e - NEWSLETTER
BANGLADESH MEDICAL PHYSICS ASSOCIATION (BMPA)

YEAR: 2017 DECEMBER

ASSOCIATION NEWS

INTERNATIONAL CONFERENCE ON PHYSICS IN MEDICINE AND CLINICAL NEUROELECTROPHYSIOLOGY – PMCN-2017

An international conference on 'Physics in Medicine and Clinical Neuroelectrophysiology (PMCN2017)' was held during 10-11 March 2017 at the Nabab Nawab Ali Chowdhury Senate building of the University of Dhaka. The event was organized jointly by the Bangladesh Medical Physics Association (BMPA), Bangladesh Clinical Neuro-Electrophysiologists Society (BCNEPS) and the Department of Biomedical Physics & Technology of Dhaka University (BMPT) in co-operation with Institute of Nuclear Medical Physics (INMP), a project of Bangladesh Atomic Energy Commission. The conference was endorsed by IOMP and AFOMP.

The presence of around 220 participants made the conference a great success. Sixty contributory papers in Nuclear Medicine, Radiotherapy, Radiology, Radiation Oncology, Health physics and Radiation, Clinical neuroelectrophysiology, Biomedical Engineering and Medical Physics were presented from home and abroad. There were 10 invited presentations in the conference. In the 2 days program, there were 2 parallel sessions.

Professor Dr. Gias uddin Ahmad, Vice Chancellor of Primeasia University was the Chief Guest at the inauguration ceremony while the Special Guests were, Mr. Mahmud Hassan, Managing Director, Tradevision Ltd. Three theme lectures presented in the inauguration ceremony were: Qualified Medical Physicists (QMP): Wheel of Global Health Care presented by Professor Sadiq Malik, President, Bangladesh Medical Physics Association and Chief Medical Physicist of Delta Medical College & Hospital, Clinical Neurophysiology in Bangladesh: 1996 to 2016 presented by Dr. Selina Husna Banu, Founder, Secretary General of BCNEPS & Head of Neurology Unit, ICH and SSF Hospital, and Telemedicine: taking modern healthcare to the doorsteps of the rural people, presented by Professor K Siddique-e Rabbani, former President of BMPA and Honorary Professor of BMPT of Dhaka University. At the ceremony, Lifetime Achievement awards were presented to Professor Dr. M A Hai for his lifetime contribution to oncology in Bangladesh and Professor Dr. Gias uddin Ahmad was honoured for Pioneering Medical Physics in Bangladesh.

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There was a Plenary Session on Education and Accreditation and 'Open Floor and Panel Discussion'. The following were the speakers: Education and Accreditation K Siddique-e Rabbani, Accreditation, Certification & Recognition issues by Prof. Sadik R Malik, Education & Accreditation of Clinical Neuro Electrophysiology by Dr. S Banu and Accreditation and Certification: International Atomic Energy Agency's Approach by Prof. Kamila A Quadir. Professor Dr. M Aminul Islam, former Vice Chancellor of Shahjalal University of Science and Technology, Bangladesh chaired the session. The "Open Floor and Panel Discussion" was actively participated by the audience and many positive suggestions were made. The session chair gave emphasis that all medical physicists should work together in Bangladesh so that they can achieve a process and program for the accreditation and certification of medical physicists in Bangladesh. The conference ended successfully on a high note.

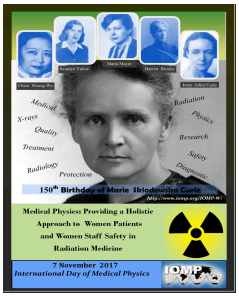
Lifetime Achievement awards: Professor Dr. Gias uddin Ahmad, founder President of BMPA

Lifetime Achievement awards: Professor Dr. M A Hai, President Oncology Club

5TH INTRENATIONAL DAY OF MEDICAL PHYSICS OBSERVED AT DHAKA, BANGLADESH

The International Day of Medical Physics (IDMP) is celebrated globally on the birth date of Madam Marie Sklodowska Curie on 7 November and this year it is Madam Curie's 150th birthday.

