

Virtual Conference on Radiation Applications in Medicine

7-8 November 2021

Christian Medical College and Hospital Ludhiana, India

The departments of Radiation Oncology and Radio Diagnosis, Christian Medical College and Hospital Ludhiana, Punjab organised a two-day international virtual scientific programme, Conference on Radiation Applications in Medicine from 7th to 8th November 2021 on the occasion of International Day of Medical Physics (IDMP) and International Day of Radiology (IDoR).

**Virtual Conference on
Radiation Applications in Medicine**

On the occasion of
IDMP and IDoR

During
7 - 8 November 2021

Organized by
**Departments of Radiation Oncology and Radio Diagnosis
Christian Medical College and Hospital Ludhiana**

A Legacy of Healing, Education and Research since 1894

Contribution of Medical Physics in healthcare is multi-dimensional and it has improved the healthcare tremendously. The recent advancements in Medical Physics may it be in Radio diagnosis, Radiotherapy, Nuclear Medicine and various fields specially using ionizing radiation has made monumental sprints. To bring over it and recognize the contribution of Medical Physics to healthcare, International Organization for Medical Physics (IOMP) has started to celebrate 7th November, the birthday of Madam Marie Curie as International Day of Medical Physics (IDMP) since 2013. The main purpose of IDMP celebrations include motivating the organization of activities that result in the promotion of the

subject of medical physics globally, increasing the visibility of the profession and outreach to fellow professionals and general public. Since the 7th day of November 2013, the very first International Day of Medical Physics, where various academic and teaching institutes showcased the contributions of medical physicists to healthcare globally and continues to be celebrated annually thereafter. Discovery of X-rays on 8 November 1895 by German physicist Prof Wilhelm Roentgen has revolutionised the medical diagnosis and treatment. The anniversary of this discovery is celebrated around the world as

IDO_R in recognition of the remarkable contributions made by radiological imaging and radiological treatment to health care, and the role of radiation professionals in providing quality care to patients.

Christian Medical College Ludhiana has been always in the forefront to avail the best diagnostic and treatment facilities to treat patients since 1894. The teaching and training program for radiotherapy technologists in CMC Ludhiana dates to early 1960's and the MD Radiation Oncology program at the institute is completing 30 years. The departments of Radiation Oncology and Radio Diagnosis collectively decided to commemorate the Pearl Jubilee celebrations on the occasion of IDMP and IDOR 2021.

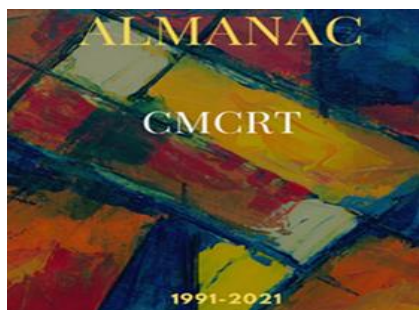
The theme of this year's IDMP celebrations is 'Communicating the Role of Medical Physicists to the Public'. The rapidly evolving applications of physics in medicine and the ongoing pandemic demands new set of skills as well as outlooks to meet the challenges efficiently and successfully. The Departments of Radiation Oncology and Radio Diagnosis, Christian Medical College and Hospital,

Ludhiana, India celebrated IDMP with a two-day international scientific programme Virtual Conference on Radiation Applications in Medicine. The rapidly evolving applications of physics in medicine and the current pandemic demands new set of skills as well as outlooks to meet the challenges efficiently and successfully. This virtual conference offered a forum for sharing invaluable experiences for improving the practice of Medical Physics and an opportunity to listen to a number of great people holding and practicing high ideas in life as well as profession. The scientific programme included talks and teaching sessions by eminent speakers in the field of medical physics. On 7th November 2021, the first day, the conference started with inaugural ceremony. The programme started with a prayer and invocation song. A congenial welcome to the patrons of the conference Dr William Bhatti, Director, CMC & H Ludhiana, Dr Jeyaraj Pandian, Principal CMC Ludhiana, all speakers and participants were proposed by the



Organizing Chairperson Dr Jaineet Sachdeva. An introduction to the purpose and objectives of the virtual conference, IDMP and IDOR celebrations were described by the Organizing Secretary Dr Mary

Joan. The patrons addressed the virtual gathering and Dr Jeyaraj Pandian, Principal CMCL released the e-Souvenir and Abstract Book of the conference. Greetings and best wishes from the Director and Principal of CMC Ludhiana, office bearers of various endorsing professional associations, Organising committee members and abstracts of all the invited talks, poster and oral presentations, endorsements and advertisements from knowledge and trade partners comprised the e-Souvenir. Dr Subhash Singla, Organising Chairman delivered the IDoR message.



