# **Mohammed Osman Hassan**

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**Certificates:** MB. BS. University of Khartoum1969, Ph.D. Glasgow University, 1975, FRCP (Glasg) 2001. Clinical Polysomnography (Sleep Medicine) 2005 Atlanta School of sleep Medicine

Nationality: Canadian

**Fields of interest:** Hypertension, ambulatory BP, autonomic function and sleep medicine. Genetics of blood pressure regulation. Heart rate variability with signal processing in medical pracice.

## **Professional Experience:**

1969-1970 House Officer, Medicine, Surgery, Obstetrics and Gynecology and Paediatrics. Khartoum Teaching Hospital,

1970-1971 Demonstrator, Department of Physiology, University of Khartoum

1972-1975 PhD, WHO Scholarship

The role of adenosine triphosphate in vasodilation of exercising frog skeletal muscle.

1975-1976 Registrar in Cardiology, Harrogate General Hospital, Harrogate, Yorkshire, UK

1977-1981 Post-doctoral Fellowship.

A British Medical Research Council grant (MRC), Department of Cardiovascular Medicine, University of Oxford; Applications of 24-hour intra-arterial blood pressure in the study of baroreceptor sensitivity, laboratory stress and mechanisms of actions of cardio- selective and no-selective Beta Blockers in hypertension.

1981-1988: Assistant Professor and Head Department of Physiology, Faculty of Medicine, King Abdul Aziz University, Saudi Arabia. In addition to curriculum design, the job extended to establishing a new Clinical Physiology unit at the University Hospital.

1988- 2016: Associate then **Professor of Physiology** at the College of Medicine & Health Sciences, Sultan Qaboos University: Head of Department for 6 years. Besides academic duties I helped to establish and supervise a modern Department of Clinical Physiology which provides Physiological measurements services to the University Hospital and other Hospitals in Oman:

# **Administrative Experience:**

- 1. Member of College Board. College of Medicine and Health Sciences. 2003-2009.
- 2. Member of the Strategic Planning Committee 2003-2014,
- 3. Member Sultan Qaboos University Hospital Medical Advisory Committee (MAC) 2003-2009.
- 4. Chair of the committee for designing the new Bachelor degree in Biomedical engineering, Sultan Qaboos University
- 5. University promotions' grievances committee, Sultan Qaboos University
- 6. Member of Departmental Curriculum committee
- 7. Member of Departmental Promotions committee
- 8. Member of Department Postgraduate education committee
- 9. Coordinator of the new Integrated Phase II curriculum of the Cardiovascular Respiratory and Nervous systems
- 10. Elected Fellow of The World Academy of Sciences (TWAS):
- 11. Member of Alexandria Reginal Office (ARO) of TWAS
- 12. Member of C.N.R. Rao and Atta-ur-Rahman prizes committee
- 13. Responsible for TWAS funding of small research projects for the least developed countries in East Africa
- 14. Evaluator for senior academic promotions for various universities like: King Saud University, King Faisal University, and Um Al Qura University, Saudi Arabia.
- 15. Underrate examiner in Physiology for several Sudanese universities as well Kuwait and Bahrain universities.

## **International Awards**

2000 **Al Nahyan scientific award for the best research.** Pan Arab Hypertension conference, Abu Dhabi, UAE

2001 **Awarded the fellowship (FRCP)** of the Royal College of Physicians and Surgeons of Glasgow

2004 **Awarded the TWAS (The World Academy of Sciences)** fellowship Scientific Award of the Association of Developing countries, Trieste, Italy.

# **Academic Experience:**

Undergraduate teaching: All teaching and examinations are Web-based using the Moodle program.

