



Voice of BMPS

An official E-Newsletter of BMPS, Issue 11, November 2023



Marie Skłodowska-Curie
(7 November 1867 – 4 July 1934)

International Organization for Medical Physics
International Day of Medical Physics

IDMP2023
November 7

60th Anniversary
STANDING ON THE SHOULDERS OF GIANTS

1895
The first X-ray photograph was made by Wilhelm Conrad Röntgen.

1903
Marie and Pierre Curie announced the discovery of polonium and radium.

1950s
Progress in Radiotherapy, Isotopes, and Nuclear Medicine led to the development of the International Day of Medical Physics.

1952
The IOMP was established as an official scientific society under the auspices of IAEA.

1972
The IOMP was granted official status as an international organization by the International Union of Pure and Applied Chemistry (IUPAC).

1980
The IOMP celebrated its 25th anniversary and was recognized as an official scientific society by the International Union of Pure and Applied Chemistry (IUPAC).

Commemorate IOMP's 60th Anniversary
(in a spirit of honoring the achievements of medical physics worldwide)

International Organization for Medical Physics
International Day of Medical Physics

IDMP2023
৭ নভেম্বর

৬০তম বার্ষিকী
পূর্ববর্তী উদ্ভাবনের উপর ভিত্তি করে মেডিকেল ফিজিক্স

১৮৯৫
ৱিলহেল্ম কন্‌রাদ রন্টগেন প্রথম এক্স-রশ্মির ছবি তুলে নেন।

১৯০৩
মারি ও পিয়ারি কুরি পোলোনিয়াম ও রেডিয়াম আবিষ্কার করে।

১৯৫০
আন্তর্জাতিক মেডিকেল ফিজিক্স সংস্থা (IOMP) প্রতিষ্ঠা করা হয়।

১৯৫২
আন্তর্জাতিক মেডিকেল ফিজিক্স সংস্থা (IOMP) আইএসও-এ অফিসিয়াল সায়েন্সিক সোসাইটি হিসেবে স্বীকৃতি পায়।

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Commemorate IOMP's 60th Anniversary
(in a spirit of honoring the achievements of medical physics worldwide)

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Designed by
Fahim Muhammad

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Editorial Message

Bangladesh Medical Physics Society (BMPS) wishes you all a "**Happy International Medical Physics Day (IDMP)-2023**". This year the theme of IDMP is "*60th Anniversary: Standing on the Shoulders of Giants*", which reflects the celebration of a significant milestone in the medical physics discipline. It is a great pleasure of us to present you the "Voice of BMPS- the electronic Newsletter of Bangladesh Medical Physics Society)", issue-11, 2023 on this auspicious day. We feel honored to publish it every year on the International Day of Medical Physics (IDMP)- the birthday of Madam Marie Sklodowska–Curie.

This edition contains general and scientific articles, activities of BMPS members, and medical physics related news and events. It also contains the previous year progress of BMPS. Development of Medical Physics development in education, profession, and training in Bangladesh is remarkable. The small but growing medical physicist community has been driving it to move forward. Our sincere gratitude to all who contributed by writing wonderful and inspiring articles that have made the newsletter attractive for the readers. We also thank all the readers for being with us.

Let's celebrate this IDMP 2023-the significantly important day for medical physicists. "**Happy International Medical Physics Day**".

Editors

Voice of BMPS

Message from President, IOMP



Dear colleagues from Bangladesh,

We celebrate on the 7th of November the International Day of Medical Physics, a day dedicated to recognizing the invaluable contributions of medical physicists worldwide. The 2023 theme "*Standing on the Shoulders of Giants*" reminds us of the incredible legacy left by those who came before us. The pioneers whose relentless pursuit of knowledge and understanding paved the way for the innovative practices and technologies we employ in the medical physics field today.

Our celebration of the International Day of Medical Physics is not just a commemoration of the past; it is a tribute to the present and a promise to the future. It is a testament to the dedication of medical physicists worldwide, who work tirelessly to ensure the safe and effective use of radiation in healthcare. It is a recognition of the vital role we play in the diagnosis, treatment, and prevention of diseases, touching countless lives with our expertise and compassion.

As we mark the 2023 International Day of Medical Physics, let us recognize the significance of collaboration, knowledge sharing, and continuous learning. Together, we can foster an environment where medical physicists are empowered to explore new frontiers, pioneer ground-breaking research, and implement transformative technologies. By supporting one another, fostering interdisciplinary collaborations, and investing in education and research, we can pave the way for even greater achievements in the years to come.

Happy International Day of Medical Physics!

Prof. John Damilakis
President, IOMP

Message from President, AFOMP



Dear BMPS Colleagues, Dear Friends,

as President of the Asia-Oceania Federation of Organizations for Medical Physics I invite you to celebrate the International Day of Medical Physics (IDMP) on 7th November 2023. IDMP is observed globally to raise awareness about the importance of medical physics in healthcare, and its role in the diagnosis and treatment of diseases. This year also marks the 60th anniversary of IOMP and accordingly the theme for IDMP 2023 is: 60th Anniversary: Standing on the Shoulders of Giants. This reflects the celebration of a significant milestone in the field of medical physics.

AFOMP will have celebrations in its own right. Ours is a region covering more than 80 mill square kilometres inhabited by ~4 bill of world's population, characterized by rich history and significant cultural and economic diversity and also different demands on health technologies and the medical physics profession. Moreover, we live in rapidly changing societies, including in the area of healthcare. In addition to the standard role of medical physics in the workplace, more and more countries are embarking on implementation of proton and heavy ion therapies, artificial intelligence and various "omics" (radiomics, genomics, proteomics) have become part of our professional world. Cybersecurity of health technology and electronic health records are hotly debated issues. We are faced with more fusion of physics, engineering, IT technology and of course biology and medicine. As such, AFOMP's objectives are ever so relevant: promotion of co-operation and communication between medical physics organizations in the region, promotion of the advancement in status and standard of practice of the medical physics profession, organization of international conferences, regional and other meetings of courses and others.

I would love to see more of our member countries and their members actively involved in AFOMP and its vision and objectives. Goals are not achieved by themselves. Additionally, we need to think about our next generation of up and coming medical physicists who will be carrying the torch in near future. We need to prepare leadership and mentoring programs to assist with their development, progress and readiness.

We will continue developing, implementing and coordinating tasks and projects related to roles and needs of medical physicists in the AFOMP region, including education, continuous professional development, safe implementation of new technologies, ... These tasks and projects can be of scientific, educational or practical nature. Additionally, in line with numerous gender balance initiatives, AFOMP will continue promoting and supporting women in medical physics to ensure that they can take active parts in their profession, including conference presentations, project participation, officer and award nominations to advance in their careers.

Lastly, I wish for AFOMP to be seen as the main partner for our governments/IOMP/IAEA in discussions about medical physics profession and its contribution to our communities.

Wishing you a wonderful International Day of Medical Physics, inviting all BMPS members to participate, contribute and communicate.

Best Wishes

Eva Bezak
President, AFOMP

Message from Coordinator, IDMP



Dear Medical Physicists across the Globe,

The theme for the International Day of Medical Physics in IDMP 2023 is, "60th Anniversary: Standing on the Shoulders of Giants". This reflects the celebration of a significant milestone in the field of medical physics. To understand this theme more deeply, let's break it down:

60th Anniversary: This part of the theme marks a remarkable milestone. It signifies that the Medical Physics has been extensively developed over the past 60 years. IDMP is observed globally to raise awareness about the importance of medical physics in healthcare, and its role in the diagnosis and treatment of diseases. Over these six decades, the field has seen remarkable progress and contributions to medical science.

Standing on the Shoulders of Giants: This emphasizes that the advancements and achievements in the Medical Physics field are built upon the knowledge and work of those who came before. It acknowledges the foundational contributions of the pioneers and experts who have made significant contributions to the field. These individuals are the "giants" on whose "shoulders" the current generation of medical physicists stands.

