

# Srikanthan Ramesh

Department of Industrial and Systems Engineering  
James E. Gleason Building, Rochester Institute of Technology  
81 Lomb Memorial Drive, Rochester, NY, USA 14623-5603

sr7064@g.rit.edu  
(973)722-4891

608-10A Park Point Drive,  
Rochester, NY, USA 14623

## I. EDUCATIONAL BACKGROUND

Ph.D., Industrial and Systems Engineering <i>Rochester Institute of Technology</i>	Exp. May '20 Rochester, NY
M.S., Industrial and Manufacturing Systems Engineering <i>Iowa State University</i>	Aug '15 - May '17 Ames, IA
B.Tech., Mechanical Engineering <i>Amrita University</i>	Aug '11 - May '15 Coimbatore, India

## II. RESEARCH INTERESTS

Bio-Additive Manufacturing, Biomaterials, Tissue Engineering and Regenerative Medicine, Material Characterization and Advanced Manufacturing Processes

## III. PROFESSIONAL APPOINTMENTS

Intern Meyer Lab, Department of Biology, <i>University of Rochester</i>	Since Mar '19 Rochester, NY
Graduate Research Assistant Department of Industrial and Systems Engineering, <i>RIT</i>	Since Jan '19 Rochester, NY
Bioink and Tissue Engineering Intern <i>CELLINK LLC</i>	Jun '18 - Dec '18 Blacksburg, VA
Graduate Teaching Assistant <i>Department of Industrial and Manufacturing Systems Engineering, ISU</i>	Aug '16 - May '18 Ames, IA
Undergraduate Research Mentor <i>Department of Industrial and Manufacturing Systems Engineering, ISU</i>	Aug '17 - May '18 Ames, IA

## IV. HONORS, GRANTS AND AWARDS

Gilbreth Memorial Fellowship (2018-19), <i>Institute of Industrial and Systems Engineers, USA</i>	May '18
Best Overall Graduate Poster Presentation Award, <i>6<sup>th</sup> Annual Research Symposium, IMSE, ISU</i>	Apr '18
Wakonse Teaching Fellowship (2018-19), <i>Graduate and Professional Student Senate, ISU</i>	Apr '18
Research Excellence Award, <i>Graduate College, ISU</i>	Dec '17
Best Oral Presentation, <i>Nano@IAState Conference, ISU</i>	July '17
2017 National Science Foundation Student Award, <i>Solid Freeform Fabrication Symposium, Austin, TX</i>	May '17
Best Overall Graduate Poster Presentation Award, <i>5<sup>th</sup> Annual Research Symposium, IMSE, ISU</i>	Apr '17
Professional Advancement Grant, <i>Graduate and Professional Student Senate, ISU</i>	Mar, July '17
Graduate Tuition Scholarship, <i>Industrial and Manufacturing Systems Engineering, ISU</i>	Aug '16 - '18
Graduated with a Distinction, <i>Amrita University, India</i>	Aug '15
Summer Research Fellowship, <i>Indian Institute of Technology, Kanpur</i>	Jun '14

## V. PEER-REVIEWED JOURNAL PAPERS

1. Stromberg, L. R., Hondred, J. L., Sanborn, D., Mendivelso-Perez, D., Ramesh, S., Rivero, I. V., Kogot, J., Smith, E., Gomes, C., Claussen, J., "Flexible stamped multi-layer graphene laminates for disposable in-field electrochemical biosensing", (under review).
2. **Ramesh, S.**, Lungaro, L., Tsikritsis, D., Weflen, E., Rivero, I. V., & Elfick, A. P. D. (2018). Fabrication and evaluation of poly(lactic acid), chitosan, and tricalcium phosphate biocomposites for guided bone regeneration. *Journal of Applied Polymer Science*, 135(39), 46692. <https://doi.org/10.1002/app.46692>
3. Tran, P. L., Li, J., Lungaro, L., **Ramesh, S.**, Ivanov, I. N., Moon, J. W., ... Rivero, I. V. (2018). Cryomilled zinc sulfide: A prophylactic for *Staphylococcus aureus*-infected wounds. *Journal of Biomaterials Applications*. <https://doi.org/10.1177/0885328218770530>
4. Spearman, S. S., Irin, F., **Ramesh, S.**, Rivero, I. V., Green, M. J., & Harrysson, O. L. A. (2018). Effect of pseudomonas lipase enzyme on the degradation of polycaprolactone/polycaprolactone-polyglycolide fiber blended nanocomposites. *International Journal of Polymeric Materials and Polymeric Biomaterials*. <https://doi.org/10.1080/00914037.2018.1445633>

