

## STATUS OF MEDICAL PHYSICS AND ACTIVITIES TO BOOST PROFESSIONAL DEVELOPMENT IN THE MEFOMP REGION

Nabil Iqeilan<sup>1</sup>, Huda Al Naemi, President MEFOMP

<sup>1</sup> Hamad Medical Corporation, PO Box, 3050, Doha, Qatar

**Abstract** — The paper is part of the IOMP-IUPAP Workshop “MEDICAL PHYSICS PARTNERING WITH THE DEVELOPING WORLD” at the World Congress in Prague WC2018. The paper presents the status in the IOMP Regional Organization MEFOMP (Middle East Federation of Organizations for Medical Physics).

**Keywords**— Medical Physics Professional Development, Medical Physics Education and Training.

### I. INTRODUCTION

The Middle East Federation of Organizations of Medical Physics (MEFOMP) was born in 2009 as one of regional organizations of Medical Physics in the world. There are twelve (12) countries involved, namely Qatar, Oman, Iraq, Syria, Jordan, Kuwait, Lebanon, Saudi Arabia, Palestine, Bahrain, United Arab Emirates and Yemen. The process of activities for establishing local Medical Physics Societies varies among the 12 countries, and this creates a wide divergence among medical physics programs in the Middle East. Most of the medical physics programs have succeeded since its establishment; whereas others have not due to the conditions beyond the control of medical physicists; although, a few are still trying to survive.

In spite of the instability in the region, there are enormous efforts and achievements from fellow medical physicists who continuously work and support for the development of the Medical Physics Profession in the Middle East. It is vital that such efforts be sustained to further accelerate the growth of Medical Physics profession in the region.

The MEFOMP Constitution was reviewed and adjusted by most of the MEFOMP Members and Ex-Officers from AAPM and IOMP. It is then been approved by the majority of the MEFOMP members during the World Congress of Medical Physics and Biomedical Engineering (WC2009) that took place in Munich, Germany from 7 to 12 September 2009.

The aims and purposes of the Federation are:

- a) To promote the co-operation and communication between medical physics Organizations in the region.
- b) To promote medical physics and related activities in the region.

- c) To promote the advancement of the status and standard of practice of the medical physics profession.
- d) To Organize and/or sponsor international conferences, regional and other meetings or and courses.
- e) To collaborate or affiliate with other scientific Organizations worldwide.

The process of activities in for establishing local Medical Physics Society varies among the twelve (12) member countries (see Table-1), and this generates a wide divergence among medical physics programs in the Middle East. Most of the medical physics programs have succeeded since its establishment; whereas others have not due to conditions beyond the control of medical physicists; nevertheless, a few are still on process.

### II. CHALLENGES IN MIDDLE EAST REGION

Although the number of Medical Physicist in the Middle East has been constantly increasing, the demand for more qualified medical physicist increases as well. It is good to note that the local authorities started to realize it's the importance of this profession in healthcare. However, it is a challenge to acquire qualified medical physicists due the following:

1. limited number of universities offering this specialty;
2. limited awareness on how vital this profession is within the medical practice and within the society in general; and
3. Absence of or under-recognition of the profession by the local authorities.

In view of this, there is a strong need to establish and formulate new rules, guidelines and standard specific to this field. Improvement of professional recognition which would promote interest within the new generation of professionals is essential. A Medical Physicist Education System and Certification Board in the region would further establish the profession, and this can be made possible through a collaborative effort between the MEFOMP and local/regional authorities.

The need for education and training of clinical medical physicists is fundamental in defining role, responsibilities and status; hence, it is important that senior academic

positions of medical physics at universities be established in every country; in such a manner that they should have dual responsibilities in the faculty of Medical Physics and hospitals.

The mission of the Middle East Federation of Medical Physics (MEFOMP) is to advance medical physics practice throughout Middle East by disseminating scientific and technical information, fostering the educational and professional development of medical physics, and promoting the highest quality medical physics services for patients.

The Goals of The MEFOMP are to, educate, train, and promote research within local society members, to promote advancement in medical physics, and to encourage exchange of expertise and information among societies by continuous professional development through organizing regional conferences and symposiums. The goals and objectives of MEFOMP are directed by the Executive Officers supported by the Chairs of the Committees (see Table-2: The Executive Officers and Chair of Committees of MEFOMP 2018-2021).

**Table-1: List of Medical Physics Societies in the MEFOMP and number of Medical Physicist and female Medical Physicists**

Country	Name of Society	Established	No. of Medical Physicists	No. of Female Medical Physicists
Bahrain	Bahrain Society for Medical Physics and Bio-Engineering (BSMPB)	2008	7	6
Iraq	Iraqi Medical Physics Society (IMPS)	2013	44	30
Jordan	Jordanian Association for Medical Physics (JAMP)	2006	197	40
KSA	Saudi Medical Physics Society (SAMPS)	2006	380	84
Kuwait	Kuwait Association for Medical Physics (KAMP)	2016	27	7
Lebanon	Lebanon Association for Medical Physics (LAMP)	2005	20	8
Oman	Onam Medical Physics Society (OMPS)	2018	30	24
Palestine	Palestine Medical Physics Society (PMPS)	2014	9	5
Qatar	Qatar Medical Physics Society (QaMPS)	2009	28	8
Syria	Syrian Association for Medical Physics (SyMPA)	2009	36	12
UAE	Emirate Medical Physics Society	2005	61	43
Yemen	Yemen Medical Physics Society	2012	8	1
<b>Total</b>			<b>847</b>	<b>268</b>

