



## Adam Wang

Assistant Professor of Radiology and, by courtesy, of Electrical Engineering

### Bio

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#### BIO

My research group develops technologies for advanced x-ray and CT imaging, including artificial intelligence for CT acquisition, reconstruction, and image processing; spectral imaging, including photon counting CT (PCCT) and dual-layer flat-panel detectors; novel system and detector designs; and their applications in diagnostic imaging and image-guided procedures. I am also the Director of the Photon Counting CT Lab, Zeego Lab, and Tabletop X-Ray Lab.

I completed my PhD in Electrical Engineering at Stanford, developing strategies for maximizing the information content of dual energy CT and photon counting detectors. I then pursued a postdoctoral fellowship at Johns Hopkins in the I-STAR Lab, developing reconstruction and registration methods for x-ray based image-guided surgery. I was then a Senior Scientist at Varian Medical Systems, developing x-ray/CT methods for image-guided radiation therapy, before returning to Stanford in 2018, where I now lead a comprehensive research program in advanced x-ray and CT imaging systems and methods, with funding from NIH, DOD, DOE, and industry partners.

#### ACADEMIC APPOINTMENTS

- Assistant Professor, Radiology
- Assistant Professor (By courtesy), Electrical Engineering
- Member, Bio-X
- Member, Wu Tsai Human Performance Alliance

#### HONORS AND AWARDS

- Council of Early Career Investigators in Imaging, Academy for Radiology & Biomedical Imaging Research (2020)
- Early Career Investigator in Imaging Travel Award, AAPM (2020)
- Featured Cover Article, Medical Physics journal (2018)
- Best in Physics (Imaging) abstract, American Association of Physicists in Medicine (AAPM) Annual Meeting (2016)
- Featured Cover Article, Medical Physics journal (2015)
- Jack Fowler Junior Investigator, winner, AAPM Annual Meeting (2014)
- AAPM Research Seed Grant, American Association of Physicists in Medicine (2013)
- NRSA Postdoctoral Fellowship, NIH (2013)
- Graduate Community Award, Stanford Asian American Activities Center (2011)
- Skilling Award for Outstanding Teaching Assistant in Electrical Engineering, Stanford University (2011)

## BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, American Association of Physicists in Medicine (AAPM) (2013 - present)

## PROFESSIONAL EDUCATION

- Postdoctoral Fellow, Johns Hopkins University , Biomedical Engineering (2014)
- PhD, Stanford University , Electrical Engineering (2012)
- MS, Stanford University , Electrical Engineering (2008)
- BS, University of Texas at Austin , Electrical Engineering (2006)

## PATENTS

- Gerhard Kleinszig, Jeffrey Siewerdsen, Sebastian Vogt, Adam Wang. "United States Patent 10,022,098 Method and device for generating a low-dose X-ray image preview, imaging system and computer program product"
- Adam Wang, Jeffrey Siewerdsen. "United States Patent 10,064,591 System, method and computer readable medium for preview of low-dose x-ray projection and tomographic images"
- Josh Star-Lack, Adam Wang, Alexander Maslowski. "United States Patent 10,098,606 Automatic organ-dose-estimation for patient-specific computed tomography scans"
- Alexander Maslowski, Adam Wang, Josh Star-Lack, Mingshan Sun, Todd Wareing. "United States Patent 10,327,727 Automatic estimating and reducing scattering in computed tomography scans"
- Daniel Shedlock, Josh Star-Lack, Adam Wang. "United States Patent 10,330,798 Scintillating glass pixelated imager"
- Jeffrey Siewerdsen, Yoshito Otake, Joseph Webster Stayman, Ali Uneri, Adam Wang, Sarah Ouadah. "United States Patent 10,478,148 Self-calibrating projection geometry for volumetric image reconstruction"
- Pavlo Baturin, Adam Wang, Liangjia Zhu. "United States Patent 10,739,473 Image fusion in multi-layer flat panel imager"
- Blake Gaderlund, Josh Star-Lack, John Van Heteren, Adam Wang. "United States Patent 10,960,232 Single-pass imaging and radiation treatment delivery via an extended rotation gantry"
- John Van Heteren, Petr Jordan, Adam Wang, Josh Star-Lack. "United States Patent 10,967,202 Adaptive image filtering for volume reconstruction using partial image data"
- Daniel Shedlock, Josh Star-Lack, Adam Wang. "United States Patent 11,079,499 Scintillating glass pixelated imager"
- Pascal Paysan, Marcus Brehm, Adam Wang, Dieter Seghers, Josh Star-Lack. "United States Patent 11,173,324 Iterative image reconstruction in image-guided radiation therapy"
- Pavlo Baturin, Adam Wang, Liangjia Zhu. "United States Patent 11,340,358 Image fusion in multi-layer flat panel imager"
- Blake Gaderlund, Josh Star-Lack, John Van Heteren, Adam Wang. "United States Patent 11,583,704 Single-pass imaging and radiation treatment delivery via an extended rotation gantry"
- Norbert Pelc, Adam Wang. "United States Patent 11,883,226 Focal spot shape for computed tomography"
- Adam Wang, Norbert Pelc. "United States Patent 8,194,820 Optimal weights for measuring spectral x-ray data"

