



## Nataliya Kovalchuk

Clinical Professor, Radiation Oncology - Radiation Physics

### Bio

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#### BIO

##### 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

- 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, COG Physics Committee (2017 - present)
- Member, NRG 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, AAPM Global Clinical Education and Training Committee (2024 - present)
- Member, NRG Physics Working Group on AI in Clinical Trials (2024 - present)
- Physics Chair, COG ASCT2031 (2024 - present)
- Physics Chair, NRG Hematology Working Group on VMAT TBI (2024 - present)

## COMMUNITY AND INTERNATIONAL WORK

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

## Research & Scholarship

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### CLINICAL TRIALS

- Mismatched Related Donor Versus Matched Unrelated Donor Stem Cell Transplantation for Children, Adolescents, and Young Adults With Acute Leukemia or Myelodysplastic Syndrome, Recruiting
- Comparing Sentinel Lymph Node (SLN) Biopsy With Standard Neck Dissection for Patients With Early-Stage Oral Cavity Cancer, Not 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

## Publications

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### PUBLICATIONS

- **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
- **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., Zelinskiy, 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., Zelinskiy, 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., Kovalchuk, 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
- **Stratified assessment of a commercial deep learning algorithm for automated detection and contouring of metastatic brain tumors in stereotactic radiosurgery** *ASTRO*  
Wang, J., Hui, C., Sandhu, N., Mendoza, M., Panjawani, N., Lin, J., Chang, Y., Liang, C., Lu, J., Wang, L., Kovalchuk, N., Gensheimer, M., Soltys, et al  
2023
- **Dosimetric Accuracy of Multi-target Biology-guided Radiotherapy Treatments in a Single Session** *ASTRO*  
Schmall, J., Bal, G., Xu, S., Voronenko, Y., Shi, L., Mitra, A., Groll, A., Sharma, S., Ramos, K., Shao, L., Narayanan, M., Olcott, P., Kuduvalli, et al  
2023
- **Intrafraction Dosimetric Evaluation of Biology-guided Radiotherapy to a Target Under Respiratory Motion** *ASTRO*  
Bal, G., Schmall, J., Voronenko, Y., Bailey, T., Xu, S., Shi, L., Groll, A., Sharma, S., Ramos, K., Shao, L., Narayanan, M., Kuduvalli, G., Han, et al  
2023
- **Characterization of Biology-guided Radiotherapy accuracy as a function of PET Tracer Uptake** *ASTRO*  
Han, B., Schmall, J., Khan, S., Xu, S., Voronenko, Y., Shi, L., Mitra, A., Groll, A., Sharma, S., Ramos, K., Shao, L., Olcott, P., Kuduvalli, et al  
2023
- **Radiation Therapy Under the Falling Bombs: A Tale of 2 Ukrainian Cancer Centers.** *Advances in radiation oncology*  
Kovalchuk, N., Zelinskyi, R., Hanych, A., Severyn, Y., Bachynska, B., Beznosenko, A., Duda, O., Kowalchuk, R., Iakovenko, V., Melnitchouk, N., Suchowerska, N.  
2022; 7 (6): 101027
- **Image-mode performance characterization of a positron emission tomography subsystem designed for Biology-guided radiotherapy (BgRT).** *The British journal of radiology*  
Hu, Z., Bieniosek, M., Ferri, V., Iagaru, A., Kovalchuk, N., Han, B., Xing, L., Vitzthum, L., Olcott, P., Narayanan, M., Laurence, T., Ren, Y., Oderinde, et al  
2022: 20220387
- **Diagnostic CT Planning for Palliative Inpatient Treatments: A Cost-savings and Clinical Analysis of a Pilot Program to Reduce the Need for CT Simulation Scans**  
Blomain, E., Alnajjar, N., Chin, A., Lewis, J., Kovalchuk, N., Horst, K.  
LIPPINCOTT WILLIAMS & WILKINS.2022: S55
- **Radiologists staunchly support patient safety and autonomy, in opposition to the SCOTUS decision to overturn Roe v Wade.** *Clinical imaging*  
Karandikar, A., Solberg, A., Fung, A., Lee, A. Y., Farooq, A., Taylor, A. C., Oliveira, A., Narayan, A., Senter, A., Majid, A., Tong, A., McGrath, A. L., Malik, et al  
2022
- **Help Ukraine.** *Advances in radiation oncology*  
Kovalchuk, N.  
2022; 7 (4): 100955
- **Treatment planning system commissioning of the first clinical biology-guided radiotherapy machine.** *Journal of applied clinical medical physics*  
Simiele, E., Capaldi, D., Breikreutz, D., Han, B., Yeung, T., White, J., Zaks, D., Owens, M., Maganti, S., Xing, L., Surucu, M., Kovalchuk, N.  
2022: e13638
- **Beam commissioning of the first clinical biology-guided radiotherapy system.** *Journal of applied clinical medical physics*  
Han, B., Capaldi, D., Kovalchuk, N., Simiele, E., White, J., Zaks, D., Xing, L., Surucu, M.  
2022: e13607

