Stanford

Nataliya Kovalchuk

Clinical Professor, Radiation Oncology - Radiation Physics

Bio

BIO

Nataliya Kovalchuk is a Clinical Professor at Stanford Radiation Oncology department and an Adjunct Professor at MD Anderson Cancer Center. She completed her residency at Mayo Clinic and worked at Massachusetts General Hospital/Boston Medical Center/Harvard Medical School. Dr. Kovalchuk is one of the leaders in the clinical implementation of Biology-Guided Radiotherapy and auto-planning techniques for Total Body Irradiation (TBI), Total Marrow Lymphoid Irradiation (TMLI), and Cranio-Spinal Irradiation (CSI), with more than 200 publications and presentations. She serves on multiple committees at AAPM, ASTRO, NRG, COG, and volunteers for ABR as an examiner. She is also a physics chair for four NRG and COG clinical trials, physics lead for the NRG Head and Neck committee and the VMAT TBI workgroup. In recognition of her educational efforts, she has been honored with six teaching awards from ARRO, AAPM, Stanford, and Harvard. Since the full-scale russian invasion of Ukraine, Nataliya directed her efforts to helping Ukraine as a co-founder and president of Help Ukraine Group. Her dedication was recognized with the Richard Hoppe Leadership Award and the Parliament of Ukraine Certificate of Merit for the Service to the People of Ukraine.

Education:

2002 - B.S., Physics, Drohobych State University, Ukraine

2004 - M.S., Physics, Minnesota State University, Mankato, MN

2008 - Ph.D., Applied Physics, University of South Florida (H. Lee Moffitt Cancer Center and Research Institute), Tampa, FL

2010 - Medical Physics Residency, Mayo Clinic, Rochester, MN

Academic Appointments:

2010 - 2015 - Instructor, Harvard Medical School, Massachusetts General Hospital/Boston Medical Center, Department of Radiation Oncology, Boston, MA

2015 - 2019 - Clinical Assistant Professor, Stanford University, Department of Radiation Oncology, Stanford, CA

2019 - 2024 - Clinical Associate Professor, Stanford University, Department of Radiation Oncology, Stanford, CA

2019 - 2024 - Adjunct Associate Professor, MD Anderson Cancer Center/University of Texas, Houston, TX

2024 - present - Clinical Professor, Stanford University, Department of Radiation Oncology, Stanford, CA

2024 - present - Adjunct Professor, MD Anderson Cancer Center/University of Texas, Houston, TX

ACADEMIC APPOINTMENTS

- Clinical Professor, Radiation Oncology - Radiation Physics

HONORS AND AWARDS

- Fellow, AAPM (2025)
- AAPM Arthur Boyer Award for Innovation in Medical Physics Education, AAPM (2025)
- Best poster award, ICARO-4 (2025)
- Medical Physics Teaching Award, Radiation Oncology Department, Stanford, Stanford (2025)
- Diploma of Honorary Professor, National Cancer Institute, Kyiv (2024)
- Ministry of Health of Ukraine and Peace and Development Foundation award, Ministry of Health of Ukraine and Peace and Development Foundation (2024)
- Parliament of Ukraine Certificate of Merit for the Service to the People of Ukraine, Parliament of Ukraine (Verkhovna Rada Ukrainy) (2023)
- Keith Boddy best SCOPE article award for ”Fighting on Two Fronts: War and Cancer in Ukraine”, SCOPE (2023)
- Richard Hoppe Leadership Award, Radiation Oncology Department, Stanford, Stanford (2022)
- Medical Physics Teaching Award, Radiation Oncology Department, Stanford, Stanford (2021)
- Medical Physics Teaching Award, Radiation Oncology Department, Stanford, Stanford (2017)
- ARRO Educator of the Year Award by Harvard Radiation Oncology Residency Program, ARRO (2014)
- Quality Improvement Award at Boston Medical Center, Boston Medical Center (2013)
- Resident Travel Grant Award for the 2009 American Brachytherapy Society (ABS) Annual Meeting, ABS (2009)
- Boutzoukas Radiology Research Award, H. Lee Moffitt, Moffitt Cancer Center (2006)
- Midwestern Association of Graduate Schools Distinguished Thesis Competition Award, MAGS (2005)
- MSU Best Thesis of the Year Award, MSU (2004)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, AAPM (2008 - present)
- Member, ASTRO (2010 - present)
- Member, NRG Physics Committee (2017 - present)
- Member, COG Physics Committee (2017 - present)
- Liaison, NRG Physics HN committee (2018 - present)
- Member, COG Workgroup on pediatric TBI (2018 - present)
- Member, AAPM MP3.0 Committee (2018 - present)
- Physics Chair, NRG HN005 (2018 - present)
- Physics Co-Chair, NRG HN006 (2019 - present)
- Examiner, American Board of Radiology, Therapy Oral Exam (Part 3) (2021 - present)
- Physics Chair, NRG CC013 (2023 - present)
- Member, NRG Physics Working Group on AI in Clinical Trials (2024 - present)
- Member, AAPM Global Clinical Education and Training Committee (2024 - present)
- Physics Chair, COG ASCT2031 (2024 - present)
- Physics Chair, NRG Hematology Working Group on VMAT TBI (2024 - present)
- Global Health Faculty#Fellow, Stanford Center for Innovation in Global Health (CIGH) (2025 - present)

