Vineeth Chandran Suja

Personal Data

Place and Date of Birth:	India | January 1, 1990
Address:	C/o Prof. Jaywant Arakeri, Dept. of Mechanical Engineering, Indian Institute of Science, Bangalore-560012
Website:	http://vineethcs.com
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Work Experience

Current – July 2013 | Research Assistant at Indian Institute of Science, Bangalore
Fluid Dynamics Lab | Advisor: Prof. Jawant Arakeri

Computational investigation of physiological flows in the ascending aorta focusing on the influence of fluid dynamic forces in the origin and growth of aneurysms and dissections. Preliminary studies are performed in geometries appropriated as curved pipes with in-plane curvature and constant diameter. Aneurysms grow due to the degradation of elastin resulting from arterial wall tissue response to hemodynamics, and the consequent remodeling of collagen (Watton et al., 2000). The simulation of physiological flows in geometries reconstructed from CT scans of patients are being pursued to understand the hemodynamics in aortic aneurysms. Through mathematical models, evolution of aneurysms can be estimated based on hemodynamics and can be subsequently used for a patient-specific analysis of aneurysm growth.

May 2012-June 2013 | Masters Student at Indian Institute of Science, Bangalore
Low Speed Aerodynamics Lab | Advisor: Prof. O.N Ramesh

Developed a 6-DOF solver for visualizing roll plane behavior of axi-symmetric bodies. A computational study for understanding the origin of side forces in axi-symmetric bodies at high angles of attack and zero yaw was also performed. The existence of an optimum spin rate for reducing side forces originating from asymmetric vortices was a major result.

Dec 2010-Jan 2011 | Intern at Hindustan Aeronautics Limited, Bangalore

A thorough understanding of various manufacturing and production techniques was made and a CAD design of a fixture for machining a gas turbine sleeve was made as part of an in-house project.

Education

July 2013 | Master of Engineering in Aerospace Engineering, **The Indian Institute of Science**
First Class Honours | Major: Aerodynamics
Thesis: "Side forces in Axisymmetric bodies: Effects of spin" | Advisor: Prof. O.N Ramesh
GPA: 6.9/8.0

May 2011 | Bachelor of Technology in Mechanical Engineering, **The University of Kerala**
First Class Honours | Fluid Dynamics Specialization
Thesis: "Design and Fabrication of a Solar Parabolic Trough" | Advisor: Prof. G Venugopal
GPA: 8.1/10.0

May 2007 | Indian School Certificate (Grade 12) at **Loyola School**, Trivandrum
Percentage: 95.25

May 2005 | Indian Certificate for Secondary Education (Grade 10) at **Loyola School**, Trivandrum
Percentage: 92.5

Scholarships and Certificates

Sep 2013	Junior Research Fellow (CSIR) (INR 16,000 p.m)
Nov 2012	GRE®: 320/340 (Q:162;V:158)
Nov 2012	TOEFL®: 108/120 (R:30;L:30;S:24;W:24)
Mar 2011	Graduate Aptitude Test for Engineers (GATE): 99.99th percentile

Positions of Responsibility

May 2012-May 2013 — Co-ordinator, *Social Initiatives Committee* at The Indian Institute of Science

Website : www.iisc.ernet.in/scouncil/index.php/team2012-13

Organized the Help the Needy drive for collecting used clothes and other useful commodities and distributed them in orphanages and slums

May 2012-May 2013 — Mentor, *Note Book Drive* at The Indian Institute of Science

Introduced school children to the exciting field of Aerospace through presentations and demonstrations

May 2012-*Present* — Student Member

- Society for Industrial and Applied Mathematics (SIAM)
- The American Institute of Aeronautics and Astronautics (AIAA)

Publications

- A.V Suresh Babu, V. Chandran Suja and Ch. Vinay Reddy, *"Multi Objective Trajectory Optimization of a Parafoil Assisted High Altitude Payload Delivery System"*, under review for acceptance in **ACODS, 2014**

Interests and Activities

Technical Writing :	Authored a book titled 'Stirling Engines: A Beginners Guide' *books.google.co.in/books?id=zTdzKxQaqNcC*
Programming :	Technical programming in C++, Fortran and MATLAB® and application development. Currently owns two projects in SourceForge. *http://sourceforge.net/users/maxxtheone*
Aeromodelling :	Designed a 2kg class UAV. Working on a controller design for a parafoil assisted high altitude recovery system.

References

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   Professor, Dept. of Mechanical Engineering
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2. **Prof. O N Ramesh**
   Associate Professor, Dept. Aerospace Engineering
   Indian Institute of science
   Email id: *onr@aero.iisc.ernet.in*
   Phone: +91-80-22933024
3. **Prof. G Venugopal**
   Professor, Dept. Mechanical Engineering
   Rajiv Gandhi Institute of Technology
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