- 1. Co-ordinated and taught all the cardiovascular modules of the old (classical) and new (integrated) curricula.
- 2. Muscle Physiology
- 3. Cellular communication
- 4. Respiratory and Exercise physiology

- 5. Gastrointestinal physiology
- 6. Endocrine physiology
- 7. Integrated modules of basic and clinical sciences
- 8. Pathophysiology for allied health sciences
- 9. Neurophysiology
- 10. Practical sessions: deigned and upgraded practical teaching with the introduction of the Biopac and recently the ADI instruments systems

# **Postgraduate supervision:**

#### **PhD Students:**

- 1. Deepali Jaju, 2010- Oman
- 2 Sawsan Al-Sinani 2014-Oman
- 3. Muñoz Venegas L 2016, Oman, Holland
- 4. Fathi Mansoor 2016, Oman
- 5. Najma Al-Kharusi (Ongoing. Baylor/Oman)
- 6. Ibtisam Al-Lawati, 2017, Oman

#### **Master Students:**

- 1. Fatma Al-Hinai-Oman
- 2. Bader Al Ghunaimi Oman
- 3. Bushra Al-Salimi Oman
- 4. Farhat Al Naabi Oman:
- 5. Alaa Barohom Jordan
- 6. Haitham Ahmed Sudan
- 7. Tariq Al-Saadi Oman

## **Clinical Services:**

- Sleep studies, Polysomnography: 4 hospital units and 4 portable home units
- Sleep fragmentation using home Actigraphy.
- Laser Doppler flowmeter as well as conventional Doppler for peripheral vascular evaluation in diabetics
- 24 Hour blood pressure, ECG (Holter) and EEG Monitoring as ambulatory diagnostic services.
- EMG and nerve evoked potentials
- Auditory and visual evoked potentials
- Audiometry unit
- Autonomic Function Unit. For the diagnosis and follow up of patients with syncope, diabetes and autonomic dysfunction using Impedance Cardiography
- Pulmonary function tests including gas transfer and provocation tests.
- Cardiopulmonary stress testing: for patients and Athletes' fitness.
- Allergy testing unit
- Anodyne therapy for diabetic vascular impairment (Just introduced)

#### Research

Post-doctoral Fellowship, 1977 – 1979. A **British Medical Research Council grant (MRC)**, Registrar in Cardiology, Department of Cardiovascular Medicine, University of Oxford; Studies of **intra-arterial 24 hours blood pressure**, **baroreflex** sensitivity, pathophysiology and treatment of hypertension.

# Ongoing Research 2001 to date:

**Principal Investigator of "Oman Family Study"**: The study the genetics of hypertension, obesity, diabetes and the dyslipidemias, in large Arab pedigrees.

## Co-investigator in SQU and Oman Reseach Council (TRC) funded projects

- The effects of exercise on the down regulation BKca channels and on angiogenesis of coronary arteries of elderly rats.
- The use of Sub-band decomposition of heart rate variability in the prediction of complications in post-CABG patients and in patients with heart failure
- The genetics of cardiometabolic disorders among Omani Arabs
- Sleep Patterns and cardiometabolic disorders in Omanis
- Sleep apnea and hemodynamic and autonomic profiles in patients undergoing coronary artery by-pass (CBAG)

# **University funded projects:**

# **Principal investigator:**

# Strategic project funded by his Majesty' Trust Fund

- 1. The National intervention clinical trial and the mapping of genes "Oman Family Study" Grant # SR/MED/PHYS/01/01. (SR: Strategic project **720,000 USD**
- 2. Hypertension and the Metabolic Syndrome in Oman Intervention Clinical Trial and Mapping of Genes" Oman Family Study. SR/MED/PHYS/04/01. **302,000.USD**

### **SOU** Grants as Principle Investigator

1. Physical fitness in Omani Youths aged 15-16 years. Grant # IG/MED/PHYS/99/01.

64,000 USD

Haemodynamic and Autonomic function in Preeclampsia in Oman. Grant # IG/MED/PHYS/05/03. **15,000 USD** 

- 3. The role of consanguineous marriage in the in the transmission of hypertension in Omanis. Grant # IG/MED/PHYS/01.
- 4. Acute effects of Hibiscus sabdariffa on hemodynamics, autonomic parameters and arterial stiffness indices in normal Omani subjects Grant # IG/MED/DEAN/PHYS/2015

