MARK PAMPUCH

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# EDUCATION

**Master of Science** *Expected 08/2023*

*Western University / Schulich School of Medicine and Dentistry (London, ON)*

* Master of Science candidate in Biochemistry
* Supervisor: [Bogumil Karas](https://www.bkaraslab.com/) 

**Master of Science** *09/2020-12/2020 (withdrawn from program)*

*University of British Columbia (Vancouver, BC)*

* Master of Science candidate in Botany

**Bachelor’s Degree (Hons): Science**  *04/2020*

*Western University (London, ON)*

* Honors Specialization in Genetics

**Ontario Secondary School Diploma** *06/2016*

*Marshall McLuhan Catholic Secondary School (Toronto, ON)*

* Ontario Scholar Distinction
* Extended French Certificate
* Gifted Program (Grade 9 – 12)

# PROFESSIONAL EXPERIENCE

**Summer Researcher** *04/2021 – 08/2021*

*Western University / Schulich School of Medicine and Dentistry (London, ON)*

* Supervisor: [Dr. Bogumil Karas](https://www.bkaraslab.com/) 
* Project title: Towards a synthetic algal chloroplast: a streamlined platform for creating designer

chloroplastgenomes in *Phaeodactylum tricornutum*.

**Snowboarding Instructor**  *12/2020 - 04/2021*

[*Cypress Mountain Snow School – Cypress Mountain (Vancouver, BC)*](https://cypressmountain.com/) 

**Research Participant / Thesis Student** *06/2019 – 04/2020*

[*London Research and Development Centre – Agriculture and Agrifood Canada (London, ON)*](http://www.agr.gc.ca/eng/science-and-innovation/agriculture-and-agri-food-research-centres-and-collections/ontario/london-research-and-development-centre/scientific-staff-and-expertise/szczyglowski-krzysztof-phd/?id=1181922775665)  ***Summer 2020 contract voided***

* Supervisor: Dr. Krzysztof Szczyglowski ***due******to COVID-19***
* Project title: Shaping the root: assessing a dose dependent role of the *Lotus japonicus*

*HAR1* receptor kinase gene

**Summer Student** *06/2019 – 08/2019*

[*Biochemistry Summer Research Program*](https://www.bkaraslab.com/)*[– Western University (London, ON)](https://www.bkaraslab.com/)* 

* Supervisor: Dr. Bogumil Karas

**Snowboarding Instructor** *01/2019 – 03/2019,*

[*Boler Mountain Snow School – Boler Mountain (London, ON)*](https://www.bolermountain.com/)  *12/2019 – 03/2020*

* Beginner – Intermediate skill range
* 70+ students across group and private lessons

**Internship** *05/2018 – 08/2018*

[*MolecuLight*](https://moleculight.com/)[*Inc.*](https://moleculight.com/)[*– MaRS Discovery District (Toronto, ON)*](https://moleculight.com/) 

* Case report forms: Data collection and processing
* Microbiological data analysis
* Literature reviews: Microbiology and Healthcare Economics
* Market research
* Competitor analyses
* Social media content strategy
* Website design aid and QA

**Private Snowboarding Instructor** *12/2016 – 03/2017*

* Single client at novice skill level

**Private Tutor** *06/2014 – 08/2016*

* Primary focuses: Biology and Chemistry
* Secondary focuses: Mathematics, Physics, and English

# EXTRACURRICULAR INVOLVMENT

**2023 Ivey Business Plan Competition Semi-Finalist**

[*Morrissette Institute for Entrepreneurship – Ivey Business School (London, ON)*](https://entrepreneurship.uwo.ca/for-students/funding-opportunities/ivey-business-plan-competition/) *11/2022 – 01/2023*

* Finalist amongst two other student “co-founders” in North American business plan competition
* Business plan entailed developing roadside drug screening devices for law enforcement services

**London Track3 Adaptive Snow School Instructor**  *12/2019 – 03/2020*

[*London Track3 Ski School – Boler Mountain (London, ON)*](https://www.londontrack3.ca/)  *12/2021 – 03/2022*

* Snowboarding instructor for children and adults with physical, developmental, *12/2022 – Present*

visual, and hearing challenges

**Community Representative**

[*Biochemistry Graduate Students Association – Western University (London, ON)*](https://www.facebook.com/WesternBGSA/) *09/2021 – Present*