COMMUNITY AND INTERNATIONAL WORK

- Co-founder and President of Help Ukraine Group (HUG)

Research & Scholarship

CLINICAL TRIALS

- Comparing Sentinel Lymph Node (SLN) Biopsy With Standard Neck Dissection for Patients With Early-Stage Oral Cavity Cancer, Recruiting
- SPYRAL GEMINI Pilot Study, Recruiting
- De-intensified Radiation Therapy With Chemotherapy (Cisplatin) or Immunotherapy (Nivolumab) in Treating Patients With Early-Stage, HPV-Positive, Non-Smoking Associated Oropharyngeal Cancer, Not Recruiting
- Mismatched Related Donor Versus Matched Unrelated Donor Stem Cell Transplantation for Children, Adolescents, and Young Adults With Acute Leukemia or Myelodysplastic Syndrome, Not Recruiting

Publications

PUBLICATIONS

- **Incorporating Intensity Modulated Total Body Irradiation (IMRT-TBI) into Future Cooperative Group Clinical Trials: An NRG Hematologic Malignancies Working Group-Led Report from the National Clinical Trials Network.** *International journal of radiation oncology, biology, physics*
  Kovalchuk, N., Simiele, E., LaRiviere, M., Hiniker, S., Soike, M., Han, C., Wong, J., Dandapani, S., Kumar, K., Parsons, D., Teruel, J. R., Gerber, N. K., Guo, et al
  2026

- **NRG-HN006: Randomized phase II/III trial of sentinel lymph node biopsy versus elective neck dissection for early-stage oral cavity cancer**
  Lai, S., Attwood, K., Chang, S. S., Khan, S. A., Dunlap, N., Beadle, B., Subramaniam, R. M., Yu, J., Lowe, V. J., Truong, M., Kovalchuk, N., Rong, Y., Kappadath, et al
  LIPPINCOTT WILLIAMS & WILKINS.2026: TPS6138

- **Global spotlight editorial: Advancing treatment planning to promote equity through AI and automation in clinical medical physics.** *Journal of applied clinical medical physics*
  Kovalchuk, N., Court, L., Dai, J., Pallotta, S., Rong, Y.
  2026; 27 (6): e70640

- **Can Radiation Therapy Services Survive in Conflict-Affected Regions?** *International journal of radiation oncology, biology, physics*
  Ashmeg, S., Aldosary, G., El-Amin, Y. Y., Shepil, Z., Hatoum, S., Atrash, F., Hamid, G. A., Sullivan, R., Kovalchuk, N.
  2026

- **Cell-free RNA changes precede symptomatic radiation pneumonitis in cancer patients receiving thoracic radiotherapy**
  Jabara, I., Kastelowitz, N., Nesselbush, M., Phillips, N., Binkley, M. S., Bonilla, R. F., Liu, K., Jiang, A., Kovalchuk, N., Alizadeh, A. A., Diehn, M.
  AMER ASSOC CANCER RESEARCH.2026

- **Advancing radiation oncology care in Ukraine during the war: impact of international observerships on professional development and clinical practice** *FRONTIERS IN ONCOLOGY*
  Lozko, Y., Beznosenko, A., Suchowerska, N., Iakovenko, V., Zelinskyi, R., Shepil, Z., Brovchuk, S., Kowalchuk, R., Ford, E., Li, B., Strauss, J., Das, I. J., Seuntjens, et al
  2026; 16: 1752691

