

**CURRICULUM VITAE**  
**Farhad Akhavein, MD**

**Farhad Akhavein**

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**1) EDUCATION AND QUALIFICATIONS**

<i>Date Conferred</i>	<i>Institution</i>
2013	Heart Failure and Heart Transplant observership program; Royal Voctoria Hospital, McGill University, Montreal, Canada (supervised by: Dr. Nadia Jiannetti, Chief Division of Cardiology)
2012-2014	Cardiovascular MRI, Montreal Children's Hospital, McGill University, Montreal, Canada (supervised by: Dr. Luc Jutras; Pediatrics cardiologist, Head MUHC cardiac MRI Program)
2004, 2007, 2012-2014	Visiting scientist ( Researcher) at Montreal Children's Hospital; McGill university, Montreal, Canada ( supervised by: Dr. Charles Rohlicek; Associate Professor of Pediatrics and Physiology)
2007	Medical of Council Canada Evaluation Exam (MCCEE)
2004	Rat methodology workshop, McGill University Animal Care committee, McGill University, Montreal, Canada
1995	Specialty certificate in Cardiology Medical Doctor (MD), Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
1987	Medical Doctor Diploma as General Practitioner, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

## 1) ACADEMIC AND PROFESSIONAL APPOINTMENTS

2015-2017	Founder and Director of Cardiovascular MRI, Imam Hossein hospital, Razavi hospital, and Behsaz Teb Medical Imaging Center; Mashhad, Iran.
2006-2009	Founder and Director of Animal Research Center, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran.
2004-2005	Visiting Scholar, Montreal Children's Hospital; McGill University, Montreal, Canada
1996-2001	Associate Dean of Research, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1995-2009	Chair, Department of Cardiology, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1995-2009	Director, Coronary Care Unit (CCU), Aria Hospital, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1995-2009	Ward Chief, Aria Hospital, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1995-2009	Assistant Professor, Department of Cardiology, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1991-1995	Cardiology Resident, Animal Research Centre, Rajaii Hospital, Iran University of Medical Sciences, Tehran, Iran
1989-1991	Founder and Chair, Division of Human Anatomy, Department of Medical Basic Science, Faculty of Medicine, Azad University of Medical Sciences, Shahroud, Iran
1989-1991	Assistant Professor, Faculty of Medicine, Azad University of Medical Science, Shahroud, Iran
1987-1989	Research Associate, Animal Research Centre, Rajaii Hospital, Iran University of Medical Sciences, Tehran, Iran
1987-1989	Research Associate, Animal Research Centre, Rajaii Hospital, Iran University of Medical Sciences, Tehran, Iran
1985-1987	Founder and Operator of Exercise Test Laboratory, Imam Reza Hospital, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
1985-1987	Research Associate, Clinical toxicology ward, Imam Reza Hospital, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

- 1) **Cardiology Residency thesis:** Akhavein F. Role of mental stress in occurrence of congenital heart disease in newborn rats. Faculty of Medicine, Mashhad University of Medical Sciences, 1995, Mashhad, Iran
- 2) **Medical Degree thesis:** Akhavein F. Clinical and Electrocardiographic findings during exercise test in 100 patients with and without Ischemic Heart Diseases, Faculty of Medicine, Mashhad University of Medical Sciences, 1987, Mashhad, Iran

## **2) LICENSURE STATUS**

2016	Fellowship License (Cardiovascular MRI), Medical Council I.R.Iran
1995	Specialty License (Cardiology), Medical Council I.R.Iran
1987	Medical Doctor (General Practitioner), Medical Council I.R.Iran

## **4) TEACHING RESPONSIBILITIES**

2016-2017	Cardiovascular MRI consultant and lecturer, Adult Cardiology, Pediatrics Cardiology and Cardiac surgery departments, Ghaem and Imam Reza hospital, Mashhad University of Medical Sciences, Mashhad, Iran
1995-2009	Director of Monthly Rotation Module, Principle of Management and Treatment of Clinical Cardiovascular Diseases for internship medical students, Aria Hospital, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1995-2009	Director of full year (100-hour) course, Physiopathology Basis of Cardiovascular Diseases for externship medical students, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1995-2009	Director of full year (100-hour) course, Physiology of Heart and Circulation System, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1995-2003	Director and Founder, Monthly Medical Journal Club, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1992-1993	Lecturer, Cardiovascular Diseases, MSc degree program in nursing, Faculty of Nursing, Mashhad University of Medical Sciences, Mashhad, Iran
1992-1993	Lecturer, Electrocardiography for medical students, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran

1989-1991	Lecturer in medical genetics, Faculty of Nursing, Shahroud University of Medical Sciences, Shahroud, Iran
1989-1991	Director of full year (160-hour) course in Human Anatomy, Department of Medical Basic Science, Faculty of Medicine, Azad University of Medical Sciences, Shahroud, Iran
1982-1983	Lecturer and Instructor in Human Anatomy Laboratory, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

## **5) AWARDS, PRIZES AND HONOURS**

2002	Award of Excellence in Cardiology Consultation, Iran Forensic (Legal) Medicine Organization
1997-2000	Honorary Director of Convocation Ceremony in each academic year, Faculty of Medicine, Azad University of Medical Sciences
1997-2000	Annual Award of Teaching Excellence in each academic year, Faculty of Medicine, Azad University of Medical Sciences
1995	Iran National Board of Cardiology Diplomate Examination
1993	Award of Teaching Excellence, Faculty of Nursing, Mashhad University of Medical Sciences, Mashhad, Iran

## **6) SERVICE AND COMMITTEE APPOINTMENTS**

2015-2017	Member of Iranian Chapter of International Society for Magnetic Resonance in Medicine (ISMRM)
2006-2008	Member of Ethics Review Board, Aria Hospital, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1997-2004	Member of Research Committee, Azad University of Medical Sciences, Mashhad, Iran
1997-2003	Chair of Research Committee, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1996-2000	Director, Medical Library of Aria Hospital, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran

## **7) EDITORIAL POSITIONS**

2006-2009	Scientific Advisory Board member, Medical Science Journal of Azad University of Medical Sciences, Mashhad, Iran
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## **8) CLINICAL AND EXPERIMENTAL RESEARCH**

2016-2017	<p>Detection of microvascular-mass mismatch with first pass myocardial Perfusion in non-compaction cardiomyopathy by CMRI</p> <p>Detection of microvascular disease using CMR first pass myocardial Perfusion imaging</p> <p>The value of CMRI in hemodynamic quantification and interpretation congenital, valvular , and cardiomyopathy diseases</p> <p>How do suspect to Non-compaction cardiomyopathy; A report of 57 patients approved by CMRI.</p> <p>The value of CMRI in Unclassified cardiomyopathies; A report of some cases</p> <p>Comparison of T1 DIR-FSE, T1 FSE, and FSPGR in detecting and localizing of myocardial fibrosis in patient with non-compaction cardiomyopathies.</p> <p>The role of CMRI in heart failure</p>
2014	Post operation LV and RV function in Tetralogy of Fallot
2012	Metabolic syndrome in adult rat secondary to neonatal hypoxia
2007	Effect of hypoxia in early life on left ventricular structure and function at maturity in the rat
2004-2005	Effect of hypoxia on cardiomyocyte division in early neonatal period in rat ( an uncompleted research in Montreal Children’s Hospital; McGill university, Montreal, Canada )

2004-2005	Neoangiogenesis and neovasculogenesis after experimental myocardial infarction in adult rat (an uncompleted research in Montreal Children's Hospital; McGill university, Montreal, Canada)
2001-2008	Cardiotoxic effects of Mitoxintron ( Novantron) in patients with multiple sclerosis ( a prospective study which is in progress), Aria Hospital, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
2000-2001	A cohort historical trial in hypertensive patients, Aria Hospital, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
2000	Lipid profile and hypertriglyceridemia as an independent risk factor for coronary artery disease, Aria Hospital, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1999	Role of Aspirin in prevention of pregnancy-induced hypertension and outcome of pregnancy, Aria Hospital, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1998-2000	Role of echo-exercise test in diagnostic and prognostic evaluation of coronary artery disease, Aria Hospital, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
1992-1993	Incidence of coronary artery disease in patients with valvular heart disease, Animal Research Centre, Rajaii Hospital, Iran University of Medical Sciences, Tehran, Iran
1987-1989	Diabetic cardiomyopathy in an animal model ( Rat) ( not published), Animal Research Centre, Rajaii Hospital, Iran University of Medical Sciences, Tehran, Iran
1987-1989	Mental stress as an aetiology of congenital heart disease in rat's newborn ( not published), Animal Research Centre, Rajaii Hospital, Iran University of Medical Sciences, Tehran, Iran
1987-1989	Acute and chronic effects of organophosphate agents in the heart; rat and guinea pig models, Animal Research Centre, Rajaii Hospital, Iran University of Medical Sciences, Tehran, Iran

