 2016, Effect of Aspect ration on Flow Reversals in Rayleigh-Benrd Convection, FMfP2016-498, December 15-17, 2016, MNNITA, ALLAHABAD, UP, India.
13. Pagalthivarthi, K. V., Gupta, P. K.Ravichandra, J. S., Sanghi, S., 2015, "Neural Network Prediction of Erosion Wear in Pipeline Transporting Multisize Particulate Slurry," International Conference on Paradigm Shift in Management & Technology 2015, YMCAUST, Faridabad, India, April 9-10, 2015.
14. S. M. Yahya, S. F. Anwer, and S. Sanghi, "Drifting of internal gravity wave in a non-Boussinesq stably stratified turbulent channel flow", IUTAM Symposium on Advances in Computation, Modeling and Control of Transitional and Turbulent Flows, Goa, India, 15-18 December, 2014.
15. S. M. Yahya, S. F. Anwer, and S. Sanghi, "Augmentation of heat transfer and turbulence for better performance of photovoltaic panel", at Chemical Technologies and Chemical Engineering Conference CHEMTECH- 2014, Istanbul, Turkey, 23– 25 October, 2014.

16. Arora, N., Jain, A., Singh A., Gupta, A., Sanghi, S., Aono, H. and Shyy W., 2014, Forward propulsion of a rigid plunging aerofoil, 32nd AIAA Applied Aerodynamics Conference, Atlanta, GA, USA, June 2014 (Idoi: 10.2514/6.2014-2150).
17. Sanghi, S. and Hasan, N, 2013, The Proper Orthogonal Decomposition and its Applications. In Topical Problems in Theoretical and Applied Mechanics, An Indo-Russian Workshop, IIT Madras, November 11-15, 2013, pp. 85-101.
18. Sanghi, S. and Hasan, N, 2013, Applications of the Proper Orthogonal Decomposition. 14th Asian Congress of Fluid Mechanics, Hanoi, Vietnam, October 14-19, 2013.
19. Arora, N., Gupta, A., Sanghi, S., Aono, H. and Shyy W., 2013, A lattice Boltzmann framework for analysis of 'clap and fling' motion of finite thickness membranes. 31st AIAA Applied Aerodynamics Conference, Chicago, June 24-27, 2013.
20. S. F. Anwer , S. M. Yahya, and S. Sanghi, 2013, Modulation in turbulence at high Richardson number in an isothermal channel flow. Book of Abstract Seventh M.I.T. Conference on Computational Fluid and Solid Mechanics, Cambridge, USA, 12-14 June, 2013.
21. S. M. Yahya, S. F. Anwer, and S. Sanghi, "On the role of variable viscosity and its effects on kinetic energy budget and structures in a turbulent channel flow" 10th HSTAM International Congress on Mechanics, Chania, Crete, Greece, 25 – 27 May, 2013.
22. S. M. Yahya, S. F. Anwer, and S. Sanghi, 2013, Effect of Large Temperature Gradient on Turbulent Channel Flow, 2nd National Conference on Advances in Heat Transfer and Fluid Dynamics, Aligarh Muslim University, March 23-24, 2013.
23. Shishodia, B. S., Sanghi, S. and Mahajan, P., 2013, A Comparative Study of Turbulence Models Performance for the Study of Air Flow in Helmets, 1st International Conference on Helmet Performance and Design, Imperial College, London, UK, 15 February 2013, HPD-2013-8.
24. Anwer, SF, Khan, H.N, Sanghi, S., Ahmad, A. and Yahya, SM, 2012, Extension of SMAC scheme for variable density flows under strong temperature gradient. AIP Conference Proceedings 1440, 683.
25. S. M. Yahya, S. F. Anwer, and S. Sanghi, 2012, Numerical investigation of turbulent flow and heat transfer in high temperature solar receiver. Proceeding of 57th congress of ISTAM (An International meet) DIAT Pune, 18-20 Dec-2012.
26. Deshpande, V., Eshpuniyani, B. and Sanghi, S. 2011, "Prediction of aerodynamic forces of flap of finite width using 2d ramp results - a case study", 38th National conference on Fluid Mechanics and Fluid Power, 15-17 Dec 11, MANIT, Bhopal.
27. Sanghi S., 2011, Application of Proper Orthogonal Decomposition in Fluid Mechanics and Heat Transfer Problems, Proceedings of ICAAAE 2011, Kuala Lumpur, Malaysia, 17-19 May 2011.
28. Deshpande, V., Eshpuniyani, B. and Sanghi, S., 2010, Computational study of supersonic flow over a flat plate with moving protrusion. Proceedings of 37th International and 4th National Conference of Fluid Mechanics and Fluid Power, December 16-18, 2010, IIT Madras, Chennai, India, FMFP10-HS-01.
29. Qamar, A., Khan, R.A., and Sanghi, S., 2007, Numerical investigation of vortex induced vibrations around a square cylinder. 4th MIT conference on Computational Fluid and Solid Mechanics, 13-15 June 2007, Boston, USA, CD.
30. Qamar, A., Hasan, N., and Sanghi, S., 2007, Effect of Axisymmetric Protuberance Mounted on the Cylindrical Nosed Body at Supersonic Speed. 25th AIAA Applied Aerodynamic Conference, 25-28 June 2007, Miami, USA.
31. Qamar, A., Hasan. N and Sanghi, S., 2007, Flow induced thermal mixing of two dimensional laminar counterflowing jets in a channel. 39th AIAA Thermophysics Conference, 25-28 June 2007, Miami, USA.
32. S. Anwer, S. Sanghi, N. Hasan And S. Mukherjee, 2007, A Numerical Study of Pitching Amplitude on the Flow Induced by Translating, Plunging and Pitching Airfoil. 25th AIAA Applied Aerodynamic Conference, 25-28 June 2007, Miami, USA.
33. Sanghi, S. and Anwar, S.F., 2007, Optimal frequency and force generation in plunging elliptical aerofoil, 1st international Aerospace CFD conference (IACC), Paris 2007.
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COMPUTATIONAL MECHANICS AND SIMULATION (ICCMS 06), 22- 24December IIT Guwahati India.

