



## **King Hussein Cancer Center**

**In collaboration with the**

**International Scientific Exchange Program of the American Association of  
Physicists in Medicine (AAPM), and the  
Jordan Association of Physicists in Medicine (JAPM)**

**Cordially invites you to attend:**

**The 22<sup>nd</sup> King Hussein Cancer Center Conference:  
1<sup>st</sup> National Conference on Therapeutic & Diagnostic Medical Physics**

**King Hussein Cancer Center – Blue Auditorium**

**Amman, Jordan**

**October 7<sup>th</sup> – 10<sup>th</sup>, 2010**

## Welcome Note:

King Hussein Cancer Center is hosting the first Medical Physics Conference in Jordan, with the collaboration of the American Association of Physicists in Medicine (AAPM) and the Jordan Association of Physicists in Medicine (JAPM).

The conference aims to bring together specialists from various academic institutes, research centers, and hospitals around the globe, to discuss relevant topics in the area of radiation physics and share their expertise in the fields of diagnostic radiology, radiotherapy and radiation protection.

Topics include: ionizing radiation dose to pregnant women from diagnostic radiology and radiotherapy, radiobiology, new machine acceptance and commissioning, and minimizing dose to general public from radiation through shielding design and regulations. In addition, conference will discuss state of the art methods for precise radiation delivery such as image guided radiotherapy, intensity modulated radiotherapy. Advances in medical imaging will be discussed, including digital mammography, computed radiography, digital radiography, and picture *archiving and communication systems* (PACS).

## Conference Goals:

Providing lectures on advanced topics in the physics of Diagnostic Radiology, Radiation Oncology and Radiation Safety and Shielding.

## Who Should Attend?

- Physicists in clinical and regulatory agencies
- Medical Residents in Radiation Oncology and Radiology
- Medical Doctors in Radiation Oncology and Radiology

### Conference Organizing Committee:

- Shada Ramahi, PhD (**Chairman**).
- Sharif Qatarneh, PhD
- Majd Hawari, PhD
- Moayyad Alsabbagh
- Mrs. Hanan Ghatasheh
- Mr. Nael Al-Shishani
- Mr. Sufian Al-Kiswani

### Speakers Affiliation (in alphabetical order):

**Adel Mustafa, Ph.D., FAAPM**

Department of Radiology  
New York Medical College - New York, USA

**Arthur L. Boyer, Ph.D., FAAPM**

Radiology Department  
Texas A&M School of Medicine - Temple, Texas, USA

**Bruce R. Thomadsen, Ph.D., FAAPM**

Departments of Medical Physics and Radiation Oncology  
University of Wisconsin - Madison, Wisconsin, USA

**Habib Zaidi, Ph.D.**

Geneva University Hospital  
Division of Nuclear Medicine - Geneva, Switzerland

**Matthew Al-Ghazi, Ph.D., FAAPM**

Department of Radiation Oncology  
University of California - Irvine, California, USA

**Moyed Miften, Ph.D, FAAPM**

Radiation Oncology Department  
University of Colorado Denver - Aurora, Colorado, USA

**Robert Gould, Ph.D., FAAPM**

Department of Radiology and Biomedical Imaging  
University of California - San Francisco, California, USA

