BMPA Newsletter
An on-line publication of
Bangladesh Medical Physics Association (BMPA)
Special Edition
On the occasion of the
3rd International Day of Medical Physics (IDMP)-2015

Year: 2015 **7 November, 2015**

Members are requested to send relevant news items with pictures, if possible,

to secretary@bmpaweb.org and q.kamila@gmail.com

ASSOCIATION NEWS

International Day of Medical Physics observed at Dhaka

Bangladesh Medical Physics Association (BMPA), the National Affiliate of IOMP, organized a Seminar and Press Conference in Dhaka on 7 November, 2015 to celebrate the 3rd International Day of Medical Physics (IDMP). The event was organized at the Auditorium of the National Institute of Nuclear Medicine and Allied Sciences (NINMAS) at Bangabandhu Shekikh Mujib Medical University (BSMMU), Dhaka. About 50 professionals were present in the seminar. Secretary of Ministry Ministry of Health and Family Welfare, Bangladesh Government and the Vice Chancellor of BSMMU were present as the Chief Guest and the Special Guests respectively. Pro-Vice Chancellor of BSMMU, Director of NINMAS, Chairman of Oncology Department of BSMMU, former Vice Chancellor of Shahjalal University of Science & Technology and many renowned persons were present in the seminar.

Photo Gallery

Celebration of the 3rd International Day of Medical Physics, 2015

Welcome Address: Prof. K Siddique-e Rabbani, Chairperson of the seminar **and** President of Bangladesh Medical Physics Association (BMPA)

Special Guest's Address: Professor Dr. Kamrul Hasan Khan, Vice Chancellor, Bangabandhu Sheikh Mujib Medical University (BSMMU)

Chief Guest's Address: Mr. Syed Manjurul Islam, Secretary, Ministry of Health & Family Welfare, Govt of the People's Republic of Bangladesh

Keynote Speakers:
Prof Sadiq Malik, Chief Radiation Oncology Physicist, Delta Medical College & Hospital, Dhaka, "Roles and Responsibilities of Medical Physicists in Oncology" (left).
Dr. Lutfun Nisa, former Professor and Chief Medical Officer of National Institute of Nuclear Medicine & Allied Sciences, "Role of PET-CT in Oncology" (middle)
Prof. M A Hai, President, Oncology Club, Bangladesh, "Necessity of Medical Physicist in Oncology" (right)

Vote of Thanks: Prof Kamila Afroj Quadir, General Secretary, of Bangladesh Medical Physics Association (BMPA) (left)

Closing Speech: Prof. K Siddique-e Rabbani, Chairperson of the seminar**,** President of Bangladesh Medical Physics Association (BMPA) (right)

Press Release

International Day of Medical Physics observed at Dhaka

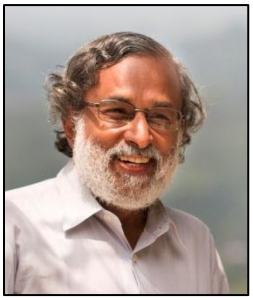
Marie Curie, the pioneering scientist whose phenomenal discoveries in ionizing radiation led to the applications of Physics in Medicine in a great way, was born in Poland on 7 November in 1867. From 2013, the International Organisation of Medical Physics (IOMP) started celebrating this day as the International Day of Medical Physics and the theme chosen for 2015 is, *'Better Medical Physics = Better Cancer care in Radiation Oncology'.* To observe the day through creating awareness among the people, Bangladesh Medical Physics Association (BMPA), the National Affiliate of IOMP, organized a seminar and Press Conference at BSMMU on 7 November, 2015. Mr. Syed Manjurul Islam, Secretary, Ministry of Health and Family Welfare, was present as the Chief Guest while Professor Dr. Kamal Hasan Khan, Vice Chancellor of BSMMU, was the Special Guest. Presided over by Professor K Siddique-e Rabbani, President of BMPA and Professor and founding Chairperson of the Department of Biomedical Physics & Technology of Dhaka University, the speakers at the seminar highlighted different aspects of Medical Physics and the importance of the role played by Medical Physicists in providing better healthcare, particularly in the diagnosis and treatment of cancer. In view of this necessity it is high time that the Government formulate policies for appointing Medical Physicists in hospitals for better healthcare – was the message conveyed by the speakers at the Seminar. Side by side the speakers also highlighted the need for incorporating locally designed medical equipment in the healthcare system, thus providing the people with the benefits of modern healthcare technology at affordable costs. The Guests reiterated the justified demands placed at the seminar and assured all to take all possible steps and initiatives from their side.

Keynote papers were presented by Professor Sadiq R Malik, Chief Radiation Oncology Physicist of Delta Medical College & Hospital, Dr. Lutfun Nisa, former Chief Medical Officer of NINMAS of BAEC, Prof M A Hai, President of *Oncology* Club and Professor Abdus Sattar Molla of the Department of Nuclear Science and Engineering at the Military Institute of Science & Technology, Dhaka. Prof Kamila Afroj Quadir, General Secretary BMPA and Director of Biosciences of BAEC offered the vote of thanks. The event was rounded up by a brief Press Conference where the journalists present were addressed by Professor Rabbani.

