

Md. Ruhul Amin
Email: mdruhul@ualberta.ca

EDUCATION

Graduate Programs

PhD Candidate

Research area: Synaptic Biology.

Supervisor: Dr. Declan W. Ali; Co-Supervisor: Dr. John Chang

Research title: Effect of Cannabinoid Exposure during Gastrulation in Zebrafish Development.

Department of Biological Science, University of Alberta, Canada.

M.Sc. in Theoretical and Computational Biochemistry (2010-2012)

Supervisor: Dr. Marc Roussel

Research title: Mathematical and computational modeling of photosynthetic oscillations.

University of Lethbridge, Canada.

M.S. in Biotechnology and Genetic Engineering (2007-2009)

Research title: Studies on the enhancement of silk protein of silkworm (*Bombyx mori* Linn.) using low-dose gamma irradiation and their thermostability properties.

Khulna University, Khulna, Bangladesh.

Undergraduate

B.Sc. in Biotechnology and Genetic Engineering (2001-2005)

Research title: Phytochemical and Pharmacological Screening of *Cerbera odollam* seeds.

Khulna University, Khulna, Bangladesh.

PUBLICATIONS

Research article published

1. **Md Ruhul Amin**, Kazi T. Ahmed and Declan W. Ali. Early exposure to THC alters Mauthner cell development in zebrafish embryos. *Biomedicine* 8(1), 5 (2020). <https://doi.org/10.3390/biomedicines8010005>.
2. Md Shah Sufian, **Md Ruhul Amin**, Richard Kanyo, W. Ted Allison, Declan W. Ali. CB1 and CB2 receptors play differential roles in early zebrafish locomotor development. *Journal of Experimental Biology* 222: jeb206680 (2019). doi: 10.1242/jeb.206680.
3. Kazi Tanveer Ahmed*, **Md Ruhul Amin***, Parv Shah and Declan Ali. Motor neuron development in zebrafish is altered by brief (5-hr) exposures to THC (Δ^9 -

tatrehydrocannabinol) or CBD (cannabidiol) during gastrulation. *Scientific Reports* volume 8, Article number: 10518 (2018). [* indicates equal contribution]

4. **Md Ruhul Amin**, H Izadi and B Quémerais. Design of an exposure chamber for the evaluation of personal samplers. *Journal of Physics: Conference Series* 617 (2015). doi:10.1088/1742-6596/617/1/012012.

5. B Quémerais, James Mino, **Md Ruhul Amin**, H Golshahi and H Izadi. Detailed characterization of welding fumes in personal exposure samples. *Journal of Physics: Conference Series* 617 (2015). doi:10.1088/1742-6596/617/1/012011.

6. **Md Ruhul Amin** and Marc Roussel. (2014) Graph-Theoretic Analysis of a Model for the Coupling Between Photosynthesis and Photorespiration. *Canadian Journal of Chemistry*. 92(2): 85-93.

7. F Ahmed, **Md Ruhul Amin**, IZ Shahid, ME Sobhani. (2008) Antibacterial, cytotoxic and neuropharmacological activities of *Cerbera odollam* seeds. *Oriental Pharmacy and Experimental Medicine (OPEM)*. 8 (4): 323-328.

8. M S H Reza, C. Mandal, K A Alam, A Salam, M A Rahman, **Md Ruhul Amin**, M N Huda, N C Ghosh, M R Ali, F Ahmed (2007), Phytochemical, Antibacterial and Antinociceptive Studies of *Hoya Parasitica*. *Journal of Pharmacology and Toxicology*. 2(8): 753-756.

Under preparation

1. **Md Ruhul Amin**, Kazi T. Ahmed and Declan W. Ali. CBN mediates its detrimental activity during development through Cannabinoid receptor 2 (CB2R). *Frontiers in Pharmacology*. (Submitted).

2. Declan Ali, **Md Ruhul Amin**, Kazi T Ahmed, Birbickram Roy, Ruiqi Cai, Jingfeng Tang, and Xing-Zhen Chen. Expression and development of TARP- 4 in embryonic zebrafish. *Journal of Experimental Biology (JEB)*. (Under revision).

3. **Md Ruhul Amin**, Jeffrey Krook, Trevor Hamilton and Declan W. Ali. Prenatal brief CBD exposure has persistence effect on development and its offspring. *Science Advances*. (Manuscript is under preparation).

4. **Md Ruhul Amin**, Calvin Howard, Kazi T. Ahmed, John Chang and Declan W. Ali. Combined treatment of THC and EtOH is detrimental for zebrafish development. *Neurotoxicology and Teratology*. ((Manuscript is under preparation).

