

# Arizona Chapter of the AAPM (AzAAPM): From Past to Present



Chris Watchman, PhD (President, AzAAPM); Erdal Gurgoze, PhD, FAAPM (Secretary, AzAAPM), Steve Sapareto, PhD (Past President, AzAAPM), Tariq Mian, PhD, FAAPM (Board Rep, AzAAPM)

*Radiation Dose Estimates with CT: Screening for Lung Cancer – William Pavlicek, Mayo Scottsdale*

*Insight Into Treatment Dose Delivery using In-vivo Dosimetry and Adaptive Dose – Gustavo Olivera – 21<sup>st</sup> Century Oncology*

*Novel Development to Expedite Quality Treatment Care with TomoTherapy – Stan Benedict, UC Davis*

## 4<sup>th</sup> Annual Arizona Chapter of AAPM Annual Meeting

*MR-Guided LINAC at MD Anderson Cancer Center – Geoff Ibbott, MD Anderson*

*Report Card On ROILS – Gary Ezzell, Mayo Scottsdale*

*Pediatric CT – Kalpana Kanal, University of Washington*

*CT Lung Cancer Screening: Why and How From the Radiologists Perspective – Clinton Jokerst, Mayo Scottsdale*

April 23, 2016: Our fourth annual meeting

**March, 2000: First recorded meeting – AzAAPM is born!**

**July, 2012: Formal recognition of AzAAPM as an official chapter**

**April, 2015: Third annual meeting of the AzAAPM**

**April, 2016: Fourth annual meeting of the AzAAPM**

Throughout their history, the Arizona chapters of both AAPM and HPS (AHPS) have enjoyed a close, collaborative relationship, including holding joint meetings and co-sponsoring larger meetings for their parent organizations in Arizona.

### Meeting Presentations and Topics

2000: Deconstructing Linearity Fetal Dose Assessment by Monte Carlo Techniques IMRT Topics	2007: Review of Medical Management of Acute Radiation Syndrome Responding to Emergencies at Palo Verde Training Opportunities in Medical Physics, Radiation Protection, and Radiation Therapy in Arizona	2011 (cont'd): Medical Isotope Production Current and Future Clinical uses of Imaging Isotopes Creation of AAPM Arizona Region Chapter Cancer as a Disease of Complexity: Implications for LNT and Radiation Protection Patient Identification and Tracking by RFID Grassroots Preparedness, a Radiation Risk Scale, and Marketing of Health Physics Clinical Physics of Miniature eBx X-ray Sources	2014: Implement of CT dose reporting in the University of California System CT Dose Reduction at the Mayo Clinic Scottsdale MR Implementation in Radiation Therapy Implementation of FFF on Varian and Elekta Linear Accelerators Commissioning TomoTherapy with ArcCheck following the TG-119 protocol A Shell model for Calculating BED as a Function of Tumor Volume Evaluation and comparison the doses differences between Line Source and Point Source methods for COMS plaque brachytherapy Using Statistical Process Control for QA IMRT QA, what are the options beyond gamma analysis? IMPT Proton Planning QA for a Proton Scanning Pencil Beam Robust Optimization for Proton Planning QA Tools for Linear Accelerators HDR Brachytherapy Current and Future Developments
2001: PET Clinical Uses Design of a PET Clinic Radiation Protection and Precautionary Principles	2008: Rapid Arc: The next advance in IMRT State Legislature Proposes Changes to the ARRA Partial Breast Irradiation Why No One Believes Us: Cognitive Neuroscience and Radiation Risk Will they ever learn? The public education game	2012: Patient Dose Reduction Efforts with Diagnostic Imaging at Mayo Clinic Arizona AAPM Initiatives: 2012 and Beyond Status of the Arizona Radiation Regulatory Agency Airport Security Scanners: An Update Proton Therapy Project at Mayo Clinic Arizona	2015: MR Linac IG and Treatment Planning in Era of Digital Linacs TG-109 Code of Ethics ASTRO/ACR Radiation Oncology Accreditation Optical Surface Scanning System 4D MRI for Motion Management Advanced IQ Scripts in Mosaic for Clinical Workflow
2002: HPS is about Education Intraoperative Radiation in an Unshielded Operating Room	2009: Positron Emission Mammography The Physics of PEM and PEM Guided Biopsy Cyberknife: A Physicist's Primer New concepts in Radiological Emergency Planning	2013: MR Guided Radiotherapy 90Y Therapies in Development Gating with the Catalyst System Reducing Patient Dose with CT Dose Impact for Sub-Millimeter Collimator Size Difference National Error Reporting System Agility 160 Leaf MLC: Design to Dosimetry Minimally Invasive Brachytherapy for Macular Degeneration Safety in Radiotherapy: What is Working? Composite Shielding Barriers for Space Limited Rooms	
2003: Health Physics Society Strategic Plan and Important Initiatives	2010: Activities of the ICRP Committee 2 in Implementing ICRP 2007 Recommendations Safety Developments in Linear Accelerator Design Radiation Safety in Imaging and Therapy Pit Disassembly and Conversion Project: Radiological Design Considerations The Physics of Airport Security: Are Scanners Safe?		
2004: Essential Physics of Electron Beam Dosimetry: Do We Need the Full Monte? Monte Carlo Methods in Accelerator Shielding Design Dirty Bombs Extraordinaire: Arizona's Response for Homeland Security	2011: Impact of Deformable Registration in Radiation Oncology Best Practices in Radiation Therapy		
2005: Stereotactic Radiosurgery and Radiotherapy Monte Carlo Calculations of a PET Facility Design Bexxar I-131 Antibody Therapy: Preparation, Administration and Subsequent Release PET Center Design Using the New AAPM Guide for Shielding TomoTherapy: Delivering Image Guided and Intensity Modulated Radiation Therapy IAEA: Safety and Security of Radioactive Sources			