## LINKS

- Wang Group: <http://med.stanford.edu/wanggroup.html>
- Zeego Lab: <https://med.stanford.edu/zeegolab.html>
- Radiological Sciences Laboratory (RSL): <https://med.stanford.edu/rsl.html>
- Google Scholar: <https://scholar.google.com/citations?user=-YkSTCkAAAAJ&hl=en>
- LinkedIn: <https://www.linkedin.com/in/wangadam/>

## Research & Scholarship

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### CLINICAL TRIALS

- Clinical Feasibility and Evaluation of Silicon Photon Counting CT, Recruiting

## Teaching

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### COURSES

#### 2024-25

- Medical Imaging Systems I: BMP 269A, EE 369A (Spr)

#### 2023-24

- Medical Imaging Systems I: BMP 269A, EE 369A (Win)

#### 2022-23

- Biomedical Signals II: BMP 212, RAD 212 (Win)

### STANFORD ADVISEES

#### Postdoctoral Faculty Sponsor

Maria Jose Medrano Matamoros, Liyan Sun

## Publications

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### PUBLICATIONS

- **Automated estimation of individualized organ-specific dose and noise from clinical CT scans.** *Physics in medicine and biology*  
Wang, S., Medrano, M. J., Imran, A. A., Lee, W., Cao, J., Stevens, G., Tse, J. R., Wang, A. S.  
2025
- **Spectral optimization using fast kV switching and filtration for photon counting CT with realistic detector responses: a simulation study.** *Journal of medical imaging (Bellingham, Wash.)*  
Wang, S., Yang, Y., Pal, D., Yin, Z., Maltz, J. S., Pelc, N. J., Wang, A. S.  
2024; 11 (Suppl 1): S12805
- **Optimal weighting strategies for maximizing contrast-to-noise ratio in photon counting CT images.** *Medical physics*  
Yang, Y., Wang, S., Stevens, G. M., Fan, J., Wang, A. S.  
2024
- **Coronary atherosclerotic plaque characterization with silicon-based photon-counting computed tomography (CT): A simulation-based feasibility study.** *Medical physics*  
Li, M., Wu, M., Pack, J., Wu, P., Yan, P., De Man, B., Wang, A., Nieman, K., Wang, G.  
2024
- **Low-dose computed tomography perceptual image quality assessment.** *Medical image analysis*  
Lee, W., Wagner, F., Galdran, A., Shi, Y., Xia, W., Wang, G., Mou, X., Ahamed, M. A., Imran, A. A., Oh, J. E., Kim, K., Baek, J. T., Lee, et al  
2024; 99: 103343
- **Emulating Low-Dose PCCT Image Pairs with Independent Noise for Self-Supervised Spectral Image Denoising.** *IEEE transactions on medical imaging*  
Wang, S., Yang, Y., Stevens, G. M., Yin, Z., Wang, A. S.  
2024; PP
- **Dual-Energy CTA Iodine Map Reconstructions Improve Visualization of Residual Cerebral Aneurysms following Endovascular Coiling.** *AJNR. American journal of neuroradiology*  
Wolman, D. N., Kuraitis, G., Sussman, E., Pulli, B., Wouters, A., Wang, J., Wang, A., Lansberg, M. G., Heit, J. J.  
2024
- **Multi-energy blended CBCT spectral imaging and scatter-decoupled material decomposition using a spectral modulator with flying focal spot (SMFFS).** *Medical physics*  
Deng, Y., Zhou, H., Wang, Z., Wang, A. S., Gao, H.  
2024

