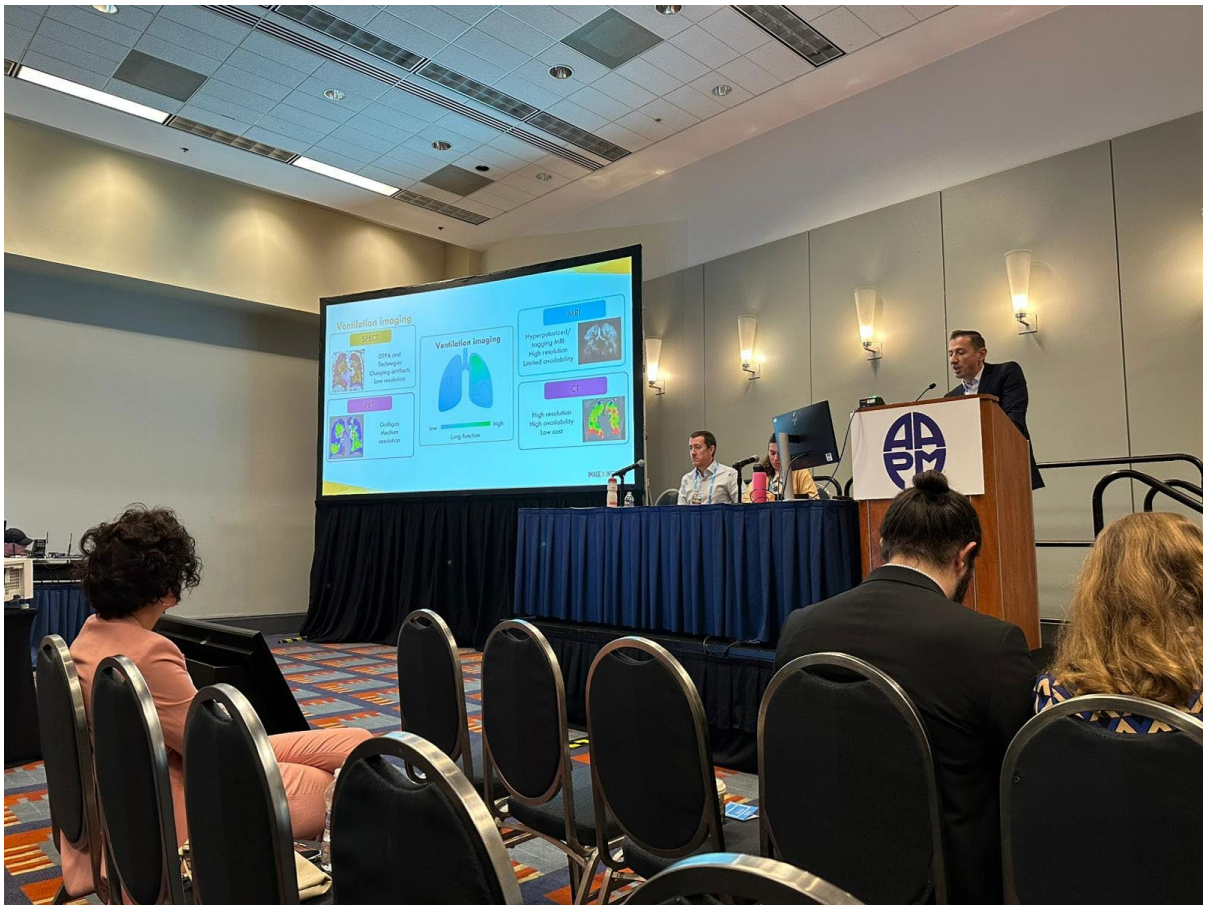
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**Full Reference**: **Kertész H**, Keall P, O'Brien R, Byrne H, Reynolds T, and Dillon O. *X-Ray Motion Tomography: Creating 3D Lung Motion from Sparse 2D X-Ray Projections*
**Conference/Meeting Name**: Annual meeting of the American Association of Physicists in Medicine.
**Location** Washington, DC, Unites States
**Dates**: 27-30 July 2025
**Presentation Type**: oral presentation



My talk at the AAPM 2025 meeting, Washinton DC, USA

The 67th Annual Meeting & Exhibition of the American Association of Physicists in Medicine (AAPM) took place from July 27–30, 2025, at the Walter E. Washington Convention Center in Washington, DC. This premier event drew approximately 4,000 delegates, including medical physicists, researchers, clinicians, and students, making it the largest global gathering focused on medical physics. The conference theme, "Coming Together to Forge Ahead!", emphasized collaboration and innovation in advancing the field.

AI-driven auto-contouring was the main buzz at AAPM 2025, promising major workflow gains in treatment planning. Adaptive radiotherapy attracted significant attention for practical advances in spine SBRT and anatomy-driven plan adaptation. Photon-counting CT stood out in imaging sessions for its high resolution and dose-reduction potential, especially in pediatrics. Practical tools for time-efficient photon plan checks were highlighted as immediately useful for clinical workflows. Advances in deformable image registration and motion-management phantoms provoked lively discussion among attendees.

I gained practical skills in interpreting ventilation images, integrating novel imaging biomarkers into study designs, and applying advanced image-processing workflows for improved reproducibility. The direct discussion also clarified best practices for cross-site standardization and opened opportunities for collaboration on method comparison and multicenter validation.

The insights and contacts gained at the conference are directly relevant to Sydney Cancer Partners because they advance our understanding of lung ventilation imaging and standardization, enhance our ability to integrate ventilation biomarkers into trial protocols, and provide practical image-processing methods that improve reproducibility across sites. The discussion with the US lung ventilation researcher clarified validation approaches and cross-site harmonization strategies that will strengthen the methodological rigour of our multicentre lung avoidance radiotherapy trials. These learnings will help refine eligibility criteria, endpoint definitions, and QA procedures, accelerating reliable implementation of ventilation-guided planning. Overall, the knowledge and collaborative opportunities obtained will materially support trial consistency, data quality, and the translational impact of our lung avoidance efforts.



Image X Institute researchers at the AAPM25 conference in Washington, DC, USA