

# 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, Speical 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 : 27 (International)  
(b) Proceedings of Reputed Conferences : 28 (21 International + 7 National)

**Selected Publications (last five years):**

**(i)Refereed International Journals**

1. K.P. Vishwanath and A. Kandasamy, "Inertia Effects in Circular Squeeze Film Bearing using Herschel- Bulkley Lubricants", Applied Mathematical Modelling, (Elsevier Publications), vol.34, pp.219- 227, 2010.
2. Rio G.L.D'Souza, K. Chandra Sekaran and A. Kandasamy, "Improved NSGA- II Based on a Novel Ranking Scheme", Journal of Computing (USA) Vol.2 (1), Feb.2010, pp.91-95.
3. 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.
4. 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.
5. Rekha G.Pai and A.Kandasamy, "Entrance Region Flow of Herschel-Bulkley Fluid in an Annular Cylinder", Applied Mathematics, Vol.5 (2014) pp.1964 - 1976.
6. 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.
7. Muni Venkateswarlu K., Kandasamy, A. and Chandrasekaran, K., "Zone-Based Routing Protocol for Wireless Sensor Networks", International Scholarly Research Notices, (Hindawi Publishing Corporation) (2014) pp.1-9.
8. Muni Venkateswarlu K., A.Kandasamy and K.Chandrasekaran, "An Energy Efficient Hybrid Clustering Mechanism for Wireless Sensor Network", Unmanned Systems, (World Scientific Publishing Company) Vol.3, No.2 (2015) pp.109-125.

**(ii)Proceedings of Reputed International Conferences :**

1. I.Jayakaran Amalraj, S.Narasimman and A.Kandasamy, "Inertia Effects in Rheodynamic Lubrication of an Externally Pressurized Thrust Bearing using

Bingham Fluids”, Proceedings of 8<sup>th</sup> Asian Computational Fluid Dynamics Conference, Hong Kong (2010).

2. B.N.Rajani, A.Kandasamy and S. Majumdar, “LES of Flow Past Circular Cylinder in the Lower Subcritical Regime ( $Re=3900$ )”, Proceedings of 8<sup>th</sup> Asian Computational Fluid Dynamics Conference, Hong Kong (2010).
3. Rio G.L.D’Souza, K. Chandra Sekaran and A. Kandasamy, “Inference of Gene Networks from Microarray Data through Phenomic Approach”, Proc. of International Conference on Advances in Information and Communication Technology, Kochi, India (2010) (Springer).
4. Rio G.L.D’Souza, K. Chandra Sekaran and A. Kandasamy, “A Phenomic Algorithm for Inference of Gene Networks using S-Systems and Memetic Approach”, Proceedings of 5<sup>th</sup> International ICST Conference on Bionetics, Boston, USA (2010).
5. Jayakaran Amalraj, I., Narasimman, S. and Kandasamy, A. “Rheodynamic Lubrication of Externally Pressurized Thrust Bearing under Sinusoidal Motion using Bingham Lubricants”, Proceedings of 4<sup>th</sup> International Conference on Fluid Mechanics & Fluid Power, Chennai, India (2010).
6. A.Kandasamy, K.Chandra Sekaran and K.Muni Venkateswarlu, “Node-Link Disjoint Multipath Routing Protocols for Wireless Sensor Networks - A Survey and Conceptual Modeling”, Proceedings of International Conference on Advanced Computing Networking and Securing (ADCONS - 2011), NITK Surathkal, India, December 2011 (Springer).
7. Rekha G.Pai and A.Kandasamy, “Entrance Region Flow of Casson Fluid in an Annular Cylinder”, Proceedings of the 2<sup>nd</sup> International Conference on Computer Engineering and Mathematical Sciences (ICCEMS 2013), Kuala Lumpur, Malaysia (2013).
8. 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).
9. 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).
10. A.Kandasamy and Srinivasa Rao Nadiminti, “Entrance Region Flow in Concentric Annuli with Rotating Inner Wall for Bingham Fluid”, Proceedings of 16<sup>th</sup> International Conference on Modelling Fluid Flow, Budapest, Hungary (2015).

### **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 30<sup>th</sup> 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 "30<sup>th</sup> 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)
- 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.

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