

**Position:** R&D Scientist, Photonics Designer  
**Job Status:** Regular Full Time  
**Department:** R&D  
**Location:** Burnaby, British Columbia, Canada  
**Reports to:** Director, Research & Development

### **The Position:**

Reporting to the Director, Research & Development, the R&D Scientist, Photonics Designer will be responsible for delivering Zemax and FDTD simulations and optics/photonics modelling for internal R&D and customer-based projects. The position involves versatile, creative thinking and detailed execution of characterizing micro and nano-optic structures and devices, related analysis, and report writing. The candidate will work within a research team of scientists to accomplish technical objectives. Able to set measurable goals and meet them along with mentoring junior team members.

### **Key Responsibilities:**

- Analysis and Design – Design and develop new and existing nano-optical structures. Develop physical models based on theoretical and experimental methods and applying those models to further develop fabrication processes.
- Technical Writing – Maintain and write standard operating procedures (SOPs), technical papers, reports and patents.
- Project Planning – Track and manage multiple projects to deliver on-time, on-budget and to high quality standards in individual and team settings.
- Organizational – Ensure all materials are filed following agreed conventions and are easily accessible.
- Teamwork – Work effectively within a team of scientists and train, mentor and supervise junior employees performing work on specific tasks. Assist sales team with answering customer technical requests.

### **Qualifications and Experience:**

- Education – A Ph.D. degree in electrical engineering, physics or equivalent field.
- Experience – 5 years of optic/photonics modelling using FDTD techniques and software packages. Expert in ray-tracing, nano-optics/photonics design.
- Technical – Strong working knowledge of nano-optic device design, image processing, and EM simulations.
- Communication – Strong ability to communicate clearly orally and in writing, with the ability to adapt content and style to various audiences. Excellent interpersonal skills with the ability to foster collaborative working relationships among internal teams and external auditors.
- Characteristics – Positive, dedicated, self-driven, hard-working professional. Ability to prioritize work and meet deadlines while working on multiple tasks – often under pressure with shifting priorities. Ability to work both independently and as a member of a team, under tight deadlines. Have a great sense of humour.



- Computer – Excellent understating of MS Office, ZEMAX, COMSOL Multiphysics, Lumerical, or equivalent software packages required.

## **About Us**

*Where ideas and innovation meet.*

Nanotech Security Corp. is a leading innovator of nano-optic image technologies used in anti-counterfeiting applications. With billions of security features in circulation, Nanotech's products include secure and memorable security labels, stripes, patches, and colour-shifting films for currency authentication and brand protection.

KolourOptik is a patented technology that is exclusive to the government and banknote market and combines sub-wavelength nanostructures and microstructures to create modern overt security features with a unique and customizable visual effect. KolourOptik pure plasmonic colour pixels produce full colour, 3D depth, and movement used in security stripes and threads that are nearly impossible to replicate. At less than 5 microns thick, KolourOptik products seamlessly integrate into banknotes and other secure government documents.

LiveOptik is a patented technology that utilizes innovative nano-optics one tenth the size of traditional holographic structures to create next generation overt security features customized to our customers' unique requirements. LiveOptik delivers multi-colour, 3D depth, movement, and image switches for secure brand protection stripes, threads, and labels that are nearly impossible to replicate.

Nanotech is a public company, listed on the TSX Venture Exchange. Nanotech strives to create a corporate culture that values input and encourages individuals to express themselves in a team environment.

## **To Apply**

Applications will be accepted until the position is filled. Email your application to [careers@nanosecurity.ca](mailto:careers@nanosecurity.ca). Please include a cover letter with your resume and use the position title in the subject line of your email. Only candidates considered for an interview will be contacted. Thank you for your interest in this position, we look forward to hearing from you!

**Note:** *We will **not** be accepting candidates from **recruitment agencies** at this time. Only Candidates who are eligible to accept employment in Canada **WITHOUT** sponsorship will be considered.*