



**Foundation – Medical Research Institutes**

# Activities Report 2015

## F-MRI ® Lebanon

**Pr. Roland Asmar**

Chairman

Date: **May 31<sup>st</sup>, 2016**

Signature

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**Foundation – Medical Research Institutes**  
Email: [contact@f-mri.org](mailto:contact@f-mri.org); Web: [www.f-mri.org](http://www.f-mri.org)

Place de Saint-Gervais 1, Boite postale 2049,  
1211 Genève 1, Suisse.  
Tél: +41 22 909 89 00. Fax: +41 22 909 89 39.

Achrafieh, Hôpital Libanais Geitaoui  
1<sup>st</sup> floor, Beyrouth, Liban  
Tél: +961 1 590 000 ext:8895-6-7

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## Summary

Research, especially in the Health area, represents a major issue with respect to the economic and social development of a country. [All actors in the field meet particular interest in that development:](#) patients, universities, hospitals, practitioners, researchers and industries. In this regard, the medical research deserves much attention because of its direct consequences on the population.

The Foundation - Medical Research Institutes, established since 2009 as public utility non-for-profit organization in Geneva (Switzerland), has implemented officially in the Middle East in 2010 with a regional Head quarter in Lebanon. It designed its project entitled "[Development of Academic Medical Research in the Middle East](#)" with academic and interuniversity prospects to bring a significant contribution to the development of medical research and continuing medical education in the Middle-East region.

The previous "Activities Reports" reported [the essential activities undertaken by the Foundation in 2010-2014](#); These projects are the subject of an agreement and mutual convention in which the F-MRI® Geneva, the initiator and promoter, delegates to F-MRI® Beirut the task of their local achievements. They were organized according to the initial plan of the project described in the Foundation brochure.

The present "Activities Report" reports the main activities which have been continued and/or initiated by the F-MRI in 2015.

Overall, despite serious issues related to the political and security situation in the region, the activities undertaken during 2015 were significant. Particularly, it should be noted that the academic teaching of medical research undertaken by the Foundation in collaboration with the Lebanese University has met a large success with the Basic Science research unit and its related clinical studies, as well as a public-health project. Furthermore, other activities of the F-MRI have been developed during 2015, notably a university Diploma in Hypertension & Cardiovascular Risk.

The future perspectives for 2016 are also described.

# The Foundation-Medical Research Institutes

## Main Issues- Administration

### The Foundation - Medical Research Institutes (F-MRI): Governance\*

The Foundation - Medical Research Institutes (F-MRI, Geneva Switzerland), is a [public utility non-for-profit organization registered in Geneva, regulated by the Swiss law](#). This organization chaired by its founder, Prof Roland Asmar has been established in 2009 and officially recognised in 2010. It is registered with the trade and placed under the control of the supervisory authority of the Federal Department of Home Affairs in Bern, Switzerland.

**Headquarter:** The Foundation's headquarters location is: Place Saint Gervais 1, Po Box 2049, 1211 Geneva 1, Switzerland. Tel: +41 22 909 89 00. Fax: +41 22 909 89 39.  
Email: [contact@f-mri.org](mailto:contact@f-mri.org) ; Web: [www.f-mri.org](http://www.f-mri.org)

*\* Details on the F-MRI governance are provided on the website: [www.f-mri.org](http://www.f-mri.org)*

### Main initial project\*:

The initial project of the Foundation entitled:

« **Development of Academic Medical Research in the Middle-East** »

has been described in details in a specific brochure. Briefly, the main objective of the project is to develop the research activities in medical science in the Mediterranean / Middle-East region. This has been decided after permanent collaboration with various local and international entities: governments, institutions, and universities in order to fill a gap and meet the demand of the involved parties.

**Structure of the project:** The project has been planned as the progressive [creation in the participant country of a local F-MRI entity](#). All respective local F-MRI subsidiaries will develop following a single common design according to the specific needs:

### Establishing of Lebanese local F-MRI Entity

In order to operate in the Middle-East, the Foundation has established a local independent legal office in Beirut, Lebanon as a public utility, non-for-profit organization registered in Beirut and regulated by the Lebanese law. This entity chaired by Prof Roland Asmar has been established in 2010 and officially recognised in 2011. It is registered under the control of the supervisory authority of the Ministry of Interior, Lebanon.