By adopting this theme, the IDMP 2023 recognizes the rich history and evolution of medical physics, honoring the legacy of those who have paved the way for modern developments. It also underscores the importance of continued progress, research, and innovation in the field to improve healthcare outcomes and enhance patient care.

This theme serves as an opportunity to reflect on the journey of medical physics, express gratitude to those who have made significant contributions, and inspire the current generation to carry the torch forward. It highlights the collaborative nature of scientific and medical advancements and encourages the global medical physics community to embrace their role in shaping the future of healthcare.

I wish all my colleagues around the World a Happy Medical Physics Day. Enjoy the celebrations of this day and make sure as a Medical Physicist to keep ongoing!

Ibrahim Duhaini, PhD, FIOMP, DIMPCB
IDMP Coordinator



Message from President, BMPS

I am delighted that "Bangladesh Medical Physics Society (BMPS)" is going to observe the International Day of Medical Physics (IDMP) on 7th November- the birthday of Mary Sklodowska Curie. Every year, BMPS publishes its electronic newsletter- "Voice of BMPS" on this auspicious day.

This year the theme of IDMP is "*60th Anniversary: Standing on the Shoulders of Giants*", which reflects the celebration of a significant milestone in the medical physics discipline. Medical Physicists are healthcare professionals recognized by World Health Organization (WHO) and International Labour Organization (ILO). As like as other healthcare workers, Medical Physicists were also in the frontline in dealing with the patients during COVID-19 pandemic situation. Therefore, they deserve recognition and appreciation for their efforts. It is expected that this year's theme may bring awareness and importance of medical physicist to sustain healthcare discipline.

I would like to thank all BMPS colleagues for their great initiatives and efforts for the celebration of IDMP 2023 and I also wish all my Medical Physicist colleagues across the world a "Happy International Medical Physics Day".

Md Akhtaruzzazman, PhD
President, BMPS

Message from Secretary, BMPS



Dear Esteemed Colleagues,

Warm greetings from the Bangladesh Medical Physics Society (BMPS)!

We are delighted to announce the upcoming celebration of the International Day of Medical Physics (IDMP) on November 7th, 2023. This day holds great significance in the history of medical physics, as it marks the birth of the illustrious Marie Skłodowska-Curie, renowned for her pioneering work in radioactivity.

The theme selected for IDMP 2023, "60th Anniversary: Standing on the Shoulders of Giants," signifies a momentous milestone in our field. It is an opportunity for us to reflect on the remarkable journey of medical physics, express our gratitude to the visionaries who have made significant contributions, and inspire the current generation to continue advancing this important discipline. This theme underscores the collaborative nature of scientific and medical progress and encourages the global medical physics community to embrace its role in shaping the future of healthcare.

BMPS has a tradition of celebrating this day by organizing a seminar every November 7th. This year, we are thrilled to continue this tradition by publishing the 11th issue of our E-newsletter, "Voice of BMPS," as part of our IDMP celebrations. The newsletter features a rich array of articles, insights into Continuous Professional Development (CPD), and information about our past activities in the field of medical physics. The content is engaging, absorbing, and offers valuable depth for anyone eager to expand their knowledge.

On this special occasion, I extend my heartfelt wishes to all my esteemed colleagues around the world for a joyful and meaningful Medical Physics Day. I encourage you to partake in the celebrations by organizing symposiums, seminars, rallies, or any other creative means to demonstrate our collective pride in being Medical Physicists.

Thank you for your continued support and dedication to advancing the field of medical physics. Together, we are making significant contributions to the future of healthcare.

Warm regards,

Md. Jobairul Islam

General Secretary, BMPS

Corporate Member of BMPS



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General Articles

Experience for being the first Resident Medical Physicist in Bangladesh at the Combined Military Hospital (CMH) Cancer Center, Dhaka

Md Saiful Islam, Niloy Kumar, Nahida Sultana, Md. Zulkar Naen
Resident Medical Physicist, Department of Radiation Oncology,
CMH Cancer Center, Dhaka

Safe practice in radiotherapy requires not only application training in the safe use of radiotherapy equipment for relevant health professionals; prior to independent practice, health professionals must achieve comprehensive academic education and clinical training, leading to qualification and certification. According to IAEA and WHO (109), the principal health professionals required for the safe and effective practice of radiotherapy and their recommended education and training requirements are given below.

Health professional	Definition and role	Education and training
Medical Physicist	A health professional with specialist education and training in the concepts and techniques of applying physics in medicine and competent to practice independently in radiotherapy medical physics. Responsibilities in equipment commissioning, radiation safety and protection, radiation dosimetry, dose optimization, and quality management.	Degree in physical sciences or engineering. Postgraduate academic degree in medical physics. Two to three years of structured clinical training in a radiotherapy department under the clinical supervision of a clinically qualified medical physicist.

Followed by the described guidelines an introductory window has been opened in Bangladesh. For the first time in Bangladesh, the Combined Military Hospital Cancer Center has taken a step to providing a two years of Residency program for the Medical Physicists.. At the very beginning batch, a group of four M.Sc. passed students named Md Saiful Islam, Md. Zulkar Naen, Niloy Kumar, Nahida Sultana are participating in this two years of residency program at Combined Military Hospital from August,2023. A total

number of 4 resident Medical physicists got permission for the residency program at the combined military hospital in the first batch. After completing our M.Sc in Medical Physics and Biomedical Engineering from Gono Bishwabidyalay, we applied to the combined military hospital for the two years of Residency program. When CMH hospital authority accepted our application we were selected to join as a resident medical physicist. The combined military hospital cancer center is equipped with PET-CT simulator, Brachytherapy and 3DCRT, IMRT,VMAT techniques for External Beam machines. Our duty time is 8.00 am to 2.30 pm. We are learning the dealing techniques of FDG, 3D patient simulation, patient setup, dosimetry of LINAC and PET-CT simulator, quality check, daily QA, CT simulation machine QC, and PET CT machine QA. and radiotherapy treatment. At the beginning of every week we learn how to do the LINAC MPC(machine performance check).We are also learning how to plan 3DCRT, IMRT, VMAT and other treatment therapeutic techniques.

Beside these clinical activities we are going through a ethically well maintained professional environment which will help us to build our ethical mentality in Medical profession.

My Perception: Deep Interest in Medical Physics Sparked-A Dream Journey

Mehrab Hassan Udoy
Honorary Medical physicist, Clinical Oncology Department, BSMMU

Introduction

The second-leading cause of death, cancer, has an annual economic burden of USD 1.16 trillion worldwide. A recent World Health Organization (WHO) research estimates that Bangladesh has 1.5 million cancer patients, with 150,000 of them passing away each year. According to the research, two lakh people are diagnosed with cancer each year. According to the WHO, there should be one cancer center for every million inhabitants. However, Bangladesh only has 20–22 service centers, despite having a

population of about 17 crore. [1]. Bangladesh presently needs 160 radiotherapy facilities, 320 teletherapy, and 160 brachytherapy machines to provide a suitable standard of radiotherapy treatment for its 160 million residents. This will require recruiting at least 600 qualified medical physicists. [2]

Evolution of My Thinking and Footprints in the World of Medical Physics

I have completed four years B.Sc Engineering from Department of Applied Physics & Electronic Engineering, Rajshahi University. Rajshahi University is one of the famous public universities of Bangladesh which was established in 1953. It has now debuted as the EEE Department. There was a course called 'Biomedical Instrumentation' in B.Sc. There I read a little bit about x-ray production and its use in medicine. At one point I started thinking that something needs to be done for cancer patients in Bangladesh. I went to Gono University to pursue Masters in Medical Physics and Biomedical Engineering. I was highly interested in studying in such a department. I think this is my up to date decision. Because radiotherapy treatment is unimaginable without a medical physicist. According to the rate at which cancer patients are increasing in our country, only about ten percent of the required medical physicists have been created. Adequate cancer centers and radiotherapy machines are needed as well as adequate skilled manpower. Only if potential students study medical physics can we see this dream of eradicating cancer in this country. However, A large part of the talented students passed by our country are unemployed, but they are not aware of the subject of medical physics. It is our important responsibility to inculcate the interest of the young college students of this country in medical physics, to make them aware, to develop them as skilled medical physicists after passing and to increase the post of medical physicists for them.