# **Research Projects as Co-investigator:**

- 1. The effect of exercise and angiotensin-converting enzyme inhibition on cardiac parameters in left ventricular hypertrophy. Grant # IG/MED/PHYS/01/01.
- 2. Role of Cerebrovascular Potassium Channels in Hypertension. Grant # IG MED/PHYS/01/02.
- 3. Aging, Exercise Training and Potassium Channel Remodeling: Role of Coronary Ca2+activated K+ Channels. Grant # IG/MED/PHYS/05/02
- 4. The clinical and genetic characterization of type 2 diabetes mellitus among Omanis". TRC Project- "RC/MED/BIOC/10/01
- 5. The genetics of cardiometabolic disorders among Arabs of "Oman Family Study" TRC "RC/MED/Gent/14/01: 2014
- 6. Sleep Patterns and cardiometabolic disorders in Omanis RC/MED/PHYS/15/02: 2015
- 7. Sleep apnea and hemodynamic and autonomic profiles in patients undergoing CABG: A longitudinal study # IG/MED/DEAN/14/01

## **Externally funded projects and collaborations:**

- 1. Genotyping of Oman Family Study Marshfield: NHLBI (Niational Insititue of Healt NIH) Grant
- 2. INTERHEART International and INTERHEART Middle East- Funded by University of McMaster, Canada
- 3. Exome sequencing for Oman Family Study: Funded by Baylor College of Medicine
- 4. Heart Rate Variability in Oman Family Study: Funded by the University Medical Centre. Groningen (UMCG), the Netherlands (ongoing). Accepted paper attached

#### **Publications**

- 1. **Meta-analysis**; of Genetic loci associated with heart rate variability and their effects on cardiac disease risk with Oman Family study project : **Nature communications**. August 2017
- 2. Sawsan Al-Sinani, Nicolas Woodhouse, Ali Al-Mamari, Omaima Al-Shafie, Mohammed Al-Shafaee, Said Al-Yahyaee, **Mohammed Hassan**, Deepali Jaju, Khamis Al-Hashmi, Mohammed Al-Abri, Khalid Al-Rassadi, Syed Rizvi, Yengo Loic, Philippe Froguel, and Riad Bayoumi. Association of gene variants with susceptibility to type 2 diabetes among Omanis. World J Diabetes. 2015 Mar 15; 6(2): 358–366.
- 3. Sawsan Al-Sinani,<sup>1,\*</sup> Ali Al-Mamari,<sup>2</sup> Nicolas Woodhouse,<sup>2</sup> Omaiyma Al-Shafie,<sup>2</sup> Fatima Amar,<sup>2</sup> Mohammed Al-Shafaee,<sup>3</sup> **Mohammed Hassan**,<sup>4</sup> and Riad Bayoumi<sup>1</sup> Quality of Diabetes Care at Outpatient Clinic, Sultan Qaboos University Hospital, Oman Med J. 2015 Jan; 30(1): 48–54.1.
- 4. Al-Riyami N, Al-Rassadi K, Al-Waili K, Albarwani S, **Hassan MO**, Al-Yahyaee S, Rizvi S, Bayoumi R. The effect of residing altitude on levels of high density lipoprotein cholesterol: A pilot study from the Omani Arab population. Angiology 2014 Jul 29. pii: 0003319714544355. [Epub ahead of print].
- 5. Al-Sinani S, **Hassan MO**, Zadjali F, Al-Yahyaee S, Albarwani S, Rizvi S, Jaju D, Comuzzie A, Voruganti V, Bayoumi R. Utility of Large Consanguineous Family-Based Model for Investigating the Genetics of Type 2 Diabetes Mellitus; Gene 2014; 548(1):22-8.
- 6. Gehani AA, Al-Hinai AT, Zubaid M, Almahmeed W, Hasani MR, Yusufali AH, **Hassan** MO, Lewis BS, Islam S, Rangarajan S, Yusuf S; INTERHEART Investigators in Middle East. Association of risk factors with acute myocardial infarction in Middle Eastern countries: the INTERHEART Middle East study. Eur J Prev Cardiol 2014; 21(4): 400-10.
- 7. Albarwani S, Loretto Muñoz M, Voruganti S, Jaju D, Al-Yahyaee S, Rizvi SG, Lopez-Alvarenga JC, Al-Anqoudi Z, Bayoumi RA, Comuzzie AG, Snieder H, **Hassan MO.** Heritability of Ambulatory and Beat-to-Beat Office Blood Pressure in Large Multigenerational Arab Pedigrees: The "Oman Family Study". Twin Res & Hum Genet. 2012; 15(6):753-8.
- 8. Zadjali F, Al-Yahyaee S, **Hassan MO**, Albarwani S, Bayoumi RA. Association of diponectin promoter variants with traits and clusters of metabolic syndrome in Arabs: family-based study. Gene 2013; 527(2):663-9.