The Pearl Jubilee directory of CMC alumnus of Radiation Oncologists and Radiation Therapists were introduced and released by Dr M K Mahajan (Ex Prof and Head) and Mrs Manjinder Dhanoa (Sr Tutor and Technologist) respectively. A vote of thanks was extended by the scientific committee chairperson Dr Pamela Jeyaraj. Dr Preeti Negi and Dr Abraham P Abraham mastered the inaugural ceremony. Following the inauguration, a prerecorded video message on the IDMP celebration from the President IOMP, Prof Madan Rehani and a live message from the President AFOMP, Prof Arun Chougule were conveyed.

Day 1 Time (IST)	Scientific Programme November 7 th , 2021 (Sunday)
10.00AM - 10.30AM	Inaugural Ceremony
10.30AM - 10.40AM	Session I: (IDMP Messages from President IOMP, AFOMP)
10:40 AM-12:30 PM	Session II: Dr Jainees Sachdeva, Dr Kamlesh Patni I-1: Medical Physicists are Indispensable Dr S D Sharma BARC Mumbai I-2: Hadron Therapy Dr Dayananda Sharma Apollo Proton Center Chennai I-3: Radiation ablation for cardiac arrhythmias Dr D N Sharma AIIMS New Delhi I-4: Extracorporeal RT to bone for Osteosarcoma Dr Arwin Kumar RCC Thiruvananthapuram T-1: The Modular software platform for all Patient QA – VERIQA C Narmada PTW Dosimetry India
12.30PM-02.10PM	Session III: Dr Subhash Singla, Dr Pamela Jeyaraj, Dr Roshan Philip I-5: Artificial Intelligence applications in Intensity Modulated Proton therapy Dr Ganapathi K Apollo Proton Center Chennai I-6: Brachytherapy in the era of precision radiotherapy Dr Bhavana Rai, PGI Chandigarh I-7: Shining girls – dark stories Mr Rakesh Kaul Max SuperSpeciality Hospital New Delhi T-2: Knowledge based planning features in Eclipse TPS Mr Paruthothaman K Varian Medical Systems
02.10PM-02.30PM	02.10PM-02.30PM Lunch Break
02.30PM-03.30PM	Session IV: Best Poster Session (Judges: Dr A K Shukla, Dr L M Aggrawal, Dr Ajay Srivastava) PP-1: Management of treatment delivery to cancer patients in Radiation Oncology department during Covid-19 Pandemic: Pandemic preparedness plan in Radiation Oncology, FPP-RO Aijaz Ahmad Khan Srinagar PP-2: Intra Luminal Radio Therapy Arputha Annamath Raj Noida PP-3: LDNAC based Stereotactic Radiation Therapy with Varian High definition MLC for Brain metastases: a Dosimetric study David Ayyavu Noida PP-4: Measurement of Out-of-Field dose for flattened and unflattened X-ray beams using Ionization chamber and MOSFET detector Golmraj A Bilasur PP-5: The Correlation between Dose Homogeneity Index and Target Volume in Intracavitary brachytherapy treatment plans Gurpreet Kaur Faridkot PP-6: Dosimetric characterization of Radiation risk to eye, nose, parotid and thyroid gland in dental intraoral radiography Ogunlade O.F Nigeria PP-7: Effect of Human Tissue Composition on Dose Distribution for Low and High-energy Photon Emitting Sources Using GATE v6.2 Lahcen Ait-Mlouk Morocco PP-8: A comparative dosimetric study of field in field and IMRT techniques in the treatment of breast cancer Meenu Stephen P S Bangalore PP-9: A Study of Radiopharmaceuticals Dispenser Systems in Nuclear Medicine Field Noorfatin Aida Bakarul Amin Malaysia PP-10: Decommissioning of Teletherapy Machine and Transport of Decayed Teletherapy Source Priya Saini Jaipur PP-11: Radiation Protection in Diagnostic Radiology Sumersmita Halder Kolkata
03.30PM-04.30PM	Session V: Dr Preeti Negi, Dr Harish Gambhir, Dr Dimple Bhatia P-1: Design and development of QA device for verification of prescription dose in single channel HDR vaginal brachytherapy applications Dr Challappalli Srinivas KMC Mangalore P-2: QA of CT Simulator Dr Ramesh Desai, Shreeji Medical Cyclotron, IMT Manesar P-3: Comparative Study of Breast Radiation Therapy in Prone Position using Prone Breast Board couch Versus Supine Position Mr Prakash Umbarkar Hinduja Hospital Mumbai P-4: The Role of the Radiotherapy Technologist in Prospective Evaluation of Quality of Life Scores in Patients of Head-Neck Cancer on Radical Chemoradiotherapy Mr Debojyoti Dhar Tata Cancer Hospital Andhra Pradesh
04.30PM-06.00PM	Session VI: Dr Mary Joan, Mrs Manjinder Dhanoa I-8: The Physics of SBRT for moving targets Dr Raghavendra Holla, Ruby Hall Clinic Pune I-9: Treatment of AVM: Radiotherapist's perspective Mr Deepak Kumar King Hamad University Bahrain I-10: Virtual Environment Radiation Therapy (VERT): A virtual reality linear accelerator that brings treatment room to the classroom Mr Subramanya Betageri Bellevue College USA

