

Curriculum Vitae

PERSONAL DETAILS

Name	Bashair Mohammed Mussa
Nationality	Australian
Address	M27 Basic Medical Science Department College of Medicine University of Sharjah Sharjah, P.O. Box 27272 United Arab Emirates
Phone #	+971 65057220
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Position (2015-Present)	Assistant Professor in Physiology Basic Medical Sciences Department College of Medicine University of Sharjah
ORCID #	0000-0002-1554-6319
Research Gate	https://www.researchgate.net/profile/Bashair_Mussa
Scopus	https://www.scopus.com/authid/detail.uri?authorId=23480480400

EDUCATION & RESEARCH INTERESTS

PhD – Neurophysiology - 2011

Department of Medicine
The University of Melbourne (Australia)

Dean’s Honour List for Academic Excellence - 2005

Department of Medicine
The University of Melbourne (Australia)

BSc (Hons) – Neurophysiology - 2005

Department of Medicine
The University of Melbourne (Australia)

PhD Dissertation Title – Dorsal motor nucleus of the vagus: physiological roles in controlling pancreatic secretory function

Research Interests

Diabetes and diabetes complications, Neuropathy, Neuroendocrine, Neurophysiology of the pancreas, Central control of insulin secretion, Glucose homeostasis, Physiological stress, Brain Science, Biomedicine Science.

Memberships

American Physiological Society
American Diabetes Association
Australian Neuroscience Society
Emirates Diabetes Society
Ambassador of Asian Council of Science Editors

Referee of international journals

Diabetes Research and Clinical Practice
Ibnosina Journal of Medicine and Biomedical Sciences
Journal of Pain Research
International Journal of Nephrology and Renovascular Disease
Clinical and Experimental Gastroenterology

Grants and Awards

1. **Principal investigator.** Al Jalila Foundation Grant. Investigating the role of FOS and BECLIN1-inducing autophagy in pathogenesis of hypoglycaemia-associated autonomic failure in diabetes”. Oct 2018 (291,000 AED).
2. **Principal investigator.** University of Sharjah (Targeted Grant). Investigation of the relationship between pancreatic exocrine dysfunction and abdominal obesity in Emirati patients with type 2 diabetes mellitus., July 2018 (200,000 AED).
3. **Principal investigator.** University of Sharjah (Collaborative Grant). New sights into obesity-associated diabetic neuropathy: an interrelationship between nitric oxide synthase and insulin resistance (200,000 AED).
4. **Principal investigator.** Sheikh Hamdan Bin Rashid Al Maktoum Award for Medical Sciences. Genetic and transcriptomic analysis of hyperlipidemia in Emirati patients with type 1 diabetes mellitus using saliva and blood samples (Principal Investigator) July 2017 (200,000 AED).
5. **Principal Investigator.** Boehringer Ingelheim Grant. Diabetic gastroparesis and associated hypoglycemia: a focus on the involvement of nitrenergic neurotransmission. Nov 2017 (16,000 AED).
6. **Principal Investigator.** Labco-Grant. Investigation of molecular basis of Fos expression in hypothalamic cells. (Principal Investigator) Jan 2016 (15,000 AED).
7. **Principal Investigator** University of Sharjah (Seed Grant). Beta-cell function and failure: a focus on the interaction between peripheral cholinergic pathway and nitric oxide to regulate insulin secretion (Principal Investigator) April 2016 (40,000 AED).
8. **Principal Investigator.** Boehringer Ingelheim Grant. Diabetes-induced depression: BDNF as a promising therapeutic target. Jan 2016 (16,000 AED).
9. **Co-investigator.** Al Jalila Foundation Grant. All New Diabetic in Sharjah and Ajman (ANDISA): An epidemiological and Genetic Study Toward Individualized Medicine
10. **First Place Prize** (Oral Presentation), 9th Emirates Diabetes & Endocrine Congress (Dubai-UAE) Feb 2019.
11. **Poster Presentation** Award, 6th Emirates Diabetes & Endocrine Congress (Dubai-UAE), Feb 2016.
12. **Al Jalila Foundation.** Research Matter Newsletter. November 2020 <https://mailchi.mp/aljalilafoundation/research-matters-1177483?e=02ef25fb61>.

