Are you ready to help shape the future of tidal energy?

FORCE – the Fundy Ocean Research Centre for Energy, is at the forefront of an exciting new chapter in Canada's clean energy transition. With a world-leading tidal technology on the horizon, new actions from the federal Task Force for Sustainable Tidal Energy, and upcoming opportunities for new projects at our test site, this is a pivotal moment to join our team in advancing Marine Renewable Energy (MRE).

As Canada's lead research facility for tidal stream technology, FORCE is dedicated to understanding how this renewable resource can play a role in our energy future. Located in the Minas Passage of the Bay of Fundy—home to the world's highest tides—our test site provides essential offshore and onshore electrical infrastructure to connect devices to the power grid and our team works with partners from across the region and around the world to conduct innovative applied research and monitoring in relation to potential environmental effects.

FORCE is a private, not-for-profit company, operated by a dedicated staff, governed by a board of directors, and guided by input from an independent Environmental Monitoring Advisory Committee and a Community Liaison Committee.

Learn more about us at: fundyforce.ca

THE ROLE

The **Marine Optical and Acoustic Sensing Lead** plays a critical role in FORCE's research efforts under the Ocean Sensors Innovation Platform (OSIP) project. This position is responsible for designing, executing, and refining scientifically rigorous monitoring programs focused on improving our understanding of potential fish-turbine interactions in the dynamic environment of the Bay of Fundy, Canada.

As a key contributor to the OSIP project, the Marine Optical and Acoustic Sensing Lead will focus on the adoption and integration of advanced optical and acoustic sensing technologies, implementation of robust experimental and statistical methodologies, and lead data analysis and reporting on sensor and sensor system performance.

The OSIP project represents one of the most exciting and innovative environmental monitoring efforts in tidal energy to date. It addresses a critical industry need: the ability to reliably detect and understand fish interactions with tidal turbines in one of the most dynamic marine environments in the world. As the Marine Optical and Acoustic Sensing Lead, you will be at the forefront of this effort-—adopting and deploying selected sensor technologies on an autonomous floating environmental monitoring platform, as well as purpose-built submersible platforms. Your work will help deliver real-time data from sea to shore, shape regulatory understanding, and unlock the path for broader tidal energy deployment in Canada. Join us and apply your expertise in marine sensing to a project that is not only technically complex and groundbreaking, but also contributing to Canada's clean energy transition.

Reporting to the *Director of Science and Environmental Programs*, this position includes field-based research for a broad range of complementary remote sensing and integrated environmental monitoring sensors and subsequent analyses of data streams of varied types and formats. A key requirement of the position involves participation in engagement activities and development of strong collaborative relationships with research partners, Rights Holders and stakeholders.

This position is a major component of the OSIP project over the next three years and will work closely with the FORCE technical team to deliver key aspects of FORCE's mandate related to environmental effects monitoring and stewardship.

Work Location
Based in Dartmouth, Nova Scotia with some overnight travel to Parrsboro, Nova Scotia for field activities, and occasional travel across Nova Scotia.

KEY RESPONSIBILITIES:

Development of Study Designs and Field Program

- Collaborate with the *Director of Science and Environmental Programs,* FORCE technical staff, and research partners to define objectives of the research program
- Develop scientifically rigorous study designs required to address the defined objectives

Field Program Execution

- Working with a team of staff and contractors, conduct sensor calibration and testing, and deployment using multi-instrument platforms, including integration of active and passive acoustic sensors and oceanographic instruments
- Ensure study designs are properly implemented to provide robust data to meet program goals and objectives
- Create documentation related to delivery of study designs (e.g., 'lessons learned', field logbooks, etc.) and follow data management protocols

Data Analyses and Reporting

- Support the development of software/hardware interfaces for data integration
- Conduct standard data quality assurance and post-processing for all data streams following established criteria for each instrument and data type
- Conduct statistically robust data analyses and develop research products (e.g., white papers, monitoring guides, manuscripts, presentations) for science communication efforts

Engagement

- Communicate study design, implementation, and results with stakeholders, Rights Holders and project partners
- Build and maintain trust-based relationships across scientific, academic, regulatory, industry, and local communities
- Represent FORCE with integrity and credibility ensuring clear and effective communication of complex scientific and technical information

QUALIFICATIONS & COMPETENCIES

QUALIFICATIONS	
Education	• MSc or PhD in a relevant field (e.g., marine science, engineering, ocean technology, MRE monitoring, etc.) or equivalent experience
Experience	• Minimum 5 years of relevant employment or postdoctoral experience conducting field studies involving marine sensing technology to detect marine biota
Technical Skills	• Proven experience designing and delivering marine research programs involving optical and/or acoustic sensors, including imaging sonar • Familiarity with a broad range of oceanographic equipment • Demonstrated experience with data collection and analyses for various remote sensing and environmental monitoring (i.e., optical, acoustic) • Demonstrated experience with data analysis tools (e.g., Matlab, R, Python) and pipelines • Strong scientific writing skills • Experience with encounter rate analyses/modelling considered an asset
COMPETENCIES	
General	• Demonstrated ability to manage technical details with clarity and precision • Strong analytical and critical thinking skills • Strong collaboration, teambuilding and interpersonal skills
Approach to Work	• A strong sense of adaptability, scientific curiosity, and a commitment to continuous learning across disciplines
Communication	• Strong interpersonal skills and ability to work positively and effectively with partners and various stakeholders • Proven ability to adapt complex scientific and technical information to suit the needs and understanding of different audiences, including regulators and industry experts • Proven ability to produce clear, compelling written materials for a range of audiences including detailed technical reports, and regulatory submissions
Integrity & Influence	• Maintains focus and professionalism in complex, evolving, or sensitive environments • Values and integrates diverse perspectives, including from communities, Indigenous partners, and traditionally underrepresented voices in science and innovation
Physical Working Conditions	• Office-based, with regular use of computers and communication tools • In the FORCE workshop, working with technical staff on sensors and sensor systems • In the field, with vessel-based work in the Minas Passage and other marine locations

	• Travel will be required to attend stakeholder sessions, technical site visits, and workshops
Cognitive Working Conditions	• A high level of mental focus • Synthesize complex information, and manage concurrent priorities • The ability to actively listen, absorb technical content, and communicate with impact is essential • Workload may fluctuate with project deadlines, reporting requirements, regulatory timelines, and public-facing responsibilities
Certifications	• Domestic Vessel Safety (DVS), Marine Emergency Duties (MED) • Marine Basic First Aid • Small Vessel Operator Proficiency (SVOP)

TO APPLY

If you're ready to make an impact, we ask you provide your most recent CV with a compelling covering letter, highlighting your fit and experience for this role to: recruit@fundyforce.ca for an initial review.

We embrace inclusion and diversity and welcome applicants to self-identify. Please feel free to indicate if you belong to or self-identify as a member of an underrepresented group, including people who are Indigenous, racially visible, living with a disability, women, or people of diverse sexual orientations and gender identities, including 2SLGBTQI+ communities.

All applications will be reviewed. Only those selected for an interview will be contacted. We appreciate your interest in joining FORCE and look forward to learning about you.

Application Timeline
Open until filled. Application review begins June 6, 2025.

Term of Employment
Full-Time three-year term with possibility for extension.

Compensation
Will be determined based on experience and qualifications.