- **Printing anthropomorphic multi-energy CT phantoms for spectral imaging with office laser printers** *SPIE Medical Imaging*  
Yang, Y., Kim, N., Bennett, R., Wang, A. S.  
2024
- **Denoising X-Ray Images with Deep Learning: Impact of Spatially Correlated Noise**  
Ku, A., Wang, S., Wang, A., Fahrig, R., Sabol, J. M., Li, K.  
SPIE-INT SOC OPTICAL ENGINEERING.2024
- **Optimal Weighting Strategies for Maximizing Contrast-to-Noise Ratio in Photon Counting CT Images**  
Yang, Y., Wang, S., Stevens, G., Fan, J., Wang, A. S., Fahrig, R., Sabol, J. M., Li, K.  
SPIE-INT SOC OPTICAL ENGINEERING.2024
- **Personalized, Scout-Based Dose Estimation for Prospective Optimization of CT Tube Current Modulation**  
Medrano, M., Wang, S., Imran, A., Stevens, G., Tse, J., Wang, A., Fahrig, R., Sabol, J. M., Li, K.  
SPIE-INT SOC OPTICAL ENGINEERING.2024
- **Retrospective Tube Current Modulation Optimization of Individualized Organ-Level CT Dose and Image Quality**  
Wang, S., Medrano, M., Imran, A., Stevens, G., Tse, J., Wang, A. S., Fahrig, R., Sabol, J. M., Li, K.  
SPIE-INT SOC OPTICAL ENGINEERING.2024
- **Synthesizing High-Resolution Dual-Energy Radiographs from Coronary Artery Calcium CT Images**  
Shaker, K., Shi, L., Hsieh, S., Swaby, A., Abbaszadeh, S., Wang, A. S., Fahrig, R., Sabol, J. M., Li, K.  
SPIE-INT SOC OPTICAL ENGINEERING.2024
- **Single-shot quantitative x-ray imaging using a primary modulator and dual-layer detector.** *Medical physics*  
Shi, L., Bennett, N. R., Vezeridis, A., Kothary, N., Wang, A. S.  
2023
- **X-Ray Imaging in the Simulated Microgravity Environment of Parabolic Flight** *AEROSPACE MEDICINE AND HUMAN PERFORMANCE*  
Lerner, D., Pohlen, M., Wang, A., Walter, J., Cairnie, M., Gifford, S.  
2023; 94 (10): 786-791
- **Synthetic dual-energy CT reconstruction from single-energy CT Using artificial intelligence.** *Abdominal radiology (New York)*  
Jeong, J., Wentland, A., Mastrodicasa, D., Fananapazir, G., Wang, A., Banerjee, I., Patel, B. N.  
2023
- **Empirical optimization of energy bin weights for compressing measurements with realistic photon counting x-ray detectors.** *Medical physics*  
Yang, Y., Wang, S., Pal, D., Yin, Z., Pelc, N. J., Wang, A. S.  
2023
- **Task-specific self-supervision for CT image denoising** *COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING-IMAGING AND VISUALIZATION*  
Haque, A., Wang, A., Imran, A.  
2023
- **High resolution imaging with focused kV x-rays for small animal radio-neuromodulation.** *Medical physics*  
Shi, L., Bennett, N. R., Nguyen, E., MacDonald, C., Wang, A., Liu, W.  
2023
- **Deep Learning Image Reconstruction for CT: Technical Principles and Clinical Prospects.** *Radiology*  
Koetzier, L. R., Mastrodicasa, D., Szczykutowicz, T. P., van der Werf, N. R., Wang, A. S., Sandfort, V., van der Molen, A. J., Fleischmann, D., Willeink, M. J.  
2023: 221257
- **Contrast solution properties and scan parameters influence the apparent diffusivity of computed tomography contrast agents in articular cartilage.** *Journal of the Royal Society, Interface*  
Hall, M. E., Wang, A. S., Gold, G. E., Levenston, M. E.  
2022; 19 (193): 20220403