13. **6th UAE Undergraduate Research Competition** for students under my supervision, May 2018.
14. **Second Place Poster Award** for a presentation by students under my supervision, 7th Emirates Diabetes & Endocrine Congress (Dubai-UAE), Feb 2017.
15. **Presentation Award** for students under my supervision, Diabetes World Day Nov, 2016.
16. **Certificate of Appreciation**, for contributions to the Continuous Medical Education Program: 4th Regional Conference on Diabetes and Obesity - Rashid Centre for Diabetes and Research (Ajman, UAE), Nov-2014.
17. **Certificate of Appreciation** for her valuable contributions as coordinator and lecturer in Diabetes Education and Training Course for PHC Physicians (Ajman-UAE) May 2014.
18. **Certificate of Appreciation**, for contributions to the Continuous Medical Education Program: 3rd Regional Conference on Diabetes and Obesity - Rashid Centre for Diabetes and Research (Ajman, UAE), Nov-2013.
19. **Austin Hospital Medical Research Foundation Grant**, Austin Hospital (Melbourne, Australia), Jan-2009.
20. **Austin Hospital Medical Research Foundation Grant**, Austin Hospital (Melbourne, Australia), June-2008.
21. **Melbourne University Scholarship**, The University of Melbourne (Melbourne, Australia), May-2008.
22. **Melbourne Grant**, Department of Medicine, The University of Melbourne and Austin Health (Melbourne, Australia), April-2008.
23. **ANS Award, Australian Neuroscience Society** (Melbourne, Australia), January-2008.
24. **Austin Hospital Medical Research Foundation Scholarship**, Austin Hospital (Melbourne, Australia), October-2007.
25. **AHMRW Best Poster Presentation Award**, Department of Medicine and Austin Health, The University of Melbourne (Melbourne, Australia), October-2007.
26. **Melbourne Research Scholarship**, The University of Melbourne (Melbourne, Australia), 2005-2008.
27. **Dean's Award for Academic Excellence**, The University of Melbourne (Melbourne, Australia), 2005.

CURRENT PROJECTS & PUBLICATIONS

1. **Mussa, B.M.**, Salah Abusnana, Rifat Hamoudi, Ankita Srivastava, Abeer Al-Habshi, Thenmozhi Venkatachalam, Elamin Abdelgadir, Alaaeldin Bashier, Fatheya Al Awadi, Khadija Hafidh. **Genetic and transcriptomic analysis of hyperlipidemia in Emirati patients with type 1 diabetes mellitus using saliva and blood samples.** *In preparation.*
2. **Mussa, B.M.**, Narjes Saheb Sharif-Askari, Nabil Sulaiman, Salah Abusnana. **The glycemic control in Emirati Diabetic Women with Thyroid Dysfunction.** *In preparation.*
3. Noor Amar, **Mussa, B.M.**, Ahmed Elkhapery, Salah Abusnana. Identification of risk factors for development of resistance hypertension in patients with type 2 diabetes. *In preparation.*
4. **Mussa, B.M.**, Srivastava, A. Mohammed, Abeer Aidarous, Halwani, R. Abusnana, S. **Elevated Blood Monocyte Chemoattractant Protein-1 Levels in Emirati Type 2 Patients with Diabetic Neuropathy.** *Submitted.*
5. **Mussa, B.M.**, Srivastava, A. Mohammed, A. Verberne, A.J.M. **Covid-19 and neurological impairment: hypothalamic circuits and beyond.** *Submitted*
6. **Mussa, B.M.**, Khan, A. Srivastava, A. Abdallah, S. **Differentiated fibroblast-like cells: a novel invitro model to study the effects of hyperglycemia on expression of neuronal nitric oxide synthase.** *Submitted.*
7. Al Zoubi Y, **Mussa B.M.**, Srivastava A, Mohammed AK, Abdelgadir E, Bashier A, Awadi FA, Abusnana S. Differential Expression of Inflammatory Markers in Hypoglycemia Unawareness Associated with Type 1 Diabetes: A Case Report. *Brain Sci.* 2020 Dec 25;11(1):E17.
8. Mukhopadhyay, D. **Mussa B.M.** Identification of Novel hypothalamic MicroRNAs as a Promising Therapeutics for SARS-CoV-2 by regulating ACE2 and TMPRSS2 expression: *An In silico Analysis.* *Brain Sci.* 2020 Sep 25;10(10): E666. doi: 10.3390/brainsci10100666. PMID: 32992681.
9. **Mussa, B.M.**, Srivastava, A. Mohammed, A. Verberne, A.J.M. **Nitric oxide interacts with cholinceptors to modulate insulin secretion by pancreatic β -cells.** *Accepted, Pflügers Archiv - European Journal of Physiology,* 2020. Oct;472(10):1469-1480. doi: 10.1007/s00424-020-02443-9.

