

NADA SALLAM

Department of Pharmacology and Toxicology
Faculty of Pharmacy, Cairo University, Egypt

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Education

- Ph.D. in Pharmacology and Therapeutics** Apr 2012
University of British Columbia, Canada
Thesis: Regional heterogeneity of the vascular dysfunction in *db/db* mice: Role of reactive oxygen species. GPA of PhD courses: 4/4.
<https://open.library.ubc.ca/cIRcle/collections/ubctheses/24/items/1.0103453>
- M. Sc. in Pharmacology & Toxicology** Aug 2003
Faculty of Pharmacy, Cairo University, Egypt
Thesis: Pharmacological studies of the possible interactions between certain antidepressants and an oral hypoglycemic drug in experimental animals. General grade of premaster courses: Excellent
- Bachelor of Pharmaceutical Sciences** May 1996
Faculty of Pharmacy, Cairo University, Egypt
Excellent Honors, Ranked first among 520 students, GPA=3.85/4
- Basic research competency program for research coordinators** organized by Cairo University general scientific research department with medical education development center- Faculty of medicine 22 Nov 2016 to 24 Jan 2017
- Graduate Students Certificate in Teaching in Higher Education** May 2009
University of British Columbia, Canada
More than 126 hours training in a cohort-based program covering the scholarship of teaching and learning at higher education institutes.
- International Computer Driving License** 2005
UNESCO Cairo office, Egypt

Work Experience

- 1- Lecturer of Pharmacology**
Department of Pharmacology and Toxicology, Faculty of Pharmacy, Cairo University, Egypt
Oct 2021 to date
- 2- Visiting scholar**
Department of Physiology & Pharmacology, University of Calgary, Canada
Oct 2017 to Sep 2020
- 3- Lecturer of Pharmacology**
A- Department of Pharmacology and Toxicology, Faculty of Pharmacy, Cairo University, Egypt
June 2013 to Sep 2017

B- Department of Pharmacology and Toxicology, Faculty of Pharmacy, British University in Egypt, Egypt
Fall 2016, Spring 2016 and Fall 2017
Co- developed and taught 8 undergraduate (Biostatistics and biological standardization of drugs, Therapeutics-2, Pharmacology II) and postgraduate courses (Experimental pharmacology, Pharmacometrics, Screening of drugs and biostatistics, Risk assessment; special population pharmacology) including an e-learning course (Risk assessment)

Administrative roles

- i. Research coordinator for Department of Pharmacology & Toxicology, Faculty of Pharmacy- Cairo University Jan 2017 to Sep 2017
- ii. Member of the laboratory equipment committee 2013-2015, 2021-2022
- iii. Head of the scientific committee for the 8th International Scientific Conference of Faculty of Pharmacy- Cairo University 2017
- iv. Member of the scientific committee for the 4th, 5th, 6th, 7th International Scientific Conference of Faculty of Pharmacy- Cairo University 2014- 2017
- v. Member of the Performance Appraisal and quality assurance unit, Faculty of Pharmacy- Cairo University 2014- 2016
- vi. Head of the questionnaire subcommittee in the Performance Appraisal and quality assurance unit, Faculty of Pharmacy- Cairo University 2015- 2016
- vii. Coordinator of the performance appraisal and quality assurance unit in the department 2014-2017
- viii. Consultant of the cultural committee for undergraduate students 2015-2017

4- Industrial Postdoctoral Fellow

Department of Anaesthesiology, Pharmacology & Therapeutics, University of British Columbia, Canada and *TherExcell Pharma Inc.*, Vancouver, Canada May 2012- Apr 2013

5- Research Assistant

Department of Anaesthesiology, Pharmacology & Therapeutics, University of British Columbia, Canada Sep 2005- Apr 2012

6- Teaching Assistant

Centre for Intercultural Communication, Continuing Studies, University of British Columbia, Canada Sep 2008- Mar 2011
Department of Pharmacology and Toxicology, Faculty of Pharmacy, Cairo University, Egypt Nov 1996- Sep 2005

