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Contact: Jason Bardi

jbardi@aip.org

301-209-3091

[American Institute of Physics](#)

Preliminary highlights of the AAPM 52nd Annual Meeting, Philadelphia, Pa., July 18-22, 2010

Washington, D.C. (July 9, 2010) -- At the 52nd meeting of the American Association of Physicists in Medicine (AAPM), which convenes from July 18 - 22, 2010 in Philadelphia, PA, thousands of scientists and board-certified health professionals will gather to share the latest developments in medical imaging and radiation therapy, examine new clinical and laboratory data, and discuss many of the ethical and regulatory issues that face the field today.

Preliminary highlights of the meeting are listed below. Journalists are invited to attend the 52nd AAPM meeting for free. Registration information appears at the end of this release.

1. PATIENT SAFETY: A Special Symposium
2. CANCER SURVIVAL: President's Symposium Reveals One Patient's Story
3. PEDIATRIC RADIATION DOSE: Method for Reducing Radiation Dose from imaging tests to Pediatric Populations
4. NANOTECHNOLOGY: Devices for Drug Delivery and Hyperthermia
5. CT RADIATION DOSE: Symposium on CT Dose Measurement and Reduction
6. BREAST CANCER: Reducing Skin Doses during Breast Brachytherapy
7. RADIATION IN UTERO: Assessing and Minimizing Radiation Dose on a fetus
8. MEDICAL WASTE: Medical Radionuclides in Wastewater
9. CANCER DETECTION: New Imaging Device for Tumor Detection
10. CLINICAL RESULTS: Radiation Treatment for Paranasal Sinus Tumors
11. NANOTECHNOLOGY: Symposium on Nanotechnology and Cancer
12. NEW STANDARDS: Measurement Standards for Brachytherapy
13. SAFETY: International Atomic Energy Agency "Smart Card" Radiation Dose Initiative
14. **NEW DEVICE: Treatment Couch Tracks Tumors in Real-Time**
15. GUIDELINES: Upcoming FDA Handbook on CT Dose
16. NEW TECHNOLOGY: Emerging X-ray Detector Technologies
17. SAFETY: New U.S. Nuclear Regulatory Commission Statement
18. COMPUTATIONAL TOOLS: A Web-based Dose Calculator
19. LICENSURE: Medical Physicists
20. FUNDING: New National Cancer Institute Initiatives

1) PATIENT SAFETY: A Special Symposium

"The goals of the symposium will be to present the background to the recent increase in awareness and what the AAPM and international organizations are doing to improve patient safety."

MORE: <http://www.aapm.org/meetings/2010AM/PRAbs.asp?mid=49&aid=14600>

2) CANCER SURVIVAL: President's Symposium Reveals One Patient's Story

"Professor Jim Donnelly is a head and neck cancer survivor and he will relate his unique perspective of the experience from symptoms, through diagnosis and treatment. His physician, Dr. Robert Foote, will provide the doctor's point of view focused on an individual human being. We will see through the patient's eyes how the technology and procedures we develop are perceived and how their use throughout the medical process contributes to the profound impact on everything in Jim's life."

MORE: <http://www.aapm.org/meetings/amos2/pdf/49-14635-54790-727.pdf>

3) PEDIATRIC RADIATION DOSE: Method for Reducing Radiation Dose from Imaging Tests to Pediatric Populations

"To date, the combination of these efforts has led to an average reduction in dose of 23%. Additional approaches (adaptive statistical iterative reconstruction and organ shielding) are currently being evaluated and are expected to provide even greater dose-savings to our pediatric patients."

MORE: <http://www.aapm.org/meetings/amos2/pdf/49-12996-5072-477.pdf>

4) NANOTECHNOLOGY: Devices for Drug Delivery and Hyperthermia

"We developed a magnetic, nanoparticle-assembled capsule, which is a multifunctional device that can be used simultaneously for both controlled drug release and hyperthermia..."

MORE: <http://www.aapm.org/meetings/amos2/pdf/49-13061-62578-357.pdf>

5) CT RADIATION DOSE: Symposium on CT Dose Measurement and Reduction <http://www.aapm.org/meetings/2010AM/PRSessions.asp?mid=49&sid=3527>

6) BREAST CANCER: Reducing Skin Doses during Breast Brachytherapy

"This project opens the possibility to increasing the survival expectancy and minimizing negative side effects during brachytherapy treatments, as well as improving cosmetic outcome for all [Accelerated Partial Breast Irradiation] patients. The proposed method may also be used in other procedures for brain, heart, rectal, or vaginal cancers..."

