Henry He

✉ hhe65@uwo.ca
henryhe.me

Education

2015–2019 **BMSc, Medical Sciences**, *University of Western Ontario*, London, ON.
- Honors Specialization in Medical Biophysics
- Western Scholars Program

2011–2015 **TOPS Program**, *Marc Garneau Collegiate Institute*, Toronto, ON.
- Talented Offering for Programs in the Sciences magnet program
- Graduated as valedictorian
- AP Physics C, AP Calculus BC, AP Biology, AP Psychology

Research Experience

Schulich School of Medicine and Dentistry

2016–present **Multiple Object Tracking of Red Blood Cells in vivo**.
I am developing an algorithm to track individual red blood cells, the data from which can then be used to calculate individual cell velocities, oxygen saturation, and shear rates on the vessel wall. I have extensive experience with MATLAB, including the Computer Vision toolbox and GUIs.
Awards: Dean's Undergraduate Research Opportunities Program Studentship, Medical Biophysics Summer Students Research Showcase Best Presentation

Advisors: Professors Chris Ellis, Aaron Ward, and Daniel Goldman

2016–present **Non-B DNA Predictor**.
I am implementing bioinformatics RStudio packages as a beautiful and responsive web app via Shiny. The tool predicts likely locations of Non-B DNA motifs—such as G-quadruplexes—given raw sequences, GenBank numbers, or FASTA file inputs.

Advisors: Professor Stephen Barr, Dr Hannah Ajoge

Working Experience

May 2016–present **Communications Assistant**, *Schulich School of Medicine and Dentistry, Graduate Affairs*, London, ON.
I provide website administration and database maintenance, as well as management of applicant info following recruitment events. I have gained experience using Excel macros and pivot tables.

Aug. 2015 **Lifeguard**, *Pro Recreation Management*, Toronto, ON.
I was a single NLS-certified lifeguard at a private outdoor pool facility.

Aug – Sept. 2013 **Pianist**, *Hilton Markham Suites*, Markham, ON.
I provided restaurant and lobby music entertainment.

Volunteer Experience

2014–present **Scientific Analyst Manager**, *Rare Genomics Institute*.
I am the leader of long-distance student team of 8 from across Canada. We create scientific web content—including ebooks, podcasts, summaries, and expert interviews—for rare disease patients and families under the supervision of Dr. Deepa Kushwaha. Our manuscript for a Large Granular Lymphocytic Leukemia review article is also currently under review.

2016–present **Vice President of Media**, *Scientific Research Society*, Western Univeristy.
I am an executive on the largest research club on campus. My role includes creating promotional materials and marketing campaigns.

2012–2015 **Mealtime Partner**, *Unionville Home Society*, Markham, ON.
The Unionville Home Society is a non-profit senior care facility. I volunteered every week to assist and feed residents during meals. I also provided musical entertainment and piano accompaniment for church services.

2012–2014 **Marketing and Media Head**, *Mayor's Youth Task Force*, Markham, ON.
I helped plan and organize a variety of community events as a representative of city youth. I also collaborated with City Council and Staff

Observerships and Shadowing

July 2015 **Bo Ai Rehabilitation Hospital**, *Beijing, China*.
Bo Ai is an integrated Chinese and Western medicine rehabilitation hospital in urban Beijing. I mainly shadowed Dr. Haibin Gao in the Neurosurgery department and observed a number of procedures including craniotomy, craniectomy, and ventriculoperitoneal shunting. In total I spent 160 hours in hospital, and 12 in the OR.

Projects

Sept. 2016 **MoodJournal**, *Chrome extension*, Hack the North.
In a weekend, we integrated Microsoft's Emotion API from Microsoft Cognitive Services together with the computer's own video hardware into a Google Chrome extension that tracks your mood throughout the day and correlates it to browsing activity. Data visualization using Plotly

2015-2016 **Flare**, *iOS and Android app*, flare-app.com.
Flare is a mobile startup at Propel. During my time with them, I designed UI screens using Sketch and contributed to the early prototype on InVision

2014–2015 **Metafora**, *Art Book*, metafora.ca.
I crowdfunded the publication of a collaborative youth art book of photographs and artwork from high school students in the GTA. Besides negotiating with printers, I also organized a successful book launch event, and partnered with Markham Public Libraries and Toronto Public Libraries to include copies of Metafora in their catalogues.

Honors

Sept. 2016 Bennie and Shirley Bradshaw Award in Science

Sept. 2016 Second Year In-Course Scholarship, The UWO Parents' Fund

May 2016 Dean's Undergraduate Research Opportunities Program (DUROP) Studentship

Apr. 2016 Dean's Honor List

Nov. 2016 Best Bitalino Hack, Hack Western 2 Sponsor Prize

Sept. 2015 Western Scholarship of Excellence Entrance Award

Jun. 2015 Herbert H. Carnegie Future Aces Scholarship, Herbert H. Carnegie Future Aces Foundation

June 2015 Principal's Award for Student Leadership, Ontario Principals' Council

Jun. 2015 Overlea-Marc Garneau Alumni Scholarship, Overlea-Marc Garneau Alumni Association

Jun. 2015 54 Division Community Safety Scholarship, Toronto Police Community Police Liaison Committee (CPLC)

Jun. 2015 The Jim McQueen Excellence in Education Award, Ontario Secondary School Teachers' Federation

Jun. 2014 Gold Award, The Duke of Edinburgh's International Award Canada

May 2014 AP Scholar with Honor, College Board

May 2014 Merit Award, Merit Award Bursary Program

Jun. 2012 Male Junior Athlete of the Year, Marc Garneau Collegiate Institute

Skills

languages *MATLAB, R, Python, Java*

web *Javascript, Shiny*

other *Photoshop, Illustrator, Git, Gmsh, LaTeX*

Presentations & Conferences

Mar. 2017 He H. Tracking Red Blood Cells in vivo. Western Student Research Conference, Western University. 10 minute oral presentation.

Feb. 2017 Chai D, Chen R, Dobson A, Dumbrava M, He H, Kao C, Sung I. Investigating the effects of antibiotic cocktails on the growth of *Pseudomonas fluorescens* and *Streptomyces griseus*. Research Methods course poster presentation.

Aug. 2016 He H. Multiple Object Tracking for Red Blood Cells in vivo. DUROP Research Showcase, Schulich School of Medicine and Dentistry. 4 minute oral presentation.

Aug. 2016 He H. Multiple Object Tracking for Red Blood Cells in vivo. Medical Biophysics Summer Student Research Showcase, Schulich School of Medicine and Dentistry. 2 minute oral presentation.

References

Christopher Ellis, Ph.D.
Professor
Department of Medical Biophysics
Schulich School of Medicine and Dentistry
London, ON
(519) 661-2111
cgellis@uwo.ca

Stephen Barr, Ph.D.
Associate Professor
Department of Microbiology and Immunology
Schulich School of Medicine and Dentistry
London, ON
(519) 661-3438
stephen.barr@schulich.uwo.ca

Deepa Kushwaha, Ph.D.
Scientific Program Manager
Rare Genomics Institute
New York, NY
(508) 331-7656
deepa.kushwaha@raregenomics.org