- 9. Al-Sinani S, Al-Shafaee M, Al-Mamari A, Woodhouse N, Al-Shafie O, **Hassan MO**, Al-Yahyaee S, Albarwani S, Jaju D, Al-Hashmi K, Al-Abri M, Rizvi S, Bayoumi R. Familial clustering of type 2 diabetes among Omanis. Oman Medical Journal. 2014; 29: 51-54.
- 10. Al-Sinani S, **Hassan MO**, Al-Yahyaee S. Albarwani S, Rizwi S, Jaju D, Comuzzie AG, Voruganti VS, Bayoumi RA: Association of Common Gene Variants with Susceptibility
- 11. Type 2 Diabetes Mellitus in a Large Consanguineous Omani Pedigree: Oman Family Study. Sultan Qaboos Univ Med J 2014; 14(2):e183-9.
- 12. Albarwani S, Al-Siyabi, S, Baomar H and **Hassan MO**. Exercise Training attenuates ageing-induced BKCa channel down-regulation in rat coronary arteries. Experimental Physiology 2010; 95(6):746-55.
- 13. Al-Hashmi K, Al-Abri M, Al-Zakwani I, Al-Waili K, Al-Rasadi K, Al-Sabti H, Hassan MO. Reference values for arterial stiffness indices in Omani Arab Population. Saudi Med J 2014; 35(11):1367-72.
- 14. Ghunaimi AB, Hossen A and **Hassan MO**. Statistical signal characterization for congestive heart failure patient's classification. Technology and Health Care 2006; 14: 29-45.
- 15. Al-Abri MA, Al-Hashmi KM, Jaju D, Al-Rawas OA, Al-Riyami BM, **Hassan M O**. Gender difference in relationship of apnoea/hypopnoea index with body mass index and age in Omani population. SQUMJ 2011;11: 363-368.
- 16. Al Kharusi L, Waly MI, **Hassan MO**, Guizani N, Al Naabi F, Ali A. Depression and low serum levels of docosahexaenoic acid (DHA) are associated with increasing number of pregnancies among postpartum Omani Women. Canadian Journal of Applied Sciences; 2011; 1(3): 144-152.
- 17. Hossen A, Al Ghunaimi B, **Hassan MO.** The Importance of the Very Low Frequency Power of Heart Rate Variability in Screening of Patients with Obstructive Sleep Apnea. IEEE Malaysia PEI/IE/IA Joint Chapter 3: October 2011.
- 18. Al-Abri MA, Al-Hashmi KM, Jaju D, Al-Rawas OA, Al-Riyami BM, **Hassan MO**. An audit of the sleep medicine service in Oman. Saudi Med J 2008; 29 (11):1621-4.
- 19. Al Rawas O, Al-Riyami B, Goddard C, **Hassan MO.** Screening of Patients with Snoring and Obstructive Sleep Apnoea using Heart Rate Variability Indices. Sultan Qaboos Univ Med J 2008; 8(1):21-5.
- 20. Hassan MO, Albarwani S, Al Yahyaee S, Al Haddabi S, Rizwi S, Jaffer A, Al-Lawati J, Cai G, Comuzzie AG and Bayoumi RA. Oman Family Study: Large, Consanguineous, Polygamous Omani Arab Pedigrees. A Planned Model for the Study of Complex Diseases. Community Genetics 2005; 8:61-64.