1985-1987	Acute and chronic effects of organophosphate agents in human, Imam Reza Hospital, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
1984-1985	Mental stress as a risk factor for coronary artery disease in 237 patients, Imam Reza Hospital, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

## 9) PRESENTATIONS

### Oral presentations:

THE ROLE OF CARDIAC MR IMAGING IN PATIENT SELECTION AND PRE-AND-POST INTERVENTION PLANNING FOR TRANSCATHETER PULMONARY VALVE IMPLANTATION; THE 1ST CASPIAN MEETING IN COLLABORATION WITH CSI ; IRANIAN INTERNATIONAL CONGRESS ON CONGENITAL AND STRUCTURAL HEART DISEASES. MASHHAD, IRAN 2-4 NOV. 2017

CMRI AND EBSTEIN'S MALFORMATION; MONTHLY PEDIATRICS CARDIOLOGY MEETING; PEDIATRICS CARDIOLOGY DEPARTMENT, IMAM REZA HOSPITAL, MASHHAD UNIVERSITY OF MEDICAL SCIENCES, MASHHAD, IRAN; AUG. 2017

THE ROLE OF CMRI IN PULMONARY HYPERTENSION; 18TH NATIONAL CONGRESS ON CARDIOVASCULAR UPDATES, TEHRAN, IRAN. 13-16 SEP. 2016

MRI IN EARLY DIFFERENTIAL DIAGNOSIS OF LVH, HCM, AND ATHLETE'S HEART; 17<sup>TH</sup> NATIONAL CONGRESS ON CARDIOVASCULAR UPDATES, TEHRAN, IRAN. 22-25 SEP. 2015

CARDIAC MRI; COMMON ARTIFACTS; TAJHIZAT PEZESHKI PISHRAFTEH CO AS GE HEALTHCARE AUTHORIZED DISTRIBUTOR; TEHRAN, IRAN; 2015 JUNE.

An overview of Cardiac MRI applications in Congenital Heart Diseases; 7<sup>th</sup> Symposium on Updates in C.V Diseases; Fars Heart Foundation Kowsar Hospital; Shiraz, Iran. 2015 April 7-10.

Hyperlipidemia and glucose intolerance at late maturity following neonatal hypoxia in rats : Rohlicek C.V., Akhaverin F., McIntosh M., 47th Annual Meeting of the Association for European Paediatric and Congenital Cardiology, London in 2013.

Effects of an Antioxidant Diet on Reperfusion Hypercontracture and Ventricular Arrhythmias in the Adult Rat Heart. *Emilie Jean-St-Michel, Farhad Akhaverin, Paul Khairy, Larry Lands, & Charles Rohlicek; McGill cardiovascular research day; February , 2011.*

Neonatal hypoxia is associated with lasting changes in left ventricular structure and function: an animal model. *Danny Del Duca, Farhad Akhavan, Artavazd Tadevosyan, Louis R. Villeneuve, Bruce G. Allen, Stanley Nattel, Christo I. Tchervenkov, Terence E. Hébert, Charles V. Rohlicek; McGill cardiovascular research day; Feb 4, 2010*

Study of the role of Vitamin C and Allopurinol on clinical outcomes of congestive heart failure: *The first international congress of heart failure; 11-14 March, 2007; Tehran-Iran*

Neoangiogenesis and neovasculogenesis therapy in patients with coronary artery disease; from biological-molecular basis to its clinical implications. (review research according to an uncompleted animal research) *The first congress of medical researches; 2-5 Dec, 2005; Mashhad, Iran.*

