

# Sreenivasan Sreenivasan Narayanan



## Research Interests

Micro/nano Transport, Inkjet Printing, 3D printing, Nano Materials

## Academic Profile

Degree	Branch	University	Grade or %	Year
Ph.D.	Mechanical and Nuclear Engineering	Virginia Commonwealth University, Richmond, VA	3.67 GPA	2022 – Expected 2027
M.Tech	Materials Science and Technology	National Institute of Technology, Calicut, India	8.15/10 CGPA	June 2015
B.Tech	Mechanical Engineering	Mahatma Gandhi University, Kottayam, India	66.1%	May 2009

## Research

Virginia Commonwealth University, Richmond, VA

Aug 2022 - Present

Graduate Research Assistant - Micro/Nano Transport and Printed Devices Laboratory

- Implementing drop-on-demand (DOD) printing technique as a rapid, scalable approach to print liquid crystals on nonwoven substrate to attain patterned, temperature-responsive, "smart" substrates.
- The principal goals in this work are to formulate inkjet printable CLC ink and maintain its responsive properties, patterning it on the nonwoven substrate such as spunbond and meltblown PP for comparison purpose, and to intensely analyze their overall dynamic response.
- Supervisors:** Dr. Christina Tang, Associate Professor, Department of Chemical and Life Sciences Engineering, VCU & Dr. Hong Zhao, Associate Professor, Department of Mechanical and Nuclear Engineering, VCU.

National Institute of Technology, Calicut

May 2014 – May 2015

Mtech Research in Nanoscience Research Laboratory

- Mtech thesis is "Synthesis of Electrochemical Active Pd/Fe<sub>2</sub>O<sub>3</sub> Hybrid Catalyst for the Oxidation of Methanol and Ethanol"
- Supervisor:** Dr. N. Sandhyarani, Professor, Nanoscience Research Laboratory, School of Materials Science and Engineering, NIT Calicut, India

## Teaching experiences

- Assistant Professor**, Department of Mechanical Engineering, Adi Shankara Institute of Engineering and Technology (ASIET), Kalady, Kerala, India: June 2015 – June 2022.
- Teaching Assistant** (as part of Mtech course) at NIT Calicut, India : July 2013 – June 2015
- Lecturer**, Department of Mechanical Engineering, Adi Shankara Institute of Engineering and Technology (ASIET), Kalady, Kerala, India: July 2012 – July 2013.

## Publications

- Yang, Y., Li, W., Sreenivasan Narayanan, S., Wang, X., & Zhao, H. *Advanced Printing Transfer of Assembled Silver Nanowire Network into Elastomer for Constructing Stretchable Conductors*. *Advanced Engineering Materials* (2023), 2300675.
- Shanmugam, Vigneshwaran, S. N. Sreenivasan, Rhoda Afriyie Mensah, Michael Försth, Gabriel Sas, Mikael S. Hedenqvist, Rasoul Esmaeely Neisiany, Yongming Tu, and Oisik Das. "A review on combustion and mechanical behaviour of pyrolysis biochar." *Materials Today Communications* 31 (2022): 103629.
- Mensah, Rhoda Afriyie, Vigneshwaran Shanmugam, Sreenivasan Narayanan, Juliana Sally Renner, Karthik Babu, Rasoul Esmaeely Neisiany, Michael Försth, Gabriel Sas, and Oisik Das. "A review of sustainable and environment-friendly flame retardants used in plastics." *Polymer Testing* 108 (2022): 107511.
- Anjumol, K. S., S. N. Sreenivasan, Thara Tom, Sneha Sabu Mathew, Hanna J. Maria, Petr Spatenka, and Sabu Thomas. "Development of natural fiber-reinforced flame-retardant polymer composites." In *Bio-Based Flame-Retardant Technology for Polymeric Materials*, pp. 369-389. Elsevier, 2022.
- Mensah, Rhoda Afriyie, Vigneshwaran Shanmugam, Sreenivasan Narayanan, Nima Razavi, Adrian Ulfberg, Thomas Blanksvärd, Faez Sayahi et al. "Biochar-Added cementitious materials—A review on mechanical, thermal, and environmental properties." *Sustainability* 13, no. 16 (2021): 9336.
- Sreenivasan, S. N., et al. "Fabrication and Characterisation of PP/TS Biocomposites." *IOP Conference Series: Materials Science and Engineering*. Vol. 1132. No. 1. IOP Publishing, 2021.

## Contact Details

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## Technical expertise

### Instrument and Characterization:

- Microfab Inkjet Printer
- 3D bioplotter
- Anton paar Rheometer
- Contact angle measurement
- Scanning Electron Microscopy and EDX
- Confocal Microscopy

### Software Skill Set:

- Modeling: AutoCAD, Solidworks
- FE Methods: ANSYS
- Python