7- Invigilator

Access and diversity, University of British Columbia, Canada June 2008- Apr 2012

8- Community Pharmacist

El-Badry pharmacy, Giza, Egypt Aug 1996- Apr 1998

Peer-reviewed publications

Scopus author ID: 57189016532

Google Scholar citations: 742

ORCID: 0000-0002-0673-2347

Google Scholar H index: 12

1. Hussein HM, Elyamany MF, Rashed LA, **Sallam NA**. Vitamin D mitigates diabetes-associated metabolic and cognitive dysfunction by modulating gut microbiota and colonic cannabinoid receptor 1. **Eur J Pharm Sci.** **2021** Dec 20;170:106105. doi: 10.1016/j.ejps.2021.106105. Epub ahead of print. PMID: 34942358.
2. Mikolajczak A, **Sallam NA**, Singh RD, Scheidl TB, Walsh EJ, Larion S, Huang C, Thompson JA. Accelerated developmental adipogenesis programs adipose tissue dysfunction and cardiometabolic risk in offspring born to dams with metabolic dysfunction. **Am J Physiol Endocrinol Metab.** **2021** Nov 1;321(5):E581-E591. doi: 10.1152/ajpendo.00229.2021. Epub 2021 Aug 30. PMID: 34459218.
3. Abd El-Haleim EA, **Sallam NA**. Vitamin D modulates hepatic microRNAs and mitigates tamoxifen-induced steatohepatitis in female rats. **Fundam Clin Pharmacol.** **2021** Jul 27. doi: 10.1111/fcp.12720. Online ahead of print. PMID: 34312906
4. **Sallam NA**, Borgland SL. Insulin and endocannabinoids in the mesolimbic system. **J Neuroendocrinol.** **2021** Apr;33(4):e12965. doi: 10.1111/jne.12965. Epub 2021 Apr 15. PMID: 33856071
5. Abd El Aziz AE, Sayed RH, **Sallam NA**, El Sayed NS. Neuroprotective Effects of Telmisartan and Nifedipine Against Cuprizone-Induced Demyelination and Behavioral Dysfunction in Mice: Roles of NF- κ B and Nrf2. **Inflammation.** **2021** Aug;44(4):1629-1642. doi: 10.1007/s10753-021-01447-6. Epub 2021 Mar 11. PMID: 33709265
6. Muhammad RN, **Sallam N**, El-Abhar HS. Activated ROCK/Akt/eNOS and ET-1/ERK pathways in 5-fluorouracil-induced cardiotoxicity: modulation by simvastatin. **Sci Rep.** **2020** Sep 7;10(1):14693. doi: 10.1038/s41598-020-71531-8. PMID: 32895407
7. **Sallam NA**, Laher I. Redox Signaling and Regional Heterogeneity of Endothelial Dysfunction in db/db Mice. **Int J Mol Sci.** **2020** Aug 26;21(17):6147. doi: 10.3390/ijms21176147. PMID: 32858910
8. El-Said YAM, **Sallam NAA**, Ain-Shoka AA, Abdel-Latif HA. Geraniol ameliorates diabetic nephropathy via interference with miRNA-21/PTEN/Akt/mTORC1 pathway in rats. **Naunyn Schmiedebergs Arch Pharmacol.** **2020** Dec;393(12):2325-2337. doi: 10.1007/s00210-020-01944-9. Epub 2020 Jul 14. PMID: 32666288
9. El-Khatib YA, Sayed RH, **Sallam NA**, Zaki HF, Khattab MM. 17 β -Estradiol augments the neuroprotective effect of agomelatine in depressive- and anxiety-like behaviors in ovariectomized rats. **Psychopharmacology (Berl).** **2020** Sep;237(9):2873-2886. doi: 10.1007/s00213-020-05580-2. Epub 2020 Jun 13. PMID: 32535690
10. Moawad H, El Awdan SA, **Sallam NA**, El-Eraky WI, Alkhawlani MA. Gastroprotective effect of cilostazol against ethanol- and pylorus ligation-induced gastric lesions in rats. **Naunyn Schmiedebergs Arch Pharmacol.** **2019** Aug 1. doi: 10.1007/s00210-019-01699-y. [Epub ahead of print] PubMed PMID: 31372695.
11. **Sallam NA**, Palmgren VAC, Singh RD, John CM, Thompson JA. Programming of Vascular Dysfunction in the Intrauterine Milieu of Diabetic Pregnancies. **Int J Mol Sci.** **2018** Nov 20;19(11). pii: E3665. doi: 10.3390/ijms19113665. Review. PubMed PMID: 30463313; PubMed Central PMCID: PMC6275067.
12. Bishr A, **Sallam N**, Nour El-Din M, Awad AS, Kenawy SA. Ambroxol attenuates cisplatin-induced hepatotoxicity and nephrotoxicity via inhibition of p-JNK/p-ERK. **Can J Physiol Pharmacol.** **2019** Jan;97(1):55-64. doi:10.1139/cjpp-2018-0528. Epub 2018 Nov 1. PubMed PMID: 30383980.

