Finlay Small

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Profile

A friendly, driven, resourceful, and results-oriented leader with experience in specialist and management roles. Whether optimizing workflows or spearheading cross-functional teams, I build solutions and empower people to do great work.

Relevant work experience

Co-Founder January 2023 – Present
Avenue Intelligence – Vancouver, BC

- Embedded systems and full stack development for people counting sensor networks
- Executive leadership, technical and scientific support, IP development, and business development

Research Program Manager November 2021 – January 2023
Private Company – Guelph and London, Ontario

- Lead of genetics centre of excellence, plant tissue culture gene bank, analytical chemistry lab, product development
- Managed tissue culture laboratory, genetic assets, and delivery of thousands of clean plants direct to client
- experimental research in using select microbes to mitigate pathogens, from *in-vitro* to production
- Lead of analytical chemistry laboratory, projects, facilities, method development, data systems and dashboards

Chief Scientific Officer October 2020 – Present
Saed Technologies – Cambridge, Ontario

- Designed and produced custom bioreactor system with offshore and domestic manufacturing
- Improved plant health in acclimatization by 350% with novel environmental control system

Scientist - Research Coordinator November 2019 – November 2021
Private Company – Puslinch, Ontario

- Developed internal data collection app and dashboard that saved over $2M in yield loss in 2021
- Conducted Research trials in vertical farming and photobiology lab more than 2x productivity

Scientist – Scientist / Special Projects April 2019 – October 2019
Private Company – Puslinch, Ontario

- Tissue culture media optimization and protocol development led to successfully implemented clean plant program
- Responsible for conducting R&D in operations, evaluating and commissioning systems for production

Technician September 2017 – 2019
University of Guelph Gosling Research Institute for Plant Preservation

- Commissioned Health Canada Licensed tissue culture laboratory on university campus
- Developed LED lighting system for photobiology research, initiated optimization of light spectrum with ML
- Published improved light spectrums for growth and regeneration.

Researcher May 2014 – September 2015
University of Guelph Beneficial Microbes Lab

- Conducted microbial assays to identify disease suppressive microbiota of wild corn, also inoculant formulations
- Responsible for conducting lab and field scale experiments to identify viable candidates and formulations

Skills

Management
- Strong interpersonal skills, ability to foster productivity and positivity
- Strong prioritization and time management skills
- Project Management experience in academia and industry

Communication
- Able to communicate ideas clearly and concisely
- Experience presenting at international conferences
- Liaison with academic, governmental, and regulatory bodies

Science
- Design of experiments and scientific communication
- Scientific research *in vitro,* in the field, greenhouse, and CEA
- Analytical chemistry: GLP lab management, method development for uHPLC
- Biotech: tissue Culture, protoplast isolation, fluorescence microscopy

Industry
- Experience with on premises and cloud (AWS) deployment. Linux. Docker.
- Experience with fertigation, HVAC, building, and custom automation systems
- Expertise in controlled environment horticulture, systems, and design

Technology
- Coding embedded systems (C++ on ESP32), Python
- Enjoyer of Linux, nvim, tmux
- Data science with R, Tableau, PowerBI
- Reporting with Markdown, Office

Design
- PCB design (Eagle, KiCad) and fabrication for embedded systems in cultivation
- 3D modelling with Fusion360 for 3D printing components

Education

MSc Plant Science 2017 | University of Guelph Beneficial Microbes Lab

Volunteer Experience

Distillation of essential oils from farm herbs	GCUOF	Canada	Fall 2010-Fall 2017
Earthquake relief	LI-BIRD	Nepal	May-June 2015
Central Student Association: OAC Representative	U of G	Canada	October 2013-May 2014
Advisor for Project EAT	Wageningen UR	Netherlands	February-April 2014
Internship: Organic Farming, Marketing Produce	Sunrise Organics	Canada	April-September 2012
Greenhouse Volunteer	The STOP	Canada	February-June 2010

Publications

Small, F.A.A., Bray-Stone, D., Chen, X., Jones, Jones, A.M.P., Wolyn, D.J., (in progress), Efficient micropropagation of Asparagus officinalis using a liquid culturing system

Nesbitt, J. Small, F.A.A. Zheng, Y., Habash, M. (2022), Assessment of four biocontrol agents for their suppression of Fusarium proliferatum on Cannabis sativa plants in a soilless cultivation system.

Pepe, M., Hesami, M., Small, F.A.A., Jones, A.M.P. (2022), Comparative analysis of different machine learning and evolutionary optimization algorithms for modeling Cannabis sativa tissue culture: Prediction of in vitro shoot growth and development based on the optimization of light and carbohydrate sources