- **Technical note: Evaluation of a V-Net autosegmentation algorithm for pediatric CT scans: Performance, generalizability and application to patient-specific CT dosimetry.** *Medical physics*  
Adamson, P. M., Bhattbhatt, V., Principi, S., Beriwal, S., Strain, L. S., Offe, M., Wang, A. S., Vo, N., Schmidt, T. G., Jordan, P.  
2022
- **Science and practice of imaging physics through 50 years of SPIE Medical Imaging conferences.** *Journal of medical imaging (Bellingham, Wash.)*  
Wang, A., Cunningham, I., Danielsson, M., Fahrig, R., Flohr, T., Hoeschen, C., Noo, F., Sabol, J. M., Siewerdsen, J. H., Tingberg, A., Yorkston, J., Zhao, W., Samei, et al  
2022; 9 (Suppl 1): 012205
- **Pediatric chest-abdomen-pelvis and abdomen-pelvis CT images with expert organ contours.** *Medical physics*  
Jordan, P., Adamson, P. M., Bhattbhatt, V., Beriwal, S., Shen, S., Radermecker, O., Bose, S., Strain, L. S., Offe, M., Fraley, D., Principi, S., Ye, D. H., Wang, et al  
1800
- **Structural analysis of biomass pyrolysis and oxidation using in-situ X-ray computed tomography** *COMBUSTION AND FLAME*  
Boigne, E., Bennett, N., Wang, A., Ihme, M.  
2022; 235
- **Noise2Quality: Non-reference, pixel-wise assessment of low dose CT image quality** *SPIE Medical Imaging: Image Perception, Observer Performance, and Technology Assessment*  
Haque, A., Wang, A., Imran, A.  
2022
- **Fast kV Switching for Improved Material Decomposition with Photon Counting X-ray Detectors**  
Wang, S., Yang, Y., Pal, D., Pelc, N. J., Wang, A. S., Zhao, W., Yu, L.  
SPIE-INT SOC OPTICAL ENGINEERING.2022
- **Empirical Optimization of Energy Bin Weights for Compressing Measurements with Photon Counting X-ray Detectors**  
Yang, Y., Wang, S., Pal, D., Pelc, N. J., Wang, A. S., Zhao, W., Yu, L.  
SPIE-INT SOC OPTICAL ENGINEERING.2022
- **Multimodal Contrastive Learning for Prospective Personalized Estimation of CT Organ Dose**  
Imran, A., Wang, S., Pal, D., Dutta, S., Zucker, E., Wang, A., Wang, L., Dou, Q., Fletcher, P. T., Speidel, S., Li, S.  
SPRINGER INTERNATIONAL PUBLISHING AG.2022: 634-643
- **Single-Shot Quantitative X-ray Imaging Using a Primary Modulator and Dual-Layer Detector: Simulation and Phantom Studies**  
Shi, L., Bennett, N., Wang, A. S., Zhao, W., Yu, L.  
SPIE-INT SOC OPTICAL ENGINEERING.2022
- **Dual-layer flat panel detector with a-Se top layer for opportunistic screening of coronary artery calcium: a simulation study**  
Swaby, A., Wang, A. S., Willemink, M. J., Abbaszadeh, S., Zhao, W., Yu, L.  
SPIE-INT SOC OPTICAL ENGINEERING.2022
- **Personalized CT organ noise estimation from scout images** *SPIE Medical Imaging: Physics of Medical Imaging*  
Imran, A., Pal, D., Wang, S., Dutta, S., Zucker, E., Wang, A.  
2022
- **Design of a digital, motion-free mechanism for fluence field modulation**  
Hsieh, S. S., Leng, S., Yu, L., McCollough, C. H., Wang, A. S., Zhao, W., Yu, L.  
SPIE-INT SOC OPTICAL ENGINEERING.2022
- **Quantitative X-ray computed tomography: Prospects for detailed in-situ imaging in bench-scale fire measurements** *FIRE SAFETY JOURNAL*  
Boigne, E., Bennett, N., Wang, A., Ihme, M.  
2021; 126
- **Deep learning-based reconstruction of interventional tools and devices from four X-ray projections for tomographic interventional guidance.** *Medical physics*  
Eulig, E., Maier, J., Knap, M., Bennett, N. R., Horndler, K., Wang, A. S., KachelrieSS, M.

