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

Courtney Buckey, PhD (President, AzAAPM); Nicholas Marsh, MS, (Secretary/Treasurer, AzAAPM), Yanle Hu, PhD (Board Rep, AzAAPM)

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

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

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

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 TG-43 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

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 Scrips In Mosaic for Clinical Workflow

2016: MR-Guided Linac at MD Anderson Cancer Center
Novel Developments to Expedite Quality Treatment Care with TomoTherapy
Report Card on Rolls
Pediatric CT
CT Lung Cancer Screening: Why and How from Radiologists Perspective
Radiation Dose Estimates with CT: Screening for Lung Cancer
Insight into Treatment Dose Delivery Using In-vivo Dosimetry and Adaptive Dose Recalculation

2017: Developments in MRgRT - Sasa Mutic, Washington University
The First Year with ViewRay: Commissioning and Initial Clinical Experience - Kyle Padget, U of Miami
Digital Security in Hospital Computer Systems - Robert Rost, Banner Health
Using the Dose Deviation Index to Drive Quality Improvement in Radiography: Musing form the Co-Chair of AAPM TG-232 - A. Kyle Jones, MD Anderson
Dynamic Non-coplanar Treatments for Intracranial Radiosurgery - Lisa Hampton, Varian Medical Systems
Dosimetry and Response Assessment Following 90Y Microsphere Therapy - Cheenu Kapadath, MD Anderson
Proton Beam Therapy at Mayo Clinic Arizona - A Physics Perspective - Martin Bues, Mayo Scottsdale
AAPM Governance Assessment Project - Laura Cervino, UC San Diego
Advanced Radiation Techniques: The Veterinary Perspective - Eric Boshoven, MD

2018: Ethics and the Residency match - Kristi Hendrickson, Ph.D., U.W. Seattle
New approaches to teaching medical physics: What have you done for your students lately? - George Starkschall, Ph.D., U.T. - M.D. Anderson
Education in Medical Physics - A Learners point of view - Tania Juang, Ph.D. Stanford
Goverance - What does the AAPM Clinical Practice Committee do for you? - Jessica Clements, M.S., Kaiser Permanente L.A.
Determining gamma criteria for IMRT QA by analyzing LINAC and dosimetry system uncertainty - Justin Gagneur, M.A., Mayo Clinic Arizona
Identifying and Correlating Error Trends through Physics Chart Checking - Evan Silverstein, Ph.D. Mayo PGY1 Residents
A New Automated Platform for Independent Dose Check and Pretreatment QA - Amir Sadeghi, Ph.D. Banner Health
MRI for Radiation Oncology: From spatial integrity to MR only simulation and beyond. - Lizette Warner, Ph.D., Philips
RO-ILS - What we’ve learned - Gary Ezzell, Ph.D. Mayo Clinic Arizona

2019: Estimation of Notched COMS Eye Plaques’ Heterogeneity Correction Coefficients via MCNP6 Simulations - Joshua Salazar, University of Arizona
Evaluation of OARtrac Real-Time In vivo Dosimetry for HDR Prostate Brachytherapy - Mary Ester Braswell, M.S., Banner Health
Prone vs. Supine patient positioning for the treatment of Anal Cancer - Jarrod Lentz, M.S., Mayo Clinic Arizona
Evaluation of Independent RapidPlan Models Based on Laterality of Secondary Nodal Disease for H&N cancer - Lisa Taylor, M.S., Mayo Clinic Arizona
Commissioning for Radiosurgery of Multiple Metastasis with a Single Isocenter - Jonathan Thropay, University of Arizona
Working towards an Expert System for Radiation Oncology, or where do DGI constraints come from anywhere? - Mirek Fatyga, Ph.D., Mayo Clinic Arizona
TG-327 project: Crowd-sourced solutions to the problem of wrong shift - Gary Ezzell, Ph.D., Mayo Clinic Arizona
MRI Only Simulation - Neelam Tyagi, Ph.D., Memorial Sloan Kettering Cancer Center
Integration and Automation of Patient and Machine QA - Matt West, Ph.D., Vincere Cancer Center
Proton Arc Therapy - Xuanfeng Ding, Ph.D., Beaumont Hospital
Can IMRT QA Failures be predicted? How complexity metrics can guide the decision for replanning before IMRT QA has been measured - Evan Silverstein, Ph.D., Mayo Clinic Arizona
3D printed HDR Cylinders - Aaron Steinbinder, University of Arizona
Improvements to IOERT at Mayo Clinic - Daniel Craft, Ph.D., Mayo Clinic
Zap Commissioning and Clinical Implementation - Stephen Sorensen, Ph.D., Dignity Health – St. Joseph’s
Evaluation of WL Test with Need for Repositioning at Different Table Angles During Radiosurgery Using the BrainLab ExacTrac - Alexis Webb, University of Arizona
Scripting Safely: Practical Guidance on Clinical Scripting - Rex Cardan, Ph.D., University of Alabama at Birmingham

2020: Immersive Patient Education through Virtual Reality - M.E. Braswell, Banner Resident
Implementation of Varian’s triggered imaging feature via auto beam hold for prostate irradiation - M. Hermansen, Banner Resident
Revisions to the AAPM Code of Ethics - G. Sherouse, Ph.D., Sherouse Medical Physics
3D Scanning Technology in Electron Radiation Therapy - D. Craft, Mayo Resident
Assessing the Performance of a Surface Guidance System for Continuous Patient Monitoring during SRS - J. Lentz, Mayo Resident
Hybrid 3D Analytical Linear Energy Transfer Calculation Algorithm based on pre-calculated Data from Monte Carlo Simulations - W. Deng, Mayo Resident
The Radiation Oncology Alternative Payment Model (RO-APM) - G. Sherouse, Ph.D., Sherouse Medical Physics
Intraoperative Magnetic Resonance Imaging: Challenge and Opportunity - Y. Zhou, Ph.D., Mayo Clinic Arizona
Medical Physics 3.0 - T. Pawlicki, Ph.D., U. C.S.D.
What a Statistician wants Physicists to know about Statistics - T. DeWees, Ph.D., Mayo Clinic Arizona
A Comparison of Two Immobilization Systems for Prostate Radiotherapy - F. Mostafaef, U of Arizona Resident
ekV CBCD Dose and Image Quality of Ipsilateral Breast, w/ & w/o Breast Shield on Contralateral Breast - Z. Gu, U of Arizona Resident
Accreditation of Imaging Modalities - T. Mian, Ph.D., Medical Radiation Physics
Implementing Sun Nuclear Patient QA: a Paradigm Change - S. Sapareto, Ph.D., Banner University & S. Sutlief, Ph.D., Banner MD Anderson