The first invited talk of the conference was on 'Medical Physicists are indispensable' by Dr SD Sharma, President AMPI. Talk by Dr Dayanand Sharma on Hadron Therapy, Dr DN Sharma on Radiation Ablation for Cardiac Arrhythmias, Dr Aswin Kumar on Extracorporeal RT to Bone for Osteosarcoma, Ms C Narmada on The Modular software platform for all Patient QA – VERIQA constituted the first session followed by Dr K Ganapathy on Artificial Intelligence applications in Intensity Modulated Proton Therapy, Dr Bhavana Rai on Brachytherapy in the era of precision RT, Mr Rakesh Kaul on Shining Girls-Dark Stories and Mr

Purushothaman K on Knowledge based planning features in Eclipse TPS constituted a brain storming second session. The Pearl Jubilee Best Poster session Comprised 11 poster presentations followed by the preferred paper session of 4 talks. The session VI, last session of Day 1 constituted talk by Dr Raghavendra Holla on Physics of SBRT for moving targets, Mr Deepak Kumar on treatment of AVM: Radiotherapist's perspective, Mr Subramanya Betageri on (VERT): A virtual reality linear accelerator that brings treatment room to the classroom. Each talk was followed by enlightening Q&A. Not only the queries were cleared, but also expert opinions were shared.

The second day, scientific programme started with a brief introduction on the international Day of Radiology by the Organising Secretary Dr Mary Joan. Prof Arun Chougule President AFOMP delivered the first talk on Medical Physicists Challenges as Health Professionals followed by the IDoR symposium on Interventional Radiology in CMC Ludhiana presented by Dr Vivek Agarwal and Dr Amit Batra. Dr S Panneer Selvam talked on MR Principles an overview and Mr Mukesh Jain on Artificial Intelligence:Way ahead for Radiology. The second session of the day, session VIII of the conference comprised of talk by Dr Rakesh Kapoor on Establishing a new cancer center-Pearls and Perils, Dr Pankaj Tandon on Roles and Responsibilities of Nuclear Medicine Physicists in the Practice of Nuclear Medicine Physicists

in the Practice of Nuclear Medicine, Dr G Rijju on Role of PET based RT planning and concluded by the pre recorded video of Dr Madan Rehani's talk on Are oncology patients getting high radiation doses from CT and PET/CT exams. The Pearl Jubilee best oral paper presentation followed where 7 delegates presented their research work. The last session was a mind blowing panel discussion on Extends of the frontiers of Medical Physics in Diagnostic Radiology, Nuclear Medicine and Radiotherapy: Current Issues and Way Forward.

