



Amy Shu-Jung Yu

Clinical Associate Professor, Radiation Oncology - Radiation Physics

Bio

ACADEMIC APPOINTMENTS

- Clinical Associate Professor, Radiation Oncology - Radiation Physics

HONORS AND AWARDS

- Karen Doppke Award for Women in Medical Physics, Massachusetts General Hospital and Harvard Medical School (2023)
- Cancer Center Clinical Innovation Fund, Stanford University (2020)
- SQIMM Award, Stanford University (2020)
- Teaching Award, Stanford University (2018)
- SQIMM Award, Stanford University (2017)
- Stanford Medicine Faculty Innovation Program (Co-PI), Stanford University (2015)
- Radiation Physics Impact Award, Stanford University (2014)
- Scholarship for nanostorage research from Ministry of economic affairs, NTU (2004)
- The AP-NFO student Award, 4th Asia-Pacific International Conference on near-field Optics (2003)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Executive Committee Member, Northern California Chapter of AAPM (2020 - present)
- Associate Editor, Journal of Applied Clinical Medical Physics (JACMP) (2018 - present)
- Chair, Unit No. 52 of AAPM - Video Abstracts (2018 - present)
- Chair, Unit No. 47 of AAPM - AAPM Journals App and MP and JACMP Websites (2018 - present)
- Director, Northern California Chapter of AAPM - Therapy Physics Mock Exam (2018 - present)
- Member, Working Group 2 of AAPM (2018 - present)
- Member, AAPM - Work Group on Periodic Review of Medical Physics Residency Training (2018 - present)
- Member, Unit No. 51 of AAPM - Journal Marketing (2018 - present)
- Member, Unit No. 53 of AAPM - California Rulemaking Project (2018 - 2020)
- President, Northern California Chapter of AAPM (2018 - 2020)
- President-Elect, Northern California Chapter of AAPM (2017 - 2018)

PROFESSIONAL EDUCATION

- DABR, The American Board of Radiology , Therapeutic Medical Physics (2015)
- Residency, Stanford University , Therapeutic Medical Physics (CAMPEP Accredited) (2014)

- Ph.D., University of California, Los Angeles , Biomedical Physics (CAMPEP Accredited) (2011)

PATENTS

- "United States , A novel integrated multi-modal phantom for combined dosimetry and positioning verification"
- "United States , Method for analyzing the spatial accuracy for single-isocenter multitarget stereotactic radiosurgery"
- "United States , Field shaping device for radiation therapy"

Publications

PUBLICATIONS

- **A Smartphone-Based Motion Monitoring System for Surface Guided Radiation Therapy.** *Advances in radiation oncology*
Capaldi, D. P., Hirata, E., Witztum, A., Porter, E., Yu, A. S., Skinner, L. B., Braunstein, S. E., Morin, O., Prionas, N. D.
2026; 11 (3): 101970
- **Survey of work-from-home experiences among medical physicists in Southern California during and after the COVID-19 pandemic.** *Journal of applied clinical medical physics*
Liu, X., Zhang, J., Hoffman, D., Sehgal, V., Shen, Z. L., Shi, C., Qi, X. S., Cui, J., Yu, A. S., Barker, M., Ruan, D., Goetsch, S.
2026; 27 (3): e70523
- **Therapeutic medical physicist well-being and employment satisfaction during the COVID-19 pandemic in California.** *Journal of applied clinical medical physics*
Liu, X., Zhang, J., Xie, F., Ruan, D., Qi, X. S., Shen, Z. L., Sehgal, V., Yu, A. S., Goetsch, S.
2025; 26 (9): e70233
- **The current ABR Alternate Pathway creates unnecessary barriers that discourage qualified international medical physicists from contributing to the U.S. healthcare system.** *Journal of applied clinical medical physics*
Regmi, S., Yu, A. S., Rong, Y.
2025; 26 (8): e70196
- **The feasibility of a patient oriented interactive panoramic virtual tour for external beam radiation therapy.** *Frontiers in oncology*
Schulz, J. B., Dubrowski, P., Ling, X., Wu, Y., Qian, Y., Million, L., Marquez, C. M., Yu, A.
2025; 15: 1568405
- **The feasibility of a patient oriented interactive panoramic virtual tour for external beam radiation therapy** *FRONTIERS IN ONCOLOGY*
Schulz, J. B., Dubrowski, P., Ling, X., Wu, Y., Qian, Y., Million, L., Marquez, C. M., Yu, A.
2025; 15
- **AAPM Task Group No. 249.B-Essentials and guidelines for clinical medical physics residency training program.** *Journal of applied clinical medical physics*
Nye, J. A., Dugas, J. P., Erwin, W. D., Gierga, D. P., Kaurin, D. G., Leon, S. M., Liu, H. A., Lu, Z. F., Magri, A. W., Rill, L. N., Schubert, L. K., Schueler, B. A., Vergalasova, et al
2025: e70111
- **Effectiveness of FLASH vs. Conventional Dose Rate Radiotherapy in a Model of Orthotopic, Murine Breast Cancer.** *Cancers*
Melemenidis, S., Viswanathan, V., Dutt, S., Kapadia, N., Lau, B., Soto, L. A., Ashraf, M. R., Thakur, B., Mutahar, A. Z., Skinner, L. B., Yu, A. S., Surucu, M., Casey, et al
2025; 17 (7)
- **Rapid Sterilization of Clinical Apheresis Blood Products Using Ultra-High Dose Rate Radiation.** *International journal of molecular sciences*
Melemenidis, S., Nguyen, K. D., Baraceres-Pineda, R., Barclay, C. K., Bautista, J., Lau, H. D., Ashraf, M. R., Manjappa, R., Dutt, S., Soto, L. A., Katila, N., Lau, B., Viswanathan, et al
2025; 26 (6)
- **Nontoxic generalized patient shielding devices for total skin electron therapy** *PHYSICS & IMAGING IN RADIATION ONCOLOGY*
Gibson, C., Schulz, J. B., Yu, A., Dubrowski, P., Skinner, L.
2025; 33