## Conference Agenda:

**Day 1: Thursday, October 7<sup>th</sup>, 2010**

07:00 -12:00

*Late Registration*

### Session I:

08:30 – 08:45

**Welcome Remarks, Program Introduction**

08:45 - 09:15

**The Status of Medical Physics in Jordan**

Sharif Qatarneh, PhD

09:15 – 10:00

**The Medical Physicist: Practice and Training Needs**

Arthur L. Boyer, PhD, FAAPM

0:00

**Q & A**

10:00 – 10:15

*Coffee Break*

### Session II:

10:15 – 11:05

**Image Formation and Image Characteristics**

Robert Gould, PhD, FAAPM

11:05 – 11:55

**Digital Radiography**

Adel Mustafa, PhD, FAAPM

11:55 – 12:45

**Dose Distribution, Scatter Analysis & Inhomogeneity Correction**

Matthew Al-Ghazi, PhD, FAAPM

0:00

**Q & A**

12:45 - 02:00

*Lunch Break (Group Photo)*

### Session III:

02:00 – 02:50

**Linear Accelerator Technology, Past, Present and Future**

Arthur L. Boyer, PhD, FAAPM

02:50 – 03:40

**Nuclear Medicine Imaging: Planar and SPECT**

Habib Zaidi, PhD

0:00

**Q & A**

03:40 – 03:55

*Coffee Break*

### Session IV:

03:55 – 04:55

**Dose Specifications and Recording for Photon Beams: Review of ICRU50&62**

Matthew Al-Ghazi, PhD, FAAPM

04:55 – 05:45

**PET-CT: Principles and Applications**

Habib Zaidi, PhD

0:00

**Q & A**

**Day 2: Friday October 8<sup>th</sup>, 2010**

**Session I:**

- 08:30 – 09:20**      **Quality Assurance in Radiotherapy**  
Moyed Miften, PhD, FAAPM
- 09:20 - 10:10**      **IMRT Principles and Delivery Technology**  
Arthur L. Boyer, PhD, FAAPM
- 10:10 – 11:00**      **IMRT Quality Assurance**  
Moyed Miften, PhD, FAAPM
- 0:00**                      **Q & A**
- 11:00 – 11:10**      *Coffee Break*

**Session II:**

- 11:10 – 11:50**      **Advances in Multi- Detector CT**  
Robert Gould, PhD, FAAPM
- 11:50 – 12:30**      **Quantitative Procedures in Nuclear Medicine**  
Habib Zaidi, PhD
- 0:00**                      **Q & A**
- 12:30 - 2:30**      *Lunch & Prayer*

**Session III:**

- 02:30 – 03:20**      **Measurement and Calculation of Absorbed Dose: AAPM TG-51 and IAEA TRS-398 Dosimetry Protocols**  
Bruce R. Thomadsen, PhD, FAAPM
- 03:20 – 04:10**      **Mammography: Screen-film to Digital Mammography**  
Robert Gould, PhD, FAAPM
- 0:00**                      **Q & A**
- 04:10 – 04:25**      *Coffee Break*

**Session IV:**

- 04:25 – 05:05**      **Advances in CR, Dr and PACS**  
Adel Mustafa, PhD, FAAPM
- 05:05 – 05:45**      **Molecular Imaging-Guided Radiation Therapy Treatment Planning**  
Habib Zaidi, PhD
- 0:00**                      **Q & A**

**Day 3: Saturday October 9<sup>th</sup>, 2010**

**Session I:**

- 08:30 – 09:15**      **Image-Guided Radiation Therapy: Advantages and Challenges**  
Bruce R. Thomadsen, PhD, FAAPM
- 09:15 - 10:00**      **In-Room Imaging for Daily Treatment Planning**  
Moyed Miften, PhD, FAAPM
- 10:00 – 10:45**      **Treatment Planning Systems: Commissioning and Quality Assurance**  
Matthew Al-Ghazi, PhD, FAAPM
- 0:00**                      **Q & A**
- 10:45 – 11:00**      *Coffee Break*

**Session II:**

- 11:00– 11:50**      **Risk Benefit Analysis in Diagnostic Radiology: The Pregnant Patient**  
Adel Mustafa, PhD, FAAPM
- 11:50 – 12:40**      **Imaging in Radiation Oncology: CT and MRI**  
Arthur L. Boyer, PhD, FAAPM
- 0:00**                      **Q & A**
- 12:40 - 2:10**      *Lunch Break*

**Session III:**

- 02:10– 03:10**      **Radiobiology Principles and the Linear Quadratic Model**  
Bruce R. Thomadsen, PhD, FAAPM
- 03:15 – 04:05**      **Stereotactic Body Radiation Therapy**  
Moyed Miften, PhD, FAAPM
- 0:00**                      **Q & A**
- 04:05 – 04:20**      *Coffee Break*

**Session IV:**

- 04:20– 05:00**      **Total body and Total skin Irradiation**  
Moyed Miften, PhD, FAAPM
- 05:00 – 05:45**      **CT Simulators: Commissioning, Quality Assurance and Clinical Applications**  
Matthew Al-Ghazi, PhD, FAAPM
- 0:00**                      **Q & A**

