

VIGNESHWARAN KRISHNAMURTHY

Tokyo Institute of Technology, Tokyo, Japan

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EXPERIENCE

Distribution Manager

Habitable Press, a publishing imprint for earth, space & the future.

Sept 2017 – Present

Research assistant

Oklahoma State University, USA.

July 2017 – Apr 2018

Research intern

Blue Marble Space Institute of Science, USA.

May 2017 – Apr 2018

Teaching Assistant

Indian Institute of Technology, Kanpur

Assisting professors by conducting tutorial sessions in the following courses

- Engineering Graphics
- Aerospace Structural Analysis – I.

Jan 2016 – Jun 2017

EDUCATION

Doctoral research in Exoplanets

Tokyo Institute of Technology, Tokyo

Characterization of exoplanets

Recipient of **MEXT Scholarship** from the Government of Japan

April 2018 –

Masters in Aerospace

Indian Institute of Technology, Kanpur

President Dr. Shankar Dhayal Sharma gold medalist

GPA: 9/10

May 2017

Diploma in Astrobiology

Indian Astrobiology Research Centre, Mumbai

IARC International Diploma Programs

Excellence Grade: A

March 2016

Bachelors in Aerospace Engineering

Amrita Vishwa Vidyapeetham University, Coimbatore

GPA: 8.58/10

June 2015

RESEARCH INTERESTS

- Exoplanets
- Transmission spectroscopy
- Mars habitation

PUBLICATIONS AND PATENTS

- Vigneshwaran K, Timothy Emerson, Alessio Lozzi, James Manimala, "Metamaterials-Inspired Smart Composite", presented in AIAA Oklahoma Symposium, Edmond, OK, April 2018.
- Vigneshwaran K, Timothy Emerson, Alessio Lozzi, James Manimala, "Metamaterials-Inspired Smart Composite", presented in Oklahoma Research Day, Enid OK, March 2018.
- Vigneshwaran K, Tara Vega, Jonathan Duarte, Afshin Khan, "Concept of sustainable habitat on Mars", presented in 6th ELSI Symposium, Tokyo, Japan, 2018.
- Vigneshwaran K, Ram Arvinth SP, Vertika S, Nandita NH, Suriyaprabha C, "DSMC solver for an optimized Space Crew re-entry Orbital Vehicle", 3rd International Conference on Mechatronics and Mechanical Engineering, Shanghai, China, 2016.
- Vigneshwaran K, Nithyalakshmi V, Nandita NH, Akshay V, Balajee R and T Rajesh, "Computational study of the aerodynamics of the gliding snake *Chrysopelea Paradisi*," International Journal of Applied Engineering Research, Vol. 10, No. 19, 2015, pp. 14476 – 14479.

PROJECTS AND INTERNSHIPS

Metamaterials Inspired Smart Composites

July 2017 – Apr 2018

Under the guidance of *Dr. James Manimala*, Oklahoma State University, USA

- Designed and manufactured a multi-functional smart composite that can harvest energy, act as a payload isolator and also as a structural health monitor for potential spacecraft applications.

Internship

May 2017 – Apr 2018

Design and modeling of Mars environment habitat

Under the guidance of *Dr. Afshin Khan*, Blue Marble Space, USA

- Dynamically estimating the optimal size and shape of the Mars habitat.
- URL: <http://vigneshworld.com/s-home/>

Master's Thesis Work

2016 - 2017

Modeling Elasto-Plastic behavior of Aluminum alloys using micro and damage mechanics.

Structural Analysis Laboratory, Department of Aerospace Engineering, IIT-Kanpur

Under the guidance of *Dr. PM Mohite* and *Dr. CS Upadhyay*, IIT-Kanpur

- Capturing the macroscopic properties using the micro-scale behavior of the alloy with voids and precipitates.
- New model called GSV model is developed, which is computationally stable and accurately predicts the damage behavior of ductile alloys.

Internship

June – July 2016

Predicting the effect of solar radiation on aircraft on-board electronics

Under the guidance of *Dr. Dimitra Atri*, Blue Marble Space, USA

- Part of the research group where we estimated the amount of radiation deposited on the on-board computers of aircrafts.

Bachelor's Thesis Work

2014 – 2015

DSMC Solver for Rarefied flows

Under the guidance of *Dr. Balajee R*, Amrita Vishwa Vidyapeetham University

- An acceleration scheme was proposed to reduce the computational time.

ACHIEVEMENTS

- Recipient of the prestigious **President Dr. Shankar Dhayal Sharma gold medal** in 2017.
- Received the **best paper for motivational research** in 3rd ICMME conference, China, 2016.
- Invited as the **student organizer** in the 3rd ICMME conference, China, 2016.
- Secured **All India Rank 38** (among the appeared 4000 candidates) in the Graduate Aptitude Test for Engineers-2015 with a **full scholarship** for Master's program in IIT Kanpur.
- Published a novel titled, "**The Forest Whisperings**" with the Partridge Publishers, a Penguin Random House Publications.
- Served as **President of Astronomy Club** in Amrita University in 2013 – 2015. And arranged excursions to several nearby observatories including Vainnu Bappu Observatory.
- Secured **36th position worldwide**, in NASA Space Settlement Contest in 2010 and 2011 with the title Honorable Mention.
- Served as **Technical Head of Aerospace Department** for two consecutive years in Anokha-2015 and Anokha-2014, Amrita's annual technical festival.

PERSONAL DETAILS

- Loves to play **basketball** and sit back with **telescopes**.
- Experimenting with various cuisines and enjoys cooking **Spanish** and **French cuisines**.
- Motivates to **travel and hike**; have backpacked to several countries and climbed few peaks in **Himalayas**.
- Passion for writing **short stories** and **poems**.
- Can communicate in **English, Tamil, Hindi** and **French** (learning).
- Learning to skydive from Oklahoma Skydiving center from 14000 feet.
- Date of Birth: 7th September, 1993.

"Nothing happens unless first a dream." - Carl Sandburg