- 21. Bayoumi RA, Al-Yahyaee SAS, Albarwani SA, Rizvi SG, Al-Hadabi S, Al-Ubaidi F, Al-Hinai AT, Al-Kindi MN, Adnan HT, Al-Barwany HS, Comuzzie AG, Cai G, Lopaz-Alvarenga JC, and **Hassan MO**. Heritability of determinants of the metabolic syndrome among healthy Arabs of "Oman Family Study". Obesity 2007; 15(3): 551-556.
- **22. Hassan MO**, Deepali Jaju, Sulayma Albarwani, Saleh Al-Hadabi, Juan C Lopez-Alvarenga, Syed G Rizvi, Ali T Al-Hinai, Antony G Comuzzie and Riad A Bayoumi. Non-dipping blood pressure in the metabolic syndrome among Arabs of "Oman Family Study". Obesity 2007; 15(10): 2445-2453.
- 23. Albarwani SA, Bayoumi RA, Jaju D, Rizvi S, Al-Yahyaee S, Al-Hadabi S, Lopez-Alvarenga J, Comuzzie A and **Hassan MO**. Differing definition-based prevalence of metabolic syndrome in the women of Oman Family Study: a function of multiparity. Metab Syndr Relat Disord. 2008; 6(3):197-202.
- 24. Lopez-Alvarenga JC, Solís-Herrera C, Kent JW, Jaju D, Albarwani S, Al Yahyaee S, **Hassan MO**, Bayoumi R, Comuzzie AG. Prevalence and heritability of clusters for diagnostic components of metabolic syndrome: the Oman family study. Metab Syndr Relat Disord. 2008; 6(2):129-35.
- 25. Bayoumi RA, Al-Yahyaee S, Albarwani S, Jaju D, Comuzzie A, Lopez-Alvarenga J, **Hassan MO**. Some genetic determinants of Obesity, type 2 diabetes and dyslipidemias in "Oman Family Study". Genetic Disorders in the Arab World 2008; Chapter 4: 68-77.
- 26. Albarwani S, Al Hashmi K, Al Abri M, Jaju D, Hassan MO. Effects of overweight and leisure- time activities on aerobic fitness in urban and rural Omani adolescents. Metab Syndr Relat Disord 2009; 7(4):369-74.
- 27. Hassan MO, Bayoumi RA, Lopez-Alvarenga JC, Snieder H, Jaju D, Al-Yahyaee S, Al-Hadabi S, Comuzzie AG, Albarwani S. Heritability of hemodynamic reactivity to laboratory stressors in a homogenous Arab population: 'Oman family study'. Twin Res Hum Genet 2009; 12(6):541-8.
- 28. Hassan MO, Aslani A, Bayoumi RA, Albarwani S, Al-Yahyaee S, Jaju D, Alizadeh BZ, Snieder H, Lopez-Alvarenga JC, Al-Anqoudi ZM, Comuzzie AG. Genome-wide Linkage Analysis of Blood Pressure and Hemodynamic Parameters Under Mental and Physical Stress in Extended Omani Arab Pedigrees; The Oman Family Study. Twin Res Hum Genet 2011; 14(3): 257-267.
- 29. Al-Riyami BM, Al-Rawas OA, **Hassan MO**. Normal spirometric reference values for Omani children and adolescents. Respirology 2004; 9(3):387-91.
- 30. Bayoumi RA, Simsek M, Yahya TM, Bendict S, Al-Hinai A, Al-Barwani H, **Hassan MO.** Insertion-deletion polymorphism in the angiotensin-converting enzyme (ACE) gene among Sudanese, Somalis, Emiratis, and Omanis. Hum Biol. 2006; 78: 103-108.

