

Amna Hyder

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Technical Researcher, Entrepreneur and Passionate Science Educator.

Career Experience

- Maternity Break** **Sept/21-current**
- Took a few months to transition back to Canada with baby
 - Worked on social psychology podcast amnahyder.com/tethered-minds
 - Contractually photographed weddings and family shoots amnahyder.com/photography
- Associate Director at TKS** **Mar/20-Sept/21**
- Led and directed Boston and global virtual program of over 120 students coaching future innovators in research and entrepreneurship
 - Built and led four, 4 hour sessions each weekend for cohorts of students
 - Helped develop strategy to build out the global virtual program
 - Coordinated world class speaker panels, events, and led projects with corporate sponsors
- CEO at BabyChild and Naturally Henna** **Oct/18-Nov/21**
- Links: www.shopbabychild.com and www.naturallyhenna.com
 - $\frac{3}{4}$ of a million dollars in sales in the first year. Take home profit of \$38,000 within the first few months
 - Designed and developed several products. Hired and trained employees. Designed the website, managed shipping, fulfillment and customer service. Also took care of all the marketing and most product photography
- Research Assistant at the Action Perception Lab** **Sept/16- Oct/18**
- Managed the lab website, all accounts/finances and overseeing several projects in the lab
- TA at UBC for Psych 101** **May/13-Current**
- Lead and prepared tutorials for class. Marked exams and projects
 - Did one guest lecture for all tutorial sections
- Credit Risk Modeling Analyst at Scotiabank** **Sept/14-Sept/15 and May/16-Sept/16**
- Respond to requests by OSFI and publish quarterly reports for validation reports
 - Used SAS, VBA and SQL to build models
 - Help develop scorecard models for various products
- Tutor at Queen Elizabeth Academy** **May/13-Current**
- Design lesson plans for students in advanced functions, calculus and vectors, grade 11-12 chemistry, grade 11-12 physics, and grade 10 science
- Research Assistant with Dr. Birmingham** **Sept/15-May/16**
- Statistical Analysis of data from neurofeedback sessions
 - Helped with neurofeedback sessions for eating disorder patients
- Tutor at Queen Elizabeth Academy** **May/13-Sept/15**
- Design lesson plans for students in advanced functions, calculus and vectors, grade 11-12 chemistry, grade 11-12 physics, and grade 10 science
- Research Assistant the Department of Mathematics at Statistics at McMaster** **May/13-May/14**
- Looked into statistical problem of dimensionality reduction (how first few eigenfunctions of combinatorial laplacian can be used to reduce dimensionality of higher dimensional data sets)
 - Applied this to prediction of mortgage prepayment loans, and data sets in biochemistry

- Youth Mentor for the Youth Leadership Development Program Mississauga** **May/12-July/12**
- Responsible for supervision and planning of activities for group of students in summer leadership camp
 - Worked to instill leadership qualities in students and invited them to engage in leadership opportunities
- Piano Teacher** **May/13-May/14**
- Prepared lesson plans to get student to pass royal conservatory of music exams
- Credit Analyst at Scotiabank** **May/11-Sept/11**
- Assisted in project management by organizing and checking deliverables, proof-reading documents, and monitoring tasks during the development of the new EGL
 - Role included documentation of minutes and updating progress on key deliverables
- Teaching Assistant (TA) for the Peel District School Board** **June/10-July/10**
- Wrote and marked tests, quizzes and an exam that would help prepare them for more advanced math later
 - Previously acted as a TA in grade two grade 10 science classes
 - Employed new teaching methods for lectures (such as videos, group work, games)
- Subway Restaurant (Erin Mills Town Center) in High School** **Feb/09-Jan/10**
- Started working when I hit 16 to be able to save and graduate university debt free

Education

- Neuroscience Masters at UBC** **Sept/16 - April/20**
- Thesis investigates differences in the mirroring and mentalizing systems using several computational methods applied to EEG data. Thesis available at amnahyder.com/research
 - Previous thesis explores emergent properties in a variety of different social contexts by measuring two brains simultaneously
 - Look at differences in functional connectivity and between-brain coupling:
 - in cooperative, competitive and independent conditions, as well as
 - in the joint experience of ostracism with either common vs. divergent mindsets
 - Collect and analyze EEG data on concussed individuals to identify biomarkers of concussion
 - Use graph theory analysis to investigate the effects of chemotherapy on the brain
 - Investigate how functional connectivity is altered for individuals with cerebral palsy while undergoing mobility rehabilitation
 - Study how functional connectivity is altered in a variety of eating disordered states
 - Scholarships: Faculty of Medicine Graduate Award (\$6,500); Cordula and Gunter Paetzold Fellowship 2017 (\$12,000); Cordula and Gunter Paetzold Fellowship 2018 (\$6,000).
- Center for the Integration of Research, Teaching, and Learning (CIRTL) Associate** **Sept/11 - May/14**
- *Earned a CIRTL teaching certificate as part of a program that trains post-docs and PhD students in evidence-based teaching methods.*
- Computation and Cognitive Neuroscience Summer School (CCNSS)** **June/18 - July/18**
- Selected as one of 32 students from 14 different countries (<http://www.ccns.org/ccn-2018>)
 - Program trains PhD students in research domains associated with Computational Neuroscience with several world-renowned researchers over the course of several weeks. All programming is done in **Python**.
 - Full scholarship with all living expenses (hotel & food) covered by funding from google DeepMind
- Honours Bachelor of Integrated Science at McMaster University** **Sept/10 - May/14**
- Elected as valedictorian for graduating class
 - Graduated with highest distinction (*summa cum laude*) and Deans Honours List