## VI. RESEARCH EXPERIENCE

Graduate Student Researcher

Since Oct '15

*Interdisciplinary Manufacturing Engineering and Design Laboratory, ISU*

Ames, IA

Advisor: Dr. Iris V. Rivero, Associate Professor, Industrial and Manufacturing Systems Engineering

- Design and develop materials for numerous biomedical applications.
- Perform characterization routines to predict and analyze material performance.
- Train undergraduate/graduate researchers to fabricate and characterize materials.
- Present work at scientific meetings, journals and conferences.

Summer Research Fellow

Jun '14 - Aug '14

*Advanced Nanoengineering Laboratory, Indian Institute of Technology*

Kanpur, India

Advisor: Dr. Kamal K. Kar, Professor, Department of Mechanical Engineering

- Performed experiments to measure die swell of polymers over a range of shear rates and temperatures.
- Developed a mathematical model based on power law to predict the die swell of non-Newtonian polymers.

## VII. TEACHING EXPERIENCE

Graduate Teaching Assistant

Since Aug '16

*Department of Industrial and Manufacturing Systems Engineering, ISU*

Ames, IA

- Assist faculty members with classroom instructions, exams, record keeping and other miscellaneous projects.
- Prepare and deliver presentations to guide students on various aspects of design and manufacturing.
- Grade lab reports and assist students during office hours.

### Courses

### Semester

IE 448 Manufacturing Systems Engineering (Evaluation: 4.41/5.00; N=48)

Spring 2018

IE 248<sup>\*^</sup> Engineering System Design, Manufacturing Processes and Specifications (Evaluation: 4.73/5.00; N=14)

Fall 2017

IE 348<sup>\*</sup> Solidification Processes (Evaluation: 4.81/5.00; N=18)

Spring 2017

IE 248<sup>\*</sup> Engineering System Design, Manufacturing Processes and Specifications (Evaluation: 4.34/5.00; N=12)

Fall 2016

<sup>\*</sup>Laboratory instructor, <sup>^</sup>Head teaching assistant

Tutor

Oct '15 - May '16

*Academic Success Center, ISU*

Ames, IA

- Taught fundamental principles of thermal and materials science engineering.
- Developed innovative strategies to encourage active participation amongst students.

## Courses

MAT E 273 Principles of Materials Science and Engineering  
ME 231 Engineering Thermodynamics  
MAT E 273 Principles of Material Science and Engineering

## Semester

Spring 2016  
Spring 2016  
Fall 2015

## VIII. TECHNICAL EXPERIENCE

### Laboratory Skills

Material Characterization (Thermal, Physical, Visual and Mechanical)  
Mechanical Testing of Materials  
Rapid Prototyping, Additive Manufacturing, Bioprinting  
Polymer Processing  
Composite Fabrication

### Software and Programming Proficiency

SigmaPlot, OriginPro, MATLAB, Minitab  
AutoCAD, SolidWorks, CATIA  
Microsoft Office

## IX. PROFESSIONAL ASSOCIATION

Advanced Manufacturing Workshop: Preparing the Next Generation of Engineering Researchers

Apr '17 - Oct '17

Funded by National Science Foundation; Award Number: 1654890

Principal Investigator: Iris V. Rivero

- Assistance to PI in organizing and collection of data as it relates to the workshops (on-site and on-line).