BOOK CHAPTER

1. **Md Ruhul Amin** and Declan William Ali. Cannabinoid Receptor Pharmacology: Cannabinoid Receptors and Neurodevelopment. Invited Reviews in Molecules. (under preparation)
2. **Md Ruhul Amin** and Declan William Ali (2019) Pharmacology of Medical Cannabis. In: Bukiya A. (eds) Recent Advances in Cannabinoid Physiology and Pathology. Advances in Experimental Medicine and Biology, vol 1162. Springer, Cham. https://doi.org/10.1007/978-3-030-21737-2_8.

ORAL/POSTER PRESENTATIONS

1. **Md Ruhul Amin**, Kazi Tanveer Ahmed and Declan Ali. “Acute exposure to cannabinoids alters early neuronal development in Zebrafish” at 7th International Drug Abuse Research Society (IDARS), in Casablanca, Morocco, September 2-6, 2019.
2. **Md Ruhul Amin**, Kazi Tanveer Ahmed and Declan Ali. “Effect of cannabinoids exposure during gastrulation on neuronal development in Zebrafish” at RE Peter Biology Conference, University of Alberta, Edmonton, Canada, March 6-8, 2019.
3. **Md Ruhul Amin**, Kazi Tanveer Ahmed and Declan Ali. “Effect of delta9 (-) THC (tetrahydrocannabinol) exposure during gastrulation on neuronal development in Zebrafish” at SFN 47th Annual Meeting, San Diego, CA, USA. November 3-7, 2018.
4. Declan Ali **Md Ruhul Amin**, Kazi Tanveer Ahmed. “Neuronal development in zebrafish is altered by brief exposure (5-hr during gastrulation) to cannabidiol (CBD)” at SFN 47th Annual Meeting, San Diego, CA, USA. November 3-7, 2018.
5. **Md Ruhul Amin**, Kazi Tanveer Ahmed and Declan Ali. “Zebrafish embryos exposed to THC (delta-9-tetrahydrocannabinol) during gastrulation exhibit alterations in heart rate and synaptic activity at the neuromuscular junction” at 7th International Drug Abuse Research Society (IDARS), in Dubrovnik, Croatia, September 4-8, 2017.
6. **Md Ruhul Amin**, Kazi Tanveer Ahmed and Declan Ali. “Developmental effect of cannabinoids exposure during gastrulation in Zebrafish”. SFN 47th Annual Meeting, Washington, DC, USA. November 11-15, 2017.
7. **Md Ruhul Amin**, Kazi Tanveer Ahmed and Declan Ali. “Effect of THC Exposure During Gastrulation on Zebrafish” at RE Peter Biology Conference, University of Alberta, Edmonton, Canada, Jan 30-31, 2017.

8. Bernadette Quémérais, Hooman Golshahi, **Md Ruhul Amin**, James Mino. “Detailed characterization of welding fumes in personal exposure samples”. 10th International Scientific Conference of the International Occupational Hygiene Association (IOHA), London April 25–30, 2015.
9. Hossein Izadi, **Md Ruhul Amin**, Bernadette Quémérais. “Design of an exposure chamber for the evaluation of personal samplers”. 4th International Conference on Safe Production and Use of Nanomaterials (Nanosafe2014), in MINATEC, Grenoble, France, 18-20th Nov 2014.
10. James Mino, **Md Ruhul Amin** and Bernadette Quémérais. “Detailed characterization of welding fumes in personal exposure samples”. 4th International Conference on Safe Production and Use of Nanomaterials (Nanosafe2014), in MINATEC, Grenoble, France, 18-20th Nov 2014.
11. **Md Ruhul Amin** and Marc Roussel “Modeling of photosynthetic oscillatory Dynamics of internal CO₂ in plant leaf” at Chinook Symposium for Chemistry & Biochemistry, University of Lethbridge, Alberta, Canada, September 30, 2011.
12. **Md Ruhul Amin** and Marc Roussel “Mathematical and computational modeling of photosynthetic oscillations of internal CO₂ in plant leaf” at 5th G. J. Butler memorial conference on differential equations and population biology, University of Alberta, Edmonton, Alberta, Canada. July 25-30, 2011.

AWARDS / SCHOLARSHIPS

- ❖ Received University of Alberta Graduate Fellowship (UAGF) 2019, University of Alberta; value of 8000 \$.
- ❖ Received Runner up award in poster presentation at RE Peter Biology Conference (2017), University of Alberta; value of 100 \$.
- ❖ Received M. Sc. Research Fellowship (January 2010-December 2011), University of Lethbridge; value of 2000 \$.
- ❖ Received International Student Entrance Award (January 2010- December 2011), University of Lethbridge; value of 5000 \$.
- ❖ Awarded Merit Scholarship during M.S. based on the undergraduate GPA (2007-2008), Khulna University; value of 50 \$/year for 1 year.
- ❖ Awarded Academic Merit Scholarship during 4 years study in undergraduate level, based on yearly GPA. (2002-2006), Khulna University; value of 25 \$/year for 4 years.