The theme of International Day of Medical Physics is
"MEDICAL PHYSICS: PROVIDING A HOLISTIC APPROACH TO WOMEN PATIENTS AND WOMEN STAFF SAFETY IN RADIATION MEDICINE"



On this occasion, Bangladesh Medical Physics Association (BMPA) organized a seminar in collaboration with Nuclear Medical Physics Institute, Bangladesh Atomic Energy Commission, at the CME Auditorium Hall of National Institute of Cancer Research & Hospital, Dhaka on 18 November 2017 to celebrate the 5th International Day of Medical Physics (IDMP).

The keynote speakers on this special day were: Professor Dr. M. Aminul Islam, Former Vice-Chancellor of Shahjalal University of Science & Technology, Sylhet, Professor K Siddique-e Rabbani, Honorary Professor, Department of Bio-Medical Physics and Technology, Dhaka University and Dr. Lutfun Nisa, Former Professor, National Institute of Nuclear Medicine & Allied Science, BAEC. Prof. Sadiqur Malik, the President of BMPA and Chief Radiation Oncology Physicist, Delta Medical College & Hospital, Dhaka, presided over the seminar.

Professor M. A. Hai, President Oncology Club and Patron, SAARC Federation of Oncologist graced the occasion as Chief Guest and Professor Dr. Md. Moarraf Hossen, Director, National Institute of Cancer Research & Hospital graced the occasion as Special Guest.

Group photo of the guests and the medical physicists at the National Institute of Cancer Research & Hospital, Dhaka, Bangladesh

A special edition of the e-newsletter is uploaded in the IOMP and BMPA web-pages http://www.iomp.org/idmp/images/idmp2017/IDMP-Special_Edition_e-Newsletter_BMPA_2017-BGD.pdf and http://bmpaweb.org/newsletter/ respectively.

WORKSHOPS/ TRAINING/ VISIT NEWS

1. National Workshop on "Initiation of Bangladesh Pilot Clinical Training in Medical Physics using AMPLE e-learning Software"

This workshop under IAEA/RCA Project RAS/6/077 "Strengthening the Effectiveness and Extent of Medical Physics Education and Training" was organized by Bangladesh Atomic Energy Commission (BAEC) and International Atomic Energy Agency (IAEA) and held at the National Institute of Nuclear Medicine & Allied Science (NINMAS) during 28-30 July, 2016 at Dhaka, Bangladesh. IAEA expert Ms. Anne Perkins, IAEA Technical Officer Mr. Brendan Healy, National Project Counterpart, Alternative National Project Counterpart and 22 participants (15 students and 7 Supervisors) participated in this workshop. IAEA personnel demonstrated and gave an orientation to the supervisors and students about how to use AMPLE (Advanced Medical Physics Learning Environment) platform for self-study for clinical training by e-learning.

Group photo of users of AMPLE e-learning with Anne Perkins and Brenden Healy at NINMAS

Brenden Healy helping the supervisors use the AMPLE platform for assessment

2. National Workshop on "Bangladesh pilot clinical training in medical physics using AMPLE e-learning software"

This workshop was organized by Bangladesh Atomic Energy Commission (BAEC) and International Atomic Energy Agency (IAEA) held at the National Institute of Nuclear Medicine & Allied Science (NINMAS) during 29-31 October 2017, Dhaka, Bangladesh. The workshop was carried out under the IAEA/RCA Project RAS/6/077: Strengthening the effectiveness and extent of medical physics education and training.

The team of the clinical training program of RAS 6077 in nuclear medicine with IAEA Expert Professor Georges El Fakhri

Seminar by Professor Fakhri on Recent Developments in PET-CT & PET-MR; Technical and Clinical considerations.

