Besma Abidi received her MS degree in Electrical Engineering, Imaging and Remote Sensing, in 1986 and her Ph.D. in Electrical and Computer Engineering, 2D and 3D Data Fusion and Reconstruction, from the University of Tennessee, Knoxville (UTK), in 1995.

She was a Research faculty in the Department of Electrical and Computer Engineering at UTK from 1998 to 2010 and a Research Scientist at the Oak Ridge National Laboratory from 1998 to 2001. Her areas of research include artificial intelligence, video and data analytics, sensor positioning, data fusion, and real-time large data processing. Dr. Abidi has won multiple grants from government agencies including DOD, DHS, and DOE, and was member of multiple consortia of multi-university multi-industry teams. She co-edited one book and published over 70 papers in major computer vision journals and conferences. She received numerous awards, including the most-cited paper for 3 years in a row for her work on the fusion of thermal and visible imagery. She is a senior member of IEEE and a member of the Computer Society, the Society of Women Engineers, Women in Defense, SPIE, Tau Beta Pi, Eta Kappa Nu, Phi Kappa Phi, and The Order of the Engineer.

In 2009, Dr. Abidi co-founded Phelps2020, a technology company focused on solving government and industry challenges in full motion video processing, exploitation, and dissemination, using computer vision and artificial intelligence, for applications of intelligence, surveillance, and reconnaissance, automatic target recognition, navigation, and autonomy. Since the founding of Phelps2020, Dr. Abidi assumed the day to day technical and managerial running of the company, where she and her team won more than $10M in RDT&E contracts, producing and delivering multiple software packages and hardware prototypes for real-time large data analytics, AI, sensor fusion, smart video compression, computing at the edge, and other innovative solutions.