13. Abou El-Ezz D, Maher A, **Sallam N**, El-Brairy A, Kenawy S. Trans-cinnamaldehyde Modulates Hippocampal Nrf2 Factor and Inhibits Amyloid Beta Aggregation in LPS-Induced Neuroinflammation Mouse Model. **Neurochem Res.** **2018** Dec;43(12):2333-2342. doi: 10.1007/s11064-018-2656-y. Epub 2018 Oct 9. PubMed PMID: 30302613.
14. **Nada Sallam** and Ismail Laher. Exercise Modulates Oxidative Stress and Inflammation in Aging and Cardiovascular Diseases. **Oxidative Medicine and Cellular Longevity**, vol. 2016, Article ID 7239639, 32 pages, 2016. doi:10.1155/2016/7239639
15. **Nada Sallam** and Ismail Laher. Regional heterogeneity of vascular dysfunction in *db/db* mice. **Intrinsic Activity**, www.IntrinsicActivity.org, Volume 3, Supplement 2, page 4 on 9 September 2015
16. El-Setouhy DA, Ahmed S, Badawi AA, El-Nabarawi MA, **Sallam N**. Preclinical evaluation of dual action intranasal formulation intended for postoperative/cancer associated therapies. **European Journal of Pharmaceutical Sciences.** **2015** Aug 30;76:48-56. doi: 10.1016/j.ejps.2015.04.015. Epub 2015 Apr 25. PubMed PMID: 25917526
17. **Nada Sallam**, Baohua Wang and Ismail Laher. Exercise training and vascular reactivity in *db/db* mice: Mechanisms beyond weight loss. **Basic and clinical toxicology and pharmacology**, 2014, Volume 115, Issue Supplement s1, page 27.
18. Whitehead RA, Puil E, Ries CR, Schwarz SK, Wall RA, Cooke JE, Putrenko I, **Sallam NA** , MacLeod BA. GABA B receptor-modulated selective peripheral analgesia by the non-proteinogenic amino acid, isovaline. **Neuroscience** 2012 Jun 28;213: 154-60. doi:10.1016/j.neuroscience.2012.04.026
19. **Sallam N**, Fisher A, Golbidi S, Laher I. Weight and inflammation are the major determinants of vascular dysfunction in the aortae of *db/db* mice. **Naunyn Schmiedebergs Arch Pharmacol.** **2011** May; 383(5):483-92. doi: 10.1007/s00210-011-0614-1
20. **Sallam N**, Khazaei M, Laher I. Effect of moderate-intensity exercise on plasma C-reactive protein and aortic endothelial function in type 2 diabetic mice. **Mediators of Inflammation.** **2010**; 2010:149678. doi: 10.1155/2010/149678.
21. Liang W, Tan CY, Ang L, **Sallam N**, Granville DJ, Wright JM, Laher I. Ramipril improves oxidative stress-related vascular endothelial dysfunction in *db/db* mice. **Journal of Physiological Sciences.** **2008** Dec; 58(6):405-11. doi: 10.2170/physiolsci.RP012808.
22. Moien-Afshari F, Ghosh S, Elmi S, Khazaei M, Rahman MM, **Sallam N**, Laher I. Exercise restores coronary vascular function independent of myogenic tone or hyperglycemic status in *db/db* mice. **Am J Physiol Heart Circ Physiol.** **2008** Oct; 295(4):H1470-80. doi: 10.1152/ajpheart.00016.2008.
23. Moien-Afshari F, Ghosh S, Elmi S, Rahman MM, **Sallam N**, Khazaei M, Kieffer TJ, Brownsey RW, Laher I. Exercise restores endothelial function independently of weight loss or hyperglycaemic status in *db/db* mice. **Diabetologia.** **2008** Jul; 51(7):1327-37. Epub 2008 Apr 25. Erratum in: *Diabetologia.* 2009 Jan; 52(1):181. Elmi, S [added]; Rahman, M M [added]; Sallam, N [added]. . doi: 10.1007/s00125-008-0996-x.
24. Elmi S, **Sallam NA**, Rahman MM, Teng X, Hunter AL, Moien-Afshari F, Khazaei M, Granville DJ, Laher I. Sulfaphenazole treatment restores endothelium-dependent vasodilation in diabetic mice. **Vascular Pharmacology.** **2008** Jan; 48(1):1-8. doi:10.1016/j.vph.2007.09.001
25. Rahman MM, Elmi S, Chang TK, Bai N, **Sallam NA**, Lemos VS, Moien-Afshari F, Laher I. Increased vascular contractility in isolated vessels from cigarette smoking rats is mediated by

basal endothelin release. **Vascular Pharmacology**. 2007 Jan; 46(1):35-42.
doi:10.1016/j.vph.2006.06.006