**Headquarters:** The Foundation's Lebanese headquarter is located at: Achrafieh, Hôpital Libanais Geitaoui, 1<sup>st</sup> floor, Beirut Lebanon. Tel: + Tél: +961 1 590 000 ext: 8895-6-7

More details are available on the website: [www.f-mri.org](http://www.f-mri.org)

*\* Details of the project are described in specific downloadable brochure from the website*

# EDUCATION IN MEDICAL RESEARCH

A physician interested in becoming researcher or study investigator must have been trained on medical research principles and methods. He or she will be assisted in this activity by persons belonging also to the medical sphere: the clinical research assistants (CRA).

This project is the subject of an agreement and mutual convention in which the F-MRI® Geneva, the initiator and promoter, delegates to F-MRI® Beirut the task of their local achievements. This specific education was organized at two levels:

- A university (UD) diploma proposed to post-doctorate students, the objective of which is to introduce future investigators in research fundamentals and related regulatory and technical requirements.
- A professional education recognized by a university certificate, proposed to students having achieved their baccalaureate + three years of higher education, who are interested in becoming clinical research associate (CRA).

These two university educational levels, initiated at the Lebanese University in 2010, welcome students from various Lebanese universities (see appendixes 1).

## The University Diploma “Principles of Medical Research”

The organization of this university diploma involves a collaborative participation of local and regional universities, with the participation of experts from Beirut (Lebanon) but also and principally from Toulouse, Nancy and Paris VI Universities (France), as well as Cambridge university (United Kingdom), and Basel (Switzerland). Details on the university diploma: objectives, required qualities, organisation, training, final exam, etc... can be obtained from the website.

Since its establishment in 2010, 6 academic years took place with 6 distinct classes; The Sixth class is reported hereafter (see appendixe 1).

- Academic year 2015-2016: Class “*Galileo*” included 27 Participants

NAME	DIPLOMA	UNIVERSITY
ABDULBAKI NABIGHA	MD/ Nephro/HTN	BAU/ AUB
ABI YOUNES RODINE	MD/ PGY2 in Obst /Gyn	LU
ABI YOUNIS JENNIFER	MD/ PGY3 in Pediatrics	LU
ABOU MANSOUR VICTORIA	Pharm D	LU
ATWI MOHAMMAD	MD/ Urology	Damascus University
AYOUB ZEINA	Pharm D	LU
DAGHER ROY	MD/ RESID Surgery	LU/ AUB
EL BEAINO ZAKHIA	MD/ PGY1-Anato- Pathol	LU
EL HAJJAR AHMAD	MD/ PGY1-Gastro entero	LU
GHADDAR MALAK	MD/ PGY1-Internal Medicine	LU
HAIDAR IBRAHIM	MD/ RESID Surgery	LU
HAMOUCHE ELIAS	MD/ RESID in Med Biology	USJ
HASSOUN RAYAN	Pharm D	BAU
IBRAHIM BAYRAM	MD/ RESID in Lab Med	BAU
ISSA ALINE	Pharm D	USJ
JABBOUR MARIE	MD/ RESID in Lab Med	LU
KHALIL WAEI	Dental Surgery	USJ
MATAR SHADIA YOUSSEF	MD	Damascus Uni

<b>OSSEIS MARIO</b>	MD/ RESID Surgery	LU
<b>RABAH HUSSEIN</b>	6th year MD	LU
<b>RIFAI RIHAB</b>	Pharm D	LIU
<b>RIHAN ALAA</b>	MD/ RESID Family Med	BAU/ AUB
<b>SHAMSEDDINE FATIMA</b>	MD/ PGY2- Clini Pathol	LU/ AUB
<b>SIBLANI DIMA</b>	MD/ PGY1-Internal Medicine	LU
<b>SIBLANI LAMA</b>	MD/ Infectious diseases	LU
<b>SROUR SARA</b>	MD/ PGY3- Pediatrics	LU
<b>YOUNESS ZEINAB</b>	MD/ PGY1-Dermatol	LU

BAU = Beirut Arab University; LIU = Lebanese International University; LU= Lebanese University;  
USJ = Saint-Joseph University;

## The Professional Certificate of “Clinical Research Associate”

Similar to the post Doc University diploma, the organisation of this certificate involves experts from local and regional universities: from Beirut (Lebanon), from Toulouse, Nancy and Paris VI Universities (France), as well as Cambridge university (United Kingdom), and Basel (Switzerland).

Details on the university diploma: objectives, required qualities, organisation, training, final exam, etc can be obtained from the website.

Since its establishment in 2010, 6 academic years took place with 6 distinct classes. The sixth class is reported hereafter (see appendix 2).