- **Volumetric modulated arc therapy total body irradiation in pediatric and adolescent/young adult patients undergoing stem cell transplantation: Early outcomes and toxicities.** *Pediatric blood & cancer*  
Marquez, C., Hui, C., Simiele, E., Blomain, E., Oh, J., Bertaina, A., Klein, O., Shyr, D., Jiang, A., Hoppe, R. T., Kovalchuk, N., Hiniker, S. M.  
2022: e29689
- **The Stanford VMAT TBI Technique** *Practical Radiation Oncology*  
Kovalchuk, N., Simiele, E., Skinner, L., Yang, Y., Howell, N., Lewis, J., Hui, C., Blomain, E., Hoppe, R. T., Hiniker, S. M.  
2022
- **Evaluation of Treatment Interruptions and Recovery During Biology-guided Radiotherapy Delivery** *ASTRO*  
Bal, G., Xu, S., Shi, L., Voronenko, Y., Narayanan, M., Shao, L., Kuduvalli, G., Han, B., Kovalchuk, N., Surucu, M.  
2022
- **Stratified Assessment of a Commercial Deep Learning Algorithm for Automated Detection and Contouring of Metastatic Brain Tumors in Stereotactic Radiosurgery** *ASTRO*  
Wang, J., Qu, V., Hui, C., Sandhu, N., Mendoza, M., Panjwani, N., Lin, J., Chang, Y., Liang, C., Lu, J., Wang, L., Kovalchuk, N., Gensheimer, et al  
2022
- **Systematic Study of Patient-Specific Organs at Risk Auto-Segmentation on Daily kVCT Images for Adaptive Head and Neck Radiotherapy** *ASTRO*  
Chen, Y., Gensheimer, M., Bagshaw, H., Butler, S., Yu, L., Zhou, Y., Shen, L., Kovalchuk, N., Surucu, M., Chang, D., Xing, L., Han, B.  
2022
- **IMRT and SBRT Treatment Planning Study for the First Clinical Biology-Guided Radiotherapy System** *ASTRO*  
Pham, D., Breikreutz, D., Simiele, E., Capaldi, D., Ngo, N., Han, B., Surucu, M., Xing, L., Vitzthum, L., Gensheimer, M., Bagshaw, H., Chang, D., Kovalchuk, et al  
2022
- **VMAT TBI Technique Based on Automated Treatment Planning** *ASTRO*  
Kovalchuk, N., Simiele, E., Skinner, L., Yang, Y., Howell, N., Lewis, J., Blomain, E., Hui, C., Hoppe, R., Hiniker, S.  
2022
- **Volumetric Modulated Arc Therapy Total Body Irradiation (VMAT-TBI) in Pediatric and Adolescent/Young Adult Patients Undergoing Stem Cell Transplantation: Early Outcomes and Toxicities.** *ASTRO*  
Hui, C., Marquez, C., Simiele, E., Blomain, E., Oh, J., Bertaina, A., Klein, O., Shyr, D., Jiang, A., Hoppe, R., Hiniker, S., Kovalchuk, N.  
2022
- **Stanford VMAT TBI Technique**  
Kovalchuk, N., Simiele, E., Skinner, L., Yang, Y., Howell, N., Lewis, J., Hui, C., Blomain, E., Hoppe, R., Hiniker, S.  
2022
- **Biology-Guided Radiotherapy (BgRT) Treatment Planning Feasibility Study for Head-And-Neck, Abdomen, and Pelvis** *AAPM*  
Kovalchuk, N.  
2022
- **IMRT and SBRT Treatment Planning Study for the First Clinical Installation of Biology-Guided Radiotherapy System** *AAPM*  
Pham, D.  
2022
- **A Treatment Planning Feasibility Study for Cranio-Spinal Irradiation (CSI) using Reflexion X1** *AAPM*  
Pham, D.  
2022
- **IMRT and SBRT treatment planning study for the first clinical Biology-guided Radiotherapy System** *Technology in Cancer Research and Treatment*  
Pham, D., Simiele, E., Breikreutz, D., Capaldi, D., Han, B., Surucu, M., Oderinde, S., Vitzthum, L., Gensheimer, M., Bagshaw, H., Chin, A., Xing, L., Chang, et al  
2022
- **Treatment planning system commissioning of the first clinical biology-guided radiotherapy machine** *Journal of Applied Clinical Medical Physics*