35. Sanghi, S. and Hasan, N., 2007, The Application of Proper Orthogonal Decomposition in Fluid Mechanics and Heat Transfer Problems. Indo Australian workshop and symposium on IAWS-CFD 2007, 12-14 April 2007, IIT Roorkee, CD.
36. S. Sanghi, S.Bhaskar, D. Mohan, G. Tiwari and A. Mudgal, 2006, Assessment of Air Quality in Delhi. BAQ 2006, Yogyakarta, Indonesia, 13-16 December 2006, (poster).
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40. Qamar, A., Hasan, N. and Sanghi, S., 2006, Supersonic flow past the axisymmetric triangular obstacle mounted on a cylindrical body of revolution using a new scheme. Proceedings of the 11th Asian Congress of Fluid Mechanics, 22-25 May 2006, Kuala Lumpur, Malaysia.
41. K.V. Pagalthivarthi, J. S. Ravichandra, S. Sanghi, and P. K. Gupta, 2005, "Two Strategies in Multi-size Particulate Flow Computations," Paper No. 289, 5th International Symposium on Multiphase Flow, Heat and Mass Transfer and Energy Conversion, China, July 3-5, 2005.
42. Qamar, A., Hasan, N. and Sanghi, S., 2005, Numerical computation of surface mounted obstacle in supersonic flows using a new particle velocity upwinding scheme, 23rd AIAA Applied Aerodynamics Conference, 6-9 June 2005, Toronto, Canada, **AIAA 2005-4722**.
43. Hasan, N. and Sanghi, S., 2005 Heat transfer characteristics of thermally driven convection in a horizontal rotating cylinder, 38th AIAA Thermophysics Conference, 6-9 June 2005, Toronto, Canada, **AIAA 2005-4826**.
44. Anwer, S. F., Hasan, N. and Sanghi, S., 2004. Study of flow past a square cylinder using a new computational approach at the outflow boundary. 31st National Conference on Fluid Mechanics and Fluid Power, Jadavpur University, 16-18 December, 2004, pp. 269-277.
45. Qamar, A., Hasan, N. and Sanghi, S., 2004. A new flux based predictor-corrector particle velocity upwinding (PVU) scheme for the computation of compressible flows. 31st National Conference on Fluid Mechanics and Fluid Power, Jadavpur University, 16-18 December, 2004, pp. 259-268.
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ANNEXURE II

Sponsored Research Projects:

