Pavan Kumar Asur Vijaya Kumar

Personal Data

Place and Date of Birth:	Ananthapur, India | 21 March 1994
Current Address:	Via Delle Nocelle, 4A, L'Aquila, Italy
Phone:	+39-3510672771
email:	pavan-kumar.asur@mathmods.eu
Google Scholor profile:	Pavan Kumar AV
linkedin profile:	Pavan Kumar

Note: Please click on hyperlinks in blue for additional details.

Research Interests

Partial Differential Equations, Numerical Approximation, Optimization.

Education

2016-2018 **Joint Masters Degree Program in Mathematical Modelling for Engineering**
Erasmus Mundus - MathMods,
UAQ, Italy, UHH, Germany, UAB, Spain.
Grade: 25.18/30 (In Italian Scale) At the end of Third semester
Grade: 2.98/4 (In MathMods Scale) CGPA at the end of Third semester

2011-2015 **Bachelor of Engineering in Mechanical Engineering**
Nitte Meenakshi Institute of Technology, *India*
CGPA : 9.25 /10 (First class with Distinction)

Projects Undertaken

Current **Numerical Analysis of Hyperbolic Cahn-Hilliard**
Supervisor : Dr. Corrado Lattanzio, Univeristy of L'Aquila, Italy
We are trying to develop a scheme for the approximation of completely unexplored Hyperbolic Cahn-Hilliard equation which is stable and can take large time steps. We intend to publish the results soon.

Master Thesis **Metastability and Slow Motion Dynamics of Cahn-Hilliard Equation**
Supervisor : Dr. Corrado Lattanzio, Univeristy of L'Aquila, Italy
We prove the metastability using eigenvalue information of the linearised operator. We also create continuously adaptive switching numerical scheme which can capture metastability and spinoidal decomposition which happens at different time scales. I will defend my thesis on Sep 19, 2018. Draft of Thesis

Apr-May 2017 **Flow Around the tip of vitreous cutter**
Modelling Camp, University of Hamburg, Germany.
Supervisor: Dr.Rodolfo Repetto , Univeristy of Genova, Italy
Formulated & simulated mathematical model of flow around the tip of Vitreous cutter to assist the effect of pressure and velocity on the retinal wall during Vitrectomy surgey. Full Report

Bachelor Thesis **Design, Analysis and Fabrication of Mobile Robot**
Supervisor : Dr. Jharna Majumdar, NMIT, Bangalore,India
Design, analysis and fabrication of a robot platform capable of tracking human movement. We also developed forward and reverse gear transmission for the robot in Centre for Robotic Research, NMIT, India and funded by DRDO, India..

2015 SUPRA SAEINDIA Competition: Design of a student formula car
Team Vice captain and Analysis lead

FE-Analysis and design of experiments for uprights, wheel hub, bell crank and rocker, A-arms of suspension and coupled field analysis of brake disc.

2012-2014

STUDSAT-2

The India's first twin nano satellites developed by consortium of 7 universities under "Indian Space research Organisation (ISRO). We developed a mathematical model for the movement of satellite around earth which can be used for thermal modelling of the satellite. Short Report

2014-2015

Electrical power generation using Speed breakers

The Concept was accepted by Innovation and Entrepreneurship Development Cell (IEDC) and was funded to develop prototype which was later successfully submitted to IEDC.

Work Experience

Dec'15 - Aug'16

Technical Manager,
Winson Global Tech, Bangalore, India
Taught a course 'Basic Course in ANSYS' (40 hours) at kshipra simulation, India.

Publications

Peer-Reviewed Journals

- Suraj. R, [Pavan Kumar AV], Varun S kumar, Nikhil Manjunath Presented a paper on *'Design Optimisation and Life estimation of Split Hub Geometry of FSAE Car' in ASME, Volume 9: Mechanics of Solids, Structures and Fluids, DOI: 10.1115/IMECE2016-66981.*
- [Pavan Kumar Av], Suraj R, Puneet Kumar, H S Shiva Prasad Presented a paper on *'Parametric optimization of FSAE Restrictor for Random Vibrational Analysis' published in Innovative Design and Development Practices in Aerospace and Automotive Engineering, Springer, Singapore,* DOI:10.1007/978-981-10-1771-1_28
- Suraj. R, [Pavan Kumar Av], Abhilash PK, Dr kiran Aithal Presented a paper on *'Optimisation technique applied for method of evaluation of a controllable factor of FSAE car chassis' published in Innovative Design and Development Practices in Aerospace and Automotive Engineering, Springer, Singapore,* DOI:10.1007/978-981-10-1771-1_37.
- [Pavan Kumar Av], Dr Nilotpal Banerjee, Yeshodhara B, Vinayaka N, Lokesh BS Presented a paper on *'Effective Optimisation Technique using Bivariate Interpolation Methods' in Procedings of MAPT-2015 conference,* DOI: 10.15224/ 978-1-63248-059-0-63.

Conference Talks

- "Electrical Power Generation using a Speed Breaker Approach", IEEE Humanitarian Technology Conference-2014 (Student paper contest, second best paper award), Chennai, India.
- "Effective Optimisation Technique using Bivariate Interpolation Methods", 3rd Interntional Conference on "Advances in Mechanical, Aeronautical and Production Techniques"(MAPT-2015), Kualalumpur, Malaysia.
- "IC Engine Powered Forward and reverse transmission for all Terrain Vehicles" in International Conference on Mechanical and Production Engineering, IMCPE-Pune, India.
- "Optimisation of suspension characteristics of a pushrod actuated suspension system of an FSAE car" in 9th International Academics Conference on Engineering Technology and Innovations (IACETI-2015) in Bangkok, Thailand, and received **excellent paper award**.

Skills

Programming Languages:	C, Python, and MATLAB
Operating system:	WINDOWS and LINUX
CAD Software:	CATIA V5
CAE software:	ANSYS and HyperMesh
CAE Degree:	Diploma in CAE from CADD Centre

Scholarships, Honors & Awards

- Awarded **full-grant** *(covers tuition fees, insurance living expenses)* towards erasmus mundus joint masters degree in applied mathematics - MathMods (2016-2018).
- Awarded **full-grant** *(covers tuition fees)* towards bachelors degree in NMIT from Karnataka state government, India (2011-2015).
- Awarded **Gold Medal** for securing highest marks among all the students of B.E, Mechanical Engg-2015.
- Awarded **Best Outgoing Student Gold Medal** by NMIT in recognition of outstanding performance in curricular and extracurricular activities (2015).
- Won **National Arthrobotix competition** (2014) held at IIT Bombay and was *selected to participate in Robogames 2015 in USA.*
- Won **Academic Execellence Award** twice for consecutive years during bachelor's study (2011-2012, 2012-2013).

Languages

Fluent:	English, Hindi, Kannada and Telugu
Basic Knowledge:	Italian(A2) and German(A1)

References

Dr. Prof. Corrado Lattanzio
Professor, Department of Mathematics
University of L'Aquila, Italy
corrado@univaq.it

Dr. Prof. Sekhar Majumdar
Professor, Department of Mechanical Engineering
NMIT,Bangalore, India
Former Head, CTFD Division, NAL, Bangalore,India
sekhar.majumdar@nmit.ac.in/ essem17@gmail.com