Univ.-Prof. Dr. sc. techn. Mark E. Ladd (born September 7, 1967 in Wayne, Michigan, USA)

Head of the Division of Medical Physics in Radiology (E020)
German Cancer Research Center (DKFZ), Heidelberg, Germany

Professor of Medical Physics in Radiodiagnostics and Biophysics
Faculty of Medicine, Heidelberg University, Germany

Associated Principle Investigator, Erwin L. Hahn Institute for MRI
University of Duisburg-Essen, Germany

Co-opted Member, Faculty of Physics and Astronomy
Heidelberg University, Germany

Co-opted Member, Faculty of Medicine
University of Duisburg-Essen, Germany

Research areas

Methodological advances in magnetic resonance imaging and spectroscopy, including imaging with ultra-high magnetic fields, radiofrequency hardware, parallel transmission, MRI safety, and MR-guided radiotherapy

Academic education

2001	Habilitation with venia legendi for “Diagnostic Radiology with focus on magnetic resonance physics”, University of Duisburg-Essen, Germany
1998	PhD (Dr. sc. techn.), Swiss Federal Institute of Technology (ETH), Zurich, Switzerland
1991	Master of Science in Electrical Engineering, Stanford University, USA
1989	Bachelor of Science in Electrical Engineering, University of Michigan, USA

Academic positions

since 2022	Spokesperson, Research Topic Imaging and Radiooncology, DKFZ, Heidelberg, Germany
since 2013	Head, Division of Medical Physics in Radiology, DKFZ, Heidelberg, Germany
since 2013	Professor (W3), Faculty of Medicine, Heidelberg University, Germany
since 2013	Associated Principle Investigator, Erwin L. Hahn Institute for Magnetic Resonance Imaging, University of Duisburg-Essen, Germany
2006 - 2013	Director, Erwin L. Hahn Institute for Magnetic Resonance Imaging, University of Duisburg-Essen, Germany
2004 - 2013	Professor (C3) of Biomedical Imaging, Department of Diagnostic and Interventional Radiology and Neuroradiology, Faculty of Medicine and University Hospital Essen, Germany
1999 - 2004	Senior Physicist, Department of Diagnostic and Interventional Radiology and Neuroradiology, University Hospital Essen, Germany
1994 - 1999	MR Advanced Applications Scientist / Advanced Systems Engineer / Software Engineer, General Electric Medical Systems and University Hospital Zurich, Zurich, Switzerland
1992 - 1994	Engineer, General Electric Medical Systems, Wisconsin, USA
1989 - 1991	Research Assistant, Space, Telecommunications, and Radioscience Laboratory, Stanford University, California, USA

Scientific and other honors

2024	Glocker Medal, Deutsche Gesellschaft für Medizinische Physik [German Society for Medical Physics] (DGMP)
since 2023	Consulting Editorial Board, Zeitschrift für Medizinische Physik [Journal of Medical Physics]
since 2022	Board of Trustees, Roland Ernst Stiftung für Gesundheitswesen [Roland Ernst Foundation for Healthcare]
2021	Senior Fellow, International Society for Magnetic Resonance in Medicine (ISMRM)
2021	Guest Associate Editor, “Frontiers in Physics”, Research Topic on Innovations in MR Hardware from Ultra-Low to Ultra-High Field
2019 - 2022	Annual Meeting Program Committee, ISMRM
2019	Finalist for the German President’s Award for Innovation in Science and Technology (Deutscher Zukunftspreis)

2018 - 2020	Editorial Board, “Magnetic Resonance in Medicine”
2017 - 2022	President and Vice President, Deutsche Gesellschaft für Medizinische Physik [German Society for Medical Physics] (DGMP)
2016	Co-Chair, ISMRM Workshop “UHF MRI: Technological Advances & Clinical Applications”
since 2013	Scientific Advisory Board, “Der Radiologe”
2013 - 2017	Governing Committee of the High Field Systems & Applications Study Group, ISMRM
2013	Guest Editor, “Investigative Radiology”, Special Issue on Clinical Advances with 7T
2012 - 2018	Deputy Editor, “Magnetic Resonance in Medicine”
2012 - 2017	ERC Advanced Grant, “MRexcite: Unlocking the potential of ultra-high-field MRI through manipulation of radiofrequency excitation fields in human tissue”
2012	Outstanding Teacher Award, ISMRM
2010 - 2013	Board of Trustees, ISMRM
2000	Award Winner, “Competition for the Promotion of Young Academicians”, Program for Research Innovation of the State of North Rhine-Westphalia

Publication summary

Scientific papers	> 350
Review articles	> 20
Book chapters	> 15

Key recent publications

1. **Ladd ME**, Quick HH, Speck O, Bock M, Doerfler A, Forsting M, Hennig J, Ittermann B, Möller HE, Nagel AM, Niendorf T, Remy S, Schaeffter T, Scheffler K, Schlemmer HP, Schmitter S, Schreiber L, Shah NJ, Stöcker T, Uder M, Villringer A, Weiskopf N, Zaiss M, Zaitsev M. Germany's journey toward 14 Tesla human magnetic resonance. MAGMA. 2023 Apr;36(2):191-210. doi: 10.1007/s10334-023-01085-z.
2. Kroh F, von Knebel Doeberitz N, Breitling J, Maksimovic S, König L, Adeberg S, Scherer M, Unterberg A, Bendszus M, Wick W, Bachert P, Debus J, **Ladd ME**, Schlemmer HP, Korzowski A, Goerke S, Paech D. Semi-solid MT and APTw CEST-MRI predict clinical outcome of patients with glioma early after radiotherapy. Magn Reson Med. 2023 Oct;90(4):1569-1581. doi: 10.1002/mrm.29746.
3. Fiedler TM, Orzada S, Flöser M, Rietsch SHG, Schmidt S, Stelter JK, Wittrich M, Quick HH, Bitz AK, **Ladd ME**. Performance and safety assessment of an integrated transmit array for body imaging at 7 T under consideration of specific absorption rate, tissue temperature, and thermal dose. NMR Biomed. 2022 May;35(5):e4656. doi: 10.1002/nbm.4656.
4. Orzada S, Solbach K, Gratz M, Brunheim S, Fiedler TM, Johst S, Bitz AK, Shooshtary S, Abuelhaija A, Voelker MN, Rietsch SHG, Kraff O, Maderwald S, Flöser M, Oehmigen M, Quick HH, **Ladd ME**. A 32-channel parallel transmit system add-on for 7T MRI. PLoS One. 2019 Sep 12;14(9):e0222452. doi: 10.1371/journal.pone.0222452.
5. **Ladd ME**, Bachert P, Meyerspeer M, Moser E, Nagel AM, Norris DG, Schmitter S, Speck O, Straub S, Zaiss M. Pros and cons of ultra-high-field MRI/MRS for human application. Prog Nucl Magn Reson Spectrosc. 2018 Dec;109:1-50. doi: 10.1016/j.pnmrs.2018.06.001.

For a more complete list of publications, see https://pubmed.ncbi.nlm.nih.gov/?term=ladd-me&sort=date