- Academic year 2015-2016: Class “*Galileo*” included 18 participants

NAME	DIPLOMA	UNIVERSITY
<b>AJROUCH ZEIN-AL-ABIDINE</b>	MSc. Biochem	LU
<b>AL BANNA SAWSAN</b>	BSc Pharmacy	LIU
<b>AL-MOUKADAD YOUSSEF</b>	BS Nurs/ MSc Hops Manag.	Makassed UB
<b>EL RAFEI SIHAM</b>	BSc Biology	Balamand Uni.
<b>EL-HAJJ ZEINAB</b>	MSc Clini. Pharm.	LU
<b>HAIDAR JINAN</b>	BSc Pharmacy	BAU
<b>HAZIMEH BASSIMA</b>	BSc Pharmacy/ MBA	BAU /AUST
<b>HOTEIT ROUBA</b>	BSc Lab Sc/ MSc Pharmacog.	AUB / UCL (London)
<b>ISMAEL AHMAD</b>	BSc Pharmacy	LAU
<b>KAMALEDDINE HAYAT</b>	BSc Nursing	LU
<b>KAMALEDDINE RIDA</b>	BS Nurs/ MSc Emerg/Rean	LU
<b>KAMALY LAYLA</b>	BSc Biochemistry/ BSc Pharmacy	LU/ USJ
<b>KARAM JOYCE</b>	MSC Biochem	LU
<b>SALAME ANASTASIA</b>	BSc Pharmacy	LIU
<b>SAROUPHIM SANDYBELLE</b>	MSc Pub Healthl/ Epid/Biost.	LU
<b>TAYARA SUZAN</b>	BSc Biology	AUB
<b>ZAITEY LAYAL</b>	MSc Biomedical Engineer	LU
<b>ZARAKET RANA</b>	BSc Pharmacy	BAU

BAU = Beirut Arab University; LIU = Lebanese International University; LU = Lebanese University;  
AUST= American University of Science technology; LAU= Lebanese American University;  
AUB= American University of Beirut; UCL= University College London.

# EDUCATION IN HYPERTENSION & CARDIOVASCULAR RISK

The objective of this course is to improve the management of hypertension and cardiovascular risk and prevent their complications.

This is the first UD in Hypertension and Cardiovascular risk in the Middle East. This UD is similar to the Inter-University Diploma (IUD) realized in France at the Universities of Paris, Montpellier, Tours, and Grenoble. It introduced Medical Doctors (or students ending their medical degree course), PhDs, Pharmacists (Pharm D & BSc Pharm, etc) to the latest advancement of the mechanisms of Hypertension (HTN), blood pressure measurement (Brachial, Central, Clinical, ABPM, ...), evaluation of HTN patients, Resistant & Secondary HTN, Management & Treatment of HTN,...

This project is the subject of an agreement and mutual convention in which the F-MRI® Geneva, the initiator and promoter, delegates to F-MRI® Beirut the task of their local achievements.

Following the recommendations of Pr Pierre Yared, dean of the Faculty, Pr Roland Asmar, in collaboration with Pr Wael Chalak established a University Diploma (UD) in 2015 in "Hypertension & Cardiovascular Risk" at the Faculty of Medical Sciences, Lebanese University. It welcomed students from various Lebanese universities (see appendix 3).

## The University Diploma "Hypertension & CV Risk"

The organization of this university diploma involves a collaborative participation of local and regional universities, with the participation of national and international outstanding professors from Beirut (Lebanon) but also and principally from Paris Descartes and Paris-Est Créteil Universities (France). Details on the university diploma: objectives, required qualities, organisation, training, final exam, etc... can be obtained from the website.

The First class is reported hereafter (see appendix 3).

- Academic year 2015-2016: Class "**Riva-Rocci**" included 17 Participants

NAME	DIPLOMA	UNIVERSITY
<b>ABBAS ROULA</b>	Pharm D	LU
<b>ABOUTAAM REHAB</b>	Pharm D	BAU
<b>ABOU YEHIA YEHIA</b>	BSc/MSc Pharmacy	LU/ Strathclyde Uni, UK
<b>AHMAD BASSAM</b>	MD/ 2nd year Fellow Cardiology	LU/ Beirut Cardiac Institute
<b>ARAJI AHMED</b>	MD/ 2nd year Fellow Cardiology	Ukraine / Beirut Cardiac Institute
<b>ASMAR JOSEPH</b>	MD/ PGY2 Resident	LU
<b>AYOUB NADA</b>	MD/ Internal Medicine	LU
<b>CHIDIAC MAROUN</b>	MD/ Cardiology	LU
<b>DAOU ABIR</b>	Pharm D	LU
<b>HADDAD ABDUL</b>	MD	Bulgaria University
<b>IBRAHIM ZAH</b>	MD/ PGY2 Internal med	BAU
<b>JAAFAR RANA</b>	Pharm D	LIU
<b>KASSIR KHALIL</b>	MD/ Nephrologist	Ukraine University
<b>MANSOUR MAHA</b>	Pharm D	LIU
<b>OLLAIK ZEINAB</b>	BSc Pharmacy	LIU
<b>SABBAGH CHRISTIANA</b>	BSc Pharmacy	LAU
<b>SOUSSE MOHAMED</b>	MD/ Nephrology & Hypertension	BAU/ AUB