- **Transforming Culture: Postoperative Venous Thromboembolism Prophylaxis in a Transgender Patient on Estrogen** *Journal of General Internal Medicine*
Maharaj, S. K., Yu, A., Singh, A., Khanijow, K.
2025
- **Nontoxic generalized patient shielding devices for total skin electron therapy.** *Physics and imaging in radiation oncology*
Gibson, C., Schulz, J. B., Yu, A., Dubrowski, P., Skinner, L.
2025; 33: 100697
- **Evaluation of artificial intelligence and optical image recognition techniques used in Onelso, an off-axis Winston-Lutz quality assurance phantom.** *Biomedical physics & engineering express*
Grafil, E., De Jean, P., Capaldi, D., Skinner, L. B., Xing, L., Yu, A. S.
2024
- **Rapid Sterilization of Clinical Apheresis Blood Products using Ultra-High Dose Rate Radiation.** *bioRxiv : the preprint server for biology*
Melemenidis, S., Nguyen, K. D., Baraceros-Pineda, R., Barclay, C. K., Bautista, J., Lau, H., Ashraf, M. R., Manjappa, R., Dutt, S., Soto, L. A., Katila, N., Lau, B., Viswanathan, et al
2024
- **Dosimetric calibration of anatomy-specific ultra-high dose rate electron irradiation platform for preclinical FLASH radiobiology experiments.** *Medical physics*
Wang, J., Melemenidis, S., Manjappa, R., Viswanathan, V., Ashraf, R. M., Levy, K., Skinner, L. B., Soto, L. A., Chow, S., Lau, B., Ko, R. B., Graves, E. E., Yu, et al
2024
- **Concept Inventory Development for Medical Physics Education**
Cetnar, A. J., Besemer, A., Bry, V., Bucket', C. R., Burmeister, J., Rodrigues, A., Schubert, L., Speide, M., Sutlief, S., Yu, A. S.
ELSEVIER SCIENCE INC.2024: E5-E6
- **Multi-Institutional Audit of FLASH and Conventional Dosimetry with a 3D-Printed Anatomically Realistic Mouse Phantom.** *International journal of radiation oncology, biology, physics*
Ashraf, M. R., Melemenidis, S., Liu, K., Grilj, V., Jansen, J., Velasquez, B., Connell, L., Schulz, J. B., Bailat, C., Libed, A., Manjappa, R., Dutt, S., Soto, et al
2024
- **A clinical solution for non-toxic 3D-printed photon blocks in external beam radiation therapy.** *Journal of applied clinical medical physics*
Schulz, J. B., Dubrowski, P., Gibson, C., Yu, A. S., Skinner, L. B.
2024: e14225
- **Exploring deep learning for estimating the isoeffective dose of FLASH irradiation from mouse intestinal histology images.** *International journal of radiation oncology, biology, physics*
Fu, J., Yang, Z., Melemenidis, S., Viswanathan, V., Dutt, S., Manjappa, R., Lau, B., Soto, L. A., Ashraf, R., Skinner, L., Yu, S. J., Surucu, M., Casey, et al
2024
- **A multi-institutional trial evaluating the use of an integrated quality assurance phantom for frameless single-isocenter multitarget stereotactic radiosurgery.** *Frontiers in oncology*
Capaldi, D. P., Skinner, L. B., Pinkham, D. W., Zavgorodni, S., Stafford, O., Shirmohammad, M., Matney, J. E., Dubrowski, P., De Jean, P., Grafil, E. M., Yu, A. S.
2024; 14: 1445166
- **A Couch Mounted Smartphone-based Motion Monitoring System for Radiation Therapy.** *Practical radiation oncology*
Capaldi, D. P., Axente, M., Yu, A. S., Prionas, N. D., Hirata, E., Nano, T. F.
2023
- **Tungsten filled 3D printed lung blocks for total body irradiation.** *Practical radiation oncology*
Capaldi, D. P., Gibson, C., Villa, A., Schulz, J. B., Ziemer, B. P., Fu, J., Dubrowski, P., Yu, A. S., Fogh, S., Chew, J., Boreta, L., Braunstein, S. E., Witzum, et al
2023
- **FLASH-RT does not affect chromosome translocations and junction structures beyond that of CONV-RT dose-rates.** *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology*