* Entailed promoting department or making a positive impact in the local community
  + Organized donation drive in partnership with Diabetes Canada
  + Organized biochemistry exhibit with Science Rendezvous

**Science Rendezvous Organizer**

[*Science Rendezvous – Western University (London, ON)*](https://www.sciencerendezvous.ca/event_sites/western-university/)  *07/2022*

* Organized booth for Biochemistry Department to promote science to children and parents
* Performed hands-on DNA extraction demos from fruit

**cGEM Competition Judge** *10/2021*

[*cGEM*](https://cgemnetwork.ca/)

* Judge for national biotechnology competition in Canada

**Community Representative** *10/2020 – 04/2021*

[*SynBio Canada*](https://www.synbiocanada.org/)

* Update Syn Bio Canada executives on synthetic biology research at UBC and BC province

**iGEM Graduate Advisor** *10/2020 – 12/2020*

[*UBC iGEM – University of British Columbia (Vancouver, BC)*](https://www.ubcigem.com/)

* Aid in different aspects of UBC undergraduate iGEM research project

**Council Member (Botany Department Representative)**  *09/2020 – 12/2020*

[*Graduate Student Society – University of British Columbia (Vancouver, BC)*](https://gss.ubc.ca/)

* Speaker on behalf of department needs to student government body
* Elected as representative by Botany Graduate Student Association
* Member of the elections committee

**Writer / Researcher** *09/2018 – 04/2019*

[*Western University Technology Review*](http://www.wutr.ca/) [*– Western University (London, ON)*](http://www.wutr.ca)

* Writing articles on novel technologies for a local audience
* Sustainability department

**Chito Ryu Karate Training** *2004 – 2016*

[*Higashi Dojo (Toronto, ON)*](https://canadianchitoryu.ca/shane-y-higashi-a-life-lived-in-karate/) 

* 1st Dan Black Belt in Chito Ryu Karate
* Weekly senior and youth group training
* Tournament competitions
  + Kata: 4 gold, 3 bronze; Kumite: 3 gold, 1 silver, 3 bronze
* Various demonstrations at other dojos and events

**Snowboarding Team** *2014 – 2016*

*Marshall McLuhan Catholic Secondary School (Toronto, ON)*

* Participated in racing events at Mount St. Louis Moonstone (Coldwater, ON)

**CASI Level 1 Program** *12/2015*

[*Canadian Association of Snowboard Instructors – Lakeridge Ski Resort (Uxbridge, ON)*](https://casi-acms.com/index.php/en/)

* Obtained CASI Level 1 Snowboard Instructor Certification

**Staff in Training** *07/2015 – 08/2015*

*Seneca Summer Camps –**Seneca College (Toronto, ON)*

* Mini-Multi’s Sports Camp (ages 4 – 6)
* Engaging enthusiastically w/ children
* Planning and organizing weekly activities

**Model United Nations (CHAMUN)** *04/2015*

*Chaminade College School (Toronto, ON)*

* Researching, debating, and cooperative problem-solving w/ regards to contemporary political issues

**Leader in Training Program** *07/2014*

*Seneca Summer Camps –**Seneca College (Toronto, ON)*

* Focuses: management, decision making, and problem-solving skills

# AWARDS

**Canada Graduate Scholarships – Master’s Program**  *09/2022*

*Issued by the Natural Sciences and Engineering Research Council of Canada (NSERC)*

* $17,500

**Ontario Graduate Scholarship**  *09/2022*

*Issued by the Ontario Government*

* $15,000
* Awarded but declined due to conflict with NSERC award

**Ontario Graduate Scholarship**  *09/2021*

*Issued by the Ontario Government*

* $15,000

**British Columbia Graduate Scholarship**  *09/2020*

*Issued by the Government of British Columbia*

* $15,000

**Deans Honor List** *2017 – 2020*

*Issued by Western University*

**Western Scholarship of Distinction**  *09/2016*

*Issued by Western University*

* $1000

# PUBLICATIONS

* Pampuch, M., Walker, E.J.L., and Karas, B.J. (2021) Towards synthetic diatoms: The

*Phaeodactylum tricornutum* Pt-syn 1.0 project. Current Opinion in Green and Sustainable