- BAU = Beirut Arab University; LIU = Lebanese International University; LU = Lebanese University;
- LAU= Lebanese American University; AUB= American University of Beirut;

# RESEARCH

## 1- Clinical Research

Clinical Research Units (CRUs) are units created within academic hospitals; they are meant to [favour and promote the development of clinical research and improve the conditions of clinical study realization](#). CRUs are responsible for the concrete implementation of the studies, together with the participating investigators; they follow up the study within a monitoring process (quality insurance) with the collaboration of the CRAs. Details on the CRU: objectives, mission, organisation, etc, have been described in the Foundation brochure downloadable from the website.

The F-MRI project aims the implementation of distinct URCs within those academic hospitals or institutions having applied and declared their willingness to initiate a research activity. These structures must meet the participation criteria as described in specific documents.

[Two CRUs have been implemented in 2 academic hospitals:](#)

**A- Mount Lebanon Hospital (MLH):** This hospital is located in Beirut and affiliated to the Faculty of Medicine of the Lebanese University. This multidisciplinary hospital has several excellence centres mainly in oncology, medical imaging, and endocrinology. The affiliation form has been accepted in July 2011 and the CRU established in October 2011.

Since the CRU unit has been designed as a Built-Organize-Transfer (B.O.T.) model, the CRU unit of Mount-Lebanon Hospital will enter its transfer phase with the objective to be totally independent in 2016.

In 2015, [1 trial](#) is being coordinated by the CRU;

[A 12-Week treatment, multicenter, randomized, double-blind, double-dummy, parallel group study to assess the efficacy and safety of switching from salmeterol/fluticasone to QVA149 \(indacaterolmaleate/glycopyrronium bromide\) in symptomatic COPD patients.](#)

- **Study Name:** FLASH
- **Principal Investigator:** Dr Carole Youakim
- **Sponsor:** Novartis
- **Study status:** Ongoing
- **Start date :** Dec 2<sup>nd</sup>, 2015
- **Number of patients' status:** 5 patients selected/ 1 patient enrolled

**B- Lebanese Hospital Geitawi:** This hospital is located in Beirut and affiliated to the Faculty of Medicine of the Lebanese University. It has been recently accredited by the Ministry of Health and the corresponding Institution. The affiliation form has been accepted in December 2011.

The set-up of the Clinical Research Unit (CRU) at Geitawi hospital started and was operational in 2014. The unit is in its organization phase.

## 2- Basic Science Research

The F-MRI has established its first basic science research unit within the Faculty of Medicine at the Lebanese University under the direction of Dr Mirna Chahine.

A first project, entitled "[Tissue regulation of telomeres' length \(TL\)- Simultaneous study on telomeres' length in different tissue types](#)", is in collaboration with the CHU de Nancy, France (Prof. Athanase Benetos) and the University of New Jersey, USA (Prof. Abraham Aviv).

- **Background:** The prevailing view in telomere epidemiology is that leukocyte telomere length (LTL) is associated with atherosclerosis and accelerated aging since it serves as a biomarker of the cumulative burden of inflammation and oxidative stress during adult life. It has been shown that TL is mainly determined at birth and childhood.
- **Hypothesis:** Since short telomeres antecede atherosclerosis, *we hypothesize that TL is not just a simple marker, but a real determinant of arterial aging.* That is because TL reflects cellular repair capacity and a short LTL denotes diminished repair reserves. This hypothesis cannot be tested by measurements of LTL alone, since this parameter reflects TL at birth and its age-dependent attrition thereafter. We propose, therefore, a model that makes it possible to examine different elements of TL dynamics in leukocytes and skeletal muscle in patients with or without atherosclerosis.
- **Aim :** The aim of this project is to examine different elements of TL dynamics in leukocytes and skeletal muscle in patients with or without atherosclerosis undergoing surgery or implantation of pacemaker/defibrillator.
- **Methodology and ongoing results' analysis:** The study was initiated in the Foundation CRU of the Lebanese Hospital Geitawi.
- Dec 3<sup>rd</sup> 2013; 1<sup>st</sup> patient enrolled
- March 12<sup>th</sup> 2015: Last patient enrolled
- Total patients enrolled: 37 Patients enrolled; Informed consents have been signed at the beginning of the hospitalization.
- In July 2015, all DNA extraction has been totally performed from collected tissues (skeletal muscle and blood) and has been sent for telomere's length measurement at the CHU of Nancy (France) and New Jersey University (USA) .The results of this study will soon be published.

