



Senior Engineering Physicist

Toronto - Hybrid - Full Time

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The Basics

- This is a full-time position.
- This is a hybrid position. We'll ask that you spend at least one day per week in the office on a regular basis. A few times per year, there will be a week where you need to be there 3-4 days.
- Work hours are flexible, but meetings are typically scheduled between 9 am and 5 pm Eastern Standard Time.
- The starting salary range for this role is \$150,000 - \$170,000.
- The hiring manager for this position is Stephen McFadyen, and you can see his LinkedIn profile [here](#).

In this role, you'll be expected to:

- Optimize gradient coils, shim coils, and RF coils (both transmitter and receiver) using multi-objective and constrained optimization algorithms.
- Build accurate and efficient optimization models using finite element analysis tools (primarily COMSOL) and Python-based simulation workflows.
- Apply advanced numerical methods - like k-means clustering, multi-goal optimization, coarse modeling, and refined model validation - to meet targeted coil performance specs.
- Design, simulate, and validate practical coil geometries.
- Bring simulations into the real world by contributing to the fabrication, testing, and validation of coil prototypes.
- Help improve and expand our in-house computational tools, optimization scripts, and modeling workflows.

- Document your work clearly - from optimization methods to test procedures and validation results - so others can understand and build on it.
- Operate within our Quality Management System (QMS), ensuring your work aligns with safety, regulatory, and security standards.

You might be right for this role if you:

- Hold a Bachelor's or Master's degree in Electrical Engineering, Applied Physics, Computational Science, or a related field (we prefer an advanced degree).
- Have a strong grasp of numerical optimization techniques, especially multi-objective optimization and clustering methods.
- Are experienced with COMSOL Multiphysics for electromagnetic simulation and Python-based optimization frameworks.
- Have some experience with PCB design and layout.
- Bring hands-on experience with coil fabrication, testing, and validation.
- Have experience working within a regulated environment, such as medical devices or aerospace.
- Can iterate rapidly from simulation to prototype validation, refining models based on empirical feedback.
- Ask smart questions, challenge assumptions, and catch things others might miss.
- Take ownership of your work, but also thrive as part of a multidisciplinary team working toward a shared mission.
- Write and speak with clarity, adapting your style for different audiences to ensure shared understanding.

About Synex Medical

At Synex, our work culture is defined by a blend of ambitious goals, intense passion for our mission, and a deep commitment to the well-being of our employees. We encourage our team to set ambitious goals and provide the autonomy needed to achieve them.

While achieving significant milestones can require extra effort and collaboration at times, we also prioritize rest and self-care to maintain our team's well-being. Our policies and practices encourage taking time for personal and family commitments, ensuring that our employees can maintain a fulfilling life outside of work.

Developing strong social connections helps tie us together even when we are located in different places. Routinely, we meet in our regional offices for paid company lunches, learning sessions and social events.

Transparency and ethical standards are also foundational to how we operate. We collaborate with external partners from academia and industry to review and provide feedback on our work, ensuring scientific rigor and accountability. Internally, we promote psychological safety through

regular check-ins with employees, anonymous surveys, and multiple avenues for reporting concerns, including an online reporting tool. These measures foster a supportive and open environment where employees feel safe to voice their concerns and contribute to the company's success.

Benefits

Building towards a predictive healthcare future starts with our team. We are dedicated to offering a strong benefits package which will improve as Synex expands. We currently offer:

- Health, Dental, and Vision Insurance: We cover 100% of the premiums for our employees. Coverage for partners and dependents varies based on location and plan.
- Flexible Time Off: We don't place annual limits on vacation and sick days, and we require that you take at least 3 weeks of vacation each year (not counting company holidays!).
- Parental Leave: We provide 6 months of fully paid leave for all parents—whether you're a birthing, non-birthing, or adoptive parent.
- Professional Development: Invest in your growth with up to \$1,500 annually for courses, certifications, or conferences.