2021

- **Single-pass metal artifact reduction using a dual-layer flat panel detector.** *Medical physics*  
Shi, L., Bennett, N. R., Shiroma, A., Sun, M., Zhang, J., Colbeth, R., Star-Lack, J., Lu, M., Wang, A. S.  
2021
- **Spectral Photon Counting CT: Imaging Algorithms and Performance Assessment.** *IEEE transactions on radiation and plasma medical sciences*  
Wang, A. S., Pelc, N. J.  
2021; 5 (4): 453-464
- **Impact of Upstream Medical Image Processing on Downstream Performance of a Head CT Triage Neural Network.** *Radiology. Artificial intelligence*  
Hooper, S. M., Dunnmon, J. A., Lungren, M. P., Mastrodicasa, D., Rubin, D. L., Re, C., Wang, A., Patel, B. N.  
2021; 3 (4): e200229
- **An analysis of scatter characteristics in x-ray CT spectral correction.** *Physics in medicine and biology*  
Zhang, T., Chen, Z., Zhou, H., Bennett, N. R., Wang, A. S., Gao, H.  
2021
- **Characterization of x-ray focal spots using a rotating edge.** *Journal of medical imaging (Bellingham, Wash.)*  
Shi, L., Bennett, N. R., Wang, A. S.  
2021; 8 (2): 023502
- **Densely Sampled Spectral Modulation for X-Ray CT Using a Stationary Modulator with Flying Focal Spot: A Conceptual and Feasibility Study.** *Medical physics*  
Gao, H., Zhang, T., Bennett, N. R., Wang, A.  
2021
- **Abbreviated on-treatment CBCT using roughness penalized mono-energization of kV-MV data and a multi-layer MV imager.** *Physics in medicine and biology*  
Jacobson, M. W., Lehmann, M. n., Huber, P. n., Wang, A. S., Myronakis, M. E., Shi, M. n., Ferguson, D. n., Valencia Lozano, I. n., Hu, Y. H., Baturin, P. n., Harris, T. C., Fueglistaller, R. n., Williams, et al  
2021
- **Personalized CT Organ Dose Estimation from Scout Images** *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*  
Imran, A., Wang, S., Pal, D., Dutta, S., Patel, B., Zucker, E., Wang, A.  
2021
- **SSIQA: Multi-task learning for non-reference CT image quality assessment with self-supervised noise level prediction** *18th International Symposium on Biomedical Imaging (ISBI)*  
Imran, A., Pal, D., Patel, B., Wang, A.  
IEEE.2021: 1962–1965
- **MultiMix: Sparingly Supervised, Extreme Multitask Learning From Medical Images** *18th International Symposium on Biomedical Imaging (ISBI)*  
Haque, A., Imran, A., Wang, A., Terzopoulos, D.  
IEEE.2021
- **Upstream Machine Learning in Radiology.** *Radiologic clinics of North America*  
Sandino, C. M., Cole, E. K., Alkan, C., Chaudhari, A. S., Loening, A. M., Hyun, D., Dahl, J., Imran, A. A., Wang, A. S., Vasanawala, S. S.  
2021; 59 (6): 967-985
- **Generalized Multi-Task Learning from Substantially Unlabeled Multi-Source Medical Image Data** *Journal of Machine Learning for Biomedical Imaging*  
Haque, A., Imran, A., Wang, A., Terzopoulos, D.  
2021
- **Single-Shot Quantitative X-ray Imaging from Simultaneous Scatter and Dual Energy Measurements: A Simulation Study**  
Wang, A. S., Bosmans, H., Zhao, W., Yu, L.  
SPIE-INT SOC OPTICAL ENGINEERING.2021

