Are you ready to bring your expertise in marine environmental sensing to enable advances in effects monitoring for the developing tidal energy industry?

FORCE – the Fundy Ocean Research Centre for Energy is at the forefront of an exciting new chapter in Canada's clean energy transition. With world-leading tidal stream 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 growing team in supporting and advancing the Marine Renewable Energy (MRE) sector.

As Canada's lead research facility for tidal stream technology, FORCE is dedicated to understanding how tidal energy can play a role in our renewable 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 tidal stream devices to the power grid. 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 Optics and Acoustics Research Scientist** will play a critical role in FORCE's research efforts under the newly funded Ocean Sensors Innovation Platform (OSIP) project. The goal of this research effort is to improve our understanding of the interactions between tidal turbines and local fish populations by developing, testing and refining new methodologies and techniques for fish detection in a high energy environment. This position will contribute to and manage the design and implementation of field measurement campaigns that test a range of monitoring technology applications and integrated sensor systems. Performance testing under a range of tidal conditions will enhance understanding of effective approaches in monitoring 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 Research Scientist will focus on the integration and deployment of advanced optical and acoustic sensing technologies and platforms, and will lead the sensor data processing and management efforts. This position will work collaboratively with various research partners in sensor data analysis and contribute to scientific publications and public facing environmental reports 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: reliable methodologies to

detect, observe and measure fish interactions with tidal turbines in one of the most dynamic marine environments in the world. As the Marine Optical and Acoustic Research Scientist you will be at the forefront of this team effort—adopting and deploying selected sensor technologies on an autonomous floating environmental monitoring platform, as well as purpose-built, bottom-deployed 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 groundbreaking but also contributing to Canada's clean energy transition.

Working under the *Director of Science and Environmental Programs*, this position includes field-based research, data processing and management, and the opportunity to collaborate with leading national and international researchers working to advance the understanding of fish-turbine interactions.

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:

Manage Sensor and Sensor System Performance Program

- With guidance from FORCE's *Director of Science and Environmental Programs,* the *Technical Director,* and key research partners, plan and lead a range of sensor and sensor system performance campaigns in the Minas Passage.
- In collaboration with research partners, contribute to sensor data analysis and the advancement of methodological approaches in environmental effects monitoring of tidal turbines in the Minas Passage.
- Working in collaboration with Acadia University, contribute to the development and deployment of novel scientific approaches to enhance the detection of acoustically tagged fish passing through the FORCE development area.

Field Program Execution and Reporting

- Working closely with FORCE's technical team, conduct sensor calibration and testing, and deployments using multi-instrument platforms, including integration of active and passive acoustic sensors and oceanographic instruments
- Ensure testing plans, designs and deployment activities are properly documented and archived to enable a high level of scientific rigor, reporting, and repeatability of FORCE's measurement activities and capabilities
- Ensure all data generated from field testing and longer-term monitoring is properly managed, archived, and made available in accordance with FORCE's obligations

Data Management

- Develop and conduct standard data quality assurance and post-processing for all data streams and facilitate data sharing with internal and external partners.

- Support the development of software/hardware interfaces for data integration

Public Engagement

- Under the guidance of senior staff, contribute to and participate in project-related engagement activities with stakeholders, Rights Holders and project partners.
- Represent FORCE with integrity and credibility, ensuring clear and effective communication of scientific and technical information.

QUALIFICATIONS & COMPETENCIES

QUALIFICATIONS	
Education	• MSc or PhD in a relevant field (e.g., marine science, ocean physics, ocean engineering, marine acoustics)
Experience	• Minimum 5 years of relevant employment with a MSc or 2 years post-doctoral experience with a focus on ocean optical sensing and/or active acoustics.
Technical Skills	• Proven experience in conducting marine research involving optical and/or acoustic sensors • Familiarity with using a broad range of oceanographic equipment • Demonstrated experience with collection, analyses and management of ocean sensor data (e.g., optical, acoustic) • Demonstrated experience with data analysis tools (e.g., MATLAB, R, Python) and pipelines • Experience with remote distributed sensor network management considered an asset
COMPETENCIES	
General	• Demonstrated ability to develop, manage and communicate scientific and technical information with clarity, accuracy 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 produce clear documents and presentation materials for a range of audiences
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	• FORCE office, with regular use of computers and communication tools • 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 meet with regional research partners, and to attend stakeholder sessions, technical site visits, and workshops
Cognitive Working Conditions	• High level of mental focus • Ability to synthesize complex information • Ability to actively listen, absorb technical content, and communicate effectively • Project deadlines and reporting requirements
Certifications	• Domestic Vessel Safety (DVS), Marine Emergency Duties (MED) considered an asset • Marine Basic First Aid considered an asset • Small Vessel Operator Proficiency (SVOP) considered an asset

TO APPLY

If you're ready to make an impact, we ask you provide your 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 Oct 27, 2025.

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

Compensation
Will be determined based on experience and qualifications, with an expected salary range of $100,000-$130,000.