

Curriculum Vitae of A.Kandasamy

Education

- Post – Doctoral Fellow, Computational Fluid Dynamics
Chuo University, Tokyo, Japan, 1991.
- Ph.D., Applied Mathematics
Indian Institute of Technology, Bombay, India, 1989.
- Master of Science, Applied Mathematics,
Madurai – Kamaraj University, India, 1983.
- Bachelor of Science, Special Mathematics,
Madurai – Kamaraj University, India, 1981.

Teaching

(i) Positions Held

- Lecturer, Department of Mathematics, NITK, Surathkal,
Aug. 1991 – July. 1996.
- Senior Lecturer, Department of Mathematics, NITK, Surathkal,
Aug. 1996 – Nov. 1997.
- Assistant Professor, Department of Mathematical & Computational
Sciences, NITK, Surathkal, Dec. 1997 – Nov. 2005.
- Professor, Department of Mathematical and Computational Sciences,
NITK, Surathkal, Dec. 2005 – till date.
- Visiting Professor, Asian Institute of Technology, Bangkok, Thailand
Aug. 2007 - Dec. 2007 (deputed by Government of India).

(ii) Courses Taught

- a. Under Graduate** : Analytical Solid Geometry, Differential and Integral Calculus, Integral Transforms, Vector Calculus, Complex Analysis, Differential Equations, Numerical Analysis, Computer Programming, Probability and Statistics, Statistical Quality Control, Optimization Techniques, Finite Element Methods, Mathematical Modeling.
- b. Post Graduate** : Numerical Solutions of Differential Equations, Computational Techniques, Computer Oriented Statistical Methods, Computer Oriented Numerical Methods, Computational Fluid Dynamics, Operations Research, Advanced Mathematics, Linear and Non-linear Optimization, Network Optimization.

Research

(i) Field of Specialization : Computational Fluid Dynamics, Non-Newtonian Fluid Flows, Tribology.

(ii) Areas of Research : CFD, Rheology, Tribology, , Computational Techniques, Optimization Techniques, Genetic Algorithms, Bio-Informatics, Wireless Sensor Networks.

(iii) Doctoral Research Supervision

1. "Rheodynamics Lubrication of a Squeeze Film Bearing using Visco-plastic Lubricants " (Dr. Vishwanath, K.P., Sept. 2009).
2. "Development of a Phenomic Evolutionary Algorithm for Reconstruction of Gene Networks" (Dr. Rio D'Souza, February 2011).
3. "Numerical Simulation of Flow Around a Circular Cylinder" (Dr. B.N. Rajani, February 2012).
4. "Lubrication of Different Types of Bearings with Non-Newtonian Lubricants" (Dr. Jayakaran Amalraj I., August 2012).
5. "Entrance Region Flow of Time-Independent Non-Newtonian Fluids in Various Channels" (Ms.Rekha G.Pai, February 2015).
6. "Energy-Efficient Clustering Algorithm for Edge-Based Wireless Sensor Networks" (Mr.Muni Venkateswarlu K., February 2016).
7. "Entrance Region Flow of Non-Newtonian Fluids in Rotating Annuli" (Mr.Srinivasa Rao N., Ongoing)

(iv) Master's Students Dissertation Supervision

Master of Technology - More than 25 completed.

Master in Computer Applications - More than 50 completed.

(v) Graduate Students Dissertation Supervision

Three in the area of CFD and one in the area of Genetic Algorithm.

(vi) Research Contributions

No. of Independent/Co-authored Research Papers Published

- (a) Refereed Journals : 32 (International)
(b) Proceedings of Reputed Conferences : 33 (26 International + 7 National)

Selected Publications (last five years):

