

AilumiQ Job Description: JD0006 Quantum Dot Synthesis Chemist

About AilumiQ:

AilumiQ is an innovative deep-tech startup dedicated to revolutionizing the production of advanced materials, such as next-generation quantum dots. We've developed an automated platform powered by AI to achieve exceptional precision, efficiency, and scalability in material synthesis. Our mission is to overcome the limitations of traditional manufacturing methods and unlock the full potential of quantum dot technology.

Job Summary:

We are seeking a highly motivated and skilled chemist to join our team in Taipei, Taiwan. In this role, you will be responsible for optimizing, and scaling up chemical synthesis processes to produce high-quality quantum dots (QDs) with desired optical and electronic properties. This full-time position offers a unique opportunity to work at the forefront of advanced materials manufacturing, integrating AI-driven process optimization and automation technologies.

Responsibilities:

- Optimize, and scale up chemical synthesis processes for QDs with precise control over size, morphology, and optical/electronic properties.
- Develop and implement AI-driven methodologies for reaction monitoring, data analysis, and process optimization.
- Integrate automation technologies to improve synthesis efficiency, reproducibility, and scalability.
- Conduct material characterization using techniques such as UV-Vis spectroscopy, photoluminescence (PL) spectroscopy, TEM, and powder X-ray diffraction (XRD).
- Collaborate with cross-functional teams to integrate QDs into advanced device fabrication.
- Troubleshoot synthesis and production issues to ensure consistent quality and performance.

Required Skills and Experience:

- Bachelor's degree in Chemistry, Materials Science, Nanotechnology, or a related field (advanced degrees are a plus).
- Hands-on experience in wet-chemical synthesis methods or quantum dot synthesis, either through academic research or industry projects.
- Experience with material characterization tools such as UV-Vis spectroscopy, PL spectroscopy, TEM, and XRD.
- Ability to analyze experimental data and utilize AI-assisted tools for process optimization.
- Excellent problem-solving and analytical skills.

- Ability to work effectively both independently and collaboratively within a multidisciplinary team.

Preferred Skills and Experience:

- Experience in surface ligand exchange, passivation, or functionalization of quantum dots.
- Background in scaling laboratory synthesis to pilot or industrial-scale production.
- Familiarity with AI-driven process control, data analytics, or machine learning for materials research.
- Experience in device integration processes for QD-based optoelectronic applications.
- Hands-on experience with automated synthesis systems or robotics in chemical laboratories.
- Experience in Environmental, Health, and Safety (EHS) procedures in chemical laboratories.

Benefits:

AilumiQ offers a comprehensive benefits package, including statutory benefits and other perks.

- **Statutory Benefits:** Labor insurance, health insurance, and labor pension fund contributions. We also offer various types of leave, such as maternity, paternity, family care, and annual leave.
- **Other Benefits:** Employee stock options, a performance-based bonus, and an open office environment. We also offer flexible remote work options, paid sick leave, and employee training subsidies.
- **Enhanced Benefits for Full-Time Employees:** This includes guaranteed annual leave of 14 days, flexible working hours, and an annual external training budget. Full-time employees also receive a monthly welfare allowance and subsidies for laptops and health check-ups.

To Apply:

Please submit your resume and cover letter detailing your relevant experience and your interest in joining AilumiQ to hire@ailumiq.com. We look forward to hearing from you.