S. No.	Project Title	PI/COPI	Granting Agency	Duration	Value (in Rs.)	Status	MOUD related
1	Development and Field Testing of Panic Switch Based Safety Device for Cars for Aiding Womens Safety	CP	MEITY	22.8.16 to 31.1.19	3.5 crores	Completed	Yes
2	Design Modification in Women Safety Device	CP	IITD	1.1.19 to 31.8.19	60 Lakhs	Ongoing	Yes
3	Pedestrian Safe Transportation systems	CP	Volvo Foundation	2014-2017	55 Lakhs	Ongoing	Yes
4	Design of Ventilated Helmets	PI	UKIERI, British Council	2012-2014	17 Lakhs	Ongoing	Yes
5	Transportation Research	CP	Volvo Research Foundation, Sweden	2003-present	3.54 Crores	Ongoing	Yes
6	National Programme on Technology Enhanced Learning(NPTEL)	CP	MHRD	2003-present	1.96 Crores	Ongoing	—
7	Execution and Operation of EKLAVYA Technology Channel	CP	MHRD	2003-present	6.5 Crores	Ongoing	—
8	FIST	CP	DST	2007-present	5 Crores	Ongoing	—
9	Large Scale Data Processing and Visualisation	CP	Naval Research Board	2008-11-04	40 Lakhs	Completed	—
10	Development of an Associate Node for Computational Fluid Dynamics at IIT Delhi	CP	Aeronautical Research Development Board	2009-06-03	42 Lakhs	Ongoing	—
11	CFD Analysis of Micro Flap Wing Devices	PI	Aeronautical Research Development Board	2005-09-06	4.5 Lakhs	Completed	—
12	SERC School on CFD	PI	DST	2004	3.6 Lakhs	Completed	—
13	Development of a CFD code for internal flows based on the Spalart-Allmaras model	PI	Aeronautical Research Development Board	2003-2005	5.6 Lakhs	Completed	—
14	Modernization of fluid mechanics laboratory	CP	MHRD	1999-2001	7.0 Lakhs	Completed	—

15	Preparation of Course Material for Mechanics	PI	CD Cell, AICTE	1999	0.2 Lakhs	Completed	_
16	Development of virtual laboratory modules	CP	Commonwealth of Learning, Vancouver	1994-1996	2.2 Lakhs	Completed	_
17	Preparation of Course Material for Fluid Mechanics	PI	CD Cell, AICTE	1999	0.1 Lakhs	Completed	_

Consultancy Projects:

S. No.	Project Title	PI/COPI	Agency	Start Date	Value (in Rs.)	Status
1	Evaluation of FFS Machines Classification	PI	DS Limited, NOIDA	August 2012	10 Lakhs	Completed
2	Analysis and calibration of six inches averaging Pitot tube	PI	IA Flow elements, Chennai	March 2012	2 Lakhs	Completed
3	Report on Classification of FFS Machines	PI	DS Limited, NOIDA	August 2010	5 Lakhs	Completed
4	Development of Verification Methodology and Technical Support & Supervision of Computerized Draw of Allotment of Plots	PI	Yamuna Expressway Industrial Development Authority, NOIDA	November 2009	10 Lakhs	Completed
5	Vetting Design and Drawings for Construction of Ranney Well at Dulhepur Village, Faridabad	PI		March 2010	1.8 Lakhs	Completed
6	Preliminary study of possible avenues for combustion of low calorific value flue gas	CP	ONGC	March 2009-2010	3.0 Lakhs	Completed
7	Calibration of Vane Anemometer	PI	Light Engineering Corporation	June 2002	0.1 Lakh	Completed
8	Air Quality Impact Assessment by Changeover to CNG Buses	PI	Indian Oil Corporation	July 2001	Rs. 0.5 Lakhs	Completed
9	Calibration of Vane Anemometer	PI	Sahani Aircon	September 2000	0.1 Lakh	Completed
10	Calibration of S type of pitot tubes	PI	Rajshree Cements Limited	June 2000	Rs. 0.1 Lakhs	Completed
11	Recruitment of Junior Engineers	PI	NOIDA Authority	April 1999	Rs. 2.2 Lakhs	Completed
12	Recruitment of Assistant Engineers	CP	NOIDA Authority	June 2000	Rs. 0.45 Lakhs	Completed
13	Buckling strength of Push Rods	CP	Spectra Products	June 2000	Rs. 0.1 Lakhs	Completed
14	Calibration of Vane Anemometer	PI	Anisa Electro Engg.	December 1997	0.1 Lakh	Completed
15	Calibration of S type of pitot tubes	PI	Rajshree Cements Limited	May 1998	Rs. 0.1 Lakhs	Completed