- Integrated Science is a competitive interdisciplinary program that expresses a holistic view of science through research projects that emphasize leadership, group work, research, presentation and writing skills
- Completed thesis in *mathematics and statistics* on a graph theory analogue for dimensionality reduction

Completed a concentration in Physics and Astronomy at McMaster University **Sept/11 - May/14**

John Fraser Secondary School, Mississauga

Sept/06 - June/10

- 4.0 average last two years.
- Received "Friends of Fraser Award" and Silver Award in 2009 and 2010 respectively

Publications (author underlined)

Brucar, L.R., Hyder, A. and Birmingham, C.L. (2018). Normalizing the Neural Correlates of Binge-Eating Disorder with Lisdexamfetamine: A Case Report and Review of the Literature. *OJPSYCH, Special Edition*.

Porter, S., Torres, I. J., Panenka, W., Rajwani, Z., Fawcett, D., Hyder, A., & Virji-Babul, N. (2017). Changes in brain-behavior relationships following a 3-month pilot cognitive intervention program for adults with traumatic brain injury. *Heliyon*, 3(8), e00373

Hyder, A., and Maung, M. (2014, April). "Using the First Three Eigenfunctions of the Combinatorial Laplacian for Dimensionality Reduction". McMaster University.

- Final thesis report exploring how effective first three eigenfunctions of the combinatorial laplacian are in a variety of applications (protein-protein interactions, carcinogenicity predictions, mortgage prepayment loan prediction). Developed theory behind the statistical method and developed models to use it in

Hyder, A., and Colgoni, A. (2013, April). "Efficacy of Problem Based Learning Approaches Across Programs at McMaster". McMaster University.

- Research featured in McMaster Daily News. Explored the efficacy of a variety of problem based learning programs using student responses from each program

Hyder, A. (2012). Evidence for Primordial Life. In C. Eyles & S. Symons (Ed.), *History of the Earth (Volume II)*. Hamilton: ON.

- Authored chapter in earth science textbook. Assisted in editing process.

Conference Presentations (author underlined)

Hyder, A., and Virji-Babul, N. (2018, June). "Increased network connectivity across all frequency bands in adolescents with concussion". Organization for Human Brain Mapping, OHBM. Singapore.

Hyder, A., and Virji-Babul, N. (2018, May). "Functional Connectivity of Between-Brain Coupling in Social Contexts". Canadian Association for Neuroscience, CAN-ACN. Vancouver.

Hyder, A., and Virji-Babul, N. (2018, May). "The Effect of Social Context on Functional Connectivity and Between-Brain Coupling". GF Strong Rehab Research Day, University of British Columbia, Vancouver, BC. (60+ presentation attendees)

Hyder, A., and Birmingham L. (2016, October). "Using Vyvanse To Normalize The Neural Correlates Of BED": A Case Study. 22nd Annual EDRS Meeting in New York City, NY.

Hyder, A., and Maung, M. (2014, April). "Dimensionality Reduction". Presented at the Synthesis Symposium, McMaster University, Hamilton, ON.

Hyder, A., McDonough, D., Peng, M. (2013, December). "Efficacy of Levodopa vs. Rasagiline in the Treatment of Parkinson's Disease". Presented in the Health and Disease Symposium, McMaster University, Hamilton, ON.

Hyder, A., and Colgoni, A. (2013, April). "Efficacy of Problem Based Learning Approaches Across Programs at McMaster". McMaster University.

Hyder, A., (2010, June 25). "The Faces of International Hunger vs. National Hunger". Eden Community Food Bank OTF Grant Kick-Off Event. Mississauga, ON.

Hyder, A. (2010, June 1) "Hunger in Canada" Presented at Mississauga Hunger Awareness Breakfast at Eden Community Food Bank. Mississauga, ON.

Awards & Accomplishments

- 2018: Full scholarship and living expenses for the CCNSS
- 2018: Cordula and Gunter Paetzold Fellowship 2018 (\$6,000)
- 2017: Cordula and Gunter Paetzold Fellowship 2017 (\$12,000)
- 2017: Finalist for MAX Gala Women in Science Award (\$6,000)
- 2016: Faculty of Medicine Graduate Award (\$6,500)
- 2014: Elected as Valedictorian for Graduating Class
- Class Pedagogical Research presentation previewed on McMaster Daily News (2013)
- 2012: Muslims for Humanity Award
 - Awarded for large leadership role in Muslim community (ICNA Relief). Acknowledged critical role in organizing leadership development in community.
- 2010: McMaster University President's Award (\$2500)
- 2010: Realizing our Vision Silver Award - John Fraser S.S.
 - Awarded to student actively involved in developing school community. Recognized efforts to develop more environmental awareness at the school, and integrating school community

Extracurricular Activities

Part-Time Photographer

Aug/18-Jan/2020

- Photographed a few weddings and engagement shoots.