(i) Refereed International Journals

1. B.N.Rajani, A.Kandasamy and S.Majumdar, "On the Reliability of Eddy Viscosity Based Turbulence Models in Predicting Turbulent Flow Past a Circular Cylinder using URANS Approach", *Journal of Applied Fluid Mechanics*, Vol.5, No.1 (2012), pp.67-79.
2. A.Kandasamy and Rekha G.Pai, "Entrance Region Flow of Casson Fluid in a Circular Tube", *Applied Mechanics and Materials*, Vols.110-116 (2012) pp.698 – 706 (Trans.Tech. Publications, Switzerland).
3. I. Jayakaran Amalraj, S.Narasimman and A.Kandasamy, "Rheodynamic Lubrication of an Externally Pressurized Thrust Bearing using Herschel-Bulkley Fluid with Sinusoidal Injection", *Journal of Applied Fluid Mechanics*, Vol.5, No.4 (2012) pp.71 – 79.
4. I. Jayakaran Amalraj, S.Narasimman and A.Kandasamy, "Inertia Effects in an Externally Pressurized Thrust Bearing using Herschel-Bulkley Lubricants", *American JI. of Computatl. and Applied Math.*, Vol.2, No.3 (2012) pp.79 – 85.
5. A.Kandasamy and Rekha G.Pai, "Core Variation in the Entrance Region Flow of Casson Fluid in an Annuli", *Applied Mechanics and Materials*, Vol.391 (2013) pp.376 – 381 (Trans.Tech. Publications, Switzerland).
6. I. Jayakaran Amalraj, S.Narasimman and A.Kandasamy, "Inertia Effects in Rheodynamic Lubrication of an Externally Pressurized Thrust Bearing using Bingham Lubricant with Sinusoidal Injection", *Journal of Applied Fluid Mechanics*, Vol.6, No.4 (2013) pp.609 – 616.
7. Rekha G.Pai and A.Kandasamy, "Entrance Regi0on Flow of Herschel-Bulkley Fluid in an Annular Cylinder", *Applied Mathematics*, Vol.5 (2014) pp.1964 – 1976.
8. Rekha G.Pai and A.Kandasamy, "Entrance Region Flow of Bingham Fluid in an Annular Cylinder", *International Journal of Applied Engineering Research*, Vol.9, No.20 (2014) pp.7083 – 7101.
9. Muni Venkateswarlu K., Kandasamy, A. and Chandrasekaran, K., "Zone-Based Routing Protocol for Wireless Sensor Networks", *International Scholarly Research Notices*, (2014) pp.1-9.

10. Muni Venkateswarlu K., A.Kandasamy and K.Chandrasekaran, "An Energy Efficient Hybrid Clustering Mechanism for Wireless Sensor Network", *Unmanned Systems*, Vol.3, No.2 (2015) pp.109-125.

11. Muni Venkateswarlu K., A.Kandasamy and K.Chandrasekaran, "Energy Efficient Unequal Clustering Algorithm with Disjoint Multi-hop Routing Scheme for Wireless Sensor Networks", *International Journal of Modern Education and Computer Science*, Vol.7, No.5 (2015) pp.24-36.

12. Muni Venkateswarlu K., A.Kandasamy and K.Chandrasekaran, "Analysis of Base Station Assisted Novel Network Design Space for Edge-based WSNs", *International Journal of Computer Network and Information Security*, Vol.7, No.7 (2015) pp.53-60.

13. Srinivas Rao, N. and A.Kandasamy, "Entrance Region Flow in Concentric Annuli with Rotating Inner Wall for Herschel-Bulkley Fluids", *International Journal of Applied Computational Mathematics*, Vol.1 (2015) pp.235 - 249.

14. B.N.Rajani, A.Kandasamy and Sekhar Majumdar, "LES of Flow past Circular Cylinder at $Re=3900$ ", *Journal of Applied Fluid Mechanics*, Vol.9, No.3 (2016) pp.1421 - 1435.

15. Srinivas Rao, N. and A.Kandasamy, "Entrance Region Flow Heat Transfer in Concentric Annuli with Rotating Inner Wall for Bingham Fluid", *Periodica Polytechnica Mechanical Engineering*, 60 (3) (2016) pp.167 -179.

16. K.Muni Venkateswarlu, A.Kandasamy and K.Chandrasekaran, "An Energy Efficient Clustering Algorithm for Edge Based Wireless Sensor Network", *Procedia Computer Science*, 89 (2016) pp.7 - 16.

17. Srinivasa Rao, N. and A.Kandasamy, "Entrance Region Flow in Concentric Annuli with Rotating Inner Wall for Bingham Fluid", *Journal of Computational and Applied Mechanics*, 11 (2) (2016) pp.137 - 157.

(ii) Proceedings of Reputed International Conferences :

1. Rekha G.Pai and A.Kandasamy, "Entrance Region Flow of Casson Fluid in an Annular Cylinder", *Proceedings of the 2nd International Conference on Computer Engineering and Mathematical Sciences (ICCEMS 2013)*, Kuala Lumpur, Malaysia (2013).

2. Muni Venkateswarlu K., A.Kandasamy and K.Chandrasekaran, "Energy Efficient Edge-Based Network Partitioning Scheme for Wireless Sensor Networks", *Proceedings of the International Conference on Advances in Computing, Communications and Informatics (IAACCI)*, Mysore, India (2013).

3. Rekha G.Pai and A.Kandasamy, "Core Variation in the Entrance Region Flow

of Herschel-Bulkley Fluid in an Annuli”, Proceedings of the World Congress on Engineering 2014, London, U.K. (2014).

