



Stephanie Tomasulo

Graduate Institution: Yale University

Graduate Discipline: Electrical Engineering

Hometown: Middletown, NY

Relevant SC Research: Basic Energy Sciences

Research Interest:

Solid state lighting and the “green gap”; III-V wide-bandgap solar cells; Renewable energy in general

About Me:

I am currently researching InGaP as a material for potential wide-bandgap (2.0-2.2 eV) solar cells to be used in multi-junction solar cells. Multi-junction solar cells currently hold the record for efficiency (43.5% - Solar Junction) and are expected to increase even further with the development of a wide-bandgap material to act as the top junction. I am involved in each step of the process from growing (via molecular beam epitaxy) and characterizing the material to fabricating and testing the final solar cell devices.

I attended Rensselaer Polytechnic Institute for my bachelor's (in physics) and master's (in electrical engineering) degrees where I researched InGaN for green light emitting diodes and laser diodes. I also dove on the varsity swimming and diving team throughout my undergraduate career. During my master's work, I was funded by the NSF to enrich a local high school physics class by interacting with the students multiple times a week and bringing more advanced laboratory exercises to their every day course work.

After graduate school, I hope to be a researcher in either industry or government, ideally continuing work on renewable energy solutions.



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