Professor Georges El Fakhri, PhD, DABR, Director, Gordon Center for Medical Imaging, Co-Director, Division of Nuclear Medicine & Molecular Imaging, Massachusetts General Hospital and Professor of Radiology Harvard Medical School, Boston, United States was the expert assigned by IAEA. The Expert covers a wide range of topics in these 3 days program. The topics were covered: The physiological basis of PET imaging, Tomographic Reconstruction- Filtered Backprojection- Iterative Reconstruction, software validation: computer simulations, phantoms and clinical datas, Quantitative nuclear medicine imaging, Patient-specific dosimetry, Dosimetry for Radionuclide Therapeutic Procedure, I-131 dosimetry calculations with MIRD 3, PET/CT QA/QC, Gamma Camera, SPECT and PET Common Artifacts, New Developments of SPECT Camera, Standard image file formats used in nuclear medicine, Computer networking, PACS, RIS and HIS. He also gave practical demonstration on patient specific dosimetry. 2 Supervisors and 3 residents took part in the workshop. Professor Fakhri also delivered a Seminar on: Recent Developments in PET-CT & PET-MR; Technical and Clinical considerations. All the Physicians, physicists, senior technologists of National Institute of Nuclear Medicine & Allied Sciences (NINMAS) attended the seminar.

3. National Workshop on "Expert Mission for Review of Radiotherapy Medical Physics Training"

Organized by Bangladesh Atomic Energy Commission (BAEC) and International Atomic Energy Agency (IAEA) this workshop was held at the National Institute of Nuclear Medicine & Allied Sciences (NINMAS) Dhaka, Bangladesh between 7-9 December 2017. The workshop was carried out under the IAEA/RCA Project RAS/6/077: "Strengthening the effectiveness and extent of medical physics education and training".

Professor Salahuddin Ahmad, Ph.D., DABR, FACMP, FAAPM, FACR, Professor of Radiation Oncology and Director of Medical Physics and Clinical Medical Physics Residency, Peggy and Charles Stephenson Cancer Center, University of Oklahoma Health Sciences Center, United states, was the **IAEA expert** assigned as the resource person for this workshop. 4 supervisors, 10 residents and 7 observers took part in the workshop.

The Radiotherapy Team with the IAEA Expert, Professor Salahuddin Ahmad.

Demonstration with LINAC at the Ahsania Mission Cancer & General Hospital

The expert covered a wide range of topics in the 3 day program. The topics covered were: Medical Physics Accreditation and Certification in the US, Self Study Residency Program in Medical Physics & Clinical and Research Profile of a typical CAMPEP approved Institution, Structural Shielding Design for a Megavoltage Radiotherapy Facilities, Radiation, Radiation Therapy and Radiation Safety, Linear Accelerator Acceptance, Commissioning and Beam Calibration, Dose Calculation Systems and Parameters, Treatment Planning Evaluation and Optimization based on Radiobiologic Parameters, 3D Conformal and Intensity Modulated Radiation Therapy (IMRT), Clinical Linear Accelerator Quality Assurance, Dosimetric/Treatment Planning Comparison of VMAT, SS-IMRT, SW-IMRT for Prostate, Special Procedures and Techniques – Stereotactic Radiosurgery (SRS), Future – Advances in Particle Therapy Treatment planning & Delivery.

Prof. Salahuddin also performed some practical demonstration at the Ahsania Mission Cancer & General Hospital on Linear Accelerator and Simulator.

Bangladesh Medical Physics Association's efforts for sustaining clinical training program

To enhance the capabilities of the Residents included in the clinical training program, the following workshops were organized jointly by Bangladesh Atomic Energy Commission and Bangladesh Medical Physics Association (BMPA) under the IAEA/RCA-RAS6077 "Strengthening the Effectiveness and Extent of Medical Physics Education and Training" that where held at the National Institute of Nuclear Medicine & Allied Sciences (NINMAS), Block-D, BSMMU campus, Dhaka:

1. Workshop on AMPLE e learning program (Nuclear Medicine) 27-30 March 2017.
2. Workshop on AMPLE e learning program (Radiation Oncology), 31 March 2017.
3. Workshop on AMPLE e learning program (Nuclear Medicine), 20-21 September 2017.
4. Workshop on AMPLE e learning program (Radiotherapy), 22 September 2017.