- Barghouth, P. G., Melemenidis, S., Montay-Gruel, P., Ollivier, J., Viswanathan, V., Jorge, P. G., Soto, L. A., Lau, B. C., Sadeghi, C., Edlabadkar, A., Zhang, R., Ru, N., Baulch, et al
2023: 109906
- **Introduction to concept inventories for medical physics education.** *Journal of applied clinical medical physics*
Cetnar, A. J., Besemer, A., Bry, V., Buckey, C. R., Burmeister, J., Rodrigues, A., Schubert, L., Speidel, M., Sutlief, S., Yu, A. S.
2023: e14130
 - **Shaping success: clinical implementation of a 3D-printed electron cutout program in external beam radiation therapy.** *Frontiers in oncology*
Schulz, J. B., Gibson, C., Dubrowski, P., Marquez, C. M., Million, L., Qian, Y., Skinner, L., Yu, A. S.
2023; 13: 1237037
 - **An affordable platform for virtual reality-based patient education in radiation therapy.** *Practical radiation oncology*
Schulz, J. B., Dubrowski, P., Blomain, E., Million, L., Qian, Y., Marquez, C., Yu, A. S.
2023
 - **Framework for Quality Assurance of Ultra-High Dose Rate Clinical Trials Investigating FLASH Effects and Current Technology Gaps.** *International journal of radiation oncology, biology, physics*
Zou, W., Zhang, R., Schueler, E., Taylor, P. A., Mascia, A. E., Diffenderfer, E. S., Zhao, T., Ayan, A. S., Sharma, M., Yu, S. J., Lu, W., Bosch, W. R., Tsien, et al
2023
 - **Clinical LINAC-based electron FLASH: Pathway for practical translation to FLASH clinical trials: LINAC electron FLASH.** *International journal of radiation oncology, biology, physics*
No, H. J., Wu, Y. F., Dworkin, M. L., Manjappa, R., Skinner, L., Ashraf, M. R., Lau, B., Melemenidis, S., Viswanathan, V., Yu, A. S., Surucu, M., Schüler, E., Graves, et al
2023
 - **3D printing in brachytherapy: A systematic review of gynecological applications.** *Brachytherapy*
Fahimian, B. P., Liu, W., Skinner, L., Yu, A. S., Phillips, T., Steers, J. M., DeMarco, J., Fraass, B. A., Kamrava, M.
2023
 - **FLASH-RT does not affect chromosome translocations and junction structures beyond that of CONV-RT dose-rates.** *bioRxiv : the preprint server for biology*
Barghouth, P. G., Melemenidis, S., Montay-Gruel, P., Ollivier, J., Viswanathan, V., Jorge, P. G., Soto, L. A., Lau, B. C., Sadeghi, C., Edlabadkar, A., Manjappa, R., Wang, J., Bouteiller, et al
2023
 - **Radiation therapy practice changes in the COVID-19 pandemic era: A pilot study in California.** *Journal of applied clinical medical physics*
Liu, X., Zhang, J., Ruan, D., Yu, A. S., Sehgal, V., Qi, X. S., Barker, M. C., Shen, Z. L., Goetsch, S.
2022: e13770
 - **Design and validation of a dosimetric comparison scheme tailored for ultra-high dose-rate electron beams to support multicenter FLASH preclinical studies.** *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology*
Gonçalves Jorge, P., Melemenidis, S., Grilj, V., Buchillier, T., Manjappa, R., Viswanathan, V., Gondré, M., Vozenin, M. C., Germond, J. F., Bochud, F., Moeckli, R., Limoli, C., Skinner, et al
2022
 - **CT-less electron radiotherapy simulation and planning with a consumer 3D camera.** *Journal of applied clinical medical physics*
Skinner, L., Knopp, R., Wang, Y., Dubrowski, P., Bush, K. K., Limmer, A., Trakul, N., Million, L., Marquez, C. M., Yu, A. S.
2021
 - **A robotically assisted 3D printed quality assurance lung phantom for Calypso.** *Physics in medicine and biology*
Capaldi, D. P., Skinner, L. B., Dubrowski, P. n., Zhang, H. n., Xing, L. n., Chuang, C. F., Loo, B. W., Bush, K. K., Fahimian, B. P., Yu, A. S.
2021
 - **Nontoxic electron collimators.** *Journal of applied clinical medical physics*
Breitkreutz, D. Y., Skinner, L., Lo, S., Yu, A.
2021
 - **The benefit of using the AAPM Journal app.** *Journal of applied clinical medical physics*

