

Nathan Holwell, BAsC, PhD (c)

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Mobile # (519) 200-3423

Skills Summary

- Ability to quickly and efficiently learn new tasks and information
- Exposed to variety of STEM disciplines from internships in Canada and USA
- Demonstrated writing proficiency by winning grants from federal and provincial agencies
- Corresponded with various scientists through professional and personal experiences
- Productivity and creativity were considered key strengths by employers
- Strengthened leadership skills through school and work experience
- Distilled complex scientific discoveries through academic and professional presentations

Peer-Reviewed Publications

1. Serack F., **Holwell N.**, Amsden B.G. (2018) Polymer Scaffolds for Anterior Cruciate Ligament Tissue Engineering. In: Jafar Mazumder M., Sheardown H., Al-Ahmed A. (eds) Functional Biopolymers. Polymers and Polymeric Composites: A Reference Series. Springer, Cham
2. Louka D.A., **Holwell N.**, Thomas B.H., Chen F., and Amsden B.G. (2017) Highly Bioactive SDF-1 α Delivery from Low-Melting-Point, Biodegradable Polymer Microspheres. ACS Biomaterials Science & Engineering, 4 (11), 3747-3758
3. Lee, Y., Xu, C., Sebastin, M., Lee, A., **Holwell, N.**, Xu, C., Miranda Nieves, D., Mu, L., Langer, R. S., Lin, C. and Karp, J. M. (2015), Bioinspired Nanoparticulate Medical Glues for Minimally Invasive Tissue Repair. Adv. Healthcare Mater., 4: 2587-2596.
4. Murakami M., Ernsting M.J., Undzys E., **Holwell N.**, Foltz W.D., Li S.D. (2013) Docetaxel Conjugate Nanoparticles That Target Smooth Muscle Actin-Expressing Stromal Cells Suppress Breast Cancer Metastasis. Cancer Research, 73(15):4862-4871.

Science Communication Experience

Skype a Scientist

November 2020-present

- Delivering an introduction to tissue engineering lecture to classrooms using grade-appropriate vocabulary

Best of Banff: Science Communication Program Attendee

April 2021

- Earned spot for program with lectures from Jay Ingram and other science communicators

HotDocs Science Communication Workshop Attendee

February 2021

- Lecture series led by Canadian science communicators, including Dr. Samantha Yammine

Communicating Science to the Public, McGill University

September-December 2020

- Learned theory of distilling complex scientific discoveries to general public
- Produced concise and clear articles to practice theory (e.g. op-ed, policy letter)

Graduate Student Graphic Designer/Reviewer, CanYouth,

April-August 2020

- Created graphics and edited articles to debunk myths surrounding COVID-19

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Scientific Research Experience

PhD Candidate / Teaching Assistant, Queen's University, Kingston, ON

Project: *Biomimetic, Stem Cell Supplemented Biodegradable Scaffold for Anterior Cruciate Ligament Replacement*

Supervisor: Dr. Brian Amsden, PhD

September 2016-present

- Extensive training in polymer chemistry techniques and validation
- Engaging undergraduate students in lab and tutorials through teaching assistantships

Product and Process Development Intern, Centre for Commercialization of Regenerative Medicine, Toronto, ON

Supervisor: Dr. Patrick Blit, PhD

January-August 2015

- Material and device design of a novel method to assay cardiotropic drugs

Research Trainee, Karp Laboratory for Advanced Biomaterials and Stem-Cell-Based Therapeutics, Harvard Medical School, Cambridge, MA, USA

Supervisor: Drs. Yuhua Lee, PhD & Dr. Jeffrey Karp, PhD

September 2013-April 2014

- Investigating novel properties of a biocompatible, biodegradable polymer

Nanomedicine Research Assistant, Ontario Institute for Cancer Research, Toronto, ON

Supervisors: Drs. Shyh-Dar Li, PhD & Mark Ernsting, PhD

April-August 2012

- Provided research support for chemotherapeutic drug delivery technologies

Education

Candidate for Doctor of Philosophy, Queen's University

Chemical Engineering with Biomedical Engineering specialization **September 2016-present**

Bachelor of Applied Science with Distinction, University of Waterloo

Nanotechnology Engineering, Honours, Co-op **September 2011-April 2016**

Leadership Experience

Under The Microscope

January 2017-present

- Founded blog to practice science communication skills

Science to Business Network, Kingston Chapter

October 2019-present

- Led strategic meetings to find panelists to highlight professions outside of academia

PhD-Community Initiative, Queen's University

September 2020-April 2021

- Worked with inter-disciplinary team to understand effect of COVID-19 pandemic on consumer confidence

Awards

NSERC PGS-D Scholarship (\$42,000 CAD)

January 2020-December 2021

OGS Scholarship (\$15,000 CAD)

September 2017-May 2018

Canadian Posture and Seating Centre Project Award (\$2500 CAD)

January 2016

Sandford Fleming Foundation Senior Design Competition, 1st place

January 2016

Canadian Finalist, 3M Invent a New Future Challenge

July 2015

International Experience Award (\$2500 CAD)

September 2015