Why I Completed MSc in Medical Physics at Gono University

At present, three are three universities are offering medical physics education in Bangladesh. However, the Gono Bishwabidyalay is the pioneer and playing vital role in this field. It offers M.Sc course in medical physics and biomedical engineering since 2000. This was the first attempt to develop full- fledge master course of international standard in GB in Bangladesh. The syllabus of these courses is based on the documents

of DGMP, AAPM and IAEA. The syllabus covered all areas of medical physics to have the possibilities for the students to work in hospitals as well as research institutes. In the last semester of B.Sc (8 Semesters) and M.Sc (4 Semesters) has designed as project work (15 credits, duration 6 months) and thesis (30 credits, duration 6 months) respectively which are done in the hospitals and university. Project and thesis are supervised by academic and clinical supervisors and the defense examination is held at the university by an external examiner. [2]

Eligibility to Become A Qualified Medical Physicist

To become a qualified medical physicist, one must have a Masters or Post Graduation degree in Medical Physics and have to pass every following step recommended in IAEA TCS-71 endorsed by IMPCB:

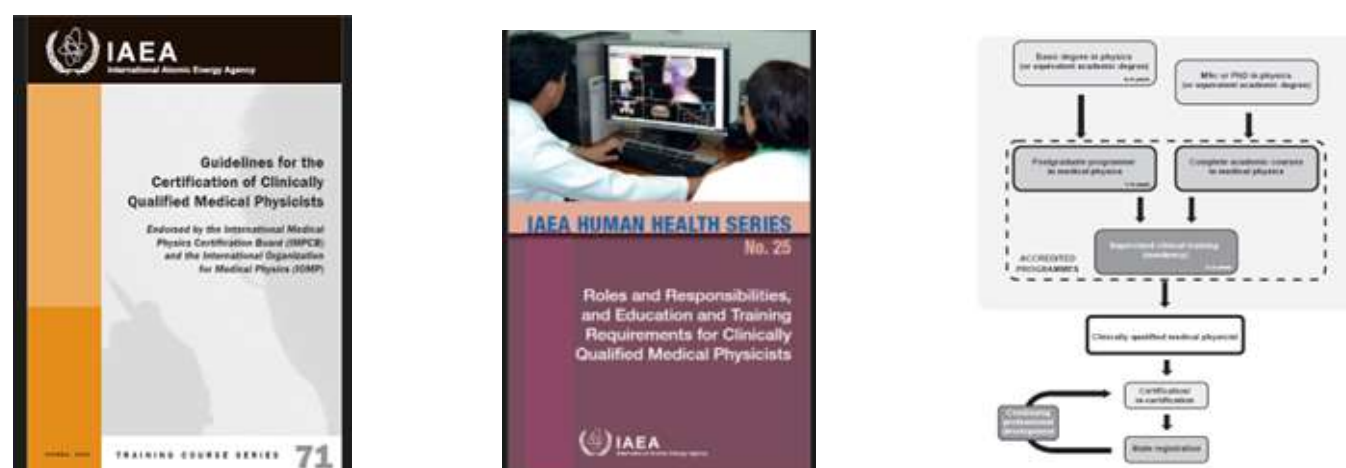


Fig -1(a): IAEA Training Course Series (TCS)-71: “Guidelines for the Certification of Clinically Qualified Medical Physicists” (b) IAEA Human Health Series: Roles and Responsibilities and Training Requirements for Clinically Qualified Medical physicists. (c) Road map for becoming a qualified medical physicist. [4,5]

My goal is to become a qualified physicist as per the conditions given by IAEA. IMPCB conducts the Part-I, Part-II & Part-III examination by clearing which one can become a Certified Medical Physicist. I myself highly interested to attend these exams and finally become a certified medical physicist. I will apply my knowledge in the fight against cancer. This is my dream.

Trainings, Conferences & Webinars of Medical Physics

With the help of Recognized organizations such like South Asia Centre for Medical Physics and Cancer Research (SCMPCR) Asia Oceania Federation of Organizations for Medical Physics (AFOMP), International Organization for Medical Physics (IOMP), Bangladesh Medical Physics Society (BMPS) etc. I regularly participate in Trainings, Workshops, Conferences & Webinars. International instructors who are experts in medical physics provide training.



Fig-2: SCMPCR Hands on workshop (HW-06) in February 2023 at Lab aid Cancer Super specialized Hospital receiving certificate with 15 CPD points.



Fig -3: 21st AOCMP: Photo session with (a) Prof. Dr. Hasin Anupama Azhari, vice-president of AFOMP (b) President, Vice-president and other members of BMPS.

Present Position - Honorary Medical Physicist at BSMMU

Bangabandhu Sheikh Mujib Medical University (BSMMU) is a graduate medical university in Bangladesh located at Shahbag in Capital Dhaka. It was established in 1965. Establishment of the Bangabandhu Sheikh Mujib Medical University was an upgrade of the Institute of Postgraduate Medicine and Research (IPGMR). IPGMR was established in December 1965, as a government-controlled postgraduate institute for medical research and studies.[3] The Clinical Oncology Department of BSMMU offered me an opportunity as an Honorary medical physicist. I think it will help me to take up the challenge in the world of medical physics in my life. Quality radiotherapy treatment is provided in this department. Two types of major radiotherapy techniques (External Beam radiotherapy & Brachytherapy) are available in this department. Advanced EBRT such as 3DCRT, IMRT, VMAT etc are available. There are one Linear Accelerator and one HDR Brachytherapy machines are operated. Now, Three Medical Physicists are working alongside Oncologists, Nurses and Technologists.

Conclusion

Many cancer patients are on waiting lists who are not receiving timely cancer treatment simply because of lack of adequate cancer centers, machines and manpower in different Govt Hospitals. How many medical physicists and facilities will be required in our country I have said in the beginning of my writing. Seeking the mutual cooperation of Bangladesh Government, domestic and foreign organizations and currently working medical physicists when this country is going through difficult times of cancer prevention and cure. Solving this problem quickly is now an ordeal for us. I firmly believe that the people of the country that became independent through the liberation war will one day defeat cancer. No cancer patient will die without treatment that day.

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3. https://en.wikipedia.org/wiki/Bangabandhu_Sheikh_Mujib_Medical_University
4. IAEA Training Course Series (TCS)-71: "Guidelines for the Certification of Clinically Qualified Medical Physicists"
5. IAEA Human Health Series: Roles and Responsibilities and Training Requirements for Clinically Qualified Medical physicists.

Medical Physicists: The Unsung Heroes of Radiotherapy

Md. Jobairul Islam
Medical Physicist and RCO,
Labaid Cancer Hospital and Super Speciality Center, Dhaka, Bangladesh
Secretary, Bangladesh Medical Physics Society (BMPS)

Introduction

When it comes to cancer treatment, we often think of the oncologists, surgeons, nurses and therapist who directly interact with patients. However, there's a group of professionals working diligently behind the scenes, ensuring that each patient receives safe and effective radiation therapy. These unsung heroes are medical physicists. In this article, we'll delve into the crucial roles and responsibilities of medical physicists in the radiotherapy department, highlighting their invaluable contributions to the world of cancer treatment.

The Physics of Radiation

Medical physicists are experts in the complex world of radiation physics, particularly in how radiation interacts with the human body. This knowledge is essential for identifying the precise location of tumors and administering radiation therapy effectively.

Develop and implement complex treatment plans

Medical physicists work with radiation oncologists to develop treatment plans that are tailored to each patient's individual needs. These plans take into account the type and location of the cancer, the size and shape of the tumor, and the patient's overall health.

