



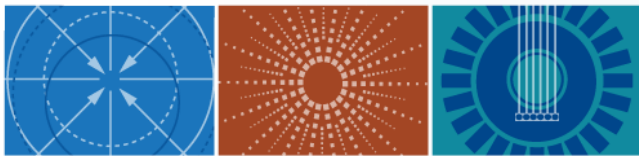
David Geffen
School of Medicine



Department of Radiation Oncology

AAPM Schedule of Presentations and Activities

AAPM 2018 JUL 29 - AUG 2



BEYOND THE FUTURE!
60TH ANNUAL MEETING & EXHIBITION | NASHVILLE, TN

2018 Annual Meeting

July 29 - August 2

Music City Center

Nashville, Tennessee

Sunday, July 29

2:05 - 3:00 PM Davidson Ballroom B
[Specialty Track Quantitative Imaging in the Era of Big Data and Precision Medicine SNAP Oral](#)
Session Presentation No: 07
[Rectal Cancer Prognosis Prediction Using Radiomics From Pretreatment MRI](#)
Xinran Zhong; Sharon Qi, PhD, DABR

5:05 - 6:00 PM Room 207
[Cone-Beam CT](#)
Imaging SNAP Oral No: 06
[Use of An Alternating Optimization Scheme with a Non-Linear Conjugate Gradient Method for Reconstructing High Quality CBCT and Motion Models From Free Breathing CBCT Projections](#)
Minghao Guo; John Lewis, PhD, DABR

5:05 - 6:00 PM Karl Dean Ballroom B1
[MRI Guided Applications](#)
Joint Imaging-Therapy SNAP Oral No: 06
[MRI Guided Radiotherapy of Centrally Located Thoracic Tumors: Effect of Cardiac Motion](#)
Yingli Yang, PhD, DABR

General Poster Discussion

3:00 - 3:30 PM Exhibit Hall Forum 5
Joint Imaging ePoster Discussion No: 05
[Improve Functional Lung Dose Sparing Using Intensity Modulated Proton Therapy](#)
Wenbo Gu; Ke Sheng, PhD, DABR

3:00 - 6:00 PM Exhibit Hall
Joint Imaging Poster Discussion No: 54
[Efficient Multi-GPU Calculation of Local Radiomic Features From 2D and 3D Images](#)
Ryan Neph; Ke Sheng, PhD, DABR

General Poster Discussion No: 274
[Auto-Planning of Volumetric Modulated Arc Treatment Consisting of Multiple Short Tangential Arcs for Left-Sided Breast Cancer](#)
R Liu*, Sharon Qi, PhD, DABR

4:00 - 4:55 PM Room 202
[Motion Assessment and Prediction in Planning](#)
Joint Imaging-Therapy SNAP Oral No:04
[A Machine Learning and Biomechanical Approach for Generating Lung 4DCT From a Breath-Hold 3DCT](#)
Anand Santhanam, PhD

5:05 - 6:00 PM Karl Dean Ballroom A1
[Safety and Error Analysis](#)
Therapy SNAP Oral No: 05
[Novel Optical Whole-Body Patient Surface Mapping for Robust Personalized Collision Modeling and Prevention in External Beam Radiotherapy](#)
Victoria Yu, PhD; Ke Sheng, PhD, DABR

5:05 - 6:00 PM Karl Dean Ballroom A2
[Motion and Uncertainties in Radiation Therapy](#)
Therapy SNAP Oral No: 05
[Robust Individual TLD Tracking Using Optical Finger Printing Technology](#)
Daili Shang; Ke Sheng, PhD, DABR

3:00 - 3:30 PM Exhibit Hall Forum 6
Joint Imaging ePoster Discussion No: 06
[Quantifying the Dose to Functional Lung Regions Using Patient-Specific Elasticity Distributions Estimated From a Deep Learning Approach](#)
Katelyn Hasse; Anand Santhanam, PhD

3:00 - 6:00 PM Exhibit Hall
All Professional General Poster Discussion No: 26
[Is It Better to Treat Lip Cancer From Inside-Out Or Outside-in for High-Dose-Rate Skin Brachytherapy?](#)
Sang-June Park, PhD