Yu, A. S.
2020

- **FLASH irradiation enhances the therapeutic index of abdominal radiotherapy in mice**
Natarajan, S., Levy, K., Wang, J., Chow, S., Eggold, J., Loo, P., Manjappa, R., Lartey, F. M., Schuler, E., Skinner, L., Rafat, M., Ko, R., Kim, et al
AMER ASSOC CANCER RESEARCH.2020
- **Total abdominal ultra-rapid FLASH irradiation enhances the efficacy of PD-1 inhibition in preclinical models of ovarian cancer**
Chow, S., Eggold, J. T., Levy, K., Wang, J., Manjappa, R., Breikreutz, D. Y., Yu, A. S., Bush, K., Dorigo, O., Loo, B. W., Rankin, E. B.
AMER ASSOC CANCER RESEARCH.2020
- **Abdominal FLASH irradiation reduces radiation-induced gastrointestinal toxicity for the treatment of ovarian cancer in mice.** *Scientific reports*
Levy, K. n., Natarajan, S. n., Wang, J. n., Chow, S. n., Eggold, J. T., Loo, P. E., Manjappa, R. n., Melemenidis, S. n., Lartey, F. M., Schüler, E. n., Skinner, L. n., Rafat, M. n., Ko, et al
2020; 10 (1): 21600
- **An integrated quality assurance phantom for frameless single-isocenter multitarget stereotactic radiosurgery.** *Physics in medicine and biology*
Capaldi, D. P., Skinner, L. B., Dubrowski, P. n., Yu, A. S.
2020
- **FLASH Irradiation Results in Reduced Severe Skin Toxicity Compared to Conventional-Dose-Rate Irradiation.** *Radiation research*
Soto, L. A., Casey, K. M., Wang, J. n., Blaney, A. n., Manjappa, R. n., Breikreutz, D. n., Skinner, L. n., Dutt, S. n., Ko, R. B., Bush, K. n., Yu, A. S., Melemenidis, S. n., Strober, et al
2020
- **Patient motion tracking for non-isocentric and non-coplanar treatments via fixed frame-of-reference 3D camera.** *Journal of applied clinical medical physics*
Gasparyan, S. n., Ko, K. n., Skinner, L. B., Ko, R. B., Loo, B. W., Fahimian, B. P., Yu, A. S.
2020
- **Probing Estrogen Sulfotransferase-Mediated Inflammation with [11C]-PiB in the Living Human Brain.** *Journal of Alzheimer's disease : JAD*
Surmak, A. J., Wong, K., Cole, G. B., Hirata, K., Aabedi, A. A., Mirfendereski, O., Mirfendereski, P., Yu, A. S., Huang, S., Ringman, J. M., Liebeskind, D. S., Barrio, J. R.
2019
- **Does 2-FDG-PET Accurately Reflect Quantitative In vivo Glucose Utilization?** *Journal of nuclear medicine : official publication, Society of Nuclear Medicine*
Barrio, J. R., Satyamurthy, N., Huang, S. C., Scafoglio, C., Yu, A., Alavi, A., Krohn, K. A.
2019
- **Tungsten filled 3D printed field shaping devices for electron beam radiation therapy.** *PloS one*
Skinner, L., Fahimian, B. P., Yu, A. S.
2019; 14 (6): e0217757
- **Factor 10 Expedience of Monthly Linac Quality Assurance via an Ion Chamber Array and Automation Scripts.** *Technology in cancer research & treatment*
Skinner, L. B., Yang, Y., Hsu, A., Xing, L., Yu, A. S., Niedermayr, T.
2019; 18: 1533033819876897
- **A novel-integrated quality assurance phantom for radiographic and nonradiographic radiotherapy localization and positioning systems.** *Medical physics*
Yu, A. S., Fowler, T. L., Dubrowski, P.
2018
- **Intrafractional Tracking Accuracy of a Transperineal Ultrasound Image Guidance System for Prostate Radiotherapy.** *Technology in cancer research & treatment*
Yu, A. S., Najafi, M., Hristov, D. H., Phillips, T.
2017; 16 (6): 1067-1078