Patient and Staff Safety

One of the primary responsibilities of medical physicists is to assess and monitor the safety of both patients and staff involved in radiation therapy. They work hand in hand with radiation oncologists to design treatment plans that are not only effective but also safe. These experts ensure that the radiation delivered is accurate and within the required limits to protect patients from potential harm.

Quality Control and Equipment Maintenance

Medical physicists are the guardians of quality in the radiotherapy department. They develop and direct quality control programs to guarantee the safe delivery of treatments. Regular checks on equipment and software are conducted to ensure the highest treatment quality. This includes performing safety tests on the equipment used for patients' treatments.

Collaboration with the Oncology Team

Collaboration is key in the field of cancer treatment. Medical physicists work closely with other members of the radiation oncology team, such as radiation therapists, oncologists, IT professionals, and engineering staff. This collaborative effort ensures that all radiation therapy equipment and computers are in perfect working order, meeting both international and national standards.

Setting up and Calibration

When new equipment is installed, medical physicists play a pivotal role in ensuring it is correctly set up and calibrated. Their meticulous work guarantees that the equipment operates precisely and delivers the right dose of radiation to the target area, minimizing harm to healthy tissues.

Advanced Radiation Treatment Technologies for Cancer

The world of cancer treatment is ever-evolving, with continuous advancements in technology. Medical physicists are at the forefront of implementing and monitoring these cutting-edge radiation treatment technologies. Their expertise ensures that patients benefit from the latest and most effective treatment options available.

The Unsung Heroes

It's unlikely that patients will meet a medical physicist during their course of treatment. However, the invisible hand of these professionals guides every step of the radiation therapy process. People don't realize how personalized this therapy actually is. Medical physicists work behind the scenes to make sure this personalized treatment is both safe and effective.

Conclusion

In the world of cancer treatment, medical physicists are the silent champions of safety, accuracy, and quality. Their expertise in the physics of radiation, their dedication to patient and staff safety, and their relentless commitment to quality control make them essential members of the radiation oncology team. While their work may go unseen by patients, it is impossible to overstate the importance of their role in ensuring that every individual's battle against cancer is met with the utmost care and precision. Medical physicists are the unsung heroes of radiotherapy, and their contributions should be celebrated.

Scientific Articles

Enhancing Radiotherapy Workflow Through Failure Mode and Effect Analysis (FMEA) Method: An Integrated Approach for Quality Improvement

K. M. Masud Rana
Senior Medical Physicist cum RSO
Department of Oncology
Life Gaborone Private Hospital, Botswana.

Introduction

Radiotherapy is one of the major treatment options in cancer Management. According to best available practice, 52% of patients should receive radiotherapy at least once during the treatment of their cancer. A safe and effective radiotherapy treatment necessarily consists of treating the correct tissue in the correct patient with the correct dose. This is to be accomplished in one of the most complex settings in healthcare—one that is steadily growing more complex.

The discipline of radiation oncology has many well-established methods in place to prevent errors or to mitigate their effects. Examples include independent checks of delivered dose, weekly review of patient films and charts, and standard quality assurance measures designed to uncover more systematic errors. What is less well established in the field of radiation oncology is the view of systems-wide safety and the associated methods for systematic risk analysis and improvement.

Systematic risk analysis is a powerful tool that can help to identify vulnerabilities in a specific clinic and to suggest where resources might be concentrated for the most significant impact. Such methodologies are now in regular use in other healthcare disciplines: for example, to prevent chemotherapy errors, to improve performance in trauma, or to improve the design and use of equipment. The FMEA technique is a well-established tool for safety analysis and improvement.

Failure Mode Effect Analysis Method (FMEA)

Failure Mode and Effect Analysis (FMEA) is a systematic approach used in various industries, including healthcare, to identify potential failure modes in a process, assess their impact, and prioritize actions to mitigate or eliminate the identified risks. In the context of radiotherapy, FMEA can play a crucial role in ensuring patient safety and decreasing risks. Here's how:

Identification of Potential Risks:

FMEA involves assembling a team of experts to identify all possible failure modes in the radiotherapy process. This includes errors in treatment planning, machine calibration, patient positioning, and communication among healthcare professionals. By systematically identifying these failure modes, potential risks to patient safety are uncovered.

Assessing Impact:

Once failure modes are identified, the team assesses the impact of each potential failure on patient safety. This involves considering the severity of the effect on the patient if the failure occurs. For example, misalignment of the radiation beam could lead to inadequate treatment or damage to healthy tissues, resulting in severe consequences for the patient.

Likelihood of Occurrence:

The team evaluates how likely each identified failure mode is to occur. This involves considering the probability of the failure happening during the radiotherapy process. For instance, miscommunication between the radiation oncologist and the therapy team might be more likely to occur than a rare equipment malfunction.

Detectability of the Failure:

FMEA also assesses how easily each failure mode can be detected before it reaches the patient. If a failure can be easily detected through existing quality assurance processes or checks, it might be considered less critical than a failure that is difficult to detect.

Risk Prioritization:

By combining the severity, likelihood of occurrence, and detectability of each failure mode, a Risk Priority Number (RPN) is calculated. This numerical value helps prioritize which failure modes should be addressed first. High RPN values indicate failure modes that require immediate attention and mitigation strategies.

Implementing Mitigation Strategies:

For failure modes with high RPN values, the team develops and implements mitigation strategies. These strategies could include process modifications, additional training for staff, improving communication protocols, or implementing new technology for quality assurance checks. Regular reviews of the FMEA findings ensure that these strategies are effective and up to date.

Continuous Improvement:

FMEA is not a one-time activity. It's an ongoing process that promotes a culture of continuous improvement in radiotherapy practices. Regular reviews and updates to the FMEA help ensure that emerging risks are identified and addressed promptly.

A Sample FMEA for a Radiotherapy Treatment Workflow

Team Members Involved: Radiation Oncologist, Medical Physicist, Radiation Therapist, Dosimetrist, Nurse, and Patient

Step 1: Identify the Process Steps

- 1.1. Patient Consultation and Evaluation
- 1.2. Treatment Planning
- 1.3. Treatment Machine Setup
- 1.4. Treatment Delivery
- 1.5. Monitoring and Documentation

Step 2: Identify Potential Failure Modes:

For each process step, identify potential failure modes – situations in which things could go wrong.

1.1 Patient Consultation and Evaluation

- Incomplete patient history documentation
- Miscommunication between the oncologist and the patient
- Incorrect patient identification
- Failure to consider patient allergies or contraindications.

1.2 Treatment Planning

- Incorrect patient data entry
- Calculation errors in treatment plan
- Failure to account for tumour motion or changes
- Misinterpretation of imaging data

1.3 Treatment Machine Setup

- Incorrect positioning of the patient
- Equipment calibration errors
- Interruption or power failure during setup
- Failure to perform safety checks.

1.4 Treatment Delivery

- Malfunction of treatment machine
- Operator error during delivery
- Misalignment of treatment beams
- Exposure to the wrong treatment field

1.5 Monitoring and Documentation

- Failure to record treatment data accurately.
- Failure to communicate treatment updates to the patient's medical team.
- Incomplete or lost patient records
- Delay in reporting adverse events

Step 3: Assign Severity, Occurrence, and Detection Ratings

For each failure mode, assess the severity, occurrence, and detection ratings on a scale from 1 (low) to 10 (high).

Step 4: Calculate the Risk Priority Number (RPN)

$RPN = \text{Severity} \times \text{Occurrence} \times \text{Detection}$

For Example, if Severity (S) is 8, Likelihood of Occurrence (O) is 4 & Detectability (D) is 3 then the RPN is = $8 \times 4 \times 3 = 96$

Organizations often set their own RPN thresholds based on their risk tolerance levels and the criticality of the process being analyzed. Here are a few common approaches to interpreting RPN values:

High-Risk Items:

Some organizations consider failure modes with RPN values above a certain threshold (e.g., 100) as high-risk items that require immediate attention and mitigation.