### 3- Epidemiological research

This project has been submitted to the head-office F-MRI® Geneva by the Lebanese F-MRI® unit. After its approval, it has been the subject of an agreement and mutual convention between the F-MRI® Geneva and the F-MRI® Beirut.

The F-MRI initiated [two Epidemiological projects about the “Prevalence” and the “Management” of Cardiovascular Diseases overall Lebanon.](#)

- **The prevalence project :**

- **Background:**

The incidence and the prevalence of cardiovascular diseases (CVD) have tremendously increased as they have become one of the main causes of death among adults.

According to the World Health Organization, CVD are the world's largest killers, claiming 17 million lives a year. In Lebanon, chronic diseases constitute an important public health problem.

- **The objectives of the prevalence study were:**

- to evaluate major CardioVascular (CV) risk factors such as Hypertension, Diabetes, Dyslipidemia, Smoking, Obesity ;
- to assess the prevalence of CardioVascular Diseases (CVD) in the adult Lebanese population.

- **Methodology :**

A cross-sectional study has been carried out, using a multistage cluster sample all over Lebanon. Lebanese residents aged 20 years and above have been enrolled in the study, with no exclusion criteria.

- **Procedure :**

From the list of circumscriptions in Lebanon (villages, towns and cities) (17), we randomly selected one hundred and four circumscriptions. Through a representative of local authorities, a list of dwellers has been provided to us. To select interviewees, randomization of dwelling residents aged 20 years and above from this list has been performed on a computerized software.

- **Tools :**

For every individual, the following measurements have been performed: blood pressure, glycemia, height and weight, and waist circumference for abdominal obesity measurement. Moreover, standardized questionnaires have been used.

Data collection of the prevalence study has been finalized in Dec 2014; the data analysis has been performed in 2015.

One third of the data were collected by 2 PhD candidates registered in co-tutelle with the Lebanese University and 2 French universities; After analyzing the totality of the results of this study, both students obtained successfully their PhD Diploma from both the Lebanese and the French Universities:

- 1- Rouba Karen Zeidan : Lebanese University & Toulouse III University / Co supervisor: Pr Atul Pathak/ Pr Pascale Saleme
- 2- Rita Farah : Lebanese University & Paris-Est University Créteil/ Co supervisor: Pr Hassan Hosseini/ Pr Pascale Saleme

In 2015, as a result, this study has delivered 2 peer-reviewed publications.

1. Rita Farah, Rouba Karen Zeidan, Mirna N. Chahine, Roland Asmar, Ramez Chahine, Pascale Saleme, and Hassan Hosseini. (2016) Predictors of uncontrolled blood pressure in treated hypertensive individuals: First population-based study in Lebanon. *J Clin Hypertens.* 2016;1–7.

2- Rita Farah, Rouba Karen Zeidan, Mirna N. Chahine, Roland Asmar, Ramez Chahine, Pascale Saleme, and Hassan Hosseini. (2015) Prevalence of Stroke Symptoms in Lebanon: First National Data From Lebanon. *Int J Stroke.* 2015;10 (Suppl A100): 83-88.

- **The management project :**

- **Background:**

The large numbers of epidemiological studies and clinical trials have documented the benefits of treating for example dyslipidemia, diabetes mellitus, hypertension, and obesity using behavioural and pharmacological means;

These epidemiological studies have led to clinical practice guidelines aimed at implementing these management *recommendations*.

- **The objectives of the management study were :**

- to assess the management of the major cardiovascular risk factors in the Lebanese adult population versus clinical practice guidelines.
- to evaluate the quality of the management of each of the major cardiovascular risk factors versus clinical practice guidelines, to evaluate the management of the multiple risk factors combination (patient at high cardiovascular risk) versus clinical practice guidelines, to assess the management according to the physician phenotype and characteristics, because treatments can differ based on the sex, the age and the location of the physician, and to compare risk factors management to the management as recommended by the guidelines

- **Methodology :**

A cross-sectional study has been carried out. Lebanese primary care physicians (GPs, Family Medicine, Internal Medicine) have been enrolled in the study to provide information on the management of CVD and risk factors of their adult patients aged 20 years and above.