**Day 4: Sunday October 10<sup>th</sup>, 2010**

**Session I:**

- 08:30 – 09:20**      **Modern Brachytherapy Techniques**  
Bruce R. Thomadsen, PhD, FAAPM
- 09:20 - 10:10**      **Acceptance Testing, Quality Assurance and Beam Data Acquisition of  
Linear Accelerators**  
Arthur L. Boyer, PhD, FAAPM
- 10:10 – 11:00**      **Quality Assurance in Diagnostic Radiology: Technical Aspects**  
Robert Gould, PhD, FAAPM
- 0:00**                **Q & A**
- 11:00 – 11:10**      *Coffee Break*

**Session II:**

- 11:10 – 12:00**      **Shielding Design in Diagnostic Radiology**  
Adel Mustafa, PhD, FAAPM
- 12:00 – 12:50**      **Shielding Design in Radiation Therapy**  
Arthur L. Boyer, PhD, FAAPM
- 12:50 – 01:20**      **Closing Remarks and Distribution of Certificates**  
(Program Directors)
- 0:00**                **Q & A**
- 0:00**                *Adjourn & Lunch*

## General Information:

### Venue:

The conference will be held in the King Hussein Cancer Center in Amman, Jordan. Accommodation for the Speakers will be at the Le Meridian Hotel that is located 35 minutes drive away from Queen Alia International Airport and is located in the heart of Amman city and within a walking distance of both shopping and business districts.

## King Hussein Cancer Center Contact Details:

Queen Rania Street,  
PO Box 12069  
Amman 11195, Jordan  
Phone: (962) (6) 5300 460  
Fax: (962) (6) 000 0000  
[www.khcc.jo](http://www.khcc.jo)

## Hotel Reservation:

- To get the discounted reservation in the participating hotels, please contact the organizing committee (Mr. Nael Al-Shishani at [nshishani@khcc.jo](mailto:nshishani@khcc.jo), a valid credit card, full name and name of the conference are required).

## Conference Registration:

- Pre-registration is required for attendance.
- To register for the conference, please send an email to the conference coordinator; Mrs. Hanan Ghatasheh at [hghatasheh@khcc.jo](mailto:hghatasheh@khcc.jo) and cc to Dr. Shada Ramahi, [Sramahi@khcc.jo](mailto:Sramahi@khcc.jo)
- The email should include the following information: full name, title, affiliation, country and contact information.
- Registration fees:
  1. Early bird: August 1<sup>st</sup> -31<sup>st</sup>, 2010: 30JD
  2. Afterwards: 50JD
  3. Onsite registration: 70JD (For Onsite registration, conference materials may not be available).
- Payment methods: checks and bank transfers are acceptable methods of payments.
  1. Make checks payable to: King Hussein Cancer Center/ISEP Conference, to be delivered to Mrs. Hanan Ghatasheh (KHCC, Main building, Administration Floor).
  2. Bank transfers should be sent to: Bank of Jordan, Jabal Amman First Circle, P.O. Box: 3080, Amman 11181, Jordan; Account number: 021 / 0023010140803003, Swift Code: BJORJOAXX For bank transfer, kindly send an email to Mrs. Hanan Ghatasheh, [hghatasheh@khcc.jo](mailto:hghatasheh@khcc.jo) to notify transfer. Retain a copy of the money transfer number and document.

**Conference Language:** English. No translation will be provided.

### About Jordan:

- **Climate and Weather:** during August, the weather is generally warm to hot and dry.
- **Currency:** the official currency is the Jordanian Dinar (JD), (1 USD equals about 0.70 JD).
- **Time:** Jordan is 3 hours ahead of Greenwich Mean Time (GMT +3)
- **Entry and Visa Requirements:** Entry visa is required for certain nationalities and can be obtained at the airport. Visitors arriving by land must get a visa prior to arrival since it cannot be obtained at Jordan's land border crossings.

To learn more about Jordan, please visit: [www.visitjordan.org](http://www.visitjordan.org) OR [www.new7wonders.com](http://www.new7wonders.com)

### For Assistance:

If you have any inquiries related to registration, accommodations, program or other issues related to the conference, please contact us:

- **Mrs. Hanan Ghatasheh (conference secretary):**
  1. **Email:** [hghatasheh@khcc.jo](mailto:hghatasheh@khcc.jo)
  2. **Phone:** +(962) 6 530 0460, Ext. 1777
- **Mr. Nael Al-Shishani (Director of Public Relations Office):**
  - o **Email:** [nshishani@khcc.jo](mailto:nshishani@khcc.jo)
  - o **Phone:** +(962) 6 530 0460, Ext.1679, 8114