**Table-2: The Executive officers and chair of committees of MEFOMP 2018-2021**

<b>COUNCIL EXECUTIVE OFFICERS</b>		
President	Huda Al Naemi	Qatar
Vice President	Meshari Al Naemi	Kuwait
Secretary General	Mohammad Hassan Kharita	Syria
Past President	Abdalla Al Haj	KSA
Treasurer	Rabih Hammoud	Lebanon
<b>COMMITTEES' CHAIRPERSONS</b>		
Education and Training Committee	Refat Al Mazrou	KSA
Science Committee	Adnan Al Watban	KSA
Professional Relations Committee	Zeina Elhalaa	Lebanon
Publications Committee	Anas Abasneh	Jordan
Awards and Honours Committee	Afkar Al Farsi	Oman
Website & Newsletter Committee	Nabil Iqellian	Jordan
Women in Medical Physics Committee	Hanan Al Dossari	Kuwait

**Table-3: List of universities and institutions in MEFOMP member countries offering medical physics programs.**

Country	Name of Society	Established	No. of Medical Physicists	No. of Female Medical Physicists
Bahrain	Bahrain Society for Medical Physics and Bio-Engineering (BSMPB)	2008	7	6
Iraq	Iraqi Medical Physics Society (IMPS)	2013	44	30
Jordan	Jordanian Association for Medical Physics (JAMP)	2006	197	40
KSA	Saudi Medical Physics Society (SAMPS)	2006	380	84
Kuwait	Kuwait Association for Medical Physics (KAMP)	2016	27	7
Lebanon	Lebanon Association for Medical Physics (LAMP)	2005	20	8
Oman	Oman Medical Physics Society (OMPS)	2018	30	24
Palestine	Palestine Medical Physics Society (PMPS)	2014	9	5
Qatar	Qatar Medical Physics Society (QaMPS)	2009	28	8
Syria	Syrian Association for Medical Physics (SyMPA)	2009	36	12
UAE	Emirate Medical Physics Society	2005	61	43
Yemen	Yemen Medical Physics Society	2012	8	1
<b>Total</b>			<b>847</b>	<b>268</b>

Graduate Medical Physics educational and training programs offering PhD and/or MSc degrees are currently available in 5 (five) countries, i.e., Iraq, Jordan, Lebanon, Saudi Arabia, and Syria. One undergraduate medical physics program, offering BSc Degree, is also available in the IBB University in Yemen. See Table-3: List of universities and institutions in MEFOMP member countries offering medical physics programs. The table also shows a total number of Medical Physicists (male and female) with PhD, MSc, and BSc degrees is approximately 847 physicists from both genders.

In addition to teaching and training, Medical Physicists are often involved in research and technical development in most academic settings. While the type of research conducted in most universities and institutions varies, research in radiation dosimetry is the most common one in the 3 (three) main subspecialties of the Medical Physics: therapy, radiology, and nuclear medicine. In some institutions, Medical Physicists are also engaged in radiation biology and biomedical research in collaborations with other hospitals and centers. Though research is required from all the PhD students, students in MSc programs are also encouraged to have optional research projects.

In most countries, continuing education and training are offered in annual conferences, seminars, and workshops. In some countries Medical Physicists often participate in training courses and workshops organized by MEFOMP, IAEA, AAPM and Arab Health conferences in the region. Since 2013, a one-day symposium is organized in most countries on the occasion of the International Day of Medical Physics (IDMP) on November 7th of each year. Honors and recognitions are given to Medical Physicists during national and international symposiums and conferences.

#### ACKNOWLEDGMENTS

This paper is related to the IOMP-IUPAP Workshop “Medical Physics Partnering with the Developing World” at the World Congress in Prague WC2018. The lecturer and attendees of the Workshop expressed their gratitude to the IUPAP for the supporting grant and to the IOMP for the organization of the Workshop.

#### REFERENCES

1. Official Website of the International Organization for Medical Physics (IOMP): <http://iomp.org>
2. Official Website of the American Association of Physicists in Medicine (AAPM): <http://aapm.org>
3. Azam Niroomand-Rad, C Orton, P Smith, S Tabakov (2013), A History of the International Organization for Medical Physics – 50 Year Anniversary – Part II, Journal Medical Physics International, vol. 2, No.1, 2014, p.7-17 (available free from: <http://www.mpijournal.org/pdf/2014-01/MPI-2014-01-p007.pdf>)
4. Official Website of the Middle East Federation of Organizations of Medical Physics (MEFOMP): <http://mefomp.com> MEDICAL PHYSICS INTERNATIONAL Journal, vol.5, No.2, 2017
5. STATUS OF MEDICAL PHYSICS EDUCATION, TRAINING, AND RESEARCH PROGRAMS IN MIDDLE EAST, Azam Niroomand-Rad let.all, Medical physics international Journal, vol. 5, No. 2, 2017

#### Corresponding Author:

Author: Nabil Iqeilan  
Hamad Medical Corporation, PO Box, 3050, Doha, Qatar  
[NIqeillan@hamad.qa](mailto:NIqeillan@hamad.qa)