- **The origins of neuroimaging and Johann Puluj: Early X-rays and the foundations of radiographic neuroanatomy.** *Anatomical sciences education*
  Pidvalna, U., Davis, D., Kovalchuk, N., Beshley, D., Plyatsko, R.
  2026

- **Cancer care in wartime Ukraine: disruption, resilience and recovery.** *BMJ oncology*
  Karavska, A., Kizub, D., Kovalchuk, N., Brovchuk, S., Sokolovska, M., Nikiforchin, A., Melnitchouk, N.
  2026; 5 (1): e000943

- **Deployment of a Tailored and Hybrid Educational Strategy for Wartime Capacity Building: American Association of Physicists in Medicine/ Help Ukraine Group/Ukrainian Association of Medical Physicists Training Program to Transition Ukraine From Co-60 to Intensity-Modulated Radiation Therapy.** *JCO global oncology*
  Zelinskyi, R., Brovchuk, S., Ainsworth, V., Swanson, W., Krauss, R., Kisling, K., Brown, T., Dresser, S., Raffi, J., Palta, J., Ngwa, W., Suchowerska, N., Iakovenko, et al

2026; 12: e2500439

- **Global dose prescription variances exemplified through oropharynx cancer: when is 70 Gray 70 Gray?** *International journal of radiation oncology, biology, physics*
  Hansen, C. R., Tadic, T., Sharma, M., Price, G., Petersen, J., Naser, M. A., Xiao, Y., Kovalchuk, N., Lassen, P., Overgaard, J., McDowell, L., Ramachandran, P., Kim, et al
  2026
- **Impact of international observerships on Ukrainian healthcare professionals during the war: a cross-sectional survey study.** *BMJ open*
  Kovalchuk, N., Zinchuk, A., Beznosenko, A., Semikov, R., Poylin, V., Vash-Margita, A., Mims, M., Davis, D., Uboha, N., Suchowerska, N., Iakovenko, V., Hart, J., Poznansky, et al
  2026; 16 (1): e109052
- **The Spinning Manny Indexed Overlay System for VMAT total body irradiation.** *Journal of applied clinical medical physics*
  Skinner, L., Simiele, E., Yang, Z., Hui, C., Romero, I., Binkley, M., Hoppe, R., Hiniker, S. M., Kovalchuk, N.
  2026; 27 (1): e70350
- **Commissioning of the RefleXion X1 Linear Accelerator and Development of a Consensus Reference Beam Model.** *Medical physics*
  Watkins, W. T., Yang, R., Han, C., Liu, A., Surucu, M., Kovalchuk, N., Han, B., Cai, B., Banks, T. I., Shen, C., Lalonde, R., Dimitriadou, D., Chang, et al
  2025; 52 (12): e70173
- **Support for Radiotherapy in Ukraine: Help Ukraine Group (HUG) Activities and the Importance of International Collaboration**
  Kovalchuk, N., Zelinsky, R., Brovchuk, S., Iakovenko, V., Shepil, Z., Lozko, Y., Suchowerska, N., Beznosenko, A.
  AMER ASSOC CANCER RESEARCH.2025: 85
- **Automated contouring, treatment planning, and quality assurance for total marrow lymphoid irradiation** *FRONTIERS IN ONCOLOGY*
  Simiele, E., Hui, C., Romero, I., Yang, Z., Skinner, L., Xing, L., Ross, J. B., Hoppe, R. T., Binkley, M. S., Hiniker, S. M., Kovalchuk, N.
  2025; 15
- **The value of observerships abroad: Lessons from UA-MED supporting Ukrainian cancer care during the war**
  Kovalchuk, N., Beznosenko, A., Poylin, V., Zinchuk, A., Vash-Margita, A., Kacharian, A., Semikov, R., Mims, M., Davis, D., Uboha, N. V., Suchowerska, N., Iakovenko, V., Hart, et al
  LIPPINCOTT WILLIAMS & WILKINS.2025
- **Radiotherapy in Ukraine: Resilience Amid the Ravages of War**
  Zelinskyi, R., Stadnyk, L., Brovchuk, S., Iakovenko, V., Shepil, Z., Lozko, Y., Suchowerska, N., Kovalchuk, N.
  ELSEVIER IRELAND LTD.2025: S2238-S2239
- **Development of HR Competencies in Ukraine for the Integration of Advanced Radiotherapy Approaches : HUG's Collaboration with IAEA, ASTRO, and ESTRO**
  Shepil, Z., Suchowerska, N., Zelinskyi, R., Iakovenko, V., Brovchuk, S., Kovalchuk, N.
  ELSEVIER IRELAND LTD.2025: S2172-S2173
- **The value of observerships abroad: lessons from diaspora collaboration supporting Ukrainian cancer care during the war**
  Lozko, Y., Zelinskyi, R., Shepil, Z., Brovchuk, S., Suchowerska, N., Iakovenko, V., Melnitchouk, N., Poylin, V., Kovalchuk, N.
  ELSEVIER IRELAND LTD.2025: S2252-s2253
- **OncoHUB: Elevating Oncology Training During Wartime in Ukraine**
  Lozko, Y., Beznosenko, A., Stakhovskyi, O., Kondratskyi, Y., Zelinskyi, R., Bolgarina, K., Shepil, Z., Brovchuk, S., Suchowerska, N., Iakovenko, V., Kovalchuk, N.
  ELSEVIER IRELAND LTD.2025: s2253-S2254
- **Medical Physics Education Course AAPM/HUG/UAMP Initiative for a Resilient Ukraine**
  Brovchuk, S., Zelinskyi, R., Ainsworth, V., Swanson, W., Krauss, R., Kisling, K., Brown, T. A., Dresser, S., Raffi, J., Palta, J. R., Ngwa, W., Avery, S., Sandwall, et al
  ELSEVIER IRELAND LTD.2025: S2170-S2171
- **Support for Radiotherapy in Ukraine: Help Ukraine Group activities and the Importance of International Collaboration**
  Kovalchuk, N., Zelinskyi, R., Brovchuk, S., Shepil, Z., Iakovenko, V., Lozko, Y., Suchowerska, N.
  ELSEVIER IRELAND LTD.2025: S2251

