



Process Engineer

Leading Edge Equipment Technologies, Inc.

Boston Area

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Are you passionate about the environment? Do you want to be part of a company that builds cutting-edge technology for American manufacturing and the environment? We are looking for driven engineers who are interested in helping us build a patented technology that makes ultra-high-quality silicon wafers for solar panels. You will work with the experienced solar industry experts to gain invaluable experience on bringing high impact technology to market. Come work with a passionate group committed to making a big impact on critical climate-change-fighting technologies.

Company Overview

Leading Edge Equipment Technologies (LEET) is revolutionizing semiconductor wafer manufacturing. We are commercializing the first single crystal net shape crystal growth process with a dramatically lower-cost, high performance advantage over the 70-year-old incumbent technology. In the largest global wafer market of solar photovoltaics (PV), the LEET process can generate over \$15BN of annual value and eliminate over 1 GT/year of greenhouse gas (GHG) emissions in the manufacturing process alone (*i.e.* reduce the energy cost of making solar). After a decade of technology development and over 100 patents, LEET is developing this technology for a commercial pilot and market entry in 2022.

LEET was formed in 2018 as a technology spin-out from Applied Materials. Development has been financed by federal grants (>\$4.7M) and private venture capital (DSM Venturing, Clean Energy Venture Fund, and Prime Impact Fund).

LEET is a fast-paced, versatile group of problem solvers. As a team of 18, we are rapidly growing and plan to add several new team members by 2022. Team members wear many hats, and we expect them to take initiative and ownership from day one. Developing strong communication and disciplined organizational skills are critical in this collaborative environment, as well as having a passion for commercializing next-gen, high impact technologies.

Scope of Role

Contribute to in-depth research & development, discovery and problem-solving related to synthesis of single-crystal materials used in the solar and semiconductors industries. Provide insights derived from systematic investigations on high temperature process and characterization on resulting material. Help plan and execute independent research and experimentation, collaborate with our team of engineers and technicians on problem solving and brainstorming, work independently on multiple projects, and be able to shift priorities as needed.

Essential Duties and Responsibilities

- Make independent and collaborative research & development contributions on processes for the production of single crystal materials for applications including solar silicon wafer development.
- Develop improvements to existing crystal growth processes for enhanced material performance, increased production yields, and reduced cost structures.
- Contribute to furnace thermal and mechanical design improvements based on strong process insights
- Participate in federally funded contract research and development (CRAD), including reporting on progress towards project goals/schedules, milestones and deliverables.
- Plan, design, and carry out development sub-projects such as process image analysis, feedback loop optimization, and new instrumentation development. Analyze multivariate data and report

results to managers and team members on a weekly basis. Must be able to carry experiments forward independently.

- Develop processes and procedures documentation
- Learn to independently manage, handle and operate all aspects of a 20kW crystal growth furnace with internal temperatures in excess of 1400 deg. C.
- Compile and report statistical data to track process development in terms of throughputs, yields, pareto loss charts etc
- Maintain essential inventory and ensure common areas of the lab are well kept and orderly.
- Participate in advanced training programs to increase product and technology knowledge with ability to share learnings with team and more junior staff.
- May have additional support activities including assumption of indirect activities (safety, IT, IP, etc.).

Required Skills & Qualifications

- Masters degree in Materials Science, Chemical Engineering, Physics, Solid-State Chemistry, Physical Chemistry, or Mechanical Engineering or Bachelor's degree with significant relevant industrial experience.
- Proven experience in hands-on high-temperature and/or vacuum materials synthesis. Specific experience in bulk crystal growth, defect analysis, and material characterization preferred.
- Semiconductor processing or wet chemistry experienced desired.
- Strong understanding of thermal and flow physics and should be able to carry out basic calculations to derive process insights. Computational modeling experience is a bonus
- Excellent analytical and problem-solving skills.
- Excellent hands-on laboratory skills and familiarity with laboratory test and measurement analysis equipment.
- Ability to use Statistical Process Control (SPC) and Design of Experiments (DOE) techniques to accelerate experiment planning and process development.
- Independently act to drive experimentation & testing to ensure project goals are met.
- Ability to effectively communicate and interact with team members and customers.
- Write clear, concise, and understandable technical proposals and/or project reports.
- Compile data and project updates to be shared across the organization on a weekly basis.
- Strong Microsoft Office (Excel, PowerPoint, etc.) skills required.
- Occasional schedule flexibility is preferred to support the running of the furnaces.
- Travel (both domestic and international) expectation is <10%.

Benefits

LEET offers highly competitive salaries, excellent benefits, and unparalleled growth and development opportunities -- all to create a compelling and rewarding work environment.

LEET is an Affirmative Action and Equal Opportunity Employer, and all qualified applicants will receive consideration for employment without regard to race, color, religion, gender, sexual orientation, national origin, genetic information, age, disability, veteran status, or any other legally protected basis.

Agency

LEET does not accept unsolicited agency resumes and will not pay fees to any third-party agency or firm that does not have a signed agreement with LEET.