Biography

Thomas Heldt began his studies in physics and medicine at Johannes Gutenberg University, Germany, and studied physics at Yale University, and medical physics at MIT and Harvard University. He received the PhD degree in Medical Physics from the Harvard-MIT Division of Health Sciences and Technology and undertook postdoctoral training at MIT's Laboratory for Electromagnetic and Electronic Systems. Prior to joining the MIT faculty in 2013, Thomas was a Principal Research Scientist with MIT's Research Laboratory of Electronics. He currently holds the W.M. Keck Career Development Chair in Biomedical Engineering at MIT. He is an Associate Professor of Electrical and Biomedical Engineering with MIT's Department of Electrical Engineering and Computer Science, a Principal Investigator with the Research Laboratory of Electronics, and a core faculty member at MIT's Institute for Medical Engineering and Science where he directs the Integrative Neuromonitoring and Critical Care Informatics Group.

Thomas' research interests focus on signal processing, mathematical modeling and model identification in support of real-time clinical decision making, monitoring of disease progression, and titration of therapy, primarily in neurocritical and neonatal critical care. In particular, Thomas' work focuses on developing a mechanistic understanding of physiologic systems, and in formulating appropriately chosen computational physiologic models for improved patient care. His research is conducted in close collaboration with clinicians from Boston-area hospitals, where he is integrally involved in designing and deploying data-acquisition systems and in the collection clinical data at the patient's bedside. Thomas' teaching interests revolve around signal processing, modeling, and systems and clinical physiology.