

# BRIAN CECHEMANEK

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## Biomedical Engineering and Research

Meticulous **Health Sciences Researcher** combining mechanical engineering experience with inquiry-based medical research education to investigate cellular biological systems on macro scales. Applies standard biological wet-lab techniques with leading bioinformatics tools to develop novel solutions in biomedical engineering settings. Organizes between multiple on-going assignments, projecting for both short-term and long-term deadlines.

**Core competencies:** - Cell Culture - Aseptic/Sterile Technique - Animal Handling/Surgery - MATLAB - Experimental Design - Data Processing/Analyses - Presentations - Fabrication

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## Professional Experience

### **Biologist -SFN Biosystems Inc - Calgary AB - 2012-2013**

*Designed and built the largest, to-date, enclosed PhotoBioReactor system for the mass sequestration of carbon emissions through the growth of algae with potential for high-value end-product creation.*

Organized the setup of a biology lab and managed on-going laboratory duties including cell culture, strain-line maintenance, diagnostics, and analytical testing. Liaised between Engineering and Biological departments to ensure successful merging of concepts and practices.

### **Chief Operating Officer-Mechanical Engineering & Fabrication-Calgary AB-2006-Present**

*Co-founder/Co-owner: Alta.Ltd.1248812, a self-run mechanical engineering consultation, fabrication, inspection, and product design, company in natural gas physical separator and filtration packages.*

Responsible for product design, materials sourcing, fabrication, sales, and financials. Particular experience in stainless and aluminum welding and fabrication, on-site inspections, drafting and P&IDs.

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## Research Experience

### **Graduate Student - Functional Magnetic Resonance Imaging - Calgary AB - 2014-Present**

*Investigation into brain differences in children and adolescents with Autism Spectrum Disorders using functional connectivity measures in the brain.*

Employing the largest ever publicly available database of functional MRI images and computational methods, including in-house software, to answer the research question.

### **Honours Student - Novel Therapeutics for Ischemic Stroke - Calgary AB - 2010-2011**

*Development of a novel very mild hypothermic protocol and apparatus for improved outcomes following ischemic stroke.*

Designed and built a temperature regulation system with capacity for six rodents (mice) at a time. Performed delicate micro-surgery model of stroke, tissue preparation, histology, immunohistochemistry, and data analyses. Resulted in **peer-reviewed publication**.

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## Education

### **MSc Candidate: Biomedical Engineering - University of Calgary - Present**

*Coursework including Image Processing, Biomedical Engineering, and Professional Development.*

### **BHSc (Hons): Biomedical option - University of Calgary - 2011**

*Focus on Cellular Microbial Molecular Biology, Virology, Human Anatomy/Physiology, Organic Chemistry, Biochemistry, Cellular Biology, and Independent Research.*

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## Social

