

# Shriya Kasthurirangan

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## **EDUCATION**

*Ph.D. Candidate, Mechanical Engineering* May 20XX

University of North Carolina at Charlotte, Charlotte, NC

*Dissertation Title: "Numerical Study of Natural Convection in Solar Thermal Storage Vessels"*

*Master of Science in Mechanical Engineering* May 20XX

University of North Carolina at Charlotte, Charlotte, NC

*Thesis Title: "Low Pressure Plasma Synthesis of Crystalline Silicon Nanoparticles"*

*Bachelor of Science in Mechanical Engineering* May 20XX

University of North Carolina at Charlotte, Charlotte, NC

## **RESEARCH EXPERIENCE**

*Graduate Research Assistant, Particle Technology Lab* August 20XX - Present  
UNC Charlotte, Charlotte, NC

- Administer experimental and theoretical studies on the filtration of fractal aggregates
- Sustain NSF funded research on real-time structure and mass measurements for agglomerated nanoparticles
- Collaborate with area companies through Center for Filtration Research (CFR) to study mass loading and pressure drop on Nanofiber filters
- Develop new modules for and maintaining a web-based software on filter performance evaluation, dust cake loading, and filter pleating design
- Conduct numerical study on diffusion-limited aggregation of nanoparticles in laminar shear to find the relation between velocity gradient and aggregate fractal dimension

*Research Assistant, High Temperature and Plasma Laboratory* August 20XX - May 20XX  
Department of Mechanical Engineering, UNC Charlotte, Charlotte, NC

- Designed and optimized a low pressure silane plasma reactor to synthesize single crystal cube shaped silicon nanoparticles for electronic device applications
- Examined and categorized nanoparticles on electron and atomic force microscopes
- Characterized plasma particle system using electrostatic capacitance probe, white light absorption spectroscopy, optical emission spectroscopy, and laser light scattering
- Assembled and maintained vacuum equipment for the experimental setup
- Performed experiments for varying plasma conditions

## **TEACHING EXPERIENCE**

*Teaching Assistant, Graduate Level Course-Advanced Aerosol & Particle Engineering* January 20XX - May 20XX  
Department of Mechanical Engineering, UNC Charlotte, Charlotte, NC

- Conducted office hours to help students understand and solve homework problems
- Prepared and graded homework solutions
- Wrote weekly quizzes, posted solutions online, graded quizzes and exams, kept record of the scores using Excel
- Collaborated with professors and other TA's on course material and grading policies, improving communication skills

## **PATENTS**

- Integrated input roller having a rotary mass actuator Filed April 20XX
- Handheld device having multiple localized force feedback Filed March 20XX
- Tag for facilitating interaction with a wireless communication device Filed March 20XX

**AWARDS & FUNDING**

- UNC Charlotte American Society of Precision Engineers Graduate Student Scholarship August 20XX - Present
- National Science Foundation Graduate Research Fellowship May 20XX
- Mechanical Engineering Advanced Study Grant August 20XX - May 20XX
- Recognized as a “Ph.D. Student of Promise” by the American Society of Mechanical Engineers June 20XX

**SCHOLARSHIP*****Journal publications***

- Shriya Kasthurirangan, John Author, Anne Gineer. Journal article title. International Journal of Mechanical Engineering, 20XX; Under review.
- Shriya Kasthurirangan, Goldy Article, Grant Riter. Journal article title. International Journal of Mechanical Engineering, 20XX; 126 (56-70): 1020-1056.
- Shriya Kasthurirangan, Rita Journal, Andy Mann. Journal article title. International Journal of Mechanical Engineering, 20XX; 122 (43-52): 894-906.
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***Conference publications***

- Author, Mark, Shriya Kasthurirangan, Tom Article. Title. Conference title, Conference City, State, 20XX.
- Author, Mark, Shriya Kasthurirangan, Tom Article. Title. Conference title, Conference City, State, 20XX.

***Presentations***

- Presented “Numerical Study of Natural Convection in Solar Thermal Storage Vessels” at the American Society of Professional Engineers Conference, St. Paul, MN, September 19-22, 20XX.
- Presented “Numerical Study of Natural Convection in Solar Thermal Storage Vessels” at the American Society of Mechanical Engineers Conference, St. Louis, MO, June 4-7, 20XX.
- Presented “Real-Time Automotive Slip Angle Estimation with Nonlinear Observer” at American Control Conference, Auburn, AL, January 12-15, 20XX.
- Presented “Low Pressure Plasma Synthesis of Crystalline Silicon Nanoparticles” at University of North Carolina at Charlotte Master Thesis Event, Charlotte, NC, May 2, 20XX.
- Presented robot at UNC Charlotte Robot Show Fall, Charlotte, NC, December 8, 20XX.

***Posters***

- “Low Pressure Plasma Synthesis of Crystalline Silicon Nanoparticles,” American Society of Professional Engineers Conference, Minneapolis, MN, September 20-24, 20XX.
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**PROFESSIONAL MEMBERSHIPS**

- International Association of Mechanical Engineers August 20XX - Present
- American Society of Mechanical Engineers August 20XX - Present
- American Society of Precision Engineers May 20XX - Present

**INDUSTRY EXPERIENCE*****Engineering Intern***

May 20XX - August 20XX

The XYZ Company, Charlotte, NC

- Researched and developed a solution to manufacturing problems that include ergonomics, structural failures, flow impedances, and quality issues
- Justified the purchasing of new office equipment through the use of statistical analysis and presented findings to the supervisor and other interns
- Improved the manufacturing of modular enclosures through the implementation of lean manufacturing and six sigma capability studies
- Collaborated with four other interns on a variety of projects and improved my teamwork and communication skills

**SERVICE**

***Professional***

- Reviewer for the University Executive Council of Graduate Student Professional Advancement Grants Fall 20XX

***Community***

- Volunteer, Annual Blood Drive-American Red Cross, Charlotte, NC May 20XX - Present
- AmeriCorps Volunteer, NC Math Corps, Charlotte, NC June 20XX - July 20XX

**REFERENCES**

Dr. Gordon Gopher, Professor  
Department of Mechanical Engineering  
UNC Charlotte  
Charlotte, NC  
651-555-7799  
goldy@uncc.edu  
Relationship: Professor and mentor for 4 years

Dr. Byron Labb, Professor  
Department of Mechanical Engineering  
UNC Charlotte  
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651-555-7799  
blabb@uncc.edu  
Relationship: Ph. D. advisor for 3 years

Dr. Mark Machine, Professor  
Department of Mechanical Engineering  
UNC Charlotte  
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651-555-7799  
mmachine@uncc.edu  
Relationship: Teaching assistant advisor and mentor for 3 years