Monday, July 30

7:30 - 9:30 AM Karl Dean Ballroom A1
[John R. Cameron Young Investigator Symposium](#)
Session Presentation No: 03
[Automated Treatment Planning with Evolving Knowledge-Base](#)
Angelia Landers; Ke Sheng, PhD, DABR

Session Presentation No : 04
[Diffusion-Prepared Multi-Shot BSSFP Imaging with Gradient Stabilizer for High-Resolution and Distortion-Free Diffusion Imaging](#)
Yu Gao; Yingli Yang, PhD, DABR

7:30 - 9:30 AM Karl Dean Ballroom B1
[Building a Successful Adaptive Radiotherapy Program](#)
Therapy Educational Course
9:00 AM - Session Presentation No: 04
[Patient Specific QA Strategies for Adaptive Radiotherapy](#)
Daniel Low, PhD, DABMP

Monday, July 30, Cont'd

4:30 - 6:00 PM Davidson Ballroom B
[Specialty Track Quantitative Imaging in the Era of Big Data and Precision Medicine Symposium](#)

Session Presentation No: 07
[Automatic Extraction and Tracing of Small Bowel Morphology Based On MR Enterography](#)
Dan Ruan, PhD

General ePoster Discussion

9:30 - 10:00 AM Exhibit Hall Forum 4
Imaging General ePoster Discussion No: 01
[An Image Processing Technique for Identification of Interstitial Catheters in High- and Low-Field MR-Guided HDR Brachytherapy](#)
Kamal Singhrao; John Lewis, PhD, DABR

4:30 - 5:30 PM Exhibit Hall Forum 2
Joint Imaging - Therapy Discussion No: 06
[An Evaluation of Fiducial Marker Visibility for MR-Guided Radiotherapy in a 3D-Printed Anthropomorphic Multimodality Phantom](#)
Kamal Singhrao; John Lewis, PhD, DABR

6:30 - 8:00 PM AAPM Awards Ceremony & Reception
Broadway Ballroom, Level 2, Omni
AAPM Fellow Awardee: Nzhde Agazaryan, PhD, DABR

1:15 - 1:45 PM Exhibit Hall Forum 5
Joint Imaging - Therapy Discussion No: 06
[A Constrained Adversarial Deep Neural Network Based Approach for Highly Accurate and Real Time Patient Safety Workflow](#)
Anand Santhanam, PhD

Tuesday, July 31

7:30 - 8:30 AM Davidson Ballroom A
[Automation in Radiotherapy - Fasten Your Seatbelt!](#)
SAM Therapy Educational Presentation No: 01
[Automated Contour Segmentation for Treatment Planning: Challenges and Potentials](#)
Minsong Cao, PhD, DABR

1:45 - 3:45 PM Karl Dean Ballroom C
[Advances in Imaging Technology](#)
Science Council Session Presentation No: 07
[Motion Compensated Dynamic MRI Reconstruction in Compressed Sensing Framework Using Local Affine Optical Flow Constraint](#)
Ningning Zhao; Ke Sheng, PhD, DABR

Science Council Session Presentation No: 09
[A Novel Multi-Material Decomposition Method for Dual Energy CT](#)
Qihui Lyu; Ke Sheng, PhD, DABR

4:30 - 6:00 PM Davidson Ballroom A
[Investigative Technologies for Radiation Therapy](#)
Therapy Scientific Session No: 06
[Sparse Orthogonal Collimator with Rectangular Aperture Optimization for Small Animal IMRT](#)
Kaley Woods; Ke Sheng, PhD, DABR

8:30 - 9:30 AM Karl Dean Ballroom B1
[Advanced MRI: Novel Applications for Radiation Oncology](#)
9:10 AM
SAM Joint Imaging-Therapy Presentation No: 03
[Fast and furious: real time treatment planning based on dynamic MRI](#)
Ke Sheng, PhD, DABR

2:45 - 3:45 PM Karl Dean Ballroom B1
[Advanced DWI: Applications for Radiation Oncology](#)
3:05 PM
SAM Joint Imaging-Therapy Presentation No: 02
[On-board functional imaging guided radiation therapy with DWI](#)
Yingli Yang, PhD, DABR

4:30 - 6:00 PM Davidson Ballroom B
[Quantitative Imaging: CT and MRI](#)
Specialty Track Quantitative Imaging in the Era of Big Data and Precision Medicine Presentation No: 03
[Application and Performance Evaluation of a Modified BM3D Denoising Method to Emphysema Scoring On Ultra-Low-Dose CT Images](#)
Tingting Zhao; Dan Ruan, PhD

Tuesday, July 31, Cont'd

General Poster Discussion

9:30 - 10:00 AM Exhibit Hall Forum 5
Joint Imaging ePoster Discussion No: 01
[Automatic Segmentation of Vertebrae Using Deep Learning and Generative Adversarial Networks](#)
Elizabeth Boehnke; Ke Sheng, PhD, DABR

9:30 - 10:00 AM Exhibit Hall Forum 7
Therapy General ePoster Discussion No: 06
[Single-Institutional Experience in the Use of Unsafe Condition and Non-Safety Related Incident Reporting to Improve Radiotherapy Process of Care](#)
James Lamb, PhD

1:15 - 1:45 PM Exhibit Hall Forum 4
Therapy General ePoster Discussion No: 04
[Predictive Models of Achievable Radiotherapy Treatment Planning Goals for Malignant Pleural Mesothelioma](#)
Victoria Yu, PhD

9:30 - 10:00 AM Exhibit Hall Forum 5
Joint Imaging ePoster Discussion No: 04
[Automated Segmentation of Head and Neck Cancer Patients Using 3D U-Net](#)
Nuo Tong; Ke Sheng, PhD, DABR

10:30 - 11:00 AM Exhibit Hall Forum 2
Joint Imaging ePoster Discussion No: 04
[Investigation Into Dosimetric Quality of Online Adapted Pancreatic Cancer Treatment Plans On An MRI-Guided Radiotherapy Treatment Machine](#)
Phillip Chow, MS, DABR

1:15 - 1:45 PM Exhibit Hall Forum 5
Joint Imaging ePoster Discussion No: 04
[Safety-Oriented Design of In-House Software for Translating New Techniques From Research to Clinical Practice: A Case Study Using a Model-Based 4DCT Protocol](#)
Dylan O'Connell, PhD

Wednesday, August 1

7:30 - 9:30 AM Karl Dean Ballroom B1
[Novel Imaging Modalities and Applications](#)
Joint Imaging Modalities Presentation No: 04
[On the Systematic Feasibility Analysis of Performing Lung Elastography Using Low-Dose 4DCT Imaging](#)
Katelyn Hasse; Anand Santhanam, PhD

10:15 - 12:15 PM Davidson Ballroom A
[Knowledge-based Treatment Planning](#)
Therapy Scientific Session Presentation No: 09
[Performance Comparison of Knowledge-Based Dose Prediction Techniques](#)
Angelia Landers; Ke Sheng, PhD, DABR

10:15 - 12:15 PM Karl Dean Ballroom B1
[MRI Guided Radiation Therapy](#)
Joint Imaging-Therapy Session Presentation No: 07
[An Evaluation of Image-Derived Respiratory Surrogates for MRI-Guided Radiotherapy](#)
John Ginn; James Lamb, PhD

Joint Imaging-Therapy Session Presentation No: 10
[Model-Interpolated Gating for MRI-Guided Radiotherapy](#)
John Ginn; James Lamb, PhD

General Poster Discussion

10:00 - 10:30 AM Exhibit Hall Forum 9
Joint Imaging ePoster Discussion No: 04
[Fast Direct Aperture Optimization Via Parallelizable Approximate Projection Onto the Set of Aperture-Ready Fluence Maps](#)
Dylan O'Connell, PhD

10:30 - 11:00 PM Exhibit Hall Forum 5
Therapy General ePoster Discussion No: 03
[Generative Adversarial Network for Undersampled Brain MRI Reconstruction](#)
Ningning Zhao; Ke Sheng, PhD, DABR

7:30 - 9:30 AM Karl Dean Ballroom C
[Longitudinal and Functional Imaging](#)
Joint Imaging-Therapy Presentation No: 09
[Treatment Response Prediction Using Texture Features From Longitudinal Diffusion MRI in Sarcoma Patients](#)
Yu Gao; Yingli Yang, PhD, DABR

10:15 - 12:15 PM Karl Dean Ballroom A2
[Joint AAPM-ESTRO Symposium: Automated Treatment Planning in Clinical Practice](#)
SAM Therapy Educational Course Presentation No: 04
[Clinical Experience with Automated Planning for 4pi Treatment Delivery](#)
Ke Sheng, PhD, DABR

1:45 - 3:45 PM Davidson Ballroom A
[Particle Therapy Optimization and Planning](#)
Therapy Scientific Session No: 04
[High Fidelity Robust Optimization for Intensity-Modulated Proton Therapy](#)
Wenbo Gu; Ke Sheng, PhD, DABR

10:30 - 11:00 AM Exhibit Hall Forum 4
Therapy General ePoster Discussion No: 06
[Multi-Classification of Clinical Notes for Natural Language Processing-Based Information Aggregation in Radiotherapy](#)
Dan Ruan, PhD

Thursday, August 2

- 7:30 - 9:30 AM Davidson Ballroom B
[Radiomics \(Session 5 of the Certificate Series\)](#)
Joint Imaging-Therapy Session Presentation No: 11
[Quantitative Image Features Extracted From Pre-Treatment Magnetic Resonance Images Predict Post-Chemoradiation Response for Patients with Local Advanced Rectal Cancer](#)
Xiaoying Pan; Sharon Qi, PhD, DABR
- 7:30 - 9:30 AM Karl Dean Ballroom A1
[Novel Treatment Delivery and Verification Strategies](#)
Joint Imaging-Therapy Session Presentation No: 01
[4piVMAT for Efficient Delivery of Highly Conformal Non-Coplanar Plans](#)
Qihui Lyu; Ke Sheng, PhD, DABR
- 10:00 - 12:00 PM Karl Dean Ballroom C
[Motion Assessment and Prediction in Planning](#)
Joint Imaging-Therapy SNAP Oral No:04
[Use of a Rigidity Penalty to Improve CT to MRI Image Registration](#)
Elizabeth Boehnke; Ke Sheng, PhD, DABR
- 11:00 AM - 10:00 PM Karl Dean Ballroom A2
[Management of Irregular Respiration in 4DCT](#)
SAM Therapy Educational Course No: 02
[Management of Irregular Respiration in Helical 4DCT](#)
Daniel Low, PhD, DABMP
- 1:00 - 2:00 PM Karl Dean Ballroom A2
[Technical and Professional Preparations for Medical Physicists in the Upcoming MRqRT Era](#)
1:39PM
SAM Therapy Educational Course No: 04
[Working On MRI Guided Machines \(MRI-Linac/Co60\) for Medical Physicists Who Are Trained in MRI](#)
Yingli Yang, PhD, DABR
- 1:00 - 3:00 PM Room 202
[Cone-beam Computed Tomography](#)
Imaging Scientific Session No: 10
[Reconstruction of a Respiratory Motion Model and a High-Quality Reference Image From CBCT Projections Acquired in Treatment Position. A Retrospective Study Using Patient Images](#)
Minghao Guo; John Lewis, PhD, DABR
- 1:00 - 3:00 PM Karl Dean Ballroom A1
[Monte Carlo Simulation and High Performance Computing](#)
Therapy Scientific Session Presentation No: 05
[Distributed Multi-GPU Photon Beamlet Dose Calculation for Efficient Radiation Treatment Planning](#)
Ryan Neph; Ke Sheng, PhD, DABR
- 1:00 - 3:00 PM Karl Dean Ballroom B1
[MRI in Treatment Planning](#)
Joint Imaging-Therapy Session Presentation No: 06
[Abdominal Synthetic CT Generation for MR-Only Liver Radiotherapy Using Conditional Generative Adversarial Network](#)
Jie Fu; John Lewis, PhD, DABR
- Joint Imaging-Therapy Session Presentation No: 07
[Deep Learning Approaches for Male Pelvic Synthetic CT Generation Using 2D and 3D Convolutional Neural Networks](#)
Jie Fu; John Lewis, PhD, DABR

UCLA Radiation Oncology AAPM News

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