Medium-Risk Items:

Failure modes with moderate RPN values (e.g., between 50 and 100) might be considered medium risk. These items may require action, but the urgency might be lower compared to high-risk items.

Low-Risk Items:

Failure modes with low RPN values (below a certain threshold, often around 50 or lower) are typically considered low risk. These items might still be monitored, but immediate action may not be necessary.

Step 5: Prioritize and Mitigate

Identify and prioritize failure modes with the highest RPNs, as these pose the greatest risk to patient safety. Develop and implement mitigation strategies to reduce the likelihood of these failure modes occurring and to minimize their potential impact.

Step 6: Review and Reassess

Periodically review and reassess the FMEA to ensure that mitigation measures are effective and to address new potential failure modes that may arise.

Conclusion

This is just a sample FMEA for a radiotherapy treatment workflow. In practice, health-care organizations and teams should customize their FMEA based on their specific processes and risks. It's important to involve a multidisciplinary team, including clini-

cal experts, to conduct a comprehensive and effective FMEA.

In summary, FMEA in radiotherapy is justified because it significantly contributes to patient safety, error prevention, risk reduction, quality improvement, compliance with regulation, enhanced communication, resource optimization, documentation, and legal/ethical considerations. Its systematic approach empowers healthcare provider to deliver high quality care while minimizing the potential for errors and adverse events.



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10664

Continuous Professional Development (CPD)

Enhancing Professional Development in Medical Physics: A Year of Learning and Growth

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Secretary, Bangladesh Medical Physics Society (BMPS)

Introduction:

The field of Medical Physics demands continuous skill development and knowledge enhancement. Continuing Professional Development (CPD) stands as the cornerstone for professionals to remain updated, adept, and contribute meaningfully to the field. Over the past year, active participation in a variety of CPD programs has been instrumental in enriching clinical knowledge, identifying met objectives, understanding areas necessitating improvement, and accumulating CPD points vital for reaching the goal of becoming a Qualified Medical Physicist (QMP).

IAEA Training Course on Head Neck Cancer and Lung Cancer (November 20-24, 2022):

The training course, organized by IAEA in collaboration with the Bangladesh Atomic Energy Commission (BAEC) and the Bangladesh Society of Radiation Oncologists (BSRO), focused on the significance of Image-based anatomy for head-neck and lung cancer. It emphasized patient setup and immobilization for simulation and treatment planning in these oncological conditions. Renowned professionals in the field facilitated the sessions, providing a holistic understanding of the subject matter.



IAEA Training Course on 3DCRT for Breast Cancer and Gynecological Malignancies (December 11-15, 2022):

Organized by the IAEA in cooperation with BAEC and BSRO, this course delved into the intricacies of treatment planning for Breast and Gynecological cancers using 3-Dimensional Conformal Radiation Therapy (3DCRT). Additionally, it highlighted the significance of quality assurance practices in executing 3DCRT, ensuring precision and efficacy in treatment planning and delivery.

Voice of BMPs



Hands-on workshop on "Modern Quality Assurance in Modern Radiotherapy" (February 15-18, 2023):

Arranged by the South Asia Centre for Medical Physics and Cancer Research (SCMPCR), this workshop commenced with comprehensive theoretical lectures, providing participants with a deep understanding of radiation therapy. The sessions were graced by accomplished Medical Physics professionals from Belgium, Germany, and India, weaving a rich tapestry of information. The lectures spanned radiation physics, treatment planning methodologies, and diverse Quality Assurance Tests & Methods. The culmination of the workshop was an examination session, providing participants the opportunity to test their comprehension and seek clarifications. Notably, securing the 2nd place in the examination earned 15 CPD IOMP accredited points, underlining a strong grasp of the concepts covered.



Hands-on workshop on RapidPlan and Multi-Criteria Optimization (MCO) (February 27 - March 1, 2023):

Conducted at Labaid Cancer Hospital and Super Speciality Centre in Bangladesh, this workshop was pivotal in introducing Varian's RapidPlan™ knowledge-based planning. It aimed at streamlining treatment planning processes for consistency, efficiency, and quality. Furthermore, it introduced the concept of Trade-Off Exploration through Multi-Criteria Optimization (MCO), providing tools for exploring a multi-dimensional plan space for VMAT dose planning. This approach, optimizing a vector of functions rather than a single objective function, showcased novel methods for

developing treatment plans with heightened efficacy.'

CAMPEP-accredited educational programs:

Throughout this period, I actively engaged in CAMPEP-accredited educational programs, where I delved deeper into the intricacies of Medical Physics. These enriching experiences not only expanded my understanding but also contributed significantly to my professional growth. As a testament to the acquired knowledge and active participation, I was honored with the award of 26.83 Medical Physics Continuing Education Credits (MPCECs). This recognition underscores my commitment to continuous learning and skill development in the ever-evolving landscape of Medical Physics.

SCMPCR E-learning Program (ELP-08) on Radiation Dosimetry (Started November 3, 2023):

The E-learning program serves as an invaluable resource for gaining insights into modern radiation therapy dosimetry. It comprises 8 lectures delivered by experienced and qualified experts in the field, each session covering specific tools and skills pertinent to Medical Physicists. Accredited by the International Organization for Medical Physics (IOMP) and offering 16 CPD points, this program plays a vital role in enhancing knowledge and skillsets in radiation dosimetry.

Benefits and Outcomes:

Participating in these training programs significantly contributed to the enrichment of my clinical skills and knowledge in Medical Physics. The exposure to varied aspects such as treatment planning techniques, quality assurance, and modern tools like RapidPlan and Multi-Criteria Optimization has been invaluable. Not only did these programs enable the achievement of professional objectives, but they also highlighted areas for further improvement.

Conclusion:

The past year's engagement in a spectrum of training programs, workshops, and e-learning initiatives within the realm of Medical Physics has been pivotal in expanding clinical knowledge, refining skills, and steering towards the goal of becoming a Qualified Medical Physicist. The experiences not only catered to meeting profession-

al objectives but also unveiled areas for further development and refinement. The commitment to ongoing professional growth, skill enhancement, and dedication to staying abreast of advancements in Medical Physics remains a driving force for sustained success in the field.



SCMPCR
Hands-on-Training (HW 07)
Quality Assurance in High Precision Radiotherapy
Date : 01 - 04 February 2024
Venue : Saroj Gupta Cancer Centre and Research Institute(SGCCRI), Kolkata, West Bengal, India

SPEAKERS :

DR. RAJU SRIVASTAVA	- BELGIUM
DR. BIPLAB SARKAR	- BANGLADESH
PROF. DR. GOLAM ABU ZAKARIA	- GERMANY
DR. THARMARNADAR GANESH	- INDIA
MR. CARLOS BOHORQUEZ	- UNITED STATES
DR. FLORIAN KAMP	- GERMANY

News and Events

Experience of attending a conference arranged by Oncology Club

Radiation oncology is a developing sector in Bangladesh. Despite a lot of limitations, the related organizations are arranging national and international programs on a regular basis throughout the year. Following the tradition, another stunning program arranged by the Oncology Club titled "Bangladesh International Cancer Congress 2023" was held on September 14–15, 2023, at Radisson Blue Water Garden.

We attended there as participants and submitted abstracts of our M.Sc. thesis work. Our abstract was published in the newsletter of BICC 2023. Later, due to schedule



elaboration, the authority converted our oral presentation into a poster presentation. We gained a lot of updated knowledge about cancer treatment scenarios throughout the country and the world. Those lessons were very important for us as beginners in this field. We met a pioneer group of medical physicists and oncologists from our country. We felt huge inspiration from that type of professional gathering.

On the second day of the conference, a dedicated session was arranged on medical physics. Prof. Dr. M. Saiful and Dr. Sadiq Malik were the honorable chairpersons. The whole session was moderated by Md. Jobirul Islam, secretary of BMPS. Dr. Md. Akhtaruz-zaman, honorable president of BMPS, and Dr. MD. Anwarul Islam sir also discussed their research work. Internationally renowned professors and physicists have also participated in this program. Dr. Stephen Avey, Dr. Kartik Raj Mani, Dr. Tharmarndar Ganesh, and other special guests have shared their deep practical knowledge and experiences in medical physics.