Book Chapter

26. **Nada Sallam** and Ismail Laher. Protective Effect of Exercise on Age-Related Oxidant and Inflammatory Events. In: **Inflammation, Aging, and Oxidative Stress**. Eds: Stephen C. Bondy and Arezoo Campbell. **Springer International Publishing**, Switzerland, 2016. ISSN 2197-7224, ISSN 2197-7232 (electronic). ISBN 978-3-319-33484-4, ISBN 978-3-319-33486-8 (eBook), DOI 10.1007/978-3-319-33486-8, Library of Congress Control Number: 2016949388

Peer reviewing activity

| | Journal/conference | Publisher | Date |
|---|--|--|------------|
| 1 | Frontiers in Pharmacology | Frontiers | Oct 2021 |
| 2 | Current Drug Targets | Bentham Science Publishers | Oct 2020 |
| 3 | International Journal of Obesity | Springer Nature | Sep 2020 |
| 4 | The 66 th Annual Scientific Meeting of Society for Reproductive Investigation | Society for Reproductive Investigation | March 2019 |
| 5 | The 67 th Annual Scientific Meeting of Society for Reproductive Investigation | Society for Reproductive Investigation | March 2020 |
| 6 | Combinatorial Chemistry & High Throughput Screen | Bentham Science Publishers | Nov 2020 |
| 7 | Bulletin of Faculty of Pharmacy, Cairo University | Elsevier | Feb 2016 |

Poster and oral presentations

1. **Nada A Sallam**, Colleen S Peterson, Stephanie L Borgland. Sex differences in the metabolic outcomes of high-fat diet in the offspring after gestational cannabis exposure. A poster virtually presented at the **14th Annual Canadian Neuroscience Meeting** 23 to 25 August **2021**.
2. Colleen S Peterson, **Nada A Sallam**, Stephanie L Borgland. Prenatal edible cannabis exposure alters the electrophysiological properties of ventral tegmental area dopamine neurons in adolescent mice. A poster presented at **The Hotchkiss Brain Institute 17th Annual Research Day**, on 27 May **2021** in Calgary, Canada.
3. Mikolajczak A, **Sallam N**, Singh R, Huang C, Thompson JA. Premature adipose tissue development and heightened adipogenic potential in offspring born to metabolically compromised pregnancy. A poster presented at **Perinatal Biology Symposium**, organized by Society for Reproductive Biology from 24 to 27 August **2019** in Aspen/Snowmass, CO, USA.
4. **Nada A Sallam**, Anna Mikolajczak, Carol Huang, Jennifer A Thompson. Premature adipogenesis and hyperleptinemia in neonates born to hyperglycemic pregnancies in dams with heterozygous deletion of prolactin receptor. A poster presented at **66th Annual Scientific Meeting**, organized by Society for Reproductive Investigation from 12 to 16 March **2019** in Paris, France.

