Wafer Process Engineer - Laser Chip Fabrication

SemiNex Corporation is a fast growing, pre-IPO leader in high-powered laser modules and optical amplifiers for cutting-edge industries like automotive LiDAR, data communications, medical aesthetics, and industrial sensing.

Our high-power semiconductor diode lasers are renowned for their best-in-class performance in power and efficiency. Our devices encompass a wide range, from high-power Fabry-Perot multimode and single-mode laser diodes to DFB laser diodes and semiconductor optical amplifiers, utilizing cutting-edge InP, GaAs, and GaSb material systems.

SemiNex's dynamic R&D team is looking for an experienced Wafer Process Engineer to take a leadership role on laser chip fabrication and characterization of semiconductor optoelectronic devices. Responsible for existing semiconductor laser chip fabrication processes and vendor management to reduce cost, improve sustainability and develop best practices within the production process. Responsible for managing day-to-day production flow in support of customer orders.

Your responsibilities will also include III-V semiconductor process development to introduce new Fabry-Perot laser chip, DFB laser chip, SOA chip to production.

If you're passionate about pushing the boundaries of optoelectronics and making a significant impact in a fast-paced environment, then this opportunity is tailor-made for you. Come join our team and be at the forefront of groundbreaking technologies that shape the future.

Primary Responsibilities

- Drive the complete manufacturing wafer and chip processes of laser diodes
- Conduct detailed characterization and failure analysis of lasers at all stages of development to drive continuous improvement efforts
- Plan designs of experiments to optimize laser diode fabrication and work with vendors to improve processes in a cleanroom manufacturing environment
- Maintain reliable and safe manufacturing systems while improving production rates, efficiency, yields, costs, and changeovers
- Improve laser diode process capability and production volume while maintaining and improving quality standards
- Prepare samples for study and analysis when new products or new vendors are first introduced, and present findings to management with recommended next steps
- Implement continuous improvement plans
- Collect, record, and transcribe data and keep inventory systems current and accurate
- Develop and implement systems that optimize all phases of production process
- Provide suggestions during incident investigations and implement corrective actions in conjunction with suppliers and customers
- Advise on corrective actions and implement changes where applicable
- Ensure projects are completed on time and in-line with budgets
- Research and purchase new manufacturing technology

Requirements:

- Bachelors, Master's or PhD degree in electrical engineering, material science, physics or related fields
- Minimum 3 years of Industrial experience in semiconductor wafer process engineering
- Good understanding of III-V semiconductor lasers

- Experience in semiconductor laser diode fabrication in a cleanroom environment is a plus
- Experience in fabricating semiconductor devices using a variety of dry etching tools such as PECVD and RIE, dielectric and metal deposition tools such as e-beam evaporation, and various other cleanroom etching, and metrology tools is appreciated
- Photolithography mask designs using Klayout software or other tools
- Experience in DFB laser, semiconductor optical amplifier design and fabrication is a big plus
- Strong analytical and problem-solving ability
- Working knowledge of test and evaluation protocols for diode laser
- Self- motivated person and strong team player with good communications skills
- Strong PC skills including Microsoft Office and some CAD programs
- Excellent communication skills
- Good work ethic/positive attitude and goal oriented
- Attention to details and ability to communicate technical designs and challenges
- Ability to lead a project
- Support a fun and positive work environment!
- Currently eligible to work in the US (permanent resident or citizen)
- Position is physically located on-site in Danvers, MA

Work Location:
Danvers, MA near interstate I-95 and US Route 1

Company Background:
SemiNex was founded in 2003 to bring next generation high-power laser diodes to mass-market applications including in LiDAR, home medical, laser range-finding, and in telecommunications. SemiNex's high-power semiconductor diode lasers have world-class performance in power and efficiency.

At SemiNex, our talented people make us successful. We promote an inclusive environment where we value individuality, differences, and unique perspectives. SemiNex is a fast-growing company that will provide ongoing career growth and advancement for all employees.