4. Srinivasa Rao, N. and A.Kandasamy, “Entrance Region Flow Heat Transfer in Concentric Annuli with Rotating Inner Wall for Herschel-Bulkley Fluids”, Proceedings of 5th International Conference on Fluid Dynamics (ICFD 2016), Dubai, UAE (2016).
5. Shishira, SR, A.Kandasamy and K.Chandrasekaran, “Rsim:Routing Simulator for Analyzing the Performance of Routing Algorithms in a Network”, Proceedings of 2nd International Conference on Applied and Theoretical Computing and Communication Technology, (iCATccT), Bangalore, India (2016).
6. Shishira, S R, A.Kandasamy and K.Chandrasekaran, “Survey on Meta Heuristic Optimization Techniques in Cloud Computing”, Proceedings of International Conference on Advances in Computing, Communication and Informatics (ICACCI), Jaipur, India (2016).

Other Educational Materials developed:

- (i) Contributed a chapter “Entrance Region Flow of Some Time-Independent Non-Newtonian Fluid in a Duct” in the “Encyclopedia of Polymer Processing Technology”, Marcel Dekker Publishers, Inc. in 1996.
- (ii) Edited “Proceedings of the 30th National Conference on Fluid Mechanics & Fluid Power”, 2003.
- (iii) Edited “Lecture Notes on AICTE-ISTE-STTP on Applications of Finite Element Methods in Engineering Problems”, 2004.
- (iv) Edited “Lecture Notes on AICTE-STTP on Information Security”, 2006.

PROFESSIONAL ACTIVITIES

(i) Organization of Conferences and other Academic Events

1. Organizing Secretary of “30th National Conference on Fluid Mechanics and Fluid Power”, organized during 11 - 13 Dec. 2003.
2. Co-ordinator for the AICTE-ISTE sponsored 2 - weeks STTP on “Applications of Finite Element Methods in Engineering Problems”, conducted during 06 - 18 Dec. 2004.
3. Co-ordinator for the AICTE sponsored 2 - weeks STTP on “Information Security”, conducted during 13 - 25 March 2006.

4. Jointly organized with the capacity of Finance Chair, the "International Conference on Advanced Computing", (ADCOM 2006) during Dec. 2006.
5. Convenor for the All India "National Institute of Technology MCA Common Entrance Test" for the year 2008. (NIMCET 2008).
6. Co-ordinator for NCERT sponsored 1-week "Nurturance Program for NTS Awardees", conducted during 28 Feb. - 04 Mar. 2011.

(ii) Awards and Distinctions

- University I Rank in M.Sc. (Applied Mathematics).
- Post - Doctoral Fellowship from Chuo University, Tokyo, Japan.
- Visiting Professor, AIT Bangkok deputed by Government of India.

(iii) Membership of Professional Bodies

- Life Member, Indian Society for Theoretical and Applied Mechanics (ISTAM).
- Life Member, Tribological Society of India (TSI).
- Life Member, National Society for Fluid Mechanics and Fluid Power (NSFMFP).
- Life Member, Indian Society for Technical Education (ISTE).
- Senior Member, International Association of Computer Science and Information Technology (Singapore).

(iv) Continuing Education Activities Invited Lectures

- Delivered Invited Lectures in various Conferences, Seminars, Workshops and Refresher courses in various institutions.
- Academic Counselor for IGNOU programs (Engineering , BCA and MCA courses) for the last ten years.

(v) Assignments/Responsibilities

- Students' counselor for five years.
- Warden for NITK PG Hostel, 2001-2002.
- Finance Warden for NITK Hostels for three years 2002-2005.
- Head of the Department, May 2006 to Aug. 2009.
- Visiting Faculty to Mangalore University for Five years.
- Institute Co-ordinator for NPTEL Activities.
- Institute Co-ordinator for Ministry Sponsored Project "Creation of Virtual Class Room".
- Secretary, Research Advisory Board of NITK Surathkal.
- Member of Board of Studies of various Universities and Institutions.

- Reviewer for various International Journals of Elsevier, Taylor and Francis, and other reputed publications.
- Doctoral Research Evaluator for various Universities and Institutions.
- Visits Abroad : Singapore (1988, 2008), Japan (1991), Korea (1996), Russia (2002), Taiwan (2005), Malaysia (2006, 2010, 2013), Thailand (2007), Hong Kong (2010), Sri Lanka (2011), Australia (2012), Indonesia (2013), United Kingdom (2014, 2015), Hungary (2015), Dubai (2016).
- Expert Member of National Board of Accreditation of AICTE.
- Institute First Appellate Authority from August 2013 – February 2016.
- Dean (Faculty Welfare), NITK Surathkal from January 2013 – Feb.2016.