National Project Coordinator, Prof. Kamila Quadir and Alternative National Project Coordinator, Prof. Ferdoushi Begum with the Nuclear Medicine Medical Physicists team

National Project Coordinator, Prof. Kamila Quadir and Alternative National Project Coordinator, Prof. Ferdoushi Begum with the Radiation Oncology Medical Physicists team.

AWARDS:

NUCLEAR SCIENTIST DR. MIZAN AWARDED GOLD MEDAL

Dr. A. K. M. Mizanur Rahman has recently been awarded a Gold Medal in the "28th International Invention, Innovation & Technology Exhibition (ITEX,17)" held in Kualalampur for his outstanding innovation of a real time radiation dosimetry system.

The Ministry of Science, Technology and Innovation, Malaysia organised the exhibition on 11 – 13 May 2017. The Radioluminescence based *in-vivo* dosimetry system, in particular, can be applied to Clinical Radiotherapy where the radiation dosage can be monitored in real-time mode. Such technology then allows for monitoring and subsequently reduces risk of mishaps. Using this newly invented dosimetry system, a radiotherapist will be able to administer proper dose to the cancer patient as well as can save the patient from the undue risk of ionizing radiation. In addition, the system is capable of detecting radiation level in different radiation facilities including nuclear power plant which ultimately save people from unexpected incident or accident.

The dosimetry system is the outcome of Dr. Mizan's Ph.D research recently completed from the Multimedia University under the supervision of Prof. Hairul Azhar Abdul-Rashid and Prof. Zulfadzli Yusoff and also close guidance of Prof. D. A. Bradley of the Surrey University, UK funded by Bangabandhu Fellowship on Science and ICT Project, Ministry of Science and Technology, Government of the People's Republic of Bangladesh.

Dr. Rahman has presented his research works in several international conferences held in Spain, UK, Ireland, Greece, China and a good number of articles have been published in different peer reviewed international journals. Dr. Rahman is working in the Health Physics Division of Bangladesh Atomic Energy Commission as a Principal Scientific Officer. He is the life member of Bangladesh Medical Physics Association.

MASTER'S IN ADVANCED STUDIES IN MEDICAL PHYSICS

Mr. Md. Rafiqul Islam was awarded "Advanced Studies Master's Degree in Medical Physics" jointly by Abdus Salam International Centre for Theoretical Physics (ICTP) and the International Atomic Energy Agency (IAEA) under Trieste University, Italy, as an IAEA/UNESCO fellow. This two year programme started in January, 2016, the first year being theoretical studies in Trieste University and ICTP, Italy. The second year was dedicated to clinical professional training in Radiotherapy in a Medical Physics & Radiotherapy department of ASST Papa Giovanni Hospital, Bergamo, Italy. Mr. Islam's clinical training finished with his thesis entitled "**Radiation Therapy Techniques and Treatment Planning for Breast Cancer**". After successful completion, he was awarded the degree "Master of Advanced Studies in Medical Physics". This programme is accredited by the International Organization for Medical Physics (IOMP). For the individual accreditation as Qualified Medical Physicist, he also enrolled in International Medical Physics Certification Board (IMPCB) certification and appeared Part I and II examination held in ICTP.

Mr. Md. Rafiqul Islam is working at the Institute of Nuclear Medical Physics of Bangladesh Atomic Energy Commission as a Senior Scientific officer. Mr. Islam is a "Life Member" of Bangladesh Medical physics Association (BMPA).