Overall, we had 10 scientific sessions which covered 18

Day 2 Time (IST)	Scientific Programme November 8 th , 2021 (Monday)
10.00AM-11.45AM	<p>Session VII: Dr Subhash Singla, Dr Anjali Susan I-11: Medical Physicists- Challenges as Health Professionals Dr Arun Chougule AFOMP President I-12: IDoR Symposium: Interventional Radiology in CMC Ludhiana Dr Vivek Agarwal and Dr Amit Batra I-13: MR Principles - An Overview Dr S Panneer Selvam SRHER Chennai I-14: Artificial Intelligence:Way ahead for Radiology Mr Mukesh Jain SMSMC Jaipur</p>
11.45PM-01.30PM	<p>Session VIII: Dr Pamela Jeyaraj, Dr Abraham P Abraham, Dr Jerin Kuruvilla I-15: Are oncology patients getting high radiation doses from CT and PET/CT exams? Dr M Rehani IOAMP President I-16: Roles and Responsibilities of Nuclear Medicine Physicists in the Practice of Nuclear Medicine Dr Pankaj Tandon AERB Mumbai I-17: Role of PET based RT planning Dr Rijju G KIMS Thiruvananthapuram I-18: Establishing a new cancer center-Pearls and Perils Dr Rakesh Kapoor HBCMR Mullanapur&Sangrur</p>
01.30PM-02.00PM	Lunch Break
02.00PM-03.00PM	<p>Session IX: Best paper session (Judges: Dr Arun Chougule, Dr Kamlesh Pasi, Dr VK Dangwal) OP-1: Radiobiological modelling of radiation induced acute skin toxicity (dermatitis): a single institutional study of breast carcinoma Balbir Singh AIIMS Bhatnagar OP-2: The influence of overall treatment time in TCP & NTCP model based predictions for squamous cell carcinoma of head & neck cancer treatment plans Ganesh Kumar Patel BHU Varanasi OP-3: The penumbra width determination of a single beam and 192 beams of Gamma Knife Perfexion™ based on Monte Carlo simulation J Junio: Indonesia OP-4: Dosimetric Comparison between Intensity modulated radiotherapy versus volumetric modulated arc therapy treatment plans for Breast Cancer Makfurur Rahman Bangladesh OP-5: Low Dose Total Skin Electron Beam Therapy for the treatment of Mycosis Fungoides: Case Report of a young female Mirba Hamid SKIMS Srinagar OP-6: Compositional analysis of ex-vivo atherosclerotic plaques by Electron microscopy and contrast enhanced Dual Energy CT images to detect type of plaque Dr Suzama Rani Mandal PGIMS Rohtak OP-7: Comparison of Treatment Plans in Breast Cancer Radiotherapy: An In-Vivo Phantom Dosimetry Study Sushma Poojar KMIO Bangalore</p>
03.00PM-04.30PM	<p>Session X: Panel Discussion: 'Extends of the frontiers of Medical Physics in Diagnostic Radiology, Nuclear Medicine and Radiotherapy: Current Issues and Way Forward'. Dr Arun Chougule SMS Jaipur (Moderator) Dr GK Rath AIIMS New Delhi Dr S D Sharma BARC Mumbai Dr Sanjay Sharma AIIMS Delhi Dr Rajesh Vashircha Maz Bhatnagar Dr A K Shukla PGIMS Lucknow Dr Prank Kumar AIIMS Delhi Dr G Sahani AERB Mumbai Dr Lalit Agarwal BHU Varanasi Mr Gurvinder Singh Wadhawan RGCI Delhi Dr P K Dash Sharma AERB Mumbai</p>
04.30PM-05.00PM	Valedictory Function

invited talks, 4 proffered talks, 11 poster presentations and 7 oral presentations in addition to the IDMP messages from Presidents of IOMP and AFOMP and a panel discussion on 'Extends of the frontiers of Medical Physics in Diagnostic Radiology, Nuclear Medicine and Radiotherapy: Current Issues and Way Forward'. Stalwarts in the field of Medical Physics, Radiation Oncology, Radiology, Radiation Technology who play significant role as educators, regulators and policy makers very actively interacted and given their insights on how to tackle the current issues and how to jump over the hurdles. Delegates from about 40 countries across the world took part in this virtual conference. A cumulative participation of 962 radiation professionals in the two-day conference was highly encouraging and definitely a morale booster not only to the organisers but also to the participants as well. An expert line of speakers were gathered on the virtual platform to share their views and experience on diverse professional issues and their resolution. It was a unique platform for all radiation professionals from different domains of radiation physics, radiation biology, radiation dosimetry and clinical medical applications to get together, know each other and appreciate and acknowledge the contributions of each domain. The organizers would like to take this opportunity to sincerely thank each and every one who spared the valuable time to actively participate in this conference enhancing the scientific exactitude of each other. We are confident that this IDMP-IDoR celebrations 2021 will prove to be a milestone for the medical physics community and help us all in developing ourselves as indispensable healthcare professionals.