- **Three year experience of clinical Implementation of an Automated VMAT Treatment Planning Script for Head and Neck Cancer Patients**
  Kovalchuk, N., Dong, P., Xiang, M., Moding, E., Gensheimer, M., Beadle, B., Le, Q., Xing, L., Yang, Y.
  ELSEVIER IRELAND LTD.2025: S2850-S2851

- **NRG Oncology Assessment of Artificial Intelligence for Automatic Treatment Planning in Radiation Therapy Clinical Trials: Present and Future.** *International journal of radiation oncology, biology, physics*
  Jia, X., Rong, Y., Wu, Q., Cardenas, C. E., Court, L. E., Hrinivich, W. T., Kang, H., Kovalchuk, N., Whitaker, T. J., Xiao, Y., Zhang, P., Chen, Q.
  2025

- **Radiation as an Immune Modulator: Where We Are With Modern Total Body Irradiation.** *Seminars in radiation oncology*
  Simiele, E., Dandapani, S., Han, C., Wong, J., Hiniker, S. M., Kovalchuk, N.
  2025; 35 (1): 67-86

- **Deployment of a Tailored and Hybrid Educational Strategy for Wartime Capacity Building: AAPM/HUG/UAMP Initiative to Transition Ukraine from Co-60 to IMRT Through a Comprehensive Medical Physics Training Program** *JCO Global Oncology*
  Zelinskyi, R., Brovchuk, S., Ainsworth, V., Swanson, W., Krauss, R., Kisling, K., Brown, T., Dresser, S., Raffi, J., Palta, J., Ngwa, W., Suchowerska, N., Iakovenko, et al
  2025

- **Building medical physics continuing education programming tailored to the site-specific needs in low- and middle-income countries: an initial framework.** *Frontiers in medicine*
  Swanson, W., Kovalchuk, N., Uwadiae, I., Goss, M., Brovchuk, S., Zelinskyi, R., Ainsworth, V., Parker, S., Avery, S., Ngwa, W., Kisling, K.
  2025; 12: 1634679

- **The Stanford Spinning Manny Indexed Overlay System for VMAT-Total Body Irradiation** *JACMP*
  Skinner, L., Simiele, E., Hui, C., Romero, I., Binkley, M., Hoppe, R., Hiniker, S. M., Kovalchuk, N.
  2025

