



*ASTM Committee E61
is proud to present the*

9th INTERNATIONAL WORKSHOP ON DOSIMETRY FOR RADIATION PROCESSING

*A unique opportunity for improving
dosimetry knowledge through in-
depth plenary sessions and
comprehensive hands-on dosimetry
exercises based on industry
standards.*

**June 11th - 15th. 2017
Sheraton Centre Toronto Hotel
Toronto, ON**

INTRODUCTION

ASTM Committee E61, Radiation Processing: Dosimetry and Applications, is proud to present the ninth edition of our International Workshop on Dosimetry for Radiation Processing. This event will be held from June 11th to 15th, 2017 at the Sheraton Hotel in downtown Toronto. This workshop is patterned after our previous eight successful workshops. It includes lectures, practical hands-on exercises, case studies and follow-up roundtable discussions, with emphasis on the application of ASTM and joint ISO/ASTM standards.

Attendance will be limited to the first 60 technical participants who register.

OBJECTIVE

The objective of this workshop is to enhance the knowledge and use of dosimetry through improved understanding of dosimetry principles, factors that influence dosimeter performance, dosimetry system calibration requirements, uncertainty in absorbed dose measurements, and application of dosimetry in process validation and process control. Active participation enhances participants understanding and application of ASTM and ISO/ASTM standards. This course provides essential information for all radiation processing applications, including healthcare products, foods, inks, packaging, polymers, and pharmaceuticals.

WHO SHOULD ATTEND?

This event will be valuable for anyone who uses dosimetry in radiation processing. This includes:

- Material Scientists
- Researchers
- Irradiator operators
- Medical products manufacturers
- Dosimeter suppliers
- Regulatory personnel
- Food processors
- Quality assurance personnel
- Auditors

KEY WORKSHOP BENEFITS

- Gain a solid understanding of dosimetry principles, applications, and standards.
- Increase knowledge and understanding of ASTM and ISO/ASTM standards and their application to radiation processes.
- Benefit from the insights and experience of internationally recognized dosimetry experts.
- Hear regulatory agencies' perspectives on standards and the radiation sterilization process.
- Build and strengthen contacts with developers, manufacturers, and users of different dosimetry systems.

WORKSHOP FORMAT

This comprehensive standards-based program incorporates overview plenary sessions, extensive hands-on exercises, case studies and small roundtable follow up sessions. Attendees will choose a specialized hands-on program developed for either a photon-based (gamma or x-ray) or electron beam processing application. In plenary sessions, speakers address all participants and will outline the applicable standards that establish the foundation for the hands-on exercises and case studies that follow. For the hands-on exercises, attendees will be divided into smaller groups focusing on either a photon-based or electron beam process. Each hands-on group will be chaired by an experienced leader who will facilitate the group exercises. Following each hands-on exercise, case studies and roundtable sessions provide a forum for reviewing dosimetry data sets, and encourage free exchanges of ideas. The format allows the opportunity for further clarification and maximizes participation from each attendee. Everyone is encouraged to bring specific problems or questions to the sessions with the expectation that they will be discussed and resolved by the end of the workshop.

HANDS-ON DOSIMETRY

Important aspects of dosimetry for gamma radiation, electron beam and X-ray processing will be covered through extensive hands-on activities. These sessions include comprehensive data evaluation and calibration exercises.

POSTERS & DEMONSTRATION SESSION

An informal poster session is also planned, with posters displayed for the duration of the workshop. Attendees interested in presenting their work should contact Mark Bailey (mbai@dtu.dk) for details. Titles and abstracts are due by May 1, 2017. Confirmation of approval of the poster abstract will be sent to the author by May 31, 2017. There also will be an equipment and technology demonstration session allowing attendees to meet "one-on-one" with developers, manufacturers, and users of dosimetry systems. This session will focus on research activities and interactions with the manufacturer.

SHERATON DOWNTOWN

ASTM has secured a block of rooms at the Sheraton Centre Toronto Hotel for the week of the workshop. The ASTM group rate for this hotel is \$198 (USD) plus tax. Attendees will need to make their own hotel reservations by calling the hotel directly at 1-866-716-8101 (North America) or +1-416-361-1000 (international). You must mention ASTM in order to receive the group rate.

For attendees travelling with families, please visit www.downtowntorontohotels.ca for details on other

available hotels. Please note that the ASTM group rate will not be honored at other hotels.

REGISTRATION

Space in the workshop is limited to 60 registrants. Register online as soon as possible to ensure space. Online registration opens November 14, 2016 and closes when the 60 registrants cap is reached. The fees to attend the workshop are listed below. These fees include: registration, Sunday evening reception, some meals, coffee breaks, and a 1-year membership to ASTM*. All participants are expected to stay for the full workshop. The registration fee does not include the hotel room.

Workshop Registration Fee (USD)

ASTM Member	\$920
Non-Member	\$995

To register, click the "Register Now" link at <http://www.astm.org/E61WrkshpJune2017>

*ASTM membership only applies to non-members and is included in the non-member price

QUESTIONS ABOUT REGISTRATION

If you have questions concerning online registration, please contact Hannah Sparks at ASTM Symposia Operations at:

Email: hsparks@astm.org
Telephone: +1 610 832-9677

SPONSORS

In addition to the time and effort provided by the members of the organizing committee and other ASTM members, a number of corporations have agreed to provide funding for specific events or services. This support is greatly appreciated, since it assists in keeping the registration fees low. We will acknowledge these companies at the Workshop and in future correspondence. Contact Theresa Lenar at TLenar@astm.org for payment information if your company is interested in being a sponsor.