5. **N. A. Sallam**, S. R. Khalil, and H. M. Said. Effects of fennel seed oil on Nrf2 pathway in paracetamol-induced hepatotoxicity in rats. An oral presentation at **18th World Congress of Basic and Clinical Pharmacology**, organized by International Union of Basic and Clinical Pharmacology from 1 to 6 July **2018** in Kyoto, Japan.
6. **Nada Sallam**, Sebastian Larion, James Mintz, Brian Stansfield and Jennifer Thompson. Maternal metabolic dysfunction accelerates perinatal adipogenesis and predisposes to dyslipidemia in the offspring. A poster presented at **Tine Hawort Cardiovascular Research Day**, organized by Libin Cardiovascular Institute of Alberta on 16 April **2018** in Calgary, Canada.
7. **Nada A. Sallam**, Shaimaa R. Khalil, Ola M. Abd El-Raouf and Helmy M. Said. Effects of Zizyphus jujube fruit extract on Nrf2 pathway in paracetamol-induced liver injury in rats. Poster presented at **Pharmacology 2016 organized by British Pharmacology Society** held in London, United Kingdom from 13 to 15 December **2016**.
8. Shaimaa R. Khalil, **Nada A. Sallam**, Ola M. Abd El-Raouf and Helmy M. Said. Protective effects of fenugreek seed extract on experimentally-induced liver injury in rats. Poster presented at **7th International Scientific Conference of Faculty of Pharmacy- Cairo University** held in Giza, Egypt from 16 to 17 April **2016**.
9. **Nada Sallam** and Ismail Laher. Regional heterogeneity of vascular dysfunction in db/db mice. Poster presented at **21st Scientific Symposium of the Austrian Pharmacological Society (APHAR)** held in Graz, Austria from 16 to 18 September 2015 and published in *Intrinsic Activity*, www.IntrinsicActivity.org, Volume 3, Supplement 2, page 4 on 9 September **2015**.
10. **Nada Sallam**, Baohua Wang and Ismail Laher. Exercise training and vascular reactivity in db/db mice: Mechanisms beyond weight loss. Poster presented at the **17th World Congress of Basic and Clinical Pharmacology (WCP2014)** held in Cape Town, South Africa from 13-18 July 2014 and published in *Basic and clinical toxicology and pharmacology*, 2014, Volume 115, Issue Supplement s1, page 27.
11. **Nada Sallam**, Chin Wang Ma and Bernard Macleod. Exercise Tolerance: A novel distress-free model to assess experimental osteoarthritis in mice. A poster presented at the **2012 Annual Meeting of the American Society for Advanced Sciences (AAAS)** held in Vancouver, Canada from 16–22 Feb **2012**.
12. **Nada Sallam** and Bernard Macleod. Exercise Tolerance: A novel distress-free animal model to assess osteoarthritis and its potential treatments. A poster presented at the **5th research day of the Department of Anesthesiology, Pharmacology and Therapeutics**, University of British Columbia held in Vancouver, Canada on 22 June **2011**.
13. **Nada Sallam** and Ismail Laher. Effects of exercise on vasomotor function of aortae and femoral arteries in db/db mice: Mechanisms beyond weight loss. An oral presentation at the **4th research day of the Department of Anesthesiology, Pharmacology and Therapeutics**, University of British Columbia held in Vancouver, Canada on 23 June **2010**.
14. **Nada Sallam** and Ismail Laher. Time course analysis of endothelium dependent and independent relaxation in db/db mice: Evidence for regional heterogeneity. An oral presentation at the **3rd research day of the Department of Anesthesiology, Pharmacology and Therapeutics**, University of British Columbia held in Vancouver, Canada on 24 June **2009**.
15. Majid Khazaei, Farzad Moien-Afshari, Shahrzad Elmi, Mohammad M Rahman, **Nada Sallam**, Ismail Laher. Low and moderate intensity exercise reverse diabetic endothelial

- dysfunction by increasing the expression of different subtypes of SOD. A poster presentation at the **18th Iranian Congress of Physiology & Pharmacology** held in Mashhad, Iran in **2007**.
- 16.** Mohammad M Rahman, Shahrzad Elmi, Thomas KH Chang, Ni Bai, **Nada A Sallam**, Virginia S Lemos, Farzad Moien-Afshari, Ismail Laher. Increased vascular contractility in isolated vessels from cigarette smoking rats is mediated by basal endothelin release. A poster presented at the **71st Annual Scientific Meeting of the Japanese Circulation Society** held in Kobe, Japan from 15 to 17 March 2007 and published in *Circ J.* **2007**;71(1 Suppl):1-59.