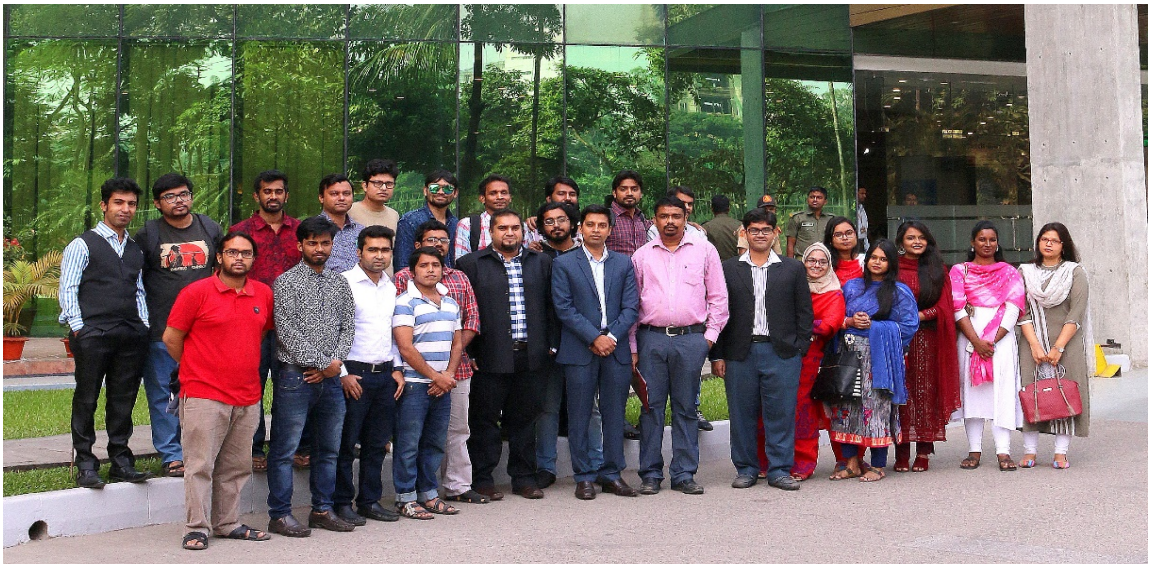
NEWS OF THE INSTITUTE OF NUCLEAR MEDICAL PHYSICS, BANGLADESH ATOMIC ENERGY COMMISSION

The Institute installed a LINAC and PET/ CT for the purpose of research and clinical activities.

LINAC installed in May 2017

PET/CT installed in November 2017

NEWS OF THE DEPARTMENT OF BIOMEDICAL PHYSICS & TECHNOLOGY OF DHAKA UNIVERSITY



Teachers, students of medical physics and bio-medical engineering course of session 2016-17

The Department of Biomedical Physics and Technology (BMPT), University of Dhaka offers Master of Science programs in two specialized branches: (i) *Medical Physics* and (ii) *Biomedical Engineering*; in order to create manpower for developing healthcare technology locally, and for creating manpower to understand, install and operate radiotherapy and other sophisticated equipment in hospitals and to effectively contribute to the successful operation of these equipments. In session 2016-17, thirteen students attended the M.S. program in Medical Physics. The students have already completed their theoretical component of their education. To accomplish practical skills,

the Medical Physics students attended internship program at NINMAS, Dhaka Medical College, United Hospital and National Institute of Cancer Research & Hospital. The syllabus for the M.S. program has been revised and thesis has been incorporated for medical physics students that will be effective from the next year. The medical physics course will restart for the 2018-19 session after a year break to reorganize the academic programme.

The Medical Physics students attended a day long hands on training program on radiotherapy equipment and treatment planning at the United Hospital Bangladesh Limited, Dhaka on November 25, 2017. They also participated in the "National training course for Medical Physicist" under IAEA/TC project BGD/6026 organized by the Bangladesh Cancer Society held at INMAS, Dhaka Medical College during 17-22 December 2017.