Below are few newspaper clips in local (Punjabi) and regional (Hindi) languages and in English.

On the occasion of International Day of Medical Physics & International Day of Radiology, the Departments of Radiation Oncology & Radio diagnosis CMC & Hospital Ludhiana is organizing a 2 day Virtual Conference on Radiation Applications in Medicine on the 7th & 8th of November, 2021.



ਕੌਮਾਂਤਰੀ ਮੈਡੀਕਲ ਫਿਜ਼ਿਕਸ ਅਤੇ ਰੇਡੀਓਲੋਜੀ ਦਿਵਸ ਮੌਕੇ 2 ਰੋਜ਼ਾ ਸੁਭਾਈ ਸੈਮੀਨਾਰ ਸ਼ੁਰੂ

ਲੁਧਿਆਣਾ, 7 ਨਵੰਬਰ (ਸਲੇਮਪੁਰੀ)-ਕੌਮਾਂਤਰੀ ਮੈਡੀਕਲ ਫਿਜ਼ਿਕਸ ਦਿਵਸ ਅਤੇ ਕੌਮਾਂਤਰੀ ਰੇਡੀਓਲੋਜੀ ਦਿਵਸ ਮੌਕੇ ਸੀ ਐਮ ਸੀ ਅਤੇ ਹਸਪਤਾਲ ਲੁਧਿਆਣਾ ਵਿਖੇ ਮੈਡੀਕਲ ਫਿਜ਼ਿਕਸ ਅਤੇ ਰੇਡੀਓਲੋਜੀ ਦੇ ਵਿਭਾਗਾਂ ਉੱਪਰ ਡਾ. ਰੋਜ਼ਾ ਸੁਭਾਈ ਸੈਮੀਨਾਰ ਸ਼ੁਰੂ ਹੋਇਆ। ਇਸ ਮੌਕੇ ਸੈਮੀਨਾਰ ਦਾ ਉਦਘਾਟਨ ਕਰਦਿਆਂ ਹਸਪਤਾਲ/ਕੈਂਸਰ ਦੀ ਪ੍ਰਬੰਧਕ ਕਮੇਟੀ ਦੇ ਚੇਅਰਮੈਨ ਡਾ. ਵਿਕਾਸ ਸਿੰਘ ਨੇ ਸੰਬੰਧਤ ਕਰਦਿਆਂ ਕਿਹਾ ਕਿ ਸੈਮੀਨਾਰ ਦੇ ਉਦੇਸ਼ ਅਤੇ ਜਲਦੀ ਇਲਾਜ ਲਈ ਮੈਡੀਕਲ ਫਿਜ਼ਿਕਸ ਅਤੇ ਰੇਡੀਓਲੋਜੀ ਦੀ ਬਹੁਤ ਮਹੱਤਵ ਹੈ। ਇਸ ਮੌਕੇ ਸੈਮੀਨਾਰ ਸੰਬੰਧਤ ਕਰਦਿਆਂ ਡਾ. ਰੋਜ਼ਾ ਸੁਭਾਈ ਨੇ ਸੰਬੰਧਤ ਕਰਦਿਆਂ ਕਿਹਾ ਕਿ ਕੌਮਾਂਤਰੀ

2-DAY VIRTUAL CONFERENCE ON RADIATION APPLICATIONS KICKS OFF

LUDHIANA: A two-day virtual conference on radiation applications in medicine kicked off on the occasion of International Day of Medical Physics and International Day of Radiology at the departments of radiation oncology and radio diagnosis at the Christian Medical College and Hospital (CMCH) here.

This celebratory occasion coincides with the post-graduate programme at the department of radiotherapy at CMCH, which is the largest serving radiotherapy department in the region having been established in 1988, delivering quality treatment to thousands of cancer patients at affordable prices.

The conference aims at increasing awareness of the contributions of radiological imaging and treatment in health care and the interrelated role of radiation oncology in dependent or teamwork between different personnel such as radiation technologists, medical physicists and doctors. The event will provide a platform to all personnel, leading to better understanding and collaboration within a team.

Dr. Jyoti Sachdeva and Dr. Subhash Singh, heads of departments of radiotherapy & radio diagnosis, respectively.