MORE: <http://www.aapm.org/meetings/amos2/pdf/49-13893-96571-987.pdf>

7) RADIATION IN UTERO: Assessing and Minimizing Radiation Dose on a fetus

"This work introduces a new set of fetal computational phantoms to be used for use radiation dosimetry purposes... In the future, completed fetal phantoms may be combined with an adult female phantom to provide a powerful tool with which to simulate in utero internal and external medical radiation exposures."

<http://www.aapm.org/meetings/amos2/pdf/49-13938-28275-687.pdf>

8) MEDICAL WASTE: Medical Radionuclides in Wastewater

"Although research is ongoing it is conceivable that long lived impurities from nuclear medicine procedures could make it into municipal wastewater and possibly the environment."

<http://www.aapm.org/meetings/amos2/pdf/49-13321-61565-634.pdf>

9) CANCER DETECTION: New Imaging Device for Tumor Detection

"A novel tactile imaging device for tumor identification has been designed and experimentally evaluated to be effective."

<http://www.aapm.org/meetings/amos2/pdf/49-13673-56966-519.pdf>

10) Clinical RESULTS: Radiation Treatment for Paranasal Sinus Tumors

"Between May 2001 and June 2008, 31 patients with PNS malignancies were treated [at Fox Chase Cancer Center, Philadelphia, PA] with [Intensity-Modulated Radiation Therapy]..."

<http://www.aapm.org/meetings/amos2/pdf/49-12575-55394-995.pdf>

11) NANOTECHNOLOGY: Symposium on Nanotechnology and Cancer

"We will describe the latest research and development in this exciting and rapidly advancing field. We will review newly developed cancer diagnostics and therapies, including the combination of imaging combined with drug delivery, based on nanotechnology and identify future directions."

<http://www.aapm.org/meetings/2010AM/PRSessions.asp?mid=49&sid=3488>

12) NEW STANDARDS: Measurement Standards for Brachytherapy

National Institute of Standards and Technology (NIST) has "designed, constructed, and validated the experimental apparatus necessary for the measurement of air-kerma from an x-ray brachytherapy source using a primary standard."

<http://www.aapm.org/meetings/amos2/pdf/49-13210-4174-840.pdf>

13) SAFETY: International Atomic Energy Agency "Smart Card" Radiation Dose Initiative

"The concept of "radiation passport" or something similar has been around for over a decade but the current impetus is based on a) realization of increased radiation doses to individual patients in diagnostic and interventional procedures and b) possibility of electronic means to achieve tracking of procedures..."

<http://www.aapm.org/meetings/amos2/pdf/49-14438-62523-620.pdf>

14) NEW DEVICE: Treatment Couch Tracks Tumors in Real-Time

"To characterize the performance of a novel treatment couch designed and developed for respiration-induced real-time tumor motion tracking and to investigate its behavior with real tumor trajectories..."

<http://www.aapm.org/meetings/amos2/pdf/49-14101-61878-855.pdf>

15) GUIDELINES: Upcoming FDA Handbook on CT Dose

"The CT handbook will be a volume in a series promoting public health and radiation safety through publicly accessible dose information that could be used by medical staff to communicate risk and optimize protocols reducing dose...."

<http://www.aapm.org/meetings/amos2/pdf/49-13381-8526-951.pdf>

16) NEW TECHNOLOGY: Emerging X-ray Detector Technologies

"The main topic of this Symposium talk is new development of selenium-based x-ray imaging

detectors..."

<http://www.aapm.org/meetings/amos2/pdf/49-14520-76805-761.pdf>

17) SAFETY: New U.S. Nuclear Regulatory Commission Statement

"NRC is in the process of updating and expanding its 1989 policy statement on safety culture to include the full range of NRC regulated activities and to better address security issues..."