Chemistry. <https://doi.org/10.1016/j.cogsc.2022.100611>

# CONFERENCES / PRESENTATIONS

**2023 Bioenergy Conference** *01/2023*

*Webinar*

* Speaker for 15 min presentation
* Title: Genetic engineering advances in diatoms

**SynDiatoms 2022 Workshop** *12/2022*

*Webinar*

* Speaker for 15 min presentation
* Title: Optimizing transformation methods for *Phaeodactylum tricornutum*

**Nanopore Community Meeting 2022** *12/2022*

*Metropolitan Pavilion (New York City, NY)*

* Attendee for the workshop: An introduction to machine learning for Oxford Nanopore data, entailed;
  + Building a basic basecaller using HMM’s
  + Building a variant caller for using a convolutional neural network in PyTorch.

**Canada SynBio 2022** *05/2022*

*MaRS Discovery District (Toronto, ON)*

* Submitted abstract and selected for both oral (1/4 presenters) and poster presentations
* Title: Towards synthetic diatoms: The Pt-syn 1.0 project.
* Video: <https://www.linkedin.com/feed/update/urn:li:activity:6938749677995470848/>

**Ontario Biology Day** *03/2020*

*McMaster University (Hamilton, ON)* ***Cancelled******due******to COVID-19***

* Scheduled for 15 min presentation
* Title: Shaping the root: assessing a dose dependent role of the *Lotus japonicus*

*HAR1* receptor kinase gene

# CERTIFICATIONS

**edX Verified Certificate for CS50's Introduction to Computer Science**  *11/2022*

*Issued by HarvardX*

* Credential ID: [b2f0e720dcab45dabf14307458bffba8](https://courses.edx.org/certificates/b2f0e720dcab45dabf14307458bffba8)

**CASI Level 2 Snowboard Instructor Certification**  *03/2021*

*Issued by the Canadian Association of Snowboard Instructors (CASI-ACMS)*

**Smart Serve**  *02/2018*

*Issued by Smart Serve Ontario*

* Credential ID: e180222444625RS

**CASI Level 1 Snowboard Instructor Certification**  *12/2014*

*Issued by the Canadian Association of Snowboard Instructors (CASI-ACMS)*

# PROGRAMMING AND I.T. KNOWLEGE

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| --- | --- |
| * **Python** – Intermediate * **R** and **R studio** – Intermediate * **bash/Unix** – Intermediate * **Git/GitHub** – Intermediate * **SQL** – Novice | * **JavaScript** – Novice * **HTML** – Novice * **CSS/Sass** – Novice * **C** – Basic |

# TECHNICAL SKILLS

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| --- | --- |
| **Computer Software Experience** | **Laboratory Experience Technique Familiarity** |

|  |  |  |  |
| --- | --- | --- | --- |
| * **Microsoft Office** (including **Excel**) – Proficient * **Krona** – Proficient * **NCBI BLAST**– Intermediate * **SnapGene** – Intermediate * **ML-DSP** – Novice * **FigTree** – Novice * **Benchling** – Proficient | * **PyMOL** – Novice * **DNASTAR** – Novice * **Adobe Photoshop** – Intermediate * **Adobe Illustrator** – Intermediate * **Sony Vegas Pro** ­– Intermediate * **Audacity** – Intermediate | * DNA assembly / delivery * RNA isolation * DNA * Bisulfide Conversion * Sanger Sequencing * qRT-PCR * CRISPR–Cas editing * Nanopore Sequencing * Bioinformatics for genomics | * Western Blotting * Agroinfiltration * Hairy root transformation * GUS staining * Minisatellite/Microsatellite analysis * Fluorescence *in situ* hybridization * Chaos Game Representation |

# LANGUAGES

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| --- | --- | --- |
| **English (Native)**  Speaking: ★★★★★  Listening: ★★★★★  Reading: ★★★★★  Writing: ★★★★★ | **French**  Speaking: ★☆☆☆☆  Listening: ★★☆☆☆  Reading: ★★★★☆  Writing: ★★★☆☆ | **Polish**  Speaking: ★★★★☆  Listening: ★★★★☆  Reading: ★★☆☆☆  Writing: ★☆☆☆☆ |

# ADDITIONAL SKILLS/HOBBIES/PASSIONS

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| --- | --- |
| * Photo and video editing * Rock climbing * Snowboarding | * Resistance training * Web development * Fitness enthusiast |