- **Procedure :**

From the directory of the Lebanese Order of Physicians, we selected from different regions in Lebanon 100 Lebanese physicians among the 11 000 physicians that are members of the Order of Physicians. The selected 100 physicians filled out a questionnaire regarding the first 10 adult patients (with CVD and/or diseases) aged 20 years and above who enter their clinics that day, and this will totalize 1000 patients.

The study has been initiated in June 2014. Data collection has been finalized and data analysis have been performed end 2015. The results will soon be published.

## 4- Public Health Research

These projects are the subject of an agreement and mutual convention in which the F-MRI® Geneva, the initiator and promoter, delegates to F-MRI® Beirut the task of their local achievements.

### A- Management of hypertension and diabetes in patients with Target Organ Damages and/or previous cardiovascular diseases in multicentric academic hospitals of Beirut and Mount-Lebanon from January 2014 to August 2015. Where do we stand with respect to international guidelines?

The objectives of this project are:

- To assess the management of practice of Lebanese doctors in primary health care centers with regard to hypertension and diabetes in patients with target organ damages and/or previous cardiovascular diseases.
- To evaluate the quality of management of hypertensive and diabetic patients in Lebanon: the prevalence of cardiovascular complications (CAD and stroke) among treated patients.
- To highlight the degree of adherence of Lebanese physicians to the international guidelines regarding the management of hypertension and diabetes.
- To determine if the international guidelines should be adapted to the Lebanese population, should be modified or even specific guidelines could be recommended to help Lebanese physicians achieve ultimate goals and improve patients' management.

This project has been assigned to 3 MD candidates as part of their thesis; they started collecting their data in February 2015; This project is still ongoing and data will be soon analyzed.

### B- Evaluation of potential drug-drug interactions (DDIs) in patients with cardio-metabolic diseases in multi-centric academic hospitals of Beirut and Mount -Lebanon from January to August 2015.

The Primary objective is to determine the prevalence of potential DDIs in the prescriptions given to in- and out-patients with cardiometabolic diseases in multi-centric academic hospitals from Beirut and Mount Lebanon between January and August 2015.

The secondary objectives are to determine the effectiveness of prescriptions in term of posology and the accuracy of prescribed drugs regarding indications.

This project has been assigned to 3 MD candidates as part of their thesis; they started collecting their data in June 2015; This project is still ongoing and data will be soon analyzed.

## 5- Other Research: Devices

### Assessment of the accuracy of the blood pressure measurements using 2 various methods in the adult and specific populations (obese and children), according to the ANSI/AAMI/ISO/ 81060-2:2009 Protocol:

The aim of the study is to assess the accuracy of the blood pressure measurements performed with automatic electronic devices. Mercury sphygmomanometer and brachial oscillometric device (in 2 speeds normal and high).

#### **OMRON® M3500 automatic oscillometric BP device:**

The present study was designed to validate the accuracy of the blood pressure (BP) measurements of a professional device for office use, the OMRON® M3500 automatic oscillometric BP device, by using the normal and high speed modes in the adult and specific populations (obese and children), according to the ANSI/AAMI/ISO/ 81060-2:2009 Protocol.

The statistical analysis is performed using specific software developed by the International Society of vascular Health and the Foundation.

Ambulatory patients from the Mount Lebanon Hospital and the Geitawi Hospital were included in the study. In conclusion, readings of the OMRON® M3500 automatic oscillometric BP device using the normal and high speed modes for BP determinations in adults and 2 specific populations (children and obese) fulfilled the criteria 1 and 2 of the AAMI protocol; therefore, this device can be used in clinic.

This study has been possible thanks to collaboration among Asian and European Institutions and The Foundation. It has been ended by 2014; it has been published early 2015.

Assessment of the accuracy of the blood pressure measurements using 3 various methods in 4 specific populations (obese, pregnant, elderly, arrhythmic patients), according to ESH-IP:

The primary objective of the study is to assess the accuracy of automatic oscillometric BP devices: the Microlife WatchBP O3® (at the brachial level) and the OMRON RS6® (at the wrist level) in specific populations, the elderly subject, the pregnant woman, the obese subject, and the arrhythmic patient according to the ESH-IP.

The secondary objectives are: to explore innovative means to improve BP measurement in specific populations; to define phenotype, morphometric (weight, BMI), and hemodynamic (Heart rate, BP) parameters which may constitute determinant(s) of the BP differences.

This project has been assigned to 6 MD candidates as part of their thesis; they started collecting their data in April 2015; This project is still ongoing.