Significant Extension Activities

S.No.	Activity	Body	Duration	Remarks*
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1	Member Board of Governors	IIT Delhi	2014-2015	
2	Chairman, Faculty Forum	IIT Delhi	2010-2014	Was involved in getting many decisions implemented both at the level of IIT about issues concerning Faculty and at MHRD about welfare of JEE system.
3	Member Academic Council	Sharda University	January 2015-present	
4	Chief Guest, Orientation Programme for I year students	IIT Gandhinagar	July 2014	
5	Member Selection Committee for selection of Indian Engineering Service candidates	UPSC	2014	
6	Member Specialized task force for setting of Helmet standards	Indian Standards Organization	2013-present	
7	Member Selection committee for Professors in ME department	Aligarh Muslim University	2014	
8	Member Selection committee to choose faculty candidates for AIT, Bangkok	MHRD	2014	
9	Co-ordinator seminar for Outcome based Accreditation	National Board of Accreditation	September 2014	
10	Member, Education Standards committee	Indian Standards Organization	2014-present	
11	Faculty Mentor	Excelcisor	2014-present	A student body formed at IITD to encourage social entrepreneurship
12	External member exam committee for PhD viva	NIT Raipur	Feb 2015	
13	Fellow	Institution of Engineers, India	1996-present	
14	Member Executive Committee CFD Division	Aeronautical Society of India	2008-present	
15	Secretary	Indian Society of Mechanical Engineers (ISME)	2004-2007	
16	Visiting Professor	University of Sussex, Falmer, UK	2007-08	
17	Member Review Committee	CTFD Division, National	2007-2010	

		Aeronautical Laboratories, Bangalore		
18	Member International Organizing Committee	ICMAAE 2011, International I. Univ. of Malaysia, Kuala Lumpur.	May 2011	
19	Evaluation of candidate for post of Asst. Professor	Indian Institute of Science, Bangalore	2007-08	
20	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics and heat transfer	TU. Munchen, Munich, Germany	July 2007	
21	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics and heat transfer	Oxford University, Oxford, UK	January 2008	Invited lecture
22	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics and heat transfer	UPMC, Paris, France	January 2008,	Invited lecture
23	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics and heat transfer	University of Brighton, UK	February 2008	Invited lecture
24	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics and heat transfer	University of Sussex, UK	February 2008	Invited lecture
25	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics and heat transfer	University of Leicester, UK	February 2008	Invited lecture
26	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics and heat transfer	Imperial College, London, UK	March 2008	Invited lecture
27	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics and heat transfer	EPFL, Lusanne, Switzerland	March 2008	Invited lecture
28	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics and heat transfer	Limsi Labs, Orsay, France.	March 2008	Invited lecture

29	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics and heat transfer	Cambridge University, Cambridge, UK	May 2008	Invited lecture
30	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics and heat transfer	DTU, Copenhagen, Denmark	June 2008	Invited lecture
31	Talk entitled: Technology convergence in the IT industry in India: the case study of a start-up	WTO, Geneva	28 March 2007	Represented Government of India at WTO Information technology Symposium, Geneva Switzerland
32	Turbulent flows and modelling	Jadavpur University, Kolkata	17-18 January 2007	Special invitation to deliver the talks 2007
33	A conceptual approach to teaching of Mechanics	Delhi Public School, Physics Teachers Training Programme	4-6-2012	Invited lecture
34	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics and heat transfer	Department of Civil Engineering, EPFL Lusanne, Switzerland.	June 2015	Invited lecture
35	Talk entitled: Computational model of the human brain	Medizinische Universität Wien Zentrum für Medizinische Physik und Biomedizinische Technik AKH Wien, Währinger Gürtel 18-20, A-1090 Wien	June 2015	Invited lecture
36	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics	University of Sao Paulo, Brazil	March 2016	Invited lecture
37	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics	University of Brasilia, Brazil	March 2016	Invited lecture
38	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics	Pontifical Catholic University of Rio de Janeiro	March 2016	Invited lecture
39	Talk entitled Application of Proper Orthogonal	TU, Eindhoven, Netherlands	March 2016	Invited lecture

	decomposition in problems of fluid mechanics			
40	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics	The Levich Institute, City University of New York	June 2017	Invited lecture
41	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics	Morocco	November 2017	Invited lecture
42	Talk entitled Application of Proper Orthogonal decomposition in problems of fluid mechanics	University of Queensland	March 2020	Invited Lecture