Institutional Quality Assurance Cell (IQAC) programme

The Department of Biomedical Physics and Technology is conducting a Self-Assessment program under the Institutional Quality Assurance Cell (IQAC) of Dhaka University. International experts from Thailand and local experts from BUET and Jagannath University exchanged views/ ideas with students, teachers, alumni, employees and employers of the students of this department on December 12, 2017 as part of the peer review process of the self-assessment program to enhance the quality of education.

The research outcomes of the Department of Biomedical Physics and Technology were exhibited at the Digital World-2017, the mega ICT event of Bangladesh during 6-9 December 2017. Access to Information (a2i) program of the Prime Minister's Office Bangladesh received a Championship Award at World Summit of the Information Societies Forum 2017 (WSIS-2017) at Geneva in the e-Health category based on 'Dhaka University Telemedicine Program' run by the Department of Biomedical Physics and Technology.

Championship Award at World Summit of the Information Societies Forum 2017 (WSIS-2017) at Geneva in the e-Health category being received by Professor Rabbani.

MARIE CURIE SCHOLARSHIP

The Department of Biomedical Physics and Technology instituted a scholarship named 'Marie Curie Scholarship' from this year under the 'Gender Equity Programme' of the 'International Science Programme' of Uppsala University, Sweden. The recipient of the 'Marie Curie Research Scholarship' was Ms. Rashida Haque. She obtained a GPA of 3.95 out of 4 topping the list of all successful candidates of the Masters examination of 2015 (held in

2016, results in 2017) at Department of Biomedical Physics & Technology of the University of Dhaka. She was handed over a Crest and a Certificate and will receive a moderate scholarship amount each month for three years and is expected to join a PhD programme soon. The Pro Vice Chancellor was the Chief Guest in the scholarship awarding ceremony. The Dean of the faculty of Science was present as a Special guest. A brief life sketch of Marie Sklodowska Curie was cited in the event.

OTHER NEWS

PARTICIAPATION OF BMPA'S DELIGATES AND MEMBERS IN CONFERENCES/SEMINAR

- International Conference on Radiation Protection in Medicine: Achieving Change in Practice; Organized by IAEA Vienna, Austria; 11–15 December 2017.
- 17th Asia Oceania Congress of Medical Physics (AOCMP 2017) and 38th Annual Conference of Association of Medical Physicists of India (AMPICON 2017) Organized by Asia Oceania Federation of Organizations for Medical Physics (AFOMP) and Association of Medical Physicists of India (AMPI) at SMS Medical College and Hospitals, Jaipur, India; 4th to 7th November 2017.
- The International Conference on Advances in Radiation Oncology (ICARO-2)" Organized by IAEA, Vienna, Austria; 20-23 June 2017.

BANGLADESH JOURNAL OF MEDICAL PHYSICS
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OBITUARY

Professor Dr. Mir Md. Akramuzzaman (former Professor of Jahangirnagar University), a founder Member and Advisor of Bangladesh Medical Physics Association (BMPA) passed away on 2nd November 2017 due to cardiac failure. He was born on 25th April 1950 at Baliakandi in Rajbari district. He started his carrier in Bangladesh Army (Education Core) and commissioned in 1977 as a Major. Soon after retired from Bangladesh Army he joined at the Department of Physics, Jahangirnagar University. During his professional carrier he has supervised 30 PhD, 15 M.Phil and 45 MS student in various disciplines of physics such as Nuclear Physics, Reactor Physics, Health and Radiation Physics and Medical Physics. Prof. Akramuzzaman's ex - thesis students are now working successfully as university teachers, scientists in Bangladesh Atomic Energy Commission, Bangladesh Army, Navy, Air Force, Police and Bangladesh Civil Service. Professor Akramuzzaman left behind his wife and two children. His contributions to the advancement of medical physics in Bangladesh are fondly remembered by the medical physics community. May his soul rest in peace.

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