Message from the President

on the International Day of Medical Physics – 7 November, 2015

Professor K Siddique-e Rabbani, President of Bangladesh Medical Physics Association



Marie Curie, the pioneering scientist whose phenomenal discoveries in ionizing radiation led to the applications of Physics in Medicine in a great way, was born in Poland on 7 November in 1867. From 2013, the International Organisation of Medical Physics (IOMP) started celebrating this day as the International Day of Medical Physics (IDMP). This is the third year of celebration of IDMP and the theme for 2015 is, ***'Better Medical Physics = Better Cancer Care in Radiation Oncology'.***

Medical Physics has contributed hugely to modern medicine, and is expected to do so in the future as well – contributing to all its different aspects– prevention, diagnosis, therapy and rehabilitation.

Whether we talk of thermometers and stethoscopes – the early probes that allowed doctors to better diagnose a patient – or of the modern methods like X-ray, CT, MRI, PET, SPECT, Ultrasound, or the upcoming methods using Electrical and Optical means – all are the outcomes of the ingenuity and perseverance of the Medical Physicists, the broad term to include Biomedical Engineers too. That we can 'see' the inside of a live human body without dissection made a revolution in diagnosis.

Physics has made great strides in its application to medicine in the recent times. For radiotherapy in oncology we had the classic Cobalt machines while the modern LINACs have become almost commonplace in addition to Brachytherapy, the latter for in-situ applications. Nuclear medicine helps both in diagnosis and therapy in several ways. Upcoming Targeted Alpha Therapy (TAT) has a lot of promise and has already shown success in melanoma. TAT can be applied through Nuclear Medicine and will not require any machine at all.

Again Electricity is coming with a lot of potential too. Besides the old applications in diathermy and Nerve stimulation used in physical medicine, it is making inroads into cancer diagnosis and therapy as well. Electrical Impedance methods have already proven their capabilities in early diagnosis of Cervical Cancer and will do so in oral cancer soon. Such methods may also contribute in the characterization of breast tumours and in detecting lung tumours too. Irreversible Electroporation (IRE) has already been put to clinical practice for ablation of prostate cancers where the results are impressive. With needle electrodes placed around the target tumour, it can be ablated in only one session of a few minutes. Some groups have claimed inhibition of brain tumours like the difficult to treat 'Glioblastoma' using simple sinusoidal electrical fields applied through multiple electrodes placed on the head for prolonged periods.

Use of computers, microcontrollers and modern signal processing techniques has enhanced capabilities of many traditional methods of diagnosis to extents that would not be possible otherwise. Telemedicine using the recent advances in communication technology has brought quality medical consultation to the doorsteps of the rural regions of the low resource countries thus aiming to minimize the global divide in healthcare which has gone to levels beyond acceptability. In any country the aged population and the infirm patients need regular monitoring of health even when they are at home, and telemedicine is coming with promise in this area also. Robotic surgery is providing

greater surgical precision reducing pain to patients and hospitalization time. Life support of patients in difficult surgery and in various organ transplantations would not be possible without the breakthroughs in Medical Physics and Biomedical Engineering.

Besides the non-remarkable eye glasses and hearing aids which are helping quality life to many people on the earth, modern prosthetic hands that are aptly termed 'Bionic' and prosthetic legs that allow a sprinter to achieve greater speeds than that of a normal person are simply awe inspiring. Developments in artificial heart and other organs have raised hopes in many. The story is endless and will continue evolving every day.

The other side of this phenomenal achievement is that more than two thirds of the global population living in the low resource countries still remains deprived of the benefits of basic technologies of healthcare, not to mention the modern astounding developments; classic examples being the ECG and the X-ray machines. Invented more than 100 years ago, the benefits of these two basic machines is yet to reach the above mentioned segment of the global population. The existing commercial system for patenting, manufacture and distribution somehow failed to address this challenge, and we need to empower people in all countries with technology so that they can design, manufacture and market essential medical equipment in their own countries, suited to their own circumstances.

Because of such inclusive nature of Medical Physics, the presence of personnel with expertise in these areas have become no less important than that of a medical doctor; they have to work side by side in a team to provide benefits to patients. In Radiotherapy treatment planning, the contribution of a Medical Oncology Physicists is vital to the treatment that the doctor provides. The same goes in Nuclear Medicine and Radiological Imaging. The necessity of a Clinical Engineer in patient care is also no less important.

However, society is yet to understand and appreciate the importance of Medical Physicists and Clinical Engineers in healthcare for which policies are still lacking in many countries to carve out proper positions for such professionals in medical service. We all need to work together so that the people in general can get the benefits of all the technological advancements of the modern times. Let this be the message of International Day of Medical Physics today, the 7th of November, 2015.

Dhaka, Bangladesh