<http://www.aapm.org/meetings/amos2/pdf/49-14444-81305-423.pdf>

18) COMPUTATIONAL TOOLS: A Web-based Dose Calculator

"The growing interest in patient doses has led to more frequent requests for estimates of the dose imparted to patients by nuclear medicine procedures. A Web-based computer application has been developed to facilitate timely response to such requests and to enable easy access to dosage-specific dose estimates within our institution [M. D. Anderson Cancer Center in Houston]."

<http://www.aapm.org/meetings/amos2/pdf/49-13040-51547-877.pdf>

19) LICENSURE: Medical Physicists

AAPM's Professional Council Symposium will give an update on the licensure effort by the AAPM and the American College of Medical Physicists (ACMP); describe the Federal legislative climate and how it is influencing the issue; and discuss comprehensive registration -- an alternative to licensure.

<http://www.aapm.org/meetings/2010AM/PRSessions.asp?mid=49&sid=3412>

20) FUNDING: New National Cancer Institute Initiatives

"NCI has initiated a number of new initiatives that are focused on the development of methods to develop and robustly validate current and next generation of imaging platforms..."

<http://www.aapm.org/meetings/amos2/pdf/49-14440-32663-378.pdf>

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MORE MEETING INFORMATION

AAPM is the premier organization in medical physics, a broadly-based scientific and professional discipline encompassing physics principles and applications in medicine and biology. Its membership includes medical physicists who specialize in research that develops cutting-edge technologies and board-certified clinical medical physicists who apply these technologies in community hospitals, clinics, and academic medical centers.

The presentations at the AAPM meeting will cover topics ranging from new ways of imaging the human body to the latest clinical developments on treating cancer with high energy X-rays and electrons from accelerators, brachytherapy with radioactive sources, and protons. Many of the talks and posters are focused on patient safety -- tailoring therapy to the specific needs of people undergoing treatment, such as shaping emissions to conform to tumors, or finding ways to image children safely at lower radiation exposures while maintaining good image quality.

RELATED LINKS

- Main Meeting Web site: <http://www.aapm.org/meetings/2010AM/>
- Search Abstracts: <http://www.aapm.org/meetings/2010AM/PRSearch.asp?mid=49>
- Meeting program: <http://www.aapm.org/meetings/2010AM/MeetingProgram.asp>
- AAPM home page: <http://www.aapm.org>

PRESS REGISTRATION

Journalists are welcome to attend the conference free of charge. AAPM will grant complimentary registration to any full-time or freelance journalist working on assignment. The Press guidelines are posted at: <http://www.aapm.org/meetings/2010AM/VirtualPressRoom/default.asp>

If you are a reporter and would like to attend, please fill out the press registration form:

<http://www.aapm.org/meetings/2010AM/VirtualPressRoom/documents/pressregform.pdf>

Questions about the meeting or requests for interviews, images, or background information should be directed to Jason Bardi (jbardi@aip.org, 858-775-4080).

ABOUT MEDICAL PHYSICISTS

If you ever had a mammogram, an ultrasound, an X-ray, CT, MRI or a PET scan, a medical physicist was working behind the scenes to make sure the imaging procedure was as effective as possible. Medical physicists are involved in the development of new imaging techniques, improve existing ones, and assure the safety of radiation used in medical procedures in radiology, radiation oncology and

nuclear medicine. They collaborate with radiation oncologists to design cancer treatment plans. They provide routine quality assurance and quality control on radiation equipment and procedures to ensure that cancer patients receive the prescribed dose of radiation to the correct location. They also contribute to the development of physics intensive therapeutic techniques, such as the stereotactic radiosurgery and prostate seed implants for cancer to name a few. The annual AAPM meeting is a great resource, providing guidance to physicists to implement the latest and greatest technology in a community hospital close to you.

ABOUT AAPM

The AAPM is a scientific, educational, and professional nonprofit organization whose mission is to advance the science, education and professional practice of medical physics. The Association encourages innovative research and development, helps disseminate scientific and technical information, fosters the education and professional development of medical physicists, and promotes the highest quality medical services for patients. Please visit the Association Web site at <http://www.aapm.org/>

For more information, please contact:

Jason Socrates Bardi,
American Institute of Physics,
301-209-3091 (office)
858-775-4080 (cell)
jbardi@aip.org

Sudarshan Chamakuri, Ph.D., DABR
AAPM Media Relations Subcommittee Chair,
radiationtherapy@hotmail.com

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