Youth Engagement Manager at The Citizens Foundation in Canada

Dec/14-Dec/18

- The Citizens Foundation is one of the world's leading non-profit organizations in the field of education of the underprivileged, and has developed 1000s of purpose-built schools in Pakistan
- Helped manage the Drive to See them Thrive campaigns that brought in a quarter of a million dollars each year. Helped plan yearly galas in Toronto and Vancouver, Canada.
- Flown in to speak at the Toronto TCF 2016 gala (in front of 1000+ guests)

President and Founder of Students Teaching Students Ontario

Dec/10-Current

- Founded organization that provides guests lectures to schools throughout Ontario by several motivated university students on their fields of interest (www.stsontario.org)
- Gave over 20 guest lectures on cutting edge research in science related to students curriculum
- Developed a Science Fair for grade 7-8 students with individual peer mentors to guide students on the scientific method
- Aim is to provide fresh new perspective to curriculum and answer questions about post-secondary pathways

VP Administration of Origins Society at McMaster University **May/13-May/14**

- Responsible for overseeing all administrative duties for society comprising of all origins institute members
- Helped in organizing origins related events and ensuring weekly colloquia and public lectures ran smoothly

Honorary Member of Pakistani Professional Forums **2007-Current**

- Founded to bring together a community of Pakistani/Canadian professionals for networking and community development purposes
- Manage youth related events for the networking

Academic Mentoring **Jan/13-May/14**

- Physics Help Initiative (PHI) at McMaster (Sept/2012-May/2014)
- iSci Society Academic Mentor (Sept/2011-May/2014)
- Social Science Senior Scholar at John Fraser Secondary School (2008-2010)

Peer Coaching at John Fraser **Jan/09-June/10**

- Received week-long councilor training on how to assist guidance councilors in dealing with at risk students.
- Trained as Peer Mediators that can assist students who want to solve problems they are having with other students.
- Weekly meetings with students who need extra support.

Royal Treatment at John Fraser **Sept/07-June/10**

- Acted as Segway between faculty staff and parents.
- Helped in organizing all faculty run events at John Fraser such as weekly parent-teacher information sessions, parent-teacher nights, graduations or after-school events

Clubs and Organizations Liaison Representative **Dec/10-Current**

- Elected to be responsible for overseeing all the clubs and organizations at John Fraser Secondary School
- Hosted school wide Clubs Fest to introduce students to clubs at the school and develop integrated community

Volunteer Experience**Research Assistant in Computational Biochemistry Department** **May/14-Current**

- Applied statistical method developed throughout thesis to the prediction of carcinogenicity of polycyclic aromatic hydrocarbons (PACs)
- Determined which properties of PACs contribute to carcinogenicity using 1700 hundred properties of 200 PACs with corresponding carcinogenicity ranges
- Applied the combinatorial laplacian & pre-established statistical methods to data to make a predictive model. Currently working on publication of results in a peer reviewed journal

Honorary Annual Science Fair Judge and Mentor at Al-Falah **2010-Current**

- Honorary judge at the annual Al-Falah Science fair
- Help teachers better prepare students corresponding to BASEF guidelines.
- Provide students with thorough individual feedback to help them understand the scientific method, and the nature of scientific research

International Fundraising Initiatives

- Fundraising Manager for TCF (The Citizens Foundation): Dec/12-Current
 - TCF is one of the biggest and fastest growing non-profit organizations globally

- Role included recruiting support teams across Ontario to help fundraise, and leading an independent fundraising team
- Responsible for developing new ideas to expand awareness and fundraising as well as in event preparation
- Honorary member of McMaster EMPOWER: Eliminating Manipulation and Poverty Worldwide through Educational Revival: Sept/10-April/14
 - Responsible for the preparation of events throughout the school year to raise funds supporting the development of sustainable schools and education projects in underprivileged countries globally
- Canadian Coordinator of SAYA trust: June/09-Current
 - Family owned non-profit school in Islamabad (Pakistan). Responsible for coordinating Canadian fundraising events and donations

Teaching Assistant for Grade 10 Science

Dec/10-June/10

- Volunteer teaching assistant responsible for helping students that need more support, marking labs or quizzes, and presenting short lessons

Over 400 Volunteer Hours at Community Service Based Organizations

Sept/07-current

- 220 volunteer hours at Al-Falah Elementary School
- Speaker and volunteer at Eden Community Foodbank
- Helped plan the annual Synthesis Symposium at McMaster highlighted integrated research across the university
- Remaining hours at volunteer opportunities hosted by *Volunteering Peel, PEYA, Integrated Science and McMasters Soup Kitchen*