10. **Mussa, B.M.** Taneera J, Mohammed, A. Srivastava, A. Mukhopadhyay, D. Sulaiman N. **Potential role of hypothalamic microRNAs in regulation of FOS and FTO expression** in response to hypoglycemia. *J Physiological Science*. 2019 Nov;69(6):981-991.
11. **Mussa, B.M.** Schauman, M. Kumar, V. Skaria, S. Abusnana, S (2019). **Personalized intervention to improve stress and sleep patterns for glycemic control and weight management in obese Emirati patients with type 2 diabetes: a randomized controlled clinical trial.** *Diabetes, metabolic syndrome and obesity: targets and therapy*. 2020. 12:991-999.
12. Shieb M, Koruturk S, Srivastava A, **Mussa B.M.** **Growth of diabetes research in United Arab Emirates: current and future perspectives.** *Curr Diabetes Rev*. Curr Diabetes Rev. 2020;16(4):395-401.
13. **Mussa, B.M.** Sood S. Verberne, T. (2018). **Implication of coupled mechanisms of gastric emptying and pancreatic secretory function in diabetic gastroparesis.** *World J Gastroenterol*. 14;24 (34):3821-3833
14. **Mussa, B.M.** Hamodi, R and Abusnana, S (2018). **Association trends between antihypertensive drug therapies and diastolic hypotension in Emirati patients with type 2 diabetes** *Diabetes Therapy*. 9(5):1853-1868.
15. Al Shaikh YG, Haytham Shieb MM, Koruturk S, Alghefari A, Hassan Z, **Mussa B** (2018). **The symptoms and risk of sleep apnea among adults in the United Arab Emirates.** *Ann Thorac Med*. 13(3):168-174.
16. Taneera J, **Mussa B.M.**, Saber-Ayad M, Dhaiban S, Aljaibegi H & Sulaiman N (2017). **Maturity-Onset Diabetes of the Young: An Overview with Focus on the Middle East.** *Curr Mol Med*. 17(8):549-562.
17. **Mussa, B.M.** & Verberne, A.J.M. (2013). **The dorsal motor nucleus of the vagus and regulation of pancreatic secretory function.** *Experimental Physiology*, 98: 25-37.
18. **Mussa, B.M.**, Sartor, D.M. & Verberne, A.J.M. (2011). **Effects of nitric oxide synthase blockade on dorsal vagal stimulation-induced pancreatic insulin secretion.** *Brain Research*, 1394: 62-70.
19. **Mussa, B.M.**, Sartor, D.M. & Verberne, A.J.M. (2010). **Dorsal vagal preganglionic neurons: Differential responses to CCK₁ and 5HT₃ receptors stimulation.** *Autonomic Neuroscience*, 156 : 36-43.
20. **Mussa, B.M.**, Sartor, D.M. & Verberne, A.J.M. (2008). **Activation of CCK₁ and 5HT₃ receptors increases the discharge of pancreatic vagal afferents.** *European Journal of Pharmacology*, 601: 198-206.
21. **Mussa, B.M.** & Verberne, A.J.M. (2008). **Activation of the dorsal vagal nucleus increases pancreatic exocrine secretion in the rat.** *Neuroscience Letters*, 433: 71-76.