- **Using an Auto-planned VMAT-TBI Technique for Myeloablative Autologous Hematopoietic Stem Cell Transplantation for Scleroderma (the STAT-2 Trial)** *Applied Radiation Oncology*
  Hui, C., Romero, C., Hiniker, S. M., Binkley, M., Arai, S., Hoppe, R., Kovalchuk, N.
  2025

- **Automated Contouring, Treatment Planning, and Quality Assurance for Total Marrow Lymphoid Irradiation (TMLI)** *Frontiers in Oncology*
  Simiele, E., Hui, C., Romero, I., Yang, Z., Skinner, L., Xing, L., Ross, J., Hoppe, R., Binkley, M., Hiniker, S. M., Kovalchuk, N.
  2025

- **Cancer Care in Wartime Ukraine: Disruption, Resilience, and Recovery.** *BMJ Oncology*
  Karavska, A., Kizub, D., Kovalchuk, N., Brovchuk, S., Sokolovska, M., Nikiforchin, A., Melnitchouk, N.
  2025

- **Building Cancer Care Resilience Through International Observerships: Lessons from Ukraine** *The Cancer Letter*
  Kovalchuk, N., Beznosenko, A., Poylin, V., Semikov, R., Kacharian, A., Davis, D., Uboha, N., Suchowerska, N., Iakovenko, V., Hart, J., Poznansky, M., Kizub, D., Melnitchouk, et al
  2025

- **X1 Treatment Planning Feasibility Study for Cranio-Spinal Irradiation (CSI)** *Applied Radiation Oncology*
  Ngo, T., Pham, D., Ignacio, R., Simiele, E., Han, B., Surucu, M., Gibbs, I., Hiniker, S. M., Kovalchuk, N.
  2025

- **Volumetric modulated arc therapy total body irradiation improves toxicity outcomes compared to 2D total body irradiation.** *Frontiers in oncology*
  Hui, C., Simiele, E., Lozko, Y., Romero, I., Skinner, L., Binkley, M. S., Hoppe, R., Kovalchuk, N., Hiniker, S. M.
  2024; 14: 1459287

- **Incorporating intensity modulated total body irradiation into a Children's Oncology Group trial: Rationale, techniques, and safeguards.** *Pediatric blood & cancer*
  Milgrom, S. A., Dandapani, S. V., Wong, J., Kalapurakal, J., Smith, K. S., Han, C., Simiele, E., Hua, C. H., Fitzgerald, T. J., Kry, S., Wong, K., Symons, H., Kovalchuk, et al
  2024: e31185

- **Auto-delineation of treatment target volume for radiation therapy using large language model-aided multimodal learning.** *International journal of radiation oncology, biology, physics*
  Rajendran, P., Chen, Y., Qiu, L., Niedermayr, T., Liu, W., Buyyounouski, M., Bagshaw, H., Han, B., Yang, Y., Kovalchuk, N., Gu, X., Hancock, S., Xing, et al
  2024

- **Effect of war on radiotherapy in Ukraine and how to help**
  Kovalchuk, N., Zelinskyi, R., Suchowerska, N., Lozko, Y., Brovchuk, S., Shepil, Z., Melnitchouk, N., Iakovenko, V., Beznosenko, A.
  LIPPINCOTT WILLIAMS & WILKINS.2024

- **Commissioning of a novel PET-Linac for biology-guided radiotherapy (BgRT).** *Medical physics*
  Surucu, M., Ashraf, M. R., Romero, I. O., Zalavari, L. T., Pham, D., Vitzthum, L. K., Gensheimer, M. F., Yang, Y., Xing, L., Kovalchuk, N., Han, B.
  2024

- **First-in-Human Experience with Biology-guided Radiotherapy (BgRT) Using the RefleXion X1 System**
  Surucu, M., Kotha, N. V., Pham, D., Kovalchuk, N., Han, B., Loo, B. W., Vitzthum, L. K.
  ELSEVIER IRELAND LTD.2024: S1807-S1810

- **Impact of war on radiotherapy in Ukraine and how to help**
  Kovalchuk, N., Zelinskyi, R., Shepil, Z., Kizyma, R., Hanych, A., Semotyuk, D., Brovchuk, S., Suchowerska, N.
  ELSEVIER IRELAND LTD.2024: S2757-S2758