Assessment of the accuracy of the blood pressure measurements using 2 various methods in 1 specific population (Diabetic patients), according to ESH Protocol:

The objective of the study is to assess the accuracy of automatic oscillometric BP device, the OMRON M6® (at the brachial level) in the type II diabetic patient, according to the ESH-IP. This project has started in Dec 2015.

## **6- Collaboration with the CNRS (Centre National de la Recherche Scientifique) :**

The F-MRI has developed the research in collaboration with recognized national institutions such as the CNRS. In this regard, our project entitled: " Validation of the Microlife WatchBP O3® & the OMRON RS6® in arrhythmic patients, elderly subjects, pregnant women, and obese patients according to the European Society of Hypertension International Protocol (ESH-IP)", has been submitted in Quarter 1 2015 and has been agreed to be funded.

## 7- PUBLICATIONS

Several publications were performed in international peer-reviewed journals:

1. Zeidan RK, Farah R, Chahine MN, Asmar R, Salameh P, and Pathak A. (2016) Prevalence and Correlates of Coronary Heart Disease: First Population-based Study in Lebanon Vascular Health and Risk management 2016;12:75–84.
2. Farah R, Zeidan RK, Chahine MN, Asmar R, Chahine R, Salameh P, and Hosseini H. (2016) Predictors of uncontrolled blood pressure in treated hypertensive individuals: First population-based study in Lebanon. *J Clin Hypertens*. 2016 2016;1–7.
3. Farah R, Zeidan RK, Chahine MN, Asmar R, Chahine R, Salameh P, and Hosseini H. (2015) Prevalence of Stroke Symptoms in Lebanon: First National Data From Lebanon. *Int J Stroke*. 2015;10 (Suppl A100): 83-88.
4. Chahoud J, Mrad J, Semaan A, Asmar R. (2015) Prevalence Of Diabetes Mellitus Among Patients With Essential Arterial Hypertension. *J Med Liban*. 201;63(2):74-80.
5. Mirna N. Chahine, Nathalie Assemaani, Ghada Sayed-Hasan, Mariam Chami-Chebbo, Pascale Salameh, And Roland Asmar. (2015) Validation of the OMRON® M3500 blood pressure measuring device using normal and high speed modes in the adult and specific populations (obese and children) according to the AAMI Protocol. *J Clin Hypertens (Greenwich)* 17(8):622-9.
6. Asmar R. (2015) Effects of treatment on arterial stiffness and central blood pressure--points to consider. *J Clin Hypertens (Greenwich)*. 2015;17(2):105-6.
7. Mancia G, Asmar R, Amodeo C, Mourad JJ, Taddei S, Gamba MA, Chazova IE, Puig JG. (2015) Comparison of single-pill strategies first line in hypertension: perindopril/amlodipine versus valsartan/amlodipine. *J Hypertens*. 33(2):401-11.
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# FUTURE PERSPECTIVES

## 1- Education

- **Interuniversity collaboration**  
The F-MRI is contributing to a twinning or an association in order to initiate a close collaboration between universities and research centres.
- **Seminars on medical research**  
Considering that professional employments are also interested by the research education, the foundation is willing to develop specific modulus and seminars. These seminars will take place at the end of the week for 2 to 3 days, and will be organised as “Master classes”
- **MD Thesis:** We will continue to welcome resident students from the Lebanese University Faculty of Medicine to help them define the subjects of their thesis and realize the corresponding studies.
- **PhD Thesis:** We will continue to welcome MSc students or Pharm D from the Lebanese University Faculty of Medicine to help them define the subjects of their PhD thesis in collaboration or by co-tutelle with French universities and realize the corresponding studies.

## 2- Research

### ▪ A- Clinical Research

The Foundation is willing to develop more CRU during 2016 in and outside Beirut. In addition other clinical trials are to performed in both CRU:

#### ▪ TRIALS ACTIVITIES to be PERFORMED BY THE CRU AT THE MLH:

A multicenter, randomized, double-blind, placebo controlled phase II study to evaluate the efficacy, safety and tolerability of Seralaxin when added to standard therapy in acute heart failure patients

- **Study Name:** RELAX- ASIA
- **Sponsor:** Novartis
- **Study status:** Ongoing
- **Start date :** jan 27<sup>th</sup> 2016
- **Number of patients' status:** 10 patients selected/ 0 patient enrolled

#### ▪ TRIALS ACTIVITIES to be PERFORMED BY THE CRU AT THE Lebanese Hospital Geitawi:

A multicenter, randomized, double-blind, placebo controlled phase II study to evaluate the efficacy, safety and tolerability of Seralaxin when added to standard therapy in acute heart failure patients

- **Study Name:** RELAX- ASIA
- **Sponsor:** Novartis
- **Study status:** Ongoing
- **Start date :** jan 27<sup>th</sup> 2016
- **Number of patients' status:** 10 patients selected/ 0 patient enrolled

### ▪ B- Basic Science Research

The Basic Science Research Unit has been set up. Our perspectives for 2016 are to extract and finalize the analysis of the telomere's study and to initiate studies and to establish collaboration with other national and internationals units.