CANCELLATIONS

A refund of the workshop registration fee will be honored only if requested at least 10 business days prior to the workshop. To cancel your registration and request a refund, please contact Hannah Sparks at hsparks@astm.org or +1-610-832-9677.

RECEPTION

A reception will be held Sunday evening, June 11th. For workshop registrants, the cost of the reception is included in the workshop fee. A nominal fee will be charged for companions who wish to attend. This will be a great time for spouses to meet one another.

BANQUET DINNER

A Banquet Dinner will be held Thursday, June 15th to celebrate the completion of the course. For workshop registrants, the cost of the banquet dinner is included in the workshop fee. A nominal fee will be charged for companions who wish to attend.

CONTACTS

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TECHNICAL SESSIONS

The plenary sessions and the workshop group discussions will cover the following topics:

I. Dosimetry Overview and Selection:

This session will serve as an introduction to many of the topics covered in more detail in later sessions. Topics include definitions and concepts, dosimetry requirements, relationship of ASTM standards to other recognized standards, dosimetry system selection, introduction to calibration and measurement uncertainty.

II. Influence Quantities:

Many influence quantities can affect the performance of dosimeters and dosimetry systems used in radiation

processing and must be considered during the performance characterization of the dosimeter and dosimetry system.

A standard produced by ASTM Committee E61 provides guidance to those performing studies to determine the effects of influence quantities. The topics include:

- Influence quantities to be considered
- Impact of influence quantities on routine processing dosimetry
- Design of experiments and its application in performance characterization
- Improvement of dosimetry results using acquired knowledge regarding the performance characteristics of the dosimetry system.

III. Dosimetry System Calibration:

This session will provide an overview of the objective and requirements of calibrating a routine dosimetry system. Details will be given for laboratory calibrations and in-plant calibrations.

IV. Dose Mapping Gamma, X-Ray (Bremsstrahlung) and Electron:

Radiation processing is usually associated with absorbed dose limits: a minimum to assure the desired effect (e.g., curing, and sterilization) and a maximum to avoid adverse effects (e.g., product degradation).

Dose mapping is performed to determine the capability of the facility to process products within defined limits and to qualify individual products. Operational Qualification (OQ) and Performance Qualification (PQ) will be covered.

V. Process Control:

Accurate dosimetry is essential in process control to assure that the dose is delivered in an accurate, reliable and reproducible manner. Topics to be covered include:

- Process control methodology
- Impact of uncertainty and process variability on routine processing
- Calculation of process control limits

Hands-On Sessions & Case Studies:

The important aspects of dosimetry for gamma, electron beam, and x-ray processing discussed during the plenary sessions will be reinforced through a series of hands-on sessions which will include review of specific case studies. Attendees will choose from hands-on sessions that focus on either a photon source or electron source of radiation and will work in small groups to analyze data, make decisions about how to treat the data and prepare a rationalization documenting their decisions and treatment of the data.

These hands-on sessions will allow participants to work through a series of specific examples related to:

- Calibration of dosimetry systems

- Dose mapping during Operational Qualification (OQ)
- Dose mapping during Performance Qualification (PQ)
- Process establishment and control

Round Table Sessions:

The roundtable provides a forum for group discussions following each hands-on session.

WORKSHOP SCHEDULE

Sunday – June 11rd, 2017

- 15:00 Workshop Registration
- 17:00 Welcome Reception

Monday – June 12th, 2017

- 7:30 Continental Breakfast
- 8:30 Welcome and Introduction
- 8:45 Regulatory/Certification Body Audits
- 9:45 Break
- 10:15 Plenary I – Introduction to Statistics
- 11:15 Case Studies – Statistics
- 12:00 Lunch
- 13:15 Plenary II – Dosimetry Overview and Selection
- 14:00 Case Studies – Dosimetry Overview and Selection
- 14:45 Break
- 15:15 Plenary III - Influence Quantities
- 16:15 Case Studies – Influence Quantities
- 16:45 Round Table Discussion – Plenary Review

Tuesday – June 13th, 2017

- 7:30 Continental Breakfast
- 8:30 Day 1 Recap
- 8:45 Plenary IV – Dosimetry System Calibration
- 9:45 Break
- 10:15 Hands-on Session I – Dosimetry System Calibration
- 12:00 Lunch
- 13:15 Hands-on Session I – Dosimetry System Calibration
- 14:45 Break
- 15:15 Hands-on Session I – Dosimetry System Calibration
- 14:30 Case Studies - Calibration
- 17:00 Roundtable Discussion - Calibration

Wednesday – June 14th, 2017

- 7:30 Continental Breakfast
- 8:30 Day 2 Recap
- 8:45 Plenary V – Dose Mapping OQ/PQ
- 9:45 Break
- 10:15 Hands-on Session II – Dose Mapping OQ/PQ
- 12:00 Lunch

- 13:15 Hands-on Session II – Dose Mapping OQ/PQ
- 14:45 Break
- 15:15 Hands-on Session II – Dose Mapping OQ/PQ
- 14:30 Case Studies – Dose Mapping
- 17:00 Roundtable Discussion – Dose Mapping
- 17:30 Poster/Paper Sessions and Dosimetry System Demonstrations

Thursday – June 15th, 2017

- 7:30 Continental Breakfast
- 8:30 Day 3 Recap
- 8:45 Plenary VI – Process Control
- 9:45 Break
- 10:15 Hands-on Session III – Process Control
- 12:00 Lunch
- 13:15 Hands-on Session III – Process Control
- 14:45 Break
- 15:15 Case Studies – Process Control
- 15:45 Roundtable Discussion - Process Control
- 16:15 Workshop Wrap Up – Q&As
- 17:30 Free Time
- 19:00 Workshop Banquet