Now, we want to share some of our thinking here. There is a proverb that 'prevention is better than cure'. Specifically, due to our lifestyle and chemical contamination everywhere, the severity of cancer in our country is increasing day by day like a horse without a bridle. As we couldn't control the past scenario of affecting the rate of cancer patients and till now showing our inability, that proverb has lost its core urge. So now we need to focus on the curative procedure for cancer.

It is a matter of concern that the number of deaths of cancer patients without treatment is increasing gradually. The insufficiency of a complete cancer center is the main reason behind it. In our country, we need about three hundred cancer centers, compared to about 15 centers with limited capability. Though it is already late, nevertheless, it is high time to take the least level's initiatives from the side of our government, as life is the most precious thing in this world. We will wait to hear some words of hope at future gatherings.

Lastly, a very heartfelt thanks to the 'Bangladesh International Cancer Congress' for arranging this type of stunning conference and inviting approximately all the oncologists and physicists of the country to exchange updated information based on the scenario of cancer treatment throughout the country.

BMPS Secretary Moderated the Medical Physics Session at BICC 2023

The Bangladesh International Cancer Congress (BICC) 2023, organized by the Oncology Club, Bangladesh, was a significant event held on September 14-15, 2023, at the Radisson Blu Water Garden Hotel in Dhaka, Bangladesh. This year's conference theme, "Appropriate Care with Optimum Resources," set the tone for discussions and presentations focused on optimizing cancer care within available resources.

One of the most prominent segments of the conference was the Medical Physics session, expertly moderated by Md. Jobairul Islam, a distinguished Medical Physicist and Responsible Officer (RCO) at Labaid Cancer Hospital and Super Speciality Center. Under his guidance, this session proved to be a hub of innovation and knowledge exchange.

The session was chaired by two eminent figures in the field: Prof. Dr. Saiful Huq and Dr. Sadiq Malik, who added immense value to the discussions by sharing their insights and expertise.

Renowned medical physicists from around the world gathered to present on a diverse range of cutting-edge topics within the field. Discussions ranged from the implementation of automation in medical physics to the utilization of advanced treatment techniques. This provided a comprehensive view of the latest advancements and their practical applications in the realm of cancer treatment and care.



Md. Jobairul Islam's pivotal role as the moderator added immense value to the session, steering and guiding the discussions toward valuable insights and knowledge-sharing. The presence of esteemed Chairpersons further enriched the session, underscoring the collaborative spirit and expertise within the medical physics community.

The session not only served as a platform for sharing knowledge but also fostered collaborative dialogue and networking opportunities among professionals, paving the way for potential collaborations and advancements in the field of medical physics.

Pioneering Achievements in Medical Physics: Notable Appointments of Bangladeshi Experts in AFOMP Committees

Dr. Md Akhtaruzzaman, hailing from Bangladesh, has been appointed as a member of the Education and Training Committee of the Asia-Oceania Federation of Organizations for Medical Physics (AFOMP). Dr. Akhtaruzzaman's remarkable achievements in the development and promotion of medical physics education, both nationally and internationally, led to his selection for this pivotal role. He has been instrumental in spearheading numerous programs and initiatives aimed at improving the education and professional development of medical physicists. His expertise and efforts have significantly contributed to the advancement and dissemination of systematic knowledge in medical physics throughout the Asia and Oceania regions.

Md Jobairul Islam, a distinguished member of the Bangladesh Medical Physics Society (BMPS), has been appointed as a Science Committee Member of the Asia-Oceania Federation of Organizations for Medical Physics (AFOMP). Mr. Islam's remarkable contributions to the field of medical physics, both at a national and international level, have garnered him this prestigious role. With expertise in scientific matters, he has provided invaluable advice to the AFOMP executive, supported scientific endeavors in member countries, and significantly contributed to the review and promotion of crucial material in AFOMP-associated journals. His dedication has greatly enriched the scientific landscape of medical physics in the region.

Education and Training

Committee Chairman

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 Vice Dean, Chief medical physicist and Director,
 Wenzhou Medical University, Wenzhou, China
 Email: jieoc1979@hotmail.com

Committee Members

1. Ms. Mei-fah Yeh, Taiwan
2. Dr. Kim Bin Yang, Hong Kong
3. Dr. Suphachokchachorntham, Thailand
4. Dr. Jiaohu Wang, China
5. Dr. Md Khatunulaman, Bangladesh
6. Dr. Sudesh Deshpande, India
7. Dr. Mohd Hafiz Mohd Zin, Malaysia
8. Prof. Natalia Kubowanska, Australia

Science Committee

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2. Assoc. Prof. Jazmin Wong Hui Ling, Malaysia
3. Assistant Prof. Wynnai Song, Korea
4. Assoc. Prof. Naoki Hayashi, Japan
5. Asst. Assoc. Prof. Prathapan Sureshchandra, Australia
6. Assoc. Prof. Chandrasekhar Sengupta, India
7. Dr. Siraya Raungchan, Thailand
8. Dr. Chandra Kumar, Hong Kong
9. Ms. Yuruta (Yoshino), Indonesia

ONGOING →



South Asia Centre for Medical Physics and Cancer Research (SCMPCR)

E-LEARNING PROGRAM (ELP-08)

RADIATION DOSIMETRY IN EXTERNAL BEAM RADIOTHERAPY AND BRACHY THERAPY

PANEL OF SPEAKERS



PROF. DR LIYUN CHANG
 PROFESSOR AND SENIOR MEDICAL PHYSICIST
 DEPARTMENT OF MEDICAL IMAGING AND RADIOLOGICAL SCIENCES MEDICAL CAMPUS, SHOU UNIVERSITY, TAIWAN



DR. FRANK W. HENSLEY
 FORMER MEDICAL PHYSICIST
 DEPARTMENT OF RADIATION ONCOLOGY,
 UNIVERSITY HOSPITAL HEIDELBERG,
 GERMANY



ASSOCIATE PROF. MOHAMMAD AMIN MOSLEH-SHIRAZI
 HEAD OF RADIOTHERAPY PHYSICS UNIT
 RADIO-ONCOLOGY DEPARTMENT, NAMAZI TEACHING HOSPITAL, SHIRAZ UNIVERSITY OF MEDICAL SCIENCES, IRAN



PHUA JUN HAO
 SENIOR MEDICAL PHYSICIST
 NATIONAL CANCER CENTRE,
 SINGAPORE



PROF. DR. GOLAM ABU ZAKARIA
 PROFESSOR, CLINICAL ENGINEERING
 ANHALT UNIVERSITY OF APPLIED SCIENCES,
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PROF. DR. GUENTHER H. HARTMANN
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 WARSAW,
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 MEDICAL PHYSICIST
 DEPARTMENT OF RADIATION ONCOLOGY,
 UNIVERSITY HOSPITAL GHENT, CORNEEL
 HEYVAERTSLAAN 16, 9000 GENT,
 BELGIUM



Date:
03 November, 2023 - 24 November, 2023



Online Platform:
Zoom



Registration Fee:
South Asia
 • Students-15 USD
 • Professionals-20 USD
International (Beyond South Asia)
 • Students-20 USD
 • Professionals-25 USD



Registration Link:
<https://forms.gle/KHMHZM7WCWJdnT8>



Payment Link:
<https://www.buymeacoffee.com/scmpcr/extras>

Congratulatory Visit to Director of NICRH

The Executive Committee of Bangladesh Medical Physics Society (BMPS) extended congratulations to Prof. (Dr.) Md. Nizamul Haque for his appointment as the esteemed Director of the National Institute of Cancer Research & Hospital (NICRH). On December 7, 2022, the past President, Vice President, Secretary, Treasurer, and Executive Members of BMPS visited Prof. Haque to convey their well-wishes and support. This visit symbolized the BMPS's acknowledgment and support for Prof. Haque's new role, reinforcing collaborative ties between NICRH and BMPS in the realm of medical physics and cancer research.