- 31. Inuwa I, Hassan MO, Ziada AM. Left ventricle myocardium volume densities in spontaneously hypertensive rats (SHR) following combination of exercise and ACE inhibitor treatment. A stereological study. Int. J. Morphol. 2005; 23(2): 157-162.
- **32**. Hossen A, Al Ghunaimi B and **Hassan MO**. Sub-Band Decomposition Soft decision algorithm for heart rate variability analysis in patients with obstructive sleep apnea and normal controls; **Signal Processing International** Journal 2005; 85:95-106.
- **33**. Ziada AM, **Hassan MO**, Tahlikar KI and Inuwa IM. Long-term exercise training and angiotensin-converting enzyme inhibition differentially enhance myocardial capillarization in the spontaneously hypertensive rat. Journal of Hypertension 2005; 23:1233-1240.
- **34. Hassan MO**, Al Kharusi W. Physical fitness and fatness in Omani schoolboys. Medical Silences 2000; 2:37-41.
- **35. Hassan MO**, W Al Kharusi, A Ziada. Blood pressure and its reactivity in the offspring of first cousin hypertensive and first cousin normotensive parents: a preliminary report. Journal of Human Hypertension 2001; 15:869-872.
- **36**. Ounpuu S, Negassa A, Yusuf S, Al Hinai A, **Hassan MO**. Inter-heart: A global study risk factors for acute myocardial infarction. American Heart Journal 2001; 141(5): 711-21.
- 37. Al Barwani S, Al Abri M, Al Hashmi K, Al Shukeiry M, Tahlilkar K, Al Zuheibi T, Al Rawas O, **Hassan MO** Assessment of aerobic fitness and its correlates in Omani adolescents using the 20-metre shuttle run test: . Sultan Qaboos Univ Med J 2001; 2:77-80.
- **38**. Al-Riyami B, Al-Khatim HS and **Hassan MO**. Non-dipping blood pressure in normotensive patients with Obstructive Sleep Apnea. SQU Journal for Scientific Research: Medical Sciences 1999, 1: 5-8.
- **39. Hassan MO** and S.E Lindell. Teaching of Clinical Physiology in the Medical Curriculum. The Omani Model. SQU Journal for Scientific Research: Medical Sciences 1999;1:55-8.
- 40. Floras JS, Jones JV, **Hassan MO**, Sleight P (1983). Ambulatory blood pressure and its variability during randomized double-blind administration of atenolol, metoprolol, pindolol, nd long-acting propranolol in subjects with mild to moderate hypertension Primary Cardiology 1983; Suppl. 1: 16-23.
- 41. Floras JS, Jones JV, **Hassan MO**, Osikowska BA, Sever PS, Sleight P. Differences between cuff and direct ambulatory blood pressures in patients with essential hypertension. In: ISAM-Gent-1981. Proceedings of the Fourth International Symposium on Ambulatory Monitoring and the Second Gent Workshop on Blood Pressure Variability. Eds: Stott, FD, Raftery, EB, Clement, DL, Wright, SL. London, Academic Press 1982; pp. 515-521.