- a) Diagnostic and prognostic value of diastolic LV function by echo-stress test in 395 patients with Coronary artery disease
- b) Comparison of exercise-ECG VS. Echo-exercise test in diagnosis and prognosis of coronary artery disease; *13<sup>th</sup> international congress of geographic medicine and congress of cardiovascular disease; Oct 2- 5, 2000; Shiraz, Iran*

Role of mental stress as a cause of coronary artery disease

Risk factors of coronary artery disease in 237 patients. *9<sup>th</sup> Iranian congress of physiology and pharmacology; June 15-18, 1998, Tehran, Iran*

- a) Comparison of acute organophosphate cardiotoxicity in human and animal model
  - b) Cardiac effects of chronic organophosphate poisoning in rat  
*4<sup>th</sup> international Iranian congress on poisoning. October 7-10, 1995, Tehran, Iran.*
- 9) Incidence of cardiac angina associated with abnormal coronary angiography in aortic valve disease.  
*8<sup>th</sup> congress of cardiovascular disease; 1994, Tehran, Iran*
- 10) a) Study of acute toxic effects of Guazathion in guinea pig and determination of atropine dose
  - b) ECG effects of Guazathion poisoning in guinea pig
  - c) Evaluation of biochemical abnormalities and pathological changes of myocardium in guinea pig after acute Guazathion intoxication in: *Clinical and experimental toxicology of organophosphate and carbamates. By: Ballantyne. B; et al; first edition 1992, p: 550*
- 11) Cardiotoxic effects of acute organophosphate pesticide poisoning in suicidal patients.  
*July 23-28, 1989, Mannheim, Germany.*
- 12) Study of cardiotoxic effects of Azoniphos methyl in guinea pig. *July 16-21, 1989, BRIGHTON, England.*
- 13) Evaluation of ECG changes in acute organophosphate insecticide poisoning.  
*8<sup>th</sup> Iranian congress of physiology and pharmacology; April 25-28, 1986, Isfahan, Iran.*



**Presentations at universities, professional meetings, conferences and workshops**

2006-2007	Lecturer, Continuing Medical Education, Cardiovascular Emergency for CCU nurses 32-hour course for CCU nurses of 7 hospitals in Mashhad, Iran
2006-2007	Lecturer, Continuing Medical Education, Internal Emergency for Intensive Care Unit (ICU) nurses, 32-hour course for ICU nurses of 7 hospitals in Mashhad, Iran
1997-1998	Continuing Medical Education, Cardiovascular diseases, electrocardiography, and CCU skills for Nurses of Aria Hospital, Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
June 2009	Lipid metabolism and its therapeutic considerations, Presentation to Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
April 2008	Basis of molecular-cellular biology of congestive heart failure, Presentation to Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
July 2007	Neo-angiogenesis and neo-vasculogenesis in coronary artery diseases, Presentation to Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
May 2006	Efficacy of MRI in diagnosis of heart diseases, Presentation to Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
Oct 2003	Rheumatic heart disease, Presentation to Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
Aug 2002	Pregnancy-induced hypertension; Diagnosis and management, Presentation to Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
April 2001	Diabetes mellitus and its cardiovascular complications, Presentation to Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
Nov 2000	Essential hypertension, diagnosis and management, Presentation to Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
June 1999	Neurohormonal regulation of blood pressure and vaso-vagal syncope, Presentation to Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran
Sep 1998	Cardiac emergencies: (acute pulmonary edema, hypertensive crisis, fatal arrhythmias), Presentation to Faculty of Medicine, Azad University of Medical Sciences, Mashhad, Iran

**Peer Reviewed/Refereed Original Articles in Journals**

1) Effects of Henna, Chamomile, Cedar, and Aloe Vera extracts on experimental contact dermatitis on adult rats: Malki F. et al.; journal of Ardebil medical science university, 2007 vol:3, page: 302-30.

2) Eliciting Dentists' and Patients' Preferences for the Treatment of Teeth with Apical Periodontitis; By: Amir Azarpazhooh; A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy Graduate Department of Dentistry University of Toronto, March 2011.