Conference attendance

1. **The 18th annual congress of Egyptian Society of Pancreatic Islet Transplantation Research for Diabetic Patients** in Cairo, Egypt from 2nd to 3rd November 2016.
2. **The 11th annual international Arabic Association for the Study of Diabetes and Metabolism** in Cairo, Egypt from 11th to 13th October 2016.
3. **The 13th annual conference “Diabetes: Gut and liver”** in Cairo, Egypt from 28th to 29th September 2016.
4. **TWAS-ARO 11th Annual Meeting** "Green Economy: A Road Map for Sustainable Development and Poverty Reduction in the Arab Region" in Alexandria, Egypt from 16th to 17th December 2015.
5. **The 12th annual conference “Diabetes: Gut and liver”** in Cairo, Egypt from 2nd to 3rd September 2015.
6. **The sixth international scientific conference of faculty of pharmacy, Cairo University** held in Cairo on 25th and 26th April, 2015.
7. **The thirteenth congress of the Egyptian association for the study of liver and gastrointestinal diseases** in Cairo, Egypt from 3rd to 5th March 2015.
8. **The second annual meeting of cardiovascular stem cell therapy** in Cairo, Egypt on 23rd December 2014.
9. **Mansoura Annual International Conference on Vascular Surgery** in Mansoura, Egypt on 20th November 2014.
10. **The Ninth Annual Conference of the Arabic Association for the Study of Diabetes and Metabolism** in Cairo, Egypt from 29 to 31 October 2014.
11. **The fifth Arab Diabetes Forum** in Cairo, Egypt from 3 to 5 September 2014.
12. **The fifth international scientific conference of faculty of pharmacy, Cairo University** held in Cairo on 23rd and 24th April, 2014.
13. **University of British Columbia Learning Conference 2010: Exploring the Dimensions of an Exceptional Learning Environment.** Vancouver, 28 Oct 2010.
14. **The 23rd Scientific Meeting of the International Society of Hypertension: Global Cardiovascular Risk Reduction.** Vancouver, 26-30 Sep 2010.
15. **Learning to lead. Minerva Foundation for British Columbia Women.** Vancouver, 2&3 June 2006.

Graduate students' supervision

| | Graduate student name | Degree | Status |
|---|------------------------------|---------------|---------------|
| 1 | Abeer Mokhtar Bishr | PhD | Graduated |
| 2 | Doaa Mahmoud Abouelezz | PhD | Graduated |

| | | | |
|---|---|-----|-------------|
| 3 | Mohammed Abdulrahman Alkhwilani | PhD | Graduated |
| 4 | Yasmine Aboul-Farag Shams El-Dine El-Khatib | PhD | Graduated |
| 5 | Yasmin Ahmed Mohamed EL-Said | PhD | Graduated |
| 6 | Nada Abd El Salam Abd El Sabour | MSc | Graduated |
| 7 | Shaimaa Rabie Khalil Saad | MSc | Graduated |
| 8 | Amira Emad Abd El Aziz | PhD | Graduated |
| 9 | Hebatalla Mohammed Mohammed Hussein | PhD | In progress |

Academic Awards

- **International Training Grant** (Society for Reproductive Investigation, USA) 2018
- **Mitacs Accelerate Fellowship** (Mitacs incorporation, Canada) 2012
- **Research Day Oral Presentation Award, Graduate student category** (Department of Anesthesiology, Pharmacology and Therapeutics, University of British Columbia) 2009
- **Faculty of Medicine Graduate Award** (University of British Columbia, Canada) 2009
- **Anne and John Brown Fellowship in Diabetes and Obesity Related Research** (University of British Columbia, Canada) 2007
- **Graduate Entrance Award** (University of British Columbia, Canada) 2005
- **Egyptian Government PhD scholarship** (Ministry of Higher Education, Egypt) 2005-2009
- **Egyptian Pharmacists Society Medal (Egyptian Pharmacists Syndicate)** 1996
Awarded for the top student in each of the faculties of pharmacy in Egypt
- **Cairo University Medal of Distinction** 1996
Awarded for the top student in each faculty at Cairo University

Research expertise

- Conducted research in **cardiovascular, neuro and behavioural pharmacology** investigating different animal models of genetic and chemically induced diabetes, adverse gestation, surgically and chemically induced osteoarthritis, pain models, smoking, forced and voluntary exercise training.
- **In vivo studies:** Experienced in the handling of laboratory animals, *in vivo* dosing including intra-peritoneal, intra-articular and intra-cisternal injection, tissue harvesting, blood collection, glucose tolerance test, rodent husbandry, timed pregnancy, insulin sensitivity test, free fatty acids clearance test, rodent surgery, mechanical pain sensitivity, locomotor activity and behavioral tests.
- **In vitro studies:** Mastered several techniques including isometric force measurement of isolated arteries (wiremyography), *ex vivo* tissue explant, training on pressure myograph, and isolation and perfusion of rat pancreas.
- **Western blot, PCR, cell culture, tissue explant, ELISA and spectrophotometric** assays.
- Authored and coauthored **17 publications, 441 citations, H index 9** and in process of submitting **3 manuscripts**.

