



## **JOB POSTING | SENIOR PHOTOLITHOGRAPHY ENGINEER**

NanoPattern Technologies, Inc. is a Chicago, IL based startup developing materials to enable the next generation of energy-efficient displays. We are seeking a senior photolithography engineer to join our team and lead the new product introduction of our first product, a breakthrough photopatternable quantum dot ink.

The Senior Lithography Engineer will be a key member of the R&D team. This person will be responsible for developing and optimizing the patterning process for our first products and working in tandem with our formulation and ligand engineers to optimize our product performance. The successful candidate will work closely with the internal team to design and execute experiments, analyze data, and communicate results, as well as leading the transfer of our ink patterning process to our customers to ensure fast scalability of our technology.

### **Key Responsibilities**

- Develop new products and formulations to meet customer requirements, utilizing knowledge of chemical structure-property relationships and formulation science principles.
- Conduct hands on laboratory experiments, including designing and executing experiments in thick film coating processes, photolithography, thin film coating, and materials characterization.
- Optimize existing formulations to improve product performance, stability, and cost-effectiveness.
- Work collaboratively with internal and external teams, including customers and manufacturing partners, to provide technical support and ensure successful product development and launch.
- Develop DFMEA, datasheet, and standard operating process documentation for new products. Lead transfer of photopatterning process to display customers.
- Conduct literature searches and stay up-to-date on industry trends and emerging technologies.
- Write technical reports, prepare presentations, and communicate results to internal and external stakeholders.
- Follow good laboratory practices, maintain accurate records, and ensure compliance with safety and regulatory requirements.
- Work may be conducted at multiple cleanroom facilities in Chicago including at Argonne National Laboratory, University of Illinois – Chicago, and University of Chicago, as well as on site at NanoPattern Technologies facilities.

## Requirements

- PhD or MS in Chemical Engineering, Materials Science, Chemistry, or equivalent. Candidates with a BS and significant industry experience may be considered.
- >5 years of experience in semiconductor processing with a focus on photolithography
- Strong background in semiconductor fabrication techniques including thin film deposition through PVD and/or ALD, etch processes
- Experience with typical materials characterization tools such as profilometry, AFM, optical microscopy and SEM
- Additional preferred experience in optical characterization tools such as photoluminescent quantum yield calculations, ellipsometry, time-resolved photoluminescence.
- Experience with statistical analysis and design of experiments. Six sigma experience preferred.
- Excellent problem-solving skills, ability to work independently, and strong written and verbal communication skills.
- Targeted start date before July 2024

This role reports directly to the Chief Operating Officer dotted line to the Chief Technology Officer and is not open to remote work. 10-15% international travel may be required.

## What We Offer

- Health benefits (medical, dental, vision)
- Life insurance
- Traditional 401(k) with 4% match
- Paid time off, including parental leave (maternal and paternal)
- A chance to make a huge impact in a small dynamic team solving key technology issues for the next generation of displays!

## Visa Sponsorship Policy

Since we are a small startup, accommodations for visa sponsorship are not within our capability. At this time, NanoPattern is only able to offer this position to US Citizens and green card holders.

## Our Commitment

NanoPattern Technologies is an equal opportunity employer with a firm commitment to growing our team in an inclusive way, regardless of race, color, religion, gender, gender identity or expression, sexual orientation, national origin, genetics, disability, medical condition, age, or veteran status. We are excited about all of those who choose to apply, and for those who end up joining us, to see how you better us as a team and company. We are more than the sum of our parts.

**Apply** - Please send your Resume and Cover Letter to [jobs@nanopatterntechnologies.com](mailto:jobs@nanopatterntechnologies.com) with the title "Job Posting - Senior Photolithography Engineer - [Name]"