- Simiele, E., Capaldi, D., Breikreutz, D., Han, B., Yeung, T., White, J., Zaks, D., Owens, M., Maganti, S., Xing, L., Surucu, M., Kovalchuk, N.  
2022
- **CyberKnife® in Abdominal Stereotactic Body Radiosurgery** *Principles and Practice of Image-Guided Abdominal Radiation Therapy*  
Wang, L., Kovalchuk, N., Pollom, E.  
Institute of Physics (IOP) Publishing.2022
  - **Help Ukraine** *Advances in Radiation Oncology*  
Kovalchuk, N.  
2022
  - **While Ukrainian soldiers are fearlessly defending their country, Ukrainian oncologists are bravely battling cancer** *Advances in Radiation Oncology*  
Kovalchuk, N., Beznosenko, A., Kowalchuk, R., Ryzhkova, J., Iakovenko, V., Kacharian, A.  
2022
  - **The Stanford VMAT TBI Technique.** *Practical radiation oncology*  
Kovalchuk, N., Simiele, E., Skinner, L., Yang, Y., Howell, N., Lewis, J., Hui, C., Blomain, E. S., Hoppe, R. T., Hiniker, S. M.  
2022
  - **Small field measurement and monte carlo model validation of a novel image-guided radiotherapy system.** *Medical physics*  
Shi, M., Chuang, C. F., Kovalchuk, N., Bush, K. K., Zaks, D., Xing, L., Surucu, M., Han, B.  
2021
  - **IMRT Treatment Planning Study for the First Clinical Biology-guided Radiotherapy System**  
Kovalchuk, N., Pham, D., Breikreutz, D., Simiele, E., Capaldi, D., Vitzthum, L., Chang, D.  
LIPPINCOTT WILLIAMS & WILKINS.2021: S137-S138
  - **NRG Oncology HN006: Randomized phase II/III trial of sentinel lymph node biopsy versus elective neck dissection for early-stage oral cavity cancer.**  
Lai, S., Torres-Saavedra, P. A., Dunlap, N. E., Beadle, B., Chang, S. S., Subramaniam, R. M., Yu, J., Lowe, V. J., Khan, S. A., Truong, M., Bell, D., Liu, C. Z., Kovalchuk, et al  
LIPPINCOTT WILLIAMS & WILKINS.2021
  - **A Step Toward Making VMAT TBI More Prevalent: Automating the Treatment Planning Process.** *Practical radiation oncology*  
Simiele, E., Skinner, L., Yang, Y., Blomain, E. S., Hoppe, R. T., Hiniker, S. M., Kovalchuk, N.  
2021
  - **Practice patterns of pediatric total body irradiation techniques: A Children's Oncology Group survey.** *International journal of radiation oncology, biology, physics*  
Rassiah, P., Esiashvili, N., Olch, A. J., Hua, C. H., Ulin, K., Molineu, A., Marcus, K., Gopalakrishnan, M., Pillai, S., Kovalchuk, N., Liu, A., Niyazov, G., Peñagaricano, et al  
2021
  - **Retrospective Tuning of MRI Contrast From a Single T1-Weighted Image** *ASTRO*  
Wu, Y.  
2021
  - **A Step Towards Making VMAT TBI More Prevalent: Automating the Treatment Planning Process** *ASTRO*  
Simiele, E.  
2021
  - **SBRT Treatment Planning Study for the First Clinical Biology-Guided Radiotherapy System** *ASTRO*  
Pham, D.  
2021
  - **The kVCT System Commissioning of a Novel Medical Linear Accelerator Designed for Biology-Guided Radiotherapy** *ASTRO*  
Han, B.  
2021
  - **Improved Organ Sparing with Autoplanned VMAT TBI** *ASTRO*

- Ngo, N.  
2021
- **A motion phantom study on RefleXion X1: the dosimetric impacts of stereotactic radiation therapy delivery technique and motion** *AAPM*  
Capaldi, D.  
2021
  - **IMRT Treatment Planning Study for the First Clinical Biology-guided Radiotherapy System** *AAPM*  
Pham, D.  
2021
  - **Improving workflow efficiency and safety for RefleXion X1 treatment planning process via Eclipse API scripting** *AAPM*  
Simiele, E.  
2021
  - **Preliminary Treatment Planning System Commissioning Results for the First Clinical Biology-guided Radiotherapy Machine** *AAPM*  
Kovalchuk, N.  
2021
  - **A preliminary report of gonadal-sparing TBI using a VMAT technique.** *Practical radiation oncology*  
Blomain, E. S., Kovalchuk, N. n., Neilsen, E. n., Skinner, L. n., Hoppe, R. T., Hiniker, S. M.  
2020
  - **Evaluation of a Knowledge-Guided Automated Treatment Planning Tool** *ASTRO*  
Yang, Y.  
2020
  - **Improved Lung and Gonadal Sparing During Total Body Irradiation Using a VMAT Technique: Preliminary Single-institutional Experience** *AAPM*  
Kovalchuk, N.  
2020
  - **Six Sigma-driven Automated Plan Check (APC) Tool Enhances Safety and Efficiency in External Beam Radiation Therapy** *ASTRO*  
Kovalchuk, N.  
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