BMPS Translates IDMP Poster into Bengali for Local Community Engagement

Bangladesh Medical Physics Society (BMPS) demonstrates its dedication to community engagement by translating the official International Day of Medical Physics (IDMP) poster into Bengali, the native language of our region. This translated Bengali poster is now available on the International Organization for Medical Physics (IOMP) official website, aiming to enhance accessibility and engagement within our local community. This initiative aligns with BMPS's commitment to fostering awareness and inclusivity, ensuring that important information about medical physics reaches a broader audience in our native language.

ইন্টারন্যাশনাল অর্গানাইজেশন ফর মেডিকেল ফিজিক্স

IDMP ২০২৩
৭ নভেম্বর

IOMP

আন্তর্জাতিক চিকিৎসা
পদার্থবিদ্যা দিবস

৬০তম বার্ষিকী
পূর্ববর্তী উদ্ভাবনের উপর ভিত্তি করে মেডিকেল ফিজিক্স

১৯৮০

ডান ম্যাশার্ট এবং তার দল, ফুল-বাড়ি এমআরআই স্ক্যানার ব্যবহার করে রোগীর অভ্যন্তরীণ টিসুর প্রথম ট্রিনিম্যাগনি প্রয়োজনীয় ইমেজ পেয়েছিল। ১৯৭৩ সালে পশু শটারবার প্রথম এমআরআই ইমেজ উৎপাদন করেছিল, যখন শিটার ম্যানুস্ক্রিপ্ট প্রকাশের আই এর প্রযুক্তিগত পটভূমি তৈরি করেছিল। শ্যানটেনবার এবং হ্যানসলিভ ২০০৩ সালে ফিজিক্যালি বা মেডিসিনে নোবেল পুরস্কারে ভূষিত হন।

১৯৭২

গারফ্রে হারফিল্ড প্রথম বাণিজ্যিকভাবে উপলব্ধ সিটি স্ক্যানার। তিনি আলান ম্যাকশিওক কর্মাকের সাথে যৌথভাবে প্রযুক্তি আবিষ্কার করেন। হারফিল্ড এর নামানুসারে, তেরজিমি ঘনত্বের পরিমাপ একক [H] ব্যবহার করা হয়। হারফিল্ড এবং কর্মাক ১৯৬৯ সালে ফিজিক্যালি বা মেডিসিনে নোবেল পুরস্কার পেয়েছিলেন

১৯৫২

ফ্র্যাঙ্কলিন এর এক্স-রে ডিফ্রাকশনের উপর কাজটি ডিএনএর গঠন প্রকাশ করতে সাহায্য করেছিল, যা সিটি স্ক্যান এবং এমআরআই-এর মতো মেডিকেল ইমেজিং প্রযুক্তির বিকাশের পথ তৈরি করেছিল।

১৯৫০ এর দশক

রেডিওথেরাপির আবিষ্কারের দশক। ১৯৫১ সালে হারল্ড জনস কেবলট-৬০ টেলিথেরাপি ইউনিট আবিষ্কার করেন। ১৯৫৩ সালে ক্যান্সার ডিক্রিপার জন্য প্রথম ট্রিনিম্যাগনি পিনিয়াম এক্সপোজের ইনস্টল করা হয়েছিল। এই অংশী কাজটি চিকিৎসা পদার্থবিদ্যাকে যন্ত্রসেবার একটি অনন্য ক্ষেত্র হিসেবে প্রতিষ্ঠিত করতে সাহায্য করেছে।

১৯০৩

মেরি কুরি এবং পেরি বেকুরেল এর রেডিওসমূহের উপর এক মনন পদ্ধতি গবেষণা যা চিকিৎসা পদার্থবিজ্ঞানের ক্ষেত্রে ভিন্ন স্থাপন করেছিল এবং যা রেডিওথেরাপিকে ক্যান্সারের চিকিৎসা হিসাবে প্রতিষ্ঠা করতে সাহায্য করেছিল।

১৮৯৫

রুটভেন ১৮৯৫ সালে এক্স-রে আবিষ্কার করেছিলেন যা মেডিকেল ডায়াগনস্টিকসে বিপ্লব ঘটাইল। তার কাজের স্বীকৃতিস্বরূপ, রুটভেন ১৯০১ সালে পদার্থবিজ্ঞানে প্রথম নোবেল পুরস্কার লাভ করেন।

IOMP এর ৬০তম বার্ষিকী উদ্ভবন।
বিশ্বব্যাপী চিকিৎসা পদার্থবিজ্ঞানের আবিষ্কারে গুরুত্ব দান দশক।

Translated by: Md. Jobairul Islam
Secretary, Bangladesh Medical Physics Society (BMPS)

Past President of BMPS in Sylhet Cancer Congress & Bangladesh International Cancer Congress

Dr. Md. Anwarul Islam, esteemed Coordinator Medical Physicist at Square Cancer Centre and distinguished immediate past president of the Bangladesh Medical Physics Society (BMPS), took part in the Sylhet Cancer Congress on May 5, 2023. At the esteemed venue of the Grand Sylhet Hotel & Resort, Dr. Islam delivered an insightful presentation on the topic of "A Comparative Dosimetric Study between Monte Carlo Simulation and Commercial Treatment Planning's Algorithm," demonstrating his profound expertise in the field.



Furthermore, Dr. Islam made a notable contribution as an oral presenter at the Bangladesh International Cancer Congress, a prestigious event held at the Radisson Blu Water Garden Hotel in Dhaka on September 14-15, 2023. His presentation, titled "Development of post PTV based on retrospectively determined new setup margin and comparative analysis with treated PTV in respect to geometric

and dosimetric measures: An institutional experiences of brain cases," exemplified his extensive knowledge and significant institutional contributions to the field of medical physics. Dr. Islam is currently acting as program coordinator of South Asia Centre of Medical Physics and Cancer Research and also as advisory member of Bangladesh Medical Physics Society (BMPS).

IDMP 2023 Celebration in Bangladesh

Bangladesh celebrates the International Day of Medical Physics (IDMP) across the country, marked in various hospitals and universities.



Ahsania Mission Cancer and General Hospital - AMCGH



Labaid Cancer Hospital And Super Speciality Center




Khawaja Yunus Ali Medical College & Hospital



Medical Physics and Biomedical Engineering, Gono Bishwabidyalay



Evercare Hospital Chattogram

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Celebration of International Day of Medical Physics (IDMP) 2023


Topic:
Advancement and Artificial Intelligence in Medical Physics

Speaker **Moderator**

Theme: Standing on the Shoulders of Giants

7th November 2023
9:00 pm (Bangladesh Standard Time) / 3:00 PM Greenwich Mean Time (GMT)


Dr Paul Ravindran, Ph.D., Dip.RP., FCCPM,
Principal, North East Regional Multidisciplinary Paramedical Institute (NERMPI),
Christian Institute of Health Sciences and Research (CIHSR)
Dimapur, Nagaland, India.
<https://www.facebook.com/bmpsorgbd>


Dr Md Akhtaruzzaman, Ph.D.,
President,
Bangladesh Medical Physics Society (BMPS)
Chief Medical Physicist & RCO,
Evercare Hospital Chattogram

IDMP 2023 Celebration Webinar by Bangladesh Medical Physics Society (BMPS)

Awards & Honors

Secretary of BMPS Awarded Prestigious AFOMP Travel Grant to Attend ICMP-2023 in Mumbai, India

The Bangladesh Medical Physics Society (BMPS) proudly announces the remarkable achievement of one of its distinguished members, Md. Jobairul Islam, who has been selected to receive a prestigious travel award from the Asian-Oceanian Federation of Organizations for Medical Physics (AFOMP).