COMMUNICATIONS & CONFERENCES

1. **Bashair M. Mussa**, Salah Abusnana, Rifat Hamoudi, Ankita Srivastava, Abeer Al-Habshi, Elamin Abdelgadir, Alaaeldin Bashier, Fatheya Al Awadi, Khadija Hafidh. Investigating the genetic signature of hyperlipidemia in Emirati patients with type 1 diabetes mellitus using saliva and blood samples: a multicenter study. *Australasian Diabetes Congress*. Online, 11-13 November 2020. Accepted Abstract.
2. **Bashair M. Mussa “invited speaker”**. New molecular insights into impaired awareness of hypoglycemia associate with diabetes. *Diabetes, Obesity, and Psychiatry-EHMT Congress*, Stockholm-Sweden March 2020 (Postponed due Corona Virus Outbreak).
3. **Bashair M. Mussa “invited speaker”**. New insights into Diabetic Neuropathy. Diabetes Awareness Day. College of Medicine, University of Sharjah, UAE, 25th November 2019.
4. **Bashair M. Mussa**, Ankita Srivastava, Abdul Khader Mohammed, Anthony J.M. Verberne. Cytokine-stimulated nitric oxide interacts with cholinceptors to modulate insulin secretion by pancreatic β -cells. *10th Emirates Diabetes & Endocrine Congress*, Dubai-UAE, February 2020.
5. **Bashair M. Mussa “invited speaker”**. Electrophysiological and molecular approaches to investigate neuroglycopenia: pros and cons. *5th Current Trend in Biotechnology - Dubai* April 2019.
6. **Bashair M. Mussa**. Identification of potential biomarker for early detection of impaired awareness of hypoglycemia. *9th Emirates Diabetes & Endocrine Congress, Dubai-UAE, February 2019*.
7. **Bashair M. Mussa** Impaired awareness of hypoglycemia: neurophysiological and molecular perspectives. *6th Emirati-German Congress in Medicine. November 2018. Sharjah – UAE*.
8. Ankita Srivastava, **Bashair M. Mussa**, Abdul Khader Mohammed. Beta-cell function and failure: a focus on the interaction between peripheral cholinergic pathway and nitric oxide to regulate insulin secretion. *5th Current Trend in Biotechnology - Dubai* April 2019.
9. **Bashair M. Mussa “invited speaker”**. Management of glycemic control and weight gain in Type 2 diabetes using new Biotechnological Applications. *4th Current Trend in Biotechnology - Dubai* April 2018.

10. **Bashair M. Mussa**, Rifat Hamodi, Ahd Alnosh, Nor Amer, Salah Abusnana. A correlation between diastolic hypotension and antihypertensive medications in Emirati patients with type 2 diabetes – *8th Emirates Diabetes & Endocrine Congress*, Dubai-UAE. February 2018.
11. Noor Amar, **Bashair M. Mussa**, Hessa Qatami, Salah Abusnana. Treatment of resistant hypertension and glycemic control in Emirati patients with type 2 diabetes. *International Diabetes Federation (IDF) meeting* – UAE, December 2017.
12. Alaa Ali., Saja Al Taher, Nafisa Abbasher, Namu Hamawndy, Sara Bin Khadra, **Bashair M Mussa**. Diabetes-induced depression: Brain-Derived Neurotrophic Factor as a promising therapeutic target – *3rd Current Trends in Biotechnology*, Dubai-UAE, April 2017.
13. **Bashair Mussa**, Rifat Hamodi, Ahd Alnosh, Nor Amer, Salah Abusnana. Angiotensin II receptor blockers and sulfonylureas are too good for treating hypertension in Emirati patients with type 2 diabetes - *Australian Diabetes Society Meeting*. Perth - Australia August 2017.
14. **Bashair M. Mussa**. Effects of personalized lifestyle intervention in type 2 diabetes: moving beyond healthy diet and enhanced physical activity. *6th Emirates Diabetes & Endocrine Congress*, Dubai-UAE, February 2016.
15. **Bashair M. Mussa**. Going green - embracing the digital forms of scholarly publishing. *Asian Council of Science Editors Annual Meeting*, Dubai-UAE, August 2015.
16. **Bashair M. Mussa**. Quality improvement project: research documentation. *Rashid Centre for Diabetes and Research*, Ajman-UAE, May 2015.
17. **Bashair M. Mussa**. Academic writing and publishing. *2nd International Conference on Medical Writing*. Ajman-UAE, March 2015.
18. **Bashair M. Mussa**. Prevalence of hypertension and obesity among Emirati patients with diabetes. *5th Emirates Diabetes & Endocrine Congress*, Dubai-UAE, February 2015.
19. **Bashair M. Mussa**. Evaluation of stress physiological response in Emirati patients with type 2 diabetes. *4th Regional Conference on Diabetes and Obesity*, Ajman-UAE, November 2014.
20. **Bashair M. Mussa**. Effects of nitric oxide synthase blockade on dorsal vagal stimulation-induced pancreatic insulin secretion. *4th Emirates Diabetes & Endocrine Congress*, Dubai-UAE, February 2014.
21. **Bashair M. Mussa**. DMV and regulation of pancreatic secretory function. *3rd Regional Conference on Diabetes and Obesity*, Ajman-UAE, November 2013.

