N. Kumar
IIT Madras
+91-96987 81133 • kumarnavamani.s@gmail.com

Education

Program	Institution	%/CGPA	Year of completion
MS. Mechanical Engineering	Indian Institute of Technology Madras	**7.82**	2016
B.E.Mechanical Engineering	PSG college of technology	**8.44**	2012
D.M.E.Mechanical Engineering	Sankar polytechnic college	**97.25**	2009

Professional Experience

Company Name	Place	Duration	Designation	Nature of work
ARCI - CAEM	Hyderabad	1 Year	JRF	Study of Lithium Ion Battery
IIT Madras	Chennai	1 Year	JRF	Design of Electromagnetic flow meter

Project

MS Project
IIT Madras

1. ***Solenoid actuated planar valveless micropump*** (***June 2017***)

- Developing PDMS based valveless micropump for precise and controlled delivery of liquids in range of microliter.
- Design optimization of valveless micropump has been studied by Finite Element Analysis through commercial ANSYS® Software.
- Single inlet-outlet and multiple inlet-outlet micropump has been fabricated by softlithography process and the experimental with the aqueous solutions and biosamples are studied.

2. ***Design of electromagnetic flow meter*** *(**April 2014**)*

- FEA study of multi-electrode electromagnetic flow meter using comsol multiphysics application software was studied.
- Parametric study with the design parameters to get optimized design of flow meter.
- Experimental characterization of measured flow rate by muti-electrode electromagnetic flow meter.

B.E Project
PSG College of Technology

1. ***Geometric dimensioning and Tolerancing project*** (***January 2012***)

- Tolerance Analysis for Rigid and Compliant Assemblies.
- Using Geometric dimensioning and tolerancing (GD&T) method finding tolerance level of engine mounting plate (Rigid component) and cell phone charger copper pin point (Compliant component).

2. ***Vibration measurement in Lathe bed*** *(**April 2011**)*

- Measurement of vibration in Lathe bed for various operating parameters have been measured.
- Piezoelectric accelerometer interfaced with LabVIEW to retrieve the data of vibration frequency.

Journal papers published

- Development of a standalone solenoid actuated planar valveless micropump with single and multiple inlet-out arrangements, N. Kumar, D. George, P. Sajeesh, P. V. Manivannan, A. K. Sen, Journal of Micromechanics and Microengineering(JMM).
- Analytical modeling, simulations and experimental studies of a PZT actuated planar valveless PDMS micropump, S. Singh, N. Kumar, D. George, A. K. Sen, Sensors Actuators A: Physical, 225, 81-94, 2015.

Conference papers

- N. Kumar, Ashis Kumar Sen, P. V. Manivannan, Development of A Solenoid Actuated Planer Valveless PDMS Micropump , International Conference on MEMS and Sensors (ICMEMSS 2014), December 2014, IIT Madras.
- N. Kumar, Derosh George, P. V. Manivannan and Ashis Kumar Sen, Development of a solenoid actuated planar valveless pdms micropump, 42nd National conference on fluid mechanics and fluid power (FMFP), December 14-16, 2015), NIT Surathkal.
- N. Kumar, Derosh George, P. V. Manivannan and Ashis Kumar Sen, Development of a solenoid actuated planar valveless pdms micropump, Proceedings of the 23rd National Heat and Mass Transfer Conference and 1st International ISHMT-ASTFE Heat and Mass Transfer Conference IHMTC2015 17-20 December, 2015, Thiruvananthapuram, India.

Declaration

I hereby declare that the above informations are true with my knowledge.

Date: 18/01/2018 **(N.Kumar)**
Place: Chennai