- **C- Epidemiological & Public Health Studies**

F-MRI is willing to continue exploring in 2016 the results of this large national evaluation study entitled: *"The Cardiovascular Prevalence and Management Lebanese Project"*. This study will help to assess the epidemiological aspects in terms of prevalence and the management reality of the major cardiovascular risk factors in Lebanon. Other PhD candidates will be performing their PhD Thesis in collaboration with French Universities.

### **3- CME: Regional Development:**

The F-MRI will continue to develop in collaboration with the ISVH important regional CME activities.

### **4- Network**

The Foundation will undertake actions to develop the regional and international network among the academic research institutions and persons.

# APPENDIXES

- 1- University Diploma “ Fundamentals in Medical Research” – Class “Galileo” - Academic year 2015-2016.
- 2- Clinical Research Assistant/ Clinical Research Technician “ Fundamentals in Medical Research” – Class “Galileo” - Academic year 2015-2016.
- 3- University Diploma “ Hypertension & CV Risk” – Class “Riva-Rocci” - Academic year 2015-2016.

**University Diploma**  
**« Principles of Medical Research »**  
**Class “ Galileo”**  
**Academic Year 2015 – 2016 (page 1/2)**



**Abdulkabi  
Nabigha**



**Abi Younes  
Rodine**



**Abi Younis  
Jennifer**



**Abou Mansour  
Victoria**



**Atwi  
Mohammad**



**Ayoub  
Zeina**



**Dagher  
Roy**



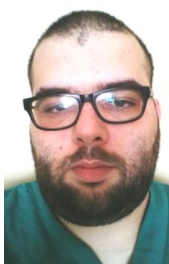
**El Beaino  
Zakhia**



**El Hajjar  
Ahmad**



**Ghaddar  
Malak**



**Haidar  
Ibrahim**



**Hamouche  
Elias**



**Hassoun  
Rayan**



**Ibrahim  
Bayram**



**Issa  
Aline**



**Jabbour  
Marie**



**Khalil  
Wael**



**Matar Shadia  
Youssef**



**Osseis  
Mario**



**Rabah  
Hussein**

**University Diploma**  
**« Principles of Medical Research »**  
**Class “ Galileo”**  
**Academic Year 2015 – 2016 (page 2/2)**



**Rifai  
Rihab**



**Rihan  
Alaa**



**Shamseddine  
Fatima**



**Siblani  
Dima**



**Siblani  
Lama**



**Srour  
Sara**



**Youness  
Zeinab**

**Clinical Research Associate**  
**« Principles of Medical Research »**  
**Class “ Galileo”**  
**Academic Year 2015 – 2016**



**Ajrouch Zein-  
Al-Abidine**



**Al- Banna  
Sawsan**



**Al- Moukdad  
Youssef**



**El Rafei  
Siham**



**El-Hajj  
Zeinab**



**Haidar  
Jinan**



**Hazimeh  
Bassima**



**Hoteit  
Rouba**



**Ismael  
Ahmad**



**Kamaleddine  
Hayat**



**Kamaleddine  
Rida**



**Kamaly  
Layla**



**Karam  
Joyce**



**Salame  
Anastasia**



**Sarouphim  
Sandybelle**



**Tayara  
Suzan**



**Zaiter  
Layal**



**Zaraket  
Rana**

**University Diploma**  
**« Hypertension & Cardiovascular Risk »**  
**Class “Riva-Rocci”**  
**Academic Year 2015 – 2016**



**Abbas  
Roula**



**Aboutaam  
Rehab**



**Abou Yehia  
Yehia**



**Ahmad  
Bassam**



**Araj  
Ahmed**



**Asmar  
Joseph**



**Ayoub  
Nada**



**Chidiac  
Maroun**



**Daou  
Abir**



**Haddad  
Abdul**



**Ibrahim  
Zahi**



**Jaafar  
Rana**



**Kassir  
Khalil**



**Mansour  
Maha**



**Ollaik  
Zeinab**



**Sabbagh  
Christiana**



**Soussi  
Mohamed**