

Alentic Microscience Inc., Halifax, Nova Scotia, Canada www.alentic.com

Job Description: Mechanical Engineer

Position available immediately

Core Technical Responsibilities:

- Generate detailed mechanical designs for components of point-of-care medical diagnostic devices, from concept through working prototypes.
- Develop 3D CAD models and 2D drawings using SolidWorks, compliant with GD&T (ASME Y14.5).
- Design parts for low-volume samples and transfer to mass production, considering material properties and manufacturing constraints.
- Assemble, align and test critical subassemblies and final products.
- Practice a wide range of rapid prototyping methods, including bench-top CNC machining, 3D printing, plastic casting, injection molding and soft lithography.
- Develop assembly fixtures and jigs to support pilot and production builds.
- Conduct tolerance stack-up analyses for part interfaces and assemblies.
- Conduct Design for Manufacturing (DFM) and Design for Assembly (DFA) reviews and incorporate feedback into designs.
- Analyze load-bearing components utilizing mechanical modelling, FEA, or empirical prototype testing.
- Lead or support verification/validation (V&V) activities for manufactured parts and mechanical assemblies, including first-article inspections, dimensional verification, and function testing.
- Troubleshoot and resolve manufacturing or assembly issues during prototype and production builds.
- Support Design History File (DHF) documentation in accordance with medical device design controls.
- Prepare engineering documents and research reports for stakeholders, and for publication, grant and contract applications.
- Support risk analyses (FMEA, DFMEA, PFMEA) and design mitigations.
- Train junior team members for knowledge continuity and as backup for all responsibilities.
- Work closely with cross-functional teams, including production, quality assurance, and R&D, to ensure seamless integration of mechanical designs into manufacturing operations.

Qualifications:

- Education: Bachelor's degree in Mechanical Engineering, Mechatronics, or a related field. Postgraduate degree is desirable.
- Experience: Minimum of 3 years of experience in mechanical engineering, preferably within a medical device design and manufacturing environment.
- Proficiency in CAD software, e.g., SolidWorks (preferred), AutoCAD.
- Experience with electronic assembly, optical systems and CMOS imagers highly desirable.
- Strong analytical and problem-solving abilities, and excellent communication skills.
- Familiarity with DFM/DFA, GD&T, and design controls.
- Strong hands-on experience with manufacturing processes, materials, and industry standards.
- Experience with tolerance analysis, mechanical testing, and validation documentation.
- Excellent troubleshooting skills
- Experience working within a Quality Management System is an asset

Contact:

Send c.v. and cover letter to Alan Fine, CEO, Alentic Microscience
afine@alentic.com