- 42. Jones JV, Floras JS, **Hassan MO**, Rossi P, Sever PS, Sleight P. Baroreflex regulation of blood pressure variability. In: ISAM-Gent-1981. Proceedings of the Fourth International Symposium on Ambulatory Monitoring and the Second Gent Workshop on Blood Pressure Variability. Eds: Stott, FD, Raftery, EB, Clement, DL, Wright, SL. London, Academic Press 1982; pp. 636-639.
- **43**. Floras JS, **Hassan MO**, Jones JV, Osikowska BA, Sever PS, Sleight P, Turner KL. Baroreceptor reflexes and the control of blood-pressure and plasma noradrenalin in hypertension. In: Arterial Baroreceptors and Hypertension. Ed: Sleight, P. Oxford, Oxford University Press 1980; pp. 470-475.
- 44. Sleight P, Floras J, Jones JV, **Hassan MO**. Once daily atenolol (letter). BMJ 1979; i: 491.
- 45. Floras JS, **Hassan MO**, Jones JV, Sever PS, Sleight P, Turner KL. Baroreflex sensitivity and plasma noradrenaline concentrations in relation to the blood pressure during dynamic exercise in hypertension. Journal of Physiology 1979; 291:44p-45p.
- 46. Floras JS, **Hassan MO**, Jones JV, Sever PS, Sleight PS, Turner KL. Response of noradrenaline to isometric and dynamic exercise in hypertension. Scottish Medical Journal 1979; 24:173.
- 47. Floras JS, **Hassan MO**, Jones JV, Sever PS, Sleight P, Turner KL. Plasma noradrenaline concentrations during isometric and dynamic exercise in essential hypertension. British Heart Journal 1979, 42:232.
- 48. Floras JS, Jones JV. **Hassan MO**, Time-course of changes in baroreflex sensitivity during the development of renovascular hypertension in rats. Journal of Physiology 1979, 296:27p-28p.
- **49**. Hassan M O. The variability of blood pressure. King Abdulaziz Medical. Journal 1981; 1 (4): 65-77.
- 50. Floras JS, Jones JV, **Hassan MO**, Sleight P. Ambulatory blood pressure during once daily randomized double blind administration of atenolol, metoprolol, pindolol and slow release propranolol. BMJ 1982; 285:1387 1392.
- **51. Hassan. M O** and Alkafafi. Cardiovascular responses to electrically induced static and dynamic exercise in anaesthetized rats. Bulletin of Alexandria College of Medicine 1984; 20 (4):601-606.
- 52. Floras JS, **Hassan MO**, Jones JV, Sleight P. Cardioselective and nonselective Beta Adrenoceptor Blocking Drugs in Hypertension: A comparison of their effect on Blood Pressure during Mental and Physical Activity (JACC) Journal of American College of Cardiology 1985; 6(1):186-195.

- **53. Hassan MO**. The role of the Autonomic nervous system in exercise bradycardia in rats. East African Medical Journal 1991; 68(2):130-133.
- **54**. Floras JS, **Hassan MO**, Jones JV, Sleight P. Pressor responses to laboratory stresses and daytime blood pressure variability. Journal of Hypertension 1987; 5: 715-719.
- 55. Floras JS, **Hassan MO**, Jones JV, Osikowska BA, Sever PS, Sleight P. Factors influencing blood pressure and heart rate variability in hypertensive humans. Hypertension 1988; 11(3):273 281.
- 56. Floras JS, **Hassan MO**, Jones JV, Osikowska BA, Sever PS, Sleight P. Consequences of impaired arterial baroreflexes in essential hypertension: Effects on pressor responses, plasma nor-adrenaline and blood pressure variability. Journal of Hypertension 1988; 6: 525 535.
- **57. Hassan MO**, Al Shafie OT, Johnston WJ. Loss of the nocturnal dip and increased variability of blood pressure in normotensive patients with non-insulin-dependent diabetes mellitus. Clinical Physiology 1993; 13:519 523.
- **58. Hassan MO**, Abdel Basit KM. High alcohol intake raises the blood pressure of recentdrinking but non-recent-drinking normotensive Caucasians. High Blood Pressure and Cardiovascular Prevention 1994; 3:195-199.
- 59. Hassan MO, Jumaa KA, Harper A, Haseltine FD. Contribution of the English language to the learning of basic medical sciences in Sultan Qaboos University. Medical Teacher 1995; 17(3), 277-282.
- 60. Xueyu Chen, **Hassan MO**, John V Jones, Peter Sleight, Floras JS. Baroreflex sensitivity and the blood pressure response to β-blockade. Journal of Human Hypertension 1999;
- **61. Hassan MO**, Thomas F. Rapid degradation of adenosine triphosphate by frog skeletal muscle; J Physiol. 1975; 232: 86-88.
- **62**. Floras JS, **Hassan MO**. Baroreflex sensitivity and plasma noradrenaline concentrations in relation to blood pressure during dynamic exercise in hypertension. J. Physiol. 1979; 291: 44 45.
- **63**. Sleight P, Floras JS, Jones JV, **Hassan MO**. Effects of once daily atenolol on ambulatory blood pressure. BMJ 1979; 490 491.
- 64. Vaughn Williams M, **Hassan MO**, Floras JS, Sleight P, Jones JV. Adaptation of hypertensives to treatment with cardioselective and non-selective Beta Blockers. Absence of correlation between bradycardia and blood pressure control and reduction in slope of the QT/RR relation. British Heart Journal 1980; 44: 473 497.