Graduate Member, Student Committee, Manufacturing and Design Division

Since Aug '17

*Institute of Industrial and Systems Engineers*

## X. PEER-REVIEWED CONFERENCE PROCEEDINGS

1. **Ramesh, S.**, Gerdes, S., Lau, S., Mostafavi, A., Tamayol, A., Rao, P., Rivero, I. V., Rheological, In Situ Printability and Cell Viability Analysis of Hydrogels for Muscle Tissue Regeneration, 28<sup>th</sup> Annual Solid Freeform Symposium, Austin, TX, USA, 2018.
- 2.
3. **Ramesh, S.**, Yan, J., Downey, A., Rivero, Iris V., Laflamme, S., Zellner, E., Solventless Fabrication of Biodegradable Sensors for Measuring Soft Tissue Deformation, IISE Annual Conference and Expo, Orlando, FL, USA, 2018.
4. Lau, S., **Ramesh, S.**, Rivero, Iris V., Korley, L., A Solid-State Processing Approach to Enhance the Mechanical Performance of Polyolefins, IISE Annual Conference and Expo, IISE Annual Conference and Expo, Orlando, FL, USA, 2018.
5. **Ramesh, S.**, Eldakrouy M., Rivero, I.V., Frank, M.C., Additive Fabrication of Polymer-Ceramic Composite for Bone Tissue Engineering, 27<sup>th</sup> Annual Solid Freeform Symposium, Austin, TX, USA, 2017.

## XI. PEER-REVIEWED POSTER AND CONFERENCE PRESENTATIONS

1. Li, J., Tran, P. L., Lungaro, L., **Ramesh, S.**, Ivanov, I. N., Moon, J. W., Graham, D. E., Hamood, A., Wang, J., Elfick, A., Rivero, Iris V., Cryomilled Zinc Sulfide: A Prophylactic for *Staphylococcus Aureus* Infected Wounds, 6<sup>th</sup> Annual Undergraduate and Graduate Student Research Symposium, Ames, IA, USA, 2017.
2. **Ramesh, S.**, Weflen, E., Rivero, Iris V., Solid-State Fabrication and Characterization of Polycaprolactone/Chitosan Biocomposite for Additive Manufacturing, IISE Annual Conference and Expo, Orlando, FL, USA, 2018.
3. **Ramesh, S.**, Yan, J., Downey, A., Rivero, Iris V., Laflamme, S., Zellner, E., Solventless Fabrication of Biodegradable Sensors for Measuring Soft Tissue Deformation, IISE Annual Conference and Expo, Orlando, FL, USA, 2018.
4. Lau, S., **Ramesh, S.**, Rivero, Iris V., Korley, L., A Solid-State Processing Approach to Enhance the Mechanical Performance of Polyolefins, IISE Annual Conference and Expo, IISE Annual Conference and Expo, Orlando, FL, USA, 2018.

5. **Ramesh, S.**, Eldakroury M., Rivero, I.V., Frank, M.C., Additive Fabrication of Polymer-Ceramic Composite for Bone Tissue Engineering, *27<sup>th</sup> Annual Solid Freeform Symposium*, Austin, TX, USA, 2017.
6. **Ramesh, S.**, Lungaro, L., Tsikritsis, D., Rivero, I., Elfick, A., Fabrication and Evaluation of nanofibers for Guided Bone Regeneration, *Nano@IAState*, Ames, IA, USA, 2017.
7. **Ramesh, S.**, Lungaro, L., Tsikritsis, D., Rivero, I., Elfick, A., Solventless Preparation of Polylactic/Chitosan/Tricalcium Phosphate Biocomposite Powders for Guided Bone Regeneration, *IISE Annual Conference and Expo*, Pittsburgh, PA, USA, 2017.
8. **Ramesh, S.**, Lungaro, L., Tsikritsis, D., Rivero, I., Elfick, A., Biodegradable Polymer-Bioactive Ceramic Composites for Guided Bone Regeneration, *5<sup>th</sup> Annual Undergraduate and Graduate Student Research Symposium*, Ames, IA, USA, 2017.

## **XII. REFERENCES**

1. Dr. Iris Violeta Rivero, Professor  
Department of Industrial and Manufacturing Systems Engineering  
3004 Black Engineering Building  
Iowa State University, Ames, Iowa USA 50011-2164  
rivero@iastate.edu || (515)294-7944
2. Dr. Hector Martinez, Chief Technical Officer  
Cellink AB  
Arvid Wallgrens Backe 20,  
Gothenburg, Sweden  
hector@cellink.com