- **Using a handheld stereo depth camera to overcome limited field-of-view in simulation imaging for radiation therapy treatment planning** *MEDICAL PHYSICS*
Jenkins, C., Xing, L., Yu, A.
2017; 44 (5): 1857-1864
- **Dapagliflozin Binds Specifically to Sodium-Glucose Cotransporter 2 in the Proximal Renal Tubule** *JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY*
Ghezzi, C., Yu, A. S., Hirayama, B. A., Kepe, V., Liu, J., Scafoglio, C., Powell, D. R., Huang, S., Satyamurthy, N., Barrio, J. R., Wright, E. M.
2017; 28 (3): 802-810
- **A Robust and Affordable Table Indexing Approach for Multi-isocenter Dosimetrically Matched Fields.** *Cureus*
Yu, A. n., Fahimian, B. n., Million, L. n., Hsu, A. n.
2017; 9 (5): e1270
- **Chest wall dose reduction using noncoplanar volumetric modulated arc radiation therapy for lung stereotactic ablative radiation therapy.** *Practical radiation oncology*
Yu, A. S., Maxim, P. G., Loo, B. W., Gensheimer, M. F.
2017
- **Automating quality assurance of digital linear accelerators using a radioluminescent phosphor coated phantom and optical imaging.** *Physics in medicine and biology*
Jenkins, C. H., Naczynski, D. J., Yu, S. S., Yang, Y., Xing, L.
2016; 61 (17): L29-37
- **Anatomic optimization of lung tumor stereotactic ablative radiation therapy.** *Practical radiation oncology*
Yu, A. S., von Eyben, R., Yamamoto, T., Diehn, M., Shultz, D. B., Loo, B. W., Maxim, P. G.
2015; 5 (6): e607-13
- **Noninvasive pulmonary nodule elastometry by CT and deformable image registration.** *Radiotherapy and oncology*
Negahdar, M., Fasola, C. E., Yu, A. S., von Eyben, R., Yamamoto, T., Diehn, M., Fleischmann, D., Tian, L., Loo, B. W., Maxim, P. G.
2015; 115 (1): 35-40
- **Monitoring external beam radiotherapy using real-time beam visualization.** *Medical physics*
Jenkins, C. H., Naczynski, D. J., Yu, S. S., Xing, L.
2015; 42 (1): 5-?
- **Regional distribution of SGLT activity in rat brain in vivo** *AMERICAN JOURNAL OF PHYSIOLOGY-CELL PHYSIOLOGY*
Yu, A. S., Hirayama, B. A., Timbol, G., Liu, J., Diez-Sampedro, A., Kepe, V., Satyamurthy, N., Huang, S., Wright, E. M., Barrio, J. R.
2013; 304 (3): C240-C247
- **Functional expression of SGLTs in rat brain** *AMERICAN JOURNAL OF PHYSIOLOGY-CELL PHYSIOLOGY*
Yu, A. S., Hirayama, B. A., Timbol, G., Liu, J., Basarah, E., Kepe, V., Satyamurthy, N., Huang, S., Wright, E. M., Barrio, J. R.
2010; 299 (6): C1277-C1284
- **Quantification of Cerebral Glucose Metabolic Rate in Mice Using F-18-FDG and Small-Animal PET** *JOURNAL OF NUCLEAR MEDICINE*
Yu, A. S., Lin, H., Huang, S., Phelps, M. E., Wu, H.
2009; 50 (6): 966-973
- **In vivo quantitation of glucose metabolism in mice using small-animal PET and a microfluidic device** *JOURNAL OF NUCLEAR MEDICINE*
Wu, H., Sui, G., Lee, C., Prins, M. L., Ladno, W., Lin, H., Yu, A. S., Phelps, M. E., Huang, S.
2007; 48 (5): 837-845
- **Bright fluorescent nanodiamonds: No photobleaching and low cytotoxicity** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
Yu, S. J., Kang, M. W., Chang, H. C., Chen, K. M., Yu, Y. C.
2005; 127 (50): 17604-17605