22. Anthony J. M. Verberne, Daniela M. Sartor, Christian Rantzau and **Bashair M Mussa**. Effects of nitric oxide synthase inhibition on dorsal vagal stimulation-induced pancreatic insulin secretion. *Experimental Biology Meeting*, Washington DC-USA, April 2011.
23. **Bashair M. Mussa** and Anthony J. M. Verberne. Pancreatic preganglionic neurons: differential responses to CCK₁ and 5-HT₃ receptors stimulation. *Australian Neuroscience Society Meeting*, Canberra-Australia, January 2009.
24. **Bashair M. Mussa** and Anthony J. M. Verberne. Is pancreatic diabetes (type 3c diabetes) underdiagnosed and misdiagnosed? *Department of Medicine, The University of Melbourne*, Melbourne-Australia, July 2008.
25. **Bashair M. Mussa** and Anthony J. M. Verberne. Localization of pancreatic preganglionic neurons within the rat dorsal vagal nucleus. *Experimental Biology Meeting*, San Diego-USA, April 2008.
26. **Bashair M. Mussa** and Anthony J. M. Verberne. Effects of cholecystokinin and serotonin on pancreatic vagal afferent discharge. *Australian Neuroscience Society Meeting*, Hobart-Australia, January 2008.
27. **Bashair M. Mussa** and Anthony J. M. Verberne. Activation of CCK₁ and 5HT₃ receptors increases the discharge of pancreatic vagal afferents. *Department of Medicine, The University of Melbourne* Melbourne-Australia, December 2007.
28. **Bashair M. Mussa** and Anthony J. M. Verberne. Vagal preganglionic neurons and receptors that affect pancreatic function. *Austin Research Week, Austin Hospital*, Melbourne-Australia, October 2007.
29. **Bashair M. Mussa** and Anthony J. M. Verberne. Activation of the dorsal vagal nucleus increases pancreatic exocrine secretion in vivo. *Department of Medicine, The University of Melbourne* Melbourne-Australia, August 2007.
30. **Bashair M. Mussa** and Anthony J. M. Verberne. Activation of the dorsal vagal nucleus increases pancreatic exocrine secretion in vivo. *IBRO World Congress of Neuroscience*, Melbourne-Australia, July 2007.
31. **Bashair M. Mussa** and Anthony J. M. Verberne. Identification of neuronal pathways that are involved in the control of pancreatic secretion. *Austin Hospital*, Melbourne-Australia, October 2006.
32. **Bashair M. Mussa**. DMV: physiological roles in the gastrointestinal tract. *Department of Medicine, The University of Melbourne*, Melbourne-Australia, July 2006.

EMPLOYMENT HISTORY

Organization	University of Sharjah (2015 – Present) Basic Medical Science Department College of Medicine Sharjah, UAE
Position	Assistant Professor of Physiology
Duties	Teaching medical undergraduates and postgraduate courses Coordinating MSc in Diabetes Coordinating Neuroscience Unit Conducting Research as Principal Investigator
Organization	Rashid Centre for Diabetes and Research (2013-2015) Sheikh Khalifa Medical City, Ajman, UAE
Position	Post-Doc Research Associate and Clinical Research Coordinator Principal member of Research and Education Committee Principal member of Clinical Audit Committee Principal member of Courses Organizing Committee
Duties	Teaching Primary Health Care Professional Organizing written, oral and clinical examinations Developing research policies and procedures Conducting clinical research (Principal Investigator) Coordinating clinical research projects Organizing Diabetes Awareness Campaigns
Organization	University of Melbourne (2006-2011) Department of Medicine Melbourne, Australia
Position	Researcher Associate (PhD Studies)
Duties	Teaching Conducting a wide range of research studies Writing and publishing scientific papers Participating in national and international conferences
Organization	University of Melbourne (2004 – 2005) Howard Flowery Institute Melbourne, Australia
Position	Research Scientist
Duties	Conducting research studies Collecting and analysing data Writing scientific reports and papers

REFEREES

Professor Qutayba Hamid

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Dr Daniela Sartor

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