- **Co-supervised and mentored** 15 postgraduate and undergraduate students and a high school student during their laboratory research.

Research qualifications

- **19th Annual Workshop on the Pathology of Mouse Models for Human Disease** organized by The Jackson Laboratory, USA Oct 2021
- **Institutional Animal User Training program IAUTP** organized by Animal Resource Centre, Cumming School of Medicine, University of Calgary, Canada Oct 2017
- **Laboratory Safety Training, Fire Safety, WHMIS 2015, Biosafety (Biohazard Handling), Biosafety (Bloodborne Pathogen), Incident Reporting and Investigation, Occupational Health and Safety, Hazard Assessment, Biosafety (Program) Training, Spill Response** organized by Cumming School of Medicine, University of Calgary, Canada 2017
- **Systematic Review and Meta-analysis workshop** organized by Medical Education Development Center, Faculty of Medicine, Cairo University 12 Feb to 5 Mar 2017
- **Basic research competency program for research coordinators** organized by Cairo University general scientific research department with medical education development center- Kasr Al Ainy faculty of medicine 22 Nov 2016 to 24 Jan 2017
- **Basic bioinformatics** workshop at Biotechnology Centre, Faculty of Pharmacy, Cairo University 7 & 8 Dec 2014
- **Real time PCR** workshop at Biotechnology Centre, Faculty of Pharmacy, Cairo University May 2014
- **General principles of rodent surgery** course at University of British Columbia, Canada Nov 2012
- **Anesthesia of the laboratory rodent** course at University of British Columbia, Canada Oct 2012
- **Laboratory chemical safety** course at University of British Columbia, Canada May 2008
- **Laboratory biological safety** course at University of British Columbia, Canada Apr 2008
- **Biology and husbandry of the laboratory rodent** workshop at University of British Columbia, Canada 2007
- **Electrochemical detection of nitric oxide** course at University of Aarhus, Denmark Sep 2006
- **Scientific writing** course at University of British Columbia, Canada Jan- Mar 2006

Professional development

Attended more than 600 hours training in workshops related to teaching, research, social and leadership skills including:

Online teaching program (Sept-Oct 2019), Creating online and interactive quizzes (Feb 2017), Adobe Photoshop CC (Feb 2017), Metrics for evaluation of academic performance (Feb 2017), Quality assurance management systems (Dec 2016), The main animal models for current neuropsychiatric disorders (Oct 2016), University management (Oct 2016), Scientific thinking and argumentation skills for problem solving (May 2016), Project management (Apr 2016), Statistical analysis of feedback questionnaires (Dec 2015), External review for higher

educational institutes (Oct 2015), E-learning (May 2015), Course specification and report (Nov 2014), Quality standards in teaching (Oct 2014), Interactive lectures (Dec 2013), Competing for research funds workshop (May 2013), International publishing of scientific research workshop (May 2013), Use of technology in teaching workshop (May 2013), Build your technical and scientific writing skills workshop (April 2011), Practice your presentation skills workshop (Jan 2010), Facilitative leadership (Mar 2008), Project Manager workshop (Feb 2008), Instructional skills program for international teaching assistants program (Jan-Mar 2008), Presentation skills workshop (Nov 2005), Instruction skills workshop (Jan 2006).

Membership in professional societies

- | | |
|---|--------------|
| • Member of Society for Reproductive Investigation (SRI) | 2018 to 2020 |
| • Member of the British Pharmacology Society (BPS) | 2014 to date |
| • Member of Pharmacology for Africa (PharfA) | 2014 to 2016 |
| • Member of the American Association for the Advancement of Science (AAAS) the world's largest general scientific society | 2013 to 2016 |
| • Member of the Egyptian Student Association in North America (ESANA) | 2005 to 2012 |
| • Member of the Egyptian Pharmacists Syndicate | 1996 to date |

Other activities and involvement

- Blood donor in Canadian Blood Services since 2011.
- Volunteer in Calgary Egyptian Association.
- Member of Resala: the largest charity organization in the Middle East since 2013
- Initiated and coordinated the first toy swap at UBC family housing to help the children develop a sense of responsibility and belonging to their community.
- Participated for four years in the Egyptian Student Association in North America book campaign which collects donated books and journals from Canadian and American academic institutions to update libraries of Egyptian Universities.
- Hobbies include cooking, baking, relaxed hiking, photography and drawing.