## **10) PUBLICATIONS:**

### **Published:**

- 1) Hypoxia in early life is associated with lasting changes in left ventricular structure and function at maturity in the rat. *Del Duca D, Tadevosyan A, Karbassi F, **Akhavein F**, Vaniotis G, Rodaros D, Villeneuve LR, Allen BG, Nattel S, Rohlicek CV, Hébert TE. Int J Cardiol. 2012 Apr 19;156(2):165-73. Epub 2010 Dec 4.*
- 2) Decreased left ventricular function, myocarditis, and coronary arteriolar medial thickening following Monocrotaline administration ; **Akhavein F**, *St-Michel EJ, Seifert E, Rohlicek CV. J Appl Physiol. 2007 Jul;103(1):287-95.*
- 3) a) Study of acute toxic effects of Guzathion in guinea pig and determination of atropine dose  
b) ECG effects of Guzathion poisoning in guinea pig  
c) Evaluation of biochemical abnormalities and pathological changes of myocardium in guinea pig after acute Guzathion intoxication ; *Clinical and experimental toxicology of organophosphate and carbamates*  
By: Ballantyne.B; et al; first edition 1992, p:550

### **Unpublished researches**

- 1) Effects of an Antioxidant Diet on Reperfusion Hypercontracture and Ventricular Arrhythmias in the Adult Rat Heart  
*Emilie Jean-St-Michel, **Farhad Akhavein**, Paul Khairy, Larry Lands, & Charles Rohlicek; Montreal Children's Hospital, McGill University Health Centre, Montreal, Quebec, Canada.*
- 2) Effects of neonatal hypoxia on coronary arteriolar morphology in the adult rats  
***Farhad Akhavein**, Erin L. Seifert, Charles V. Rohlicek; Department of Pediatrics, McGill University and Division of Cardiology, Montreal Children's Hospital, McGill University Health Centre, Montreal, Quebec, Canada.*
- 3) Effects of neonatal hypoxia on coronary artery bed morphology and myocardium at different ages in adult  
***Farhad Akhavein**, Charles V. Rohlicek; Department of Pediatrics, McGill University and Division of Cardiology, Montreal Children's Hospital, McGill University Health Centre, Montreal, Quebec, Canada. ( in progress for publish and also presented in 40<sup>th</sup> Annual General Meeting Association of European Pediatric Cardiology, in Copenhagen, Denmark*

### **Accepted for publication**

- 1) A pilot study of the role of Vitamin C and Allopurinol on clinical outcome of congestive heart disease.  
(in progress; received acceptance from European heart journal)

### *Other publications (Persian)*

- 1) Management of congestive heart disease; ( a book in Persian language, 2013)
- 2) Management of hypertension; ( a book in Persian language, 2013)
- 3) Management of acute coronary syndrome; ( a book in Persian language, 2013)
- 4) Heart and circulation physiology for medical students; ( a book in Persian language, in print)

### **11) Professional activities:**

- 1) Cardiovascular MRI
- 2) Private office; outpatients visiting
- 3) Daily inpatient visiting at CCU and heart ward
- 4) ECG
- 5) Exercise test
- 6) Echo-exercise stress test
- 7) Echocardiography
- 8) Cardiac catheterism and coronary angiography
- 9) Coronary angioplasty
- 10) Pre-surgery Cardiovascular consultant
- 11) Biostatic consultant
- 12) Emergency and ICU skills
- 13) Human anatomy of the head and neck dissection

### **12) INTERESTS**

#### *Special interest*

Cardio-Vascular MRI

Congestive heart disease

Hypertension

Heart and circulation physiology particularly: Isolated heart; ( Langendorff apparatus)

Electrophysiology

Heart and exercise

Heart and vessels pathology

Heart and antioxidants

Hypoxia and the heart

Experimental animal heart research

Neovascularization and neovascularogenesis in the heart vasculature

Molecular-cellular biology of the heart diseases

Cardio-toxicology

### *Research Skills and experiences*

Isolated heart; Langendorff apparatus ( According to previous researches in children's hospital, McGill university)

Small animal heart research; ( according to McGill university certificate)

Small animal (Rat): ECG recording and interpretation,  
Exercise test (Treadmill),  
Echocardiography,  
Arterial and venous catheterism,  
Glucose tolerance test,  
Heart histopathology,  
Coronary and large arteries pathology,

Biostatic