Talking about the scientific programme, Dr. Pamela Jeyaraj, chairman of the scientific committee of the conference, said that it includes talks and teaching sessions by eminent speakers in the fields of radiation oncology, radiology, medical physics and radiation technology.

Dr. Mary Joan, organizing secretary of the conference, said, "We have been overwhelmed by the enthusiasm of the delegates. We have 900 registrations from 35 countries." The conference was inaugurated by director Dr. Williams Shanti, who lauded the efforts of the organising team.

Dr. Jeyaraj, principal, released the souvenir, while Prof. M.K. Malhotra, former head of radiotherapy at CMCH, released the compiled directory of the post-

रेडियोलॉजी विषय पर कराई वर्चुअल कॉन्फ्रेंस

लुधियाना। सीएमसी में इंटरनेशनल डे ऑफ मेडिकल फिजिक्स और इंटरनेशनल डे ऑफ रेडियोलॉजी के तहत वर्चुअल कॉन्फ्रेंस करवाई गई। रेडिएशन एप्लीकेशन इन मेडिसिन विषय पर आधारित कॉन्फ्रेंस में रेडियोलॉजिकल इमेजिंग और ट्रीटमेंट के बारे में जागरूक किया गया। इसमें 350 से ज्यादा मेडिकल फिजिसिस्ट, टेक्नोलॉजिस्ट, रेडियोलॉजिस्ट और रेडिएशन ऑनकोलॉजिस्ट ने हिस्सा लिया। इस मौके पर पल्लू जुबली बेस्ट पोस्टर अवॉर्ड नाइजीरिया के फेडरल यूनिवर्सिटी ऑफ टेक्नोलॉजी के ओगनटेड फेलिक्स ने पाया। जबकि पल्लू जुबली बेस्ट पेपर का अवॉर्ड एम्स बठिंडा के बलबीर सिंह ने पाया। कॉन्फ्रेंस का आयोजन डॉ. जयनीत सचदेवा, डॉ. पामेला जयराज, डॉ. सुभाष सिंगला, डॉ. मैरी जॉन और मनजिंदर धनोआ ने किया।

Conference on role of radiological imaging and treatment ends

HT Correspondent
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LUDHIANA: A two-day virtual conference organised by Christian Medical College and Hospital to spread awareness on the contributions of radiological imaging and treatment to health care concluded on Monday.

The conference was organised to mark International Day of Medical Physics and International Day of Radiology. The event was attended by around 350 delegates and it provided a platform to the medical fraternity to exchange ideas and informally regarding improvement of patient care in the fields of radiation oncology and radiodiagnosis. National and international faculty members also presented research papers.

During the virtual event, the Pearl Jubilee Best Poster Award was won by Oguntade Oluwatimilehin Felix from Federal University of Technology, Nigeria, while the Pearl Jubilee Best Paper Award went to Balbir Singh from AIIMS, Bathinda.

Medical Physicists have been very efficiently planning the radiation treatment for cancer patients, corroborating quality assurance of equipment and procedural protocols, researching on new diagnostic and treatment modalities, ensuring radiation protection and safety of patients and personnel in various streams of healthcare. It is the need of the hour to raise the professional profile of medical physics and we have tried to bring light to the current issues and how to resolve them.

The organizers highly appreciate the active participation, cooperation and endorsement of the organizations IOMP, AFOMP, SCMP, AMPI NC, NZ AROI, IRIA, NMPAI, NAAD, ARTTI and ISRT for their support in organizing this conference. A word of thanks to AMPI NC and our trade partners, without whom this conference couldn't be arranged as beautiful as it was.

As discussed and disseminated in the conference, a single day or two days IDMP celebrations might not completely serve the purpose of uplifting the professional status of medical physicists in healthcare. We should equip and improve ourselves to meet the challenges efficiently. There are great times ahead of us; Country needs our service. Each one of us is needed - in our country, community and university - to ensure decisive, visible and measurable actions are taken for the medical physics profession. As we celebrated the IDMP and IDoR 2021 by holding this international Virtual Conference on Radiation Applications in Medicine, the spirit of this conference will make each and every one of us to be a leader not only within our own spheres of influence but also in the associated multidisciplinary specialties and commit to take pragmatic action to accelerate professional and personal development. Wishing everyone a fruitful IDMP& IDoR 2021!

