

**Ph.D. Student Positions in Mechanical Engineering Research**  
**Department of Mechanical, Aerospace, and Nuclear Engineering (MANE)**  
**Rensselaer Polytechnic Institute (RPI)**

Surface Engineering and Manufacturing Innovation Laboratory ([SEMI Lab](#)) at Rensselaer Polytechnic Institute is seeking several highly motivated Ph.D. students having interests and skills in additive manufacturing, surface engineering, mechanical design, and computational modeling. The students will be involved in fully funded graduate research on various topics of additive manufacturing, surface engineering, printed electronics, and smart manufacturing under the guidance of Dr. Semih Akin. The students will be fully covered (tuition + salary), and they are expected to start their Ph.D. course in Fall 2024 or Spring 2025 semester. We look forward to receiving your applications for these emerging research fields and opportunities.

**Expected experience and qualifications:**

- Additive manufacturing processes, such as material extrusion, material jetting, vat polymerization, cold spray additive manufacturing, and directed energy deposition.
- Mechanical design, experimental setup, testing and characterization of 3-D printed polymer, metal, and composite structures.
- Surface and microstructure characterization such as SEM, EDX, XRD, AFM, FTIR, optical profilometer, water contact angle goniometer, etc.
- Finite element modeling and simulation tools, including but not limited to ANSYS Workbench, Abaqus, HyperMesh, COMSOL.
- Data-driven manufacturing and programming experience such as Python are a plus.

**Application process:**

The interested candidates should send a CV to [akins@rpi.edu](mailto:akins@rpi.edu) including to followings:

- One in-depth paragraph explaining interests and skill for this position
- Transcript (s)
- Relevant research documents (*e.g.*, journal papers, conference proceedings, etc.)
- Three reference letters
- English exam score (TOEFL, IELTS, Duolingo, or PTE) if applicable

**Rensselaer Polytechnic institute (RPI)** is America's oldest technological research university, located in the city of Troy, New York. The university offers students over 145 programs at bachelor's, master's and doctoral levels across schools of Engineering, Science, Architecture, Humanities, Arts and Social Sciences, and the Lally School of Management. With the motto 'Why not change the world?' RPI fosters a spirit of discovery and innovation.