65. Floras JS, **Hassan MO**, Jones JV, Sever PS, Osikowska B, Sleight P. Cuff and Ambulatory blood pressure in subjects with essential Hypertension. Lancet 16981; 107 – 110.

# **INTERHEART Publications (Co-author in all)**

- 66. Yusuf S, Hawken S, Ounpuu S,. Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the Inter-Heart study): case control study. Lancet 2004; 364 (9438):937-52.
- 67. Rosengren A, Hawken S, Ounpuu S, Sliwa K, Zubaid M, Almahmeed, Blackett KN, Sitthiamorn C, Sato H, Yusuf S,. Association of psychosocial risk factors with risk of acute myocardial infarction in 11119 cases and 13648 controls from countries (the Inter-Heart study): case-control study. Lancet 2004; 364 (9438):912-4.
- 68. Yusuf S, Hawken S, Ôunpuu, Tony Dans, Alvaro Avezum, Fernando Lanas, Matthew McQueen, Andrzej Budaj, Prem Pais, John Varigos, Liu Lisheng, on behalf of the INTERHEART Study Investigators. INTERHEART Risk Factors, Lancet, 2004;364(9438):937-52:
- 69. Annika Rosengren, Steven Hawken, Stephanie Ôunpuu, Karen Sliwa, Mohammad Zubaid, Wael A Almahmeed, Kathleen Ngu Blackett, Chitr Sitthi-amorn, Hiroshi Sato, Salim Yusuf, for the INTERHEART investigators\*INTERHEART Psychosocial, Lancet, 2004;364(9438):953-62.
- 70. Salim Yusuf, Steven Hawken, Stephanie Ôunpuu, Leonelo Bautista, Maria Grazia Franzosi, Patrick Commerford, Chim C Lang, Zvonko Rumboldt, Churchill L Onen, Liu Lisheng, Supachai Tanomsup, Paul Wangai Jr, Fahad Razak, Arya M Sharma, Sonia S Anand, on behalf of the INTERHEART Study Investigators\* INTERHEART Obesity, Lancet, 2005; 366:1640-1649.
- 71. Koon K Teo, Stephanie Ounpuu, Steven Hawken, MR Pandey, Vicent Valentin, David Hunt, Rafael Diaz, Wafa Rashed, Rosario Freeman, Lixin Jiang, Xiaofei Zhang, Salim Yusuf, on behalf of the INTERHEART Study Investigators. INTERHEART Tobacco, Lancet, 2006; 368:647-658
- 72. Sonia S. Anand, Shofiqul Islam, Annika Rosengren, Maria Grazia Franzosi, Krisela Steyn, Hussein Yusufali Afzal, Matyas Keltai, Rafael Diaz, Sumathy Rangarajan, and Salim Yusuf on behalf of the INTERHEART INVESTIGATORSINTERHEART Women's, European Heart Journal, 2008 Apr;29(7):932-40
- 73. Matthew J McQueen, Steven Hawken, Xingyu Wang, Stephanie Ounpuu, Allan Sniderman, Jeff rey Probstfi eld, Krisela Steyn, John E Sanderson, Mohammad Hasani, Emilia Volkova, Khawar Kazmi, and Salim Yusuf, for the INTERHEART study investigators. INTERHEART Lipids, Lancet 2008; 372:224-233.

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