- **Monitoring of PET-Avid OAR Moving in the Treatment Area During Biology-guided Radiotherapy Delivery**
  Surucu, M., Han, B., Bal, H., Shi, L., Xu, S., Voronenko, Y., Bal, G., Schmall, J., Kovalchuk, N.
  ELSEVIER IRELAND LTD.2024: S4408-S4409

- **4-Year Experience with the VMAT TBI Technique using Autoplanning Scripts**
  Kovalchuk, N., Simiele, E., Skinner, L., Yang, Y., Hui, C., Binkley, M., Hoppe, R., Hiniker, S.
  ELSEVIER IRELAND LTD.2024: S3622-S3625

- **Automated Contouring, Planning, and Quality Assurance for VMAT Craniospinal Irradiation (VMAT-CSI)**
  Simiele, E., Romero, I., Wang, J., Chen, Y., Lozko, Y., Severyn, Y., Skinner, L., Yang, Y., Xing, L., Gibbs, I., Hiniker, S., Kovalchuk, N.
  ELSEVIER IRELAND LTD.2024: S924-S927

- **Automated contouring, treatment planning, and quality assurance for VMAT craniospinal irradiation (VMAT-CSI).** *Frontiers in oncology*
  Simiele, E., Romero, I. O., Wang, J. Y., Chen, Y., Lozko, Y., Severyn, Y., Skinner, L., Yang, Y., Xing, L., Gibbs, I., Hiniker, S. M., Kovalchuk, N.
  2024; 14: 1378449

- **A time- and space-saving Monte Carlo simulation method using post-collimation generative adversarial network for dose calculation of an O-ring gantry Linac.** *Physica medica : PM : an international journal devoted to the applications of physics to medicine and biology : official journal of the Italian Association of Biomedical Physics (AIFB)*
  Shi, M., Cui, S., Chuang, C., Oderinde, O., Kovalchuk, N., Surucu, M., Xing, L., Han, B.
  2024; 119: 103318

- **First-Year Experience of Stereotactic Body Radiation Therapy/Intensity Modulated Radiation Therapy Treatment Using a Novel Biology-Guided Radiation Therapy Machine.** *Advances in radiation oncology*
  Shi, M., Simiele, E., Han, B., Pham, D., Palomares, P., Aguirre, M., Gensheimer, M., Vitzthum, L., Le, Q., Surucu, M., Kovalchuk, N.
  2024; 9 (1): 101300

- **Automated Contouring, Planning, and Quality Assurance for VMAT Craniospinal Irradiation (VMAT-CSI)** *ESTRO*
  Simiele, E., Romero, I., Wang, J., Lozko, Y., Severyn, Y., Skinner, L., Yang, Y., Xing, L., Gibbs, I., Hiniker, S., Kovalchuk, N.
  2024

- **4-Year Experience with the VMAT TBI Technique using Autoplanning Scripts** *ESTRO*
  Simiele, E., Skinner, L., Yang, Y., Hui, C., Binkley, M., Hiniker, S., Kovalchuk, N.
  2024

- **Radiotherapy in Ukraine during the War** *ESTRO*
  Zelinskyi, R., Stadnyk, L., Brovchuk, S., Iakovenko, V., Kowalchuk, R., Romalis, Y., Suchowerska, N., Kovalchuk, N.
  2024

