Dr. Fagiolini received her M.S. in Biological Sciences from University of Pisa, Italy and her Ph.D. in Neurobiology from Scuola Normale Superiore, Italy. After completing a postdoctoral fellowship in Physiology at the University of California, San Francisco under the mentorship of Dr. Michael P. Stryker, she joined the Laboratory for Neuronal Circuit Development at the Brain Science Institute in Japan where she worked with Dr. Takao Hensch demonstrating how inhibitory circuits control the timing of expression of critical periods. She is now Associate Professor of Neurology at Boston Children's Hospital. Her work employs the visual system as an entry point to understanding how Excitatory/Inhibitory neuro-circuit imbalance may give rise to neurodevelopmental disorders and in particular Rett Syndrome and CDKL5 disorder.

Over the past years, her research has identified for the first time a visual phenotype in a mouse model of Rett Syndrome and demonstrated its rescue by environmental and genetic manipulation of pivotal inhibitory neurons. These data support new potential drug intervention strategies for RTT in a clinical setting. In collaboration with the Rett Clinic at BCH and the laboratory of Cognitive Neuroscience, Dr. Fagiolini has also demonstrated that a similar visual phenotype is present in