

## **VIJAYAVENKATARAMAN SANJAIRAJ, Ph.D.**

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### **Education**

Ph.D. (Mechanical Engineering) - National University of Singapore, Singapore, 2019  
B.E (Mechanical Engineering) - College of Engineering, Guindy (CEG), Chennai, India, 2011

### **Professional Experience**

Sep 2019 - Present      Assistant Professor, Mechanical Engineering,  
New York University Abu Dhabi

Dec 2018 - Aug 2019    Research Fellow, Department of Mechanical Engineering  
National University of Singapore (NUS), Singapore

Jan 2015 - Dec 2018    PhD Candidate, Department of Mechanical Engineering  
National University of Singapore (NUS), Singapore

Aug 2014 - Dec 2014    Research Engineer, Department of Mechanical Engineering  
National University of Singapore (NUS), Singapore

Jul 2011 - Aug 2014    Category Buyer (Engineer), Global Purchasing Division,  
Caterpillar India Pvt. Ltd., Machines Division, Chennai, India

Jun 2010 - Aug 2010    Summer Research Intern (WISE Scholar, DAAD),  
Lehrstuhl für Thermodynamik,  
Technische Universität München (TUM), Garching, Germany

### **Recent Publications (Selected):**

1. **Vijayavenkataraman, S.**, Kannan, S., Cao, T., Fuh, J. Y. H., Sriram, G., & Lu, W. F. (2019). 3D-Printed PCL/PPy Conductive Scaffolds as Three-dimensional Porous Nerve Guide Conduits (NGCs) for Peripheral Nerve Injury Repair, *Frontiers in Bioengineering and Biotechnology*, 7, 266.
2. **Vijayavenkataraman, S.**, Zhang, S., Thaharah, S., Lu, W. F., & Fuh, J. Y. H. (2019). 3D-Printed PCL/rGO Conductive Scaffolds for Peripheral Nerve Injury Repair. *Artificial Organs*, 43(5), 515-523.
3. **Vijayavenkataraman, S.**, Zhang, S., Thaharah, S., Lu, W. F., & Fuh, J. Y. H. (2019). Electrohydrodynamic Jet 3D-Printed PCL/PAA Conductive Scaffolds with Tunable Biodegradability as Nerve Guide Conduits (NGCs) for Peripheral Nerve Injury Repair. *Materials & Design*, 162, 171-184.
4. Zhang, S., **Vijayavenkataraman, S.**, Chong, G.L., Fuh, J. Y. H., & Lu, W. F. (2019). Computational Design and Optimization of Nerve Guidance Conduits for Improved Mechanical Properties and Permeability. *ASME Journal of Biomechanical Engineering*, 141(5), 051007.
5. **Vijayavenkataraman, S.**, Zhang, S., Thaharah, S., Sriram, G., Lu, W. F., & Fuh, J. Y. H. (2018). Electrohydrodynamic Jet 3D Printed Nerve Guide Conduits (NGCs) for Peripheral Nerve Injury Repair. *Polymers*, 10(7), 753.

6. **Vijayavenkataraman, S.**, Zhang, S., Lu, W. F., & Fuh, J. Y. H. (2018). Electrohydrodynamic-jetting (EHD-jet) 3D-printed functionally graded scaffolds for tissue engineering applications. *Journal of Materials Research*, 1-13.
7. **Vijayavenkataraman, S.**, Zhang, L., Zhang, S., Fuh, J. Y. H., & Lu, W. F. (2018). Triply Periodic Minimal Surfaces Sheet Scaffolds for Tissue Engineering Applications: An Optimization Approach towards Biomimetic Scaffold Design. *ACS Applied Bio Materials*, 1 (2), 259-269.
8. **Vijayavenkataraman, S.**, Yan, W.C., Lu, W. F., Wang, C.H., & Fuh, J. Y. H. (2018). 3D Bioprinting of Tissues and Organs for Regenerative Medicine. *Advanced Drug Delivery Reviews*, 132, 296-332.
9. Yan, W.C., Pooya, D., **Vijayavenkataraman, S.**, Tian, Y., Ng, W.C., Fuh, J. Y. H., Robinson, K.S., & Wang, C.H. (2018). 3D-bioprinting of skin tissue: From pre-processing to final product evaluation. *Advanced Drug Delivery Reviews*, 132, 270-295.
10. **Vijayavenkataraman, S.**, Shuo, Z., Fuh, J. Y., & Lu, W. F. (2017). Design of Three-Dimensional Scaffolds with Tunable Matrix Stiffness for Directing Stem Cell Lineage Specification: An In Silico Study. *Bioengineering*, 4(3), 66.

### Academic Service

1. Guest Editor, Special Issue on "Bioprinting in Asia", *International Journal of Bioprinting* - Jan - Jul 2019
2. Co-Chair, Bioprinting & Biofabrication Session, 28 May 2019 - TERMIS EU 2019 Conference
3. Reviewer for the following journals (selected): *Biofabrication*, *Nanoscale*, *Virtual and Physical Prototyping*, *Nature Scientific Reports*, *Artificial Organs*, *Journal of Tissue Engineering & Regenerative Medicine*, *International Journal of Molecular Sciences*, *Materials*, *Polymers*, *Biomedical Physics & Engineering Express*

### Awards (Selected)

1. **President's Graduate Fellowship**, National University of Singapore (Jan 2015 - Dec 2018)  
The President's Graduate Fellowship (PGF) is awarded to candidates who show exceptional promise or accomplishment in research. A number of PhD students are selected each semester by the University for the award. One of the 6 candidates to be awarded PGF in the whole faculty of Engineering in Jan 2015 intake.
2. **P&G Serial Innovator Camp 2016**, Singapore (Mar 2016)  
Selected from a pool of applicants all over Singapore to attend the Serial Innovator Camp on 18th Mar 2016 at the P&G Singapore Innovation Center.
3. **Raman Memorial Award** (Apr 2011), Alumni Association, College of Engineering, Guindy
4. **The Sachivothama Sir C.P.Ramasamy Aiyar Scholarship** (Mar 2011), College of Engineering, Guindy
5. **WISE (Working Internship in Science & Engineering) Scholar** (Jun 2010), DAAD (German Academic Exchange Service)