

ISMRM WORKSHOP ON Breast MRI: Technological Advances & Clinical Applications

In Affiliation with the European Society of Breast Imaging (EUSOBI); Japanese Society of Breast Cancer Imaging (JSBCI); & Society of Breast Imaging (SBI)



13-15 September 2025



Renaissance Las Vegas Hotel
Las Vegas, NV, USA



OVERVIEW

This workshop will be held in affiliation with the European Society of Breast Imaging (EUSOBI), the Japanese Society of Breast Cancer Imaging (JSBCI), and the Society of Breast Imaging (SBI). It will bring together scientists, clinical experts, and machine learning and data scientists interested in technical research and innovative applications in breast MRI. Breast MRI is increasingly performed in women at risk for breast cancer to detect occult malignancy and to monitor/guide response to neoadjuvant chemotherapy in women with breast cancer. The role of breast MRI in everyday clinical practice will be compared to using contrast-enhanced mammography and contrast-enhanced ultrasound examinations.

Novel techniques such as abbreviated protocols, ultrafast protocols, breast MRI as a risk assessment tool, and AI to reduce or eliminate intravenous contrast agents will be discussed. The latest developments in hardware and the use of AI to accelerate the acquisition and post-processing of breast MRI examinations will be debated. Updates on radiomics, radiogenomics, and multiparametric and multimodal techniques will be reviewed with an emphasis on whether these novel techniques have led to improvements in selecting patients for targeted therapy and precision medicine.

The lectures will be targeted and balanced for an audience with both basic science or technical backgrounds and more applied or clinical backgrounds. The workshop will facilitate the exchange of ideas and techniques and seek consensus on the acquisition, processing, analysis, and interpretation of breast MRI. The interdisciplinary program will feature invited scientific presentations, proffered papers, poster sessions, and panel discussions. It has been carefully structured to be highly interactive, with sessions for informal discussions, and will offer CME credits. The workshop will foster dialogue between academic investigators and industrial, pharmaceutical, and regulatory partners; it will facilitate collaborations among the breast MRI research community.

TARGET AUDIENCE

This workshop is designed for researchers (including Ph.D. students and postdocs); clinical radiologists; data scientists, AI experts, and MR technologists; and government regulatory experts interested in breast MRI. Pertinent topics such as the clinical implementation of shorter imaging protocols, using AI to decrease false-positive findings, and improving the image quality of multiparametric MRI will be highlighted. Also, the use of radiomics, radiogenomics, and multimodal breast MRI to guide and monitor the management of breast cancers will be discussed.

EDUCATIONAL OBJECTIVES

Upon completion of this activity, participants should be able to:

- Describe the advantages and disadvantages of current breast MRI techniques;
- Recognize the benefits and pitfalls of abbreviated and ultrafast breast MRI protocols;
- Explain the role of quality assurance, standardization, and benchmarking in breast MRI;
- List novel breast MRI methods;
- Recognize the role and challenges of using machine learning and AI in breast MRI applications;
- Identify recent advances in diffusion MRI techniques; and
- Explore the standardization of radiomics biomarkers for breast MRI.

ORGANIZING COMMITTEE

Chair: Linda Moy, M.D.

Organizing Committee: Brian Hargreaves, Ph.D.; Bonnie Joe, M.D., Ph.D.; Masako Kataoka, M.D., Ph.D.; Christiane Kuhl, M.D., Ph.D.; Ritse Mann, M.D., Ph.D.; Elizabeth Anne Morris, M.D., F.A.C.R.; Savannah C. Partridge, Ph.D.; Katja Pinker-Domenig, M.D., Ph.D.

Consultants to the Organizing Committee: Pascal Baltzer, M.D.; Basak Dogan, M.D.; Hiroko Satake, M.D., Ph.D.; Takayoshi Uematsu, M.D., Ph.D.



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