- **BIOGUIDE-X: A First-in-Human Study of the Performance of Positron Emission Tomography-Guided Radiotherapy.** *International journal of radiation oncology, biology, physics*
  Vitzthum, L. K., Surucu, M., Gensheimer, M. F., Kovalchuk, N., Han, B., Pham, D., Chang, D., Shirvani, S. M., Aksoy, D., Maniyedath, A., Narayanan, M., Da Silva, A. J., Mazin, et al
  2023
- **Automating the Treatment Planning Process for Volumetric Modulated Arc Therapy Craniospinal Irradiation (VMAT-CSI).** *Practical radiation oncology*
  Romero, I. O., Simiele, E. A., Lozko, Y., Severyn, Y., Skinner, L. B., Yang, Y., Wang, J. Y., Xing, L., Gibbs, I., Hiniker, S. M., Kovalchuk, N.
  2023
- **Patient Selection and Outcomes for Hypofractionated Accelerated Radiation and Concurrent Chemotherapy for Non-Small-Cell Lung Cancer.** *Clinical lung cancer*
  Hui, C., Marquez, C., Lau, B., Das, M., Myall, N. J., Roy, M., Wakelee, H. A., Neal, J. W., Kovalchuk, N., Chin, A., Diehn, M., Loo, B. W., Xiang, et al
  2023
- **Personalized Accelerated ChEmoRadiation (PACER) for Lung Cancer: Protocol for a Bayesian Optimal Phase I/II Trial.** *Clinical lung cancer*
  Hui, C., Brown, E., Wong, S., Das, M., Wakelee, H., Neal, J., Ramchandran, K., Myall, N. J., Pham, D., Xing, L., Yang, Y., Kovalchuk, N., Yuan, et al
  2023
- **Improved organ sparing using auto-planned Stanford volumetric modulated arc therapy for total body irradiation technique.** *Pediatric blood & cancer*
  Ngo, N., Blomain, E. S., Simiele, E., Romero, I., Hoppe, R. T., Hiniker, S. M., Kovalchuk, N.
  2023: e30589
- **Adaptive Region-Specific Loss for Improved Medical Image Segmentation.** *IEEE transactions on pattern analysis and machine intelligence*
  Chen, Y., Yu, L., Wang, J., Panjwani, N., Obeid, J., Liu, W., Liu, L., Kovalchuk, N., Gensheimer, M. F., Vitzthum, L. K., Beadle, B. M., Chang, D. T., Le, et al
  2023; PP
- **Patient-specific Auto-segmentation on Daily kVCT Images for Adaptive Radiotherapy.** *International journal of radiation oncology, biology, physics*
  Chen, Y., Gensheimer, M. F., Bagshaw, H. P., Butler, S., Yu, L., Zhou, Y., Shen, L., Kovalchuk, N., Surucu, M., Chang, D. T., Xing, L., Han, B.
  2023
- **Stratified assessment of an FDA-cleared deep learning algorithm for automated detection and contouring of metastatic brain tumors in stereotactic radiosurgery.** *Radiation oncology (London, England)*
  Wang, J. Y., Qu, V., Hui, C., Sandhu, N., Mendoza, M. G., Panjwani, N., Chang, Y. C., Liang, C. H., Lu, J. T., Wang, L., Kovalchuk, N., Gensheimer, M. F., Soltys, et al
  2023; 18 (1): 61
- **Mitigation of IMRT/SBRT treatment planning errors on the RefleXion X1 system using FMEA within Six Sigma framework** *Advances in Radiation Oncology*
  Simiele, E., Han, B., Skinner, L., Pham, D., Lewis, J., Gensheimer, M., Vitzthum, L., Chang, D., Surucu, M., Kovalchuk, N.
  2023
- **Personalized Accelerated ChEmoRadiation (PACER) for Lung Cancer: Protocol for a Bayesian Optimal Phase I/II Trial** *Clin Lung Cancer*
  Hui, C., Brown, E., Das, M., Wakalee, H., Neal, J., Ramchandran, K., Myall, N., Pham, D., Xing, L., Yang, Y., Kovalchuk, N., Yuan, Y., Xiang, et al
  2023
- **Clinical Implementation of an Automated IMRT/VMAT Treatment Planning Tool**
  Yang, Y., Wang, J., Dong, P., Kovachuk, N., Gensheimer, M., Beadle, B., Bagshaw, H., Buyyounouski, M., Le, Q., Xing, L.
  2023
- **Improved Medical Image Auto-Segmentation with Adaptive Region-Specific Loss Scheme** *ASTRO*
  Chen, Y., Yu, L., Wang, J., Panjwani, N., Obeid, J., Liu, W., Kovalchuk, N., Gensheimer, M., Vitzthum, L., Beadle, B., Le, Q., Han, B., Xing, et al
  2023
- **Reinforcement Learning Powered Station Parameter Optimized Radiation Therapy (SPORT): a novel treatment planning and beam delivery technique** *ASTRO*
  Dai, X., Yang, Y., Liu, W., Niedermayr, T., Kovalchuk, N., Gensheimer, M., Beadle, B., Le, Q., Xing, L.

2023

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