- ❖ Received Primary School Certificate (PSC) Scholarship in 5th standard (1995-1997) in Kalam High school; value of 25 \$/year for 2 years.
- ❖ Received Primary School Certificate (PSC) Scholarship in 5th standard (1991-1994) in Kalam High school; value of 20 \$/year for 4 years.

TEACHING AWARDS

- ❖ Recognized with **Graduate Student Teaching award (GSTA) 2020**, Faculty of Graduate Studies and Research (FGSR), university of Alberta.
- ❖ Won **Departmental Graduate Teaching Award (GTA) 2018**, Department of Biological Science, University of Alberta.
- ❖ Received a letter of Commendation in Teaching Excellence (2016-2017), Department of Biological Science, and University of Alberta.

RESEARCH/PROFESSIONAL EXPERIENCES

- ❖ Worked as microbiologist (Quality Assurance Officer) in Doctor's Chemical Works Ltd, Bangladesh (July, 2008 - December, 2009).
- ❖ Worked as a research fellow at Insect Biotechnology Division, IFRB, Atomic Energy Research Establishment, Dhaka, Bangladesh (January, 2008 - June, 2008).

TEACHING EXPERIENCES

- ❖ Teaching Assistant for ZOOL 342 NEUROBIOLOGY (LEC B1), Department of Biological Science, University of Alberta, Canada, (January, 2020 - April, 2020).
- ❖ Teaching Assistant for ZOOL 344 LAB EXERCISES IN ANIMAL PHYSIOL (LAB D1), Department of Biological Science, University of Alberta, Canada, (September, 2019 - December, 2019).
- ❖ Teaching Assistant for ZOOL 342 NEUROBIOLOGY (LEC B1), Department of Biological Science, University of Alberta, Canada, (January, 2019 - April, 2019).
- ❖ Teaching Assistant for ZOOL 344 LAB EXERCISES IN ANIMAL PHYSIOL (LAB D1), Department of Biological Science, University of Alberta, Canada, (September, 2018 - December, 2018).

- ❖ Teaching Assistant for ZOOL 342 NEUROBIOLOGY (LEC B1), Department of Biological Science, University of Alberta, Canada, (January, 2018 - April, 2018).
- ❖ Teaching Assistant for ZOOL 344 LAB EXERCISES IN ANIMAL PHYSL (LAB D1), Department of Biological Science, University of Alberta, Canada, (September, 2017 - December, 2017).
- ❖ Teaching Assistant for ZOOL 342 NEUROBIOLOGY (LEC B1), Department of Biological Science, University of Alberta, Canada, (January, 2017 - April, 2017).
- ❖ Teaching Assistant for ZOOL 344 LAB EXERCISES IN ANIMAL PHYSL (LAB D1), Department of Biological Science, University of Alberta, Canada, (September, 2016 - December, 2016).
- ❖ Teaching Assistant for BIOL 201 EUKARYOTIC CELLULAR BIOLOGY (LEC B1), Department of Biological Science, University of Alberta, Canada, (January, 2016 - April, 2016).
- ❖ Teaching Assistant for ZOOL 344 LAB EXERCISES IN ANIMAL PHYSL (LAB D1), Department of Biological Science, University of Alberta, Canada, (September, 2015 - December, 2015).
- ❖ Teaching Assistant for CHEMISTRY 2120A (CHEMISTRY FOR LIFE SCIENCE II) LAB (SEC- 1 & 3), University of Lethbridge, Alberta (January, 2012- April, 2012).
- ❖ Teaching Assistant for CHEMISTRY 1110 (CHEMISTRY FOR LIFE SCIENCE I) LAB (SEC- 1 & 3), University of Lethbridge, Alberta (September, 2011 – December, 2011).
- ❖ Teaching Assistant for CHEMISTRY 2120A (CHEMISTRY FOR LIFE SCIENCE II) LAB (SEC- 2 & 4), University of Lethbridge, Alberta (January, 2011 – April 2011).
- ❖ Teaching Assistant for CHEMISTRY 2120A (CHEMISTRY FOR LIFE SCIENCE II) LAB (SEC-2), University of Lethbridge, Alberta (January, 2010 – April 2010).

PROFESSIONAL AFFILIATION

- ❖ Member, Society for Neuroscientists (SFN).

LEADERSHIP/ VOLUNTEERING

- ❖ Elected **President**, Royal Bengal Cricket Club (January 2020-December 2020).
- ❖ Elected **Advisor**, Royal Bengal Cricket Club (2018 and 2019).

- ❖ **Alternative GSA representative** for Department of Biological Science, U of A (2019).
- ❖ **GSA representative** for Department of Biological Science, U of A (2018).
- ❖ **Co-founder**, Royal Bengal Cricket Club (2017) - Two cricket teams (A and B) under this club play cricket in Edmonton cricket league (EDCL).
- ❖ Elected **President**, Bangladeshi Student Association at University of Alberta (BSAUA) (2016).