

SNMMI Artificial Intelligence Resources

Six-part AI Webinar Series

[Webinar 1](#): Introduction to AI, Machine Learning, and Deep Learning (DL), with Focus on DL Methods and Architectures

[Webinar 2](#): Hands-On Training for AI

[Webinar 3](#): Radiomics, Its Link to Machine Learning and Deep Learning, and Uses in Predictive Modeling

[Webinar 4](#): How Machine Learning Will Change Clinical Radiology and Nuclear Medicine

[Webinar 5](#): Emerging Uses of AI by Industry for Radiology and Nuclear Medicine Applications

[Webinar 6](#): Translating AI Approaches to Clinical Cardiovascular Imaging

NMMItools – Web-based Tools

[NMMItools](#) is an up-to-date online reference website for software tools to simulate, reconstruct and analyze synthetic or real data related to Nuclear Medicine and Molecular Imaging (NMMI) studies. NMMItools aim to provide an online interactive platform where users can search and comment for the latest available software tools to support NMMI basic and clinical research.

Best Practices Papers

Nuclear Medicine and Artificial Intelligence: Best Practices for Algorithm Development

Tyler J. Bradshaw, Ronald Boellaard, Joyita Dutta, Abhinav K. Jha, Paul Jacobs, Quanzheng Li, Chi Liu, Arkadiusz Sitek, Babak Saboury, Peter J.H. Scott, Piotr J. Slomka, John J. Sunderland, Richard L. Wahl, Fereshteh Yousefirizi, Sven Zuehlsdorff, Arman Rahmim and Irène Buvat. Journal of Nuclear Medicine April 2022, 63 (4) 500-510; DOI: <https://doi.org/10.2967/jnumed.121.262567>

Nuclear Medicine and Artificial Intelligence: Best Practices for Evaluation (the RELAINCE Guidelines)

Abhinav K. Jha, Tyler J. Bradshaw, Irène Buvat, Mathieu Hatt, Prabhat KC, Chi Liu, Nancy F. Obuchowski, Babak Saboury, Piotr J. Slomka, John J. Sunderland, Richard L. Wahl, Zitong Yu, Sven Zuehlsdorff, Arman Rahmim and Ronald Boellaard. Journal of Nuclear Medicine September 2022, 63 (9) 1288-1299; DOI: <https://doi.org/10.2967/jnumed.121.263239>.

Artificial Intelligence in Nuclear Medicine: Opportunities, Challenges, and Responsibilities Toward a Trustworthy Ecosystem

Babak Saboury, Tyler Bradshaw, Ronald Boellaard, Irène Buvat, Joyita Dutta, Mathieu Hatt, Abhinav K. Jha, Quanzheng Li, Chi Liu, Helena McMeekin, Michael A. Morris, Peter J.H. Scott, Eliot Siegel, John J. Sunderland, Neeta Pandit-Taskar, Richard L. Wahl, Sven Zuehlsdorff and Arman Rahmim. Journal of Nuclear Medicine February 2023, 64 (2) 188-196; DOI: <https://doi.org/10.2967/jnumed.121.263703>

Ethical Considerations for Artificial Intelligence in Medical Imaging: Deployment and Governance

Jonathan Herington, Melissa D. McCradden, Kathleen Creel, Ronald Boellaard, Elizabeth C. Jones, Abhinav K. Jha, Arman Rahmim, Peter J.H. Scott, John J. Sunderland, Richard L. Wahl, Sven Zuehlsdorff and Babak Saboury. Journal of Nuclear Medicine October 2023, 64 (10) 1509-1515; DOI: <https://doi.org/10.2967/jnumed.123.266110>

Ethical Considerations for Artificial Intelligence in Medical Imaging: Data Collection, Development, and Evaluation

Jonathan Herington, Melissa D. McCradden, Kathleen Creel, Ronald Boellaard, Elizabeth C. Jones, Abhinav K. Jha, Arman Rahmim, Peter J.H. Scott, John J. Sunderland, Richard L. Wahl, Sven Zuehlsdorff and Babak Saboury. Journal of Nuclear Medicine December 2023, 64 (12) 1848-1854; DOI: <https://doi.org/10.2967/jnumed.123.266080>

Annual Meeting Abstracts

Ethical risks in the development and deployment of artificial intelligence systems in nuclear medicine

Melissa McCradden, Jonathan Herington, Kathleen Creel, Ronald Boellaard, Abhinav Jha, Arman Rahmim, Peter Scott, John Sunderland, Richard Wahl, Sven Zuehlsdorff and Babak Saboury. Journal of Nuclear Medicine June 2022, 63 (supplement 2) 2751.

Artificial Intelligence Ecosystem in Nuclear Medicine: Opportunities, Challenges, and Responsibilities

Babak Saboury, Tyler Bradshaw, Ronald Boellaard, Irene Buvat, Joyita Dutta, Mathieu Hatt, Abhinav Jha, Quanzheng Li, Chi Liu, Helena McMeekin, Michael Morris, Peter Scott, Eliot Siegel, John Sunderland, Richard Wahl, Sven Zuehlsdorff and Arman Rahmim. Journal of Nuclear Medicine June 2022, 63 (supplement 2) 2733.

Pitfalls in the development of artificial intelligence algorithms in nuclear medicine and how to avoid them

Tyler Bradshaw, Ronald Boellaard, Joyita Dutta, Abhinav Jha, Paul Jacobs, Quanzheng Li, Chi Liu, Arkadiusz Sitek, Babak Saboury, Peter Scott, Piotr Slomka, John Sunderland, Richard Wahl, Fereshteh Yousefirizi, Sven Zuehlsdorff, Arman Rahmim and Irene Buvat. Journal of Nuclear Medicine June 2022, 63 (supplement 2) 2724.