Md. Jobairul Islam's exceptional dedication and expertise in the domain of Medical Physics have garnered recognition on an international platform. He has been chosen to receive a \$300 travel award to attend the upcoming International Conference on Medical Physics (ICMP-2023), scheduled to take place from 6th to 9th December 2023 in Mumbai, India.

As the Secretary of the Bangladesh Medical Physics Society (BMPS), Md. Jobairul plays a pivotal role in advancing the society's objectives, fostering collaboration, and promoting knowledge-sharing among professionals in the field.

BMPS Travel Award-2023

Two esteemed members of the Bangladesh Medical Physics Society (BMPS), Ms. Sadia Afrin Sarah and Md. Mokhlesur Rahman, have been honored with the inaugural BMPS Travel Grants 2023. This prestigious award enables them to participate in the upcoming International Conference on Medical Physics (ICMP-2023), scheduled from December 6th to 9th, 2023, in Mumbai, India.

This year, BMPS proudly introduced the travel grants in collaboration with Sun Nuclear Corporation, offering a certificate of recognition and a thirty thousand BDT award to each recipient. The collaboration marks an important milestone in the society's commitment

to fostering professional development and facilitating participation in global conferences for its members.

Ms. Sadia Afrin Sarah, a dedicated Medical Physicist at the Department of Radiation Oncology in Labaid Cancer Hospital and Super Speciality Center, has not only showcased exemplary skills in her professional role but also holds the pivotal position of Treasurer within the Bangladesh Medical Physics Society (BMPS). Her commitment and contributions to both her workplace and the society have been invaluable.

Md. Mokhlesur Rahman, serving as a Lecturer in the Department of Medical Physics and Biomedical Engineering at Gono University, has been an active Executive Member of BMPS. His dedication to the field of medical physics and his role within the society reflects his passion for advancing the field and nurturing the community of professionals in Bangladesh.

MPWB award for virtual attendance of AAPM 65th annual meeting

AAPM 65th Annual Meeting & Exhibition was held on July 23-27, 2023, at George R. Brown Convention Center in Houston. In this year, AAPM conference was held in virtual and In-Person Conference.

This year, Medical Physics for World Benefit (MPWB) provided an opportunity for those in low to middle income countries to virtually attend the AAPM conference. One BMPS member was selected for the MPWB Awards to AAPM 65th annual meeting 2023. Md. Jobairul Islam, Medical Physicist and RCO of the Department of Radiation Oncology, Labaid Cancer Hospital and Super Speciality Center and currently he is working as Secretary of Bangladesh Medical Physics Society (BMPS)

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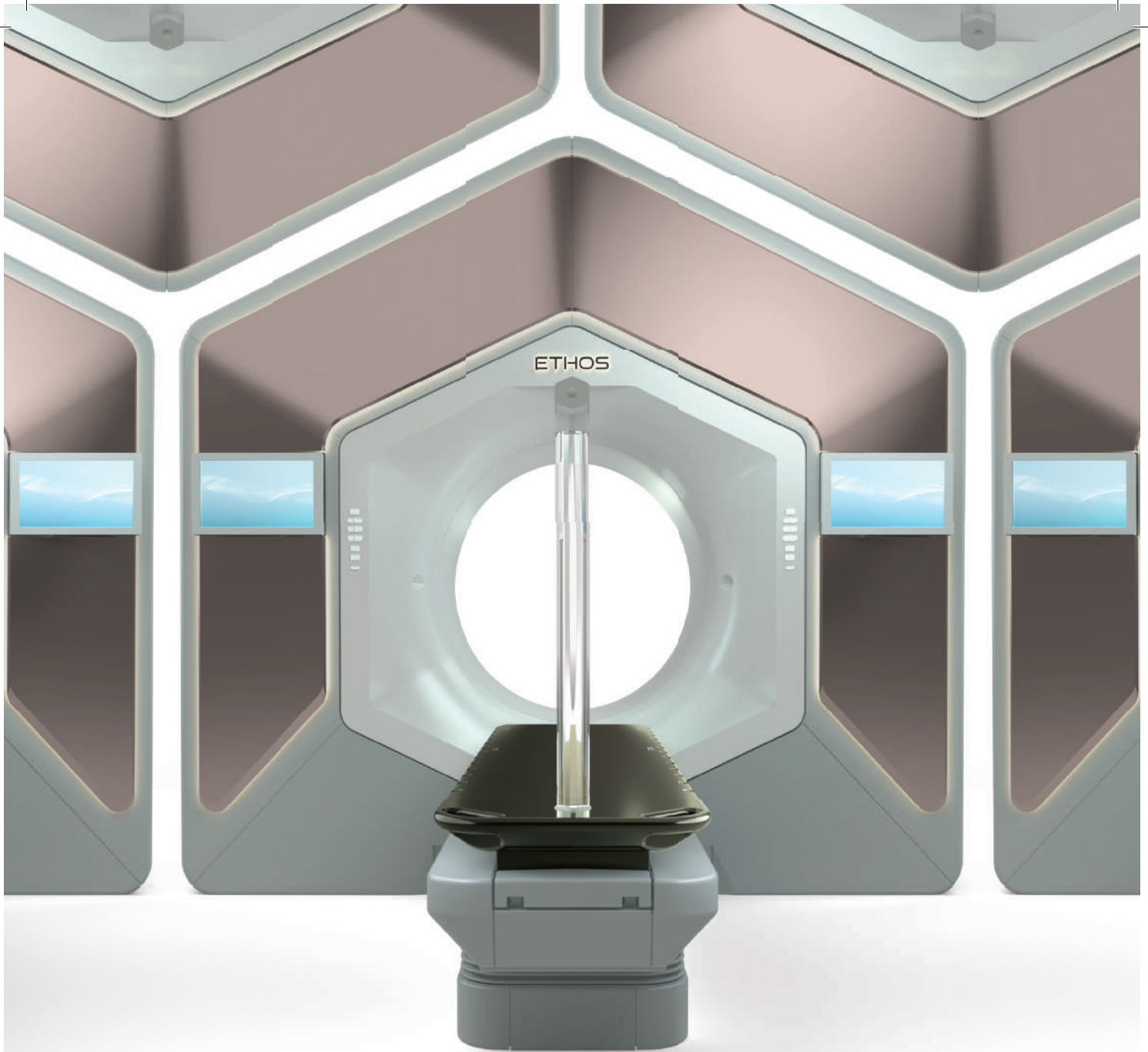
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BMPS Executive Committee (2021-2023)



The poster features the BMPS logo at the top center, with the text "www.bmps.org.bd" in the top right corner. Below the logo, the title "BMPS EXECUTIVE COMMITTEE: 2021-2023" is displayed in yellow. The committee members are arranged in a grid, each with a portrait and their name and title.

Portrait	Name	Title
	Dr. Md. Akhtaruzzaman	President
	Md. Mostafizur Rahman	Vice- President
	Md. Sajjan Hossain	Vice- President
	Md. Jobairul Islam	Secretary
	Sadia Afrin Sarah	Treasurer
	Md. Shahidul Miah	Joint Secretary
	Capt. Md. Khairul Islam	Member
	Mst. Zinat Rehana	Member
	Md. Nazmul Islam	Member
	Md. Mokhlesur Rahman	Member
	Mr. Polash Sarker	Member
	Ms. Rukaiya Akter	Member



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ACBMPS-2023

11th ANNUAL CONFERENCE OF BANGLADESH MEDICAL PHYSICS SOCIETY (BMPS)



Krishibid Institution Bangladesh
Khamarbari, Dhaka



15 December 2023

15 Dec, 2023

CALL FOR ABSTRACT

Last date of submission
31st October 2023

15 November 2023

REGISTRATION OPENS

15th September 2023



bmpssecretariat@gmail.com
akhzam@gmail.com;
jobairul55@gmail.com

For More Information

www.bmps.org.bd



CONFERENCE HIGHLIGHTS

Radiotherapy; Diagnostic Imaging;
Nuclear Medicine; Radiation Protection;
Medical Physics Education and
Professional Development in Bangladesh

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Medical Physics (AFOMP)



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