- **Dual energy chest x-ray for improved COVID-19 detection using a dual-layer flat-panel detector: Simulation and phantom studies**  
Shi, L., Bennett, N., Lu, M., Sun, M., Zhang, J., Star-Lack, J., Tsai, E. B., Guo, H., Wang, A. S., Bosmans, H., Zhao, W., Yu, L.  
SPIE-INT SOC OPTICAL ENGINEERING.2021
- **Analytical model for pulse pileup in photon counting detectors with seminonparalyzable behavior**  
Yang, Y., Pelc, N. J., Wang, A. S., Bosmans, H., Zhao, W., Yu, L.  
SPIE-INT SOC OPTICAL ENGINEERING.2021
- **Validation of a deterministic linear Boltzmann transport equation solver for rapid CT dose computation using physical dose measurements in pediatric phantoms.** *Medical physics*  
Principi, S., Lu, Y., Liu, Y., Wang, A., Maslowski, A., Wareing, T., Van Heteren, J., Schmidt, T. G.  
2021
- **Deterministic Boltzmann Transport Equation Solver for Patient-Specific CT Dose Estimation: Comparison Against a Monte Carlo Benchmark for Realistic Scanner Configurations and Patient Models.** *Medical physics*  
Principi, S., Wang, A., Maslowski, A., Wareing, T., Jordan, P., Schmidt, T. G.  
2020
- **Characterization of Markerless Tumor Tracking Using the On-Board Imager of a Commercial Linear Accelerator Equipped With Fast-kV Switching Dual-Energy Imaging.** *Advances in radiation oncology*  
Roeske, J. C., Mostafavi, H., Haytmyradov, M., Wang, A., Morf, D., Cortesi, L., Surucu, M., Patel, R., Cassetta, R., Zhu, L., Lehmann, M., Harkenrider, M. M.  
2020; 5 (5): 1006–13
- **Detective quantum efficiency of photon-counting CdTe and Si detectors for computed tomography: a simulation study.** *Journal of medical imaging (Bellingham, Wash.)*  
Persson, M., Wang, A., Pelc, N. J.  
2020; 7 (4): 043501
- **Characterization and Potential Applications of a Dual-Layer Flat-Panel Detector.** *Medical physics*  
Shi, L., Lu, M., Bennett, N. R., Shapiro, E., Zhang, J., Colbeth, R., Star-Lack, J., Wang, A. S.  
2020
- **Low-dose megavoltage cone-beam computed tomography using a novel multi-layer imager (MLI).** *Medical physics*  
Myronakis, M., Huber, P., Lehmann, M., Fueglistaller, R., Jacobson, M., Hu, Y., Baturin, P., Wang, A., Shi, M., Harris, T., Morf, D., Berbeco, R.  
2020
- **Spectral modulator with flying focal spot for cone-beam CT: a feasibility study.** *SPIE Medical Imaging 2020: Physics of Medical Imaging*  
Gao, H., Zhou, H., Zhu, L., Pelc, N., Bennett, R., Wang, A.  
2020
- **Comparative study of dual energy cone-beam CT using a dual-layer detector and kVp switching for material decomposition.** *SPIE Medical Imaging 2020: Physics of Medical Imaging*  
Shi, L., Bennett, N. R., Shapiro, E., Colbeth, R. E., Star-Lack, J., Lu, M., Wang, A. S.  
2020
- **Simultaneous in-situ measurements of gas temperature and pyrolysis of biomass smoldering via X-ray computed tomography.** *Proceedings of the Combustion Institute*  
Boigne, E., Bennett, N. R., Wang, A., Mohri, K., Ihme, M.  
2020
- **Reconstruction of x-ray focal spot distribution using a rotating edge.** *SPIE Medical Imaging 2020: Physics of Medical Imaging*  
Shi, L., Bennett, N. R., Wang, A. S.  
2020
- **Deep learning-aided CBCT image reconstruction of interventional material from four x-ray projections.** *SPIE Medical Imaging 2020: Physics of Medical Imaging*  
Eulig, E., Mier, J., Bennett, N. R., Knaup, M., Hörndler, K., Wang, A., Kachelrieß, M.  
2020

- **Evaluation of deep learning segmentation for rapid, patient-specific CT organ dose estimation using an LBTE solver.** *SPIE Medical Imaging 2020: Physics of Medical Imaging*  
Offe, M., Fraley, D., Adamson, P. M., Principi, S., Wang, A. S., Jordan, P., Schmidt, T. G.  
2020
- **Projection-domain metal artifact correction using a dual layer detector.** *SPIE Medical Imaging 2020: Physics of Medical Imaging*  
Shi, L., Bennett, N. R., Star-Lack, J., Lu, M., Wang, A. S.  
2020
- **Markerless tumor tracking using fast-kV switching dual-energy fluoroscopy on a benchtop system** *MEDICAL PHYSICS*  
Haytmyradov, M., Mostafavi, H., Wang, A., Zhu, L., Surucu, M., Patel, R., Ganguly, A., Richmond, M., Cassetta, R., Harkenrider, M. M., Roeske, J. C.  
2019; 46 (7): 3235–44
- **A novel method for fast image simulation of flat panel detectors.** *Physics in medicine and biology*  
Shi, M., Myronakis, M. E., Hu, Y., Jacobson, M. W., Lehmann, M., Fueglistaller, R., Huber, P., Baturin, P., Wang, A. S., Ferguson, D., Harris, T., Morf, D., Berbeco, et al  
2019
- **Characterizing a novel scintillating glass for application to megavoltage cone-beam computed tomography** *MEDICAL PHYSICS*  
Hu, Y., Shedlock, D., Wang, A., Rottmann, J., Baturin, P., Myronakis, M., Huber, P., Fueglistaller, R., Shi, M., Morf, D., Star-Lack, J., Berbeco, R. I.  
2019; 46 (3): 1323–30
- **Fast shading correction for cone-beam CT via partitioned tissue classification.** *Physics in medicine and biology*  
Shi, L., Wang, A. S., Wei, J., Zhu, L.  
2019
- **A fast, linear Boltzmann transport equationsolver for computed tomography dose calculation (Acuros CTD)** *MEDICAL PHYSICS*  
Wang, A., Maslowski, A., Wareing, T., Star-Lack, J., Schmidt, T.  
2019; 46 (2): 925–33
- **Fast-switching dual energy cone beam computed tomography using the on-board imager of a commercial linear accelerator.** *Physics in medicine and biology*  
Cassetta, F. R., Lehmann, M. n., Haytmyradov, M. n., Patel, R. n., Wang, A. S., Cortesi, L. n., Morf, D. n., Seghers, D. n., Surucu, M. n., Mostafavi, H. n., Roeske, J. C.  
2019
- **Dual Energy Imaging with a Dual Layer Flat Panel Detector**  
Lu, M., Wang, A., Shapiro, E., Shiroma, A., Zhang, J., Steiger, J., Star-Lack, J., Schmidt, T. G., Chen, G. H., Bosmans, H.  
SPIE-INT SOC OPTICAL ENGINEERING.2019
- **Toward quantitative short-scan cone beam CT using shift-invariant filtered-backprojection with equal weighting and image domain shading correction**  
Shi, L., Zhu, L., Wang, A., Matej, S., Metzler, S. D.  
SPIE-INT SOC OPTICAL ENGINEERING.2019
- **A novel phantom for characterization of dual energy imaging using an on-board imaging system.** *Physics in medicine and biology*  
Haytmyradov, M., Patel, R., Mostafavi, H., Surucu, M., Wang, A. S., Harkenrider, M. M., Roeske, J. C.  
2018
- **Feasibility of closed-MLC tracking using high sensitivity and multi-layer electronic portal imagers** *PHYSICS IN MEDICINE AND BIOLOGY*  
Hu, Y., Jacobson, M. W., Shi, M., Myronakis, M., Wang, A., Baturin, P., Huber, P., Fueglistaller, R., Morf, D., Star-Lack, J., Berbeco, R.  
2018; 63 (23): 235030
- **Investigation of combined kV/MV CBCT imaging with a high-DQE MV detector.** *Medical physics*  
Lindsay, C., Bazalova-Carter, M., Wang, A., Shedlock, D., Wu, M., Newson, M., Xing, L., Ansbacher, W., Fahrig, R., Star-Lack, J.  
2018
- **A modified McKinnon-Bates (MKB) algorithm for improved 4D cone-beam computed tomography (CBCT) of the lung** *MEDICAL PHYSICS*  
Star-Lack, J., Sun, M., Oelhafen, M., Berkus, T., Pavkovich, J., Brehm, M., Arheit, M., Paysan, P., Wang, A., Munro, P., Seghers, D., Carvalho, L., Verbakel, et al



2018; 45 (8): 3783–99

- **Physics considerations in MV-CBCT multi-layer imager design** *PHYSICS IN MEDICINE AND BIOLOGY*  
Hu, Y., Fueglistaller, R., Myronakis, M., Rottmann, J., Wang, A., Shedlock, D., Morf, D., Baturin, P., Huber, P., Star-Lack, J., Berbeco, R.  
2018; 63 (12): 125016
- **Multi-layer imager design for mega-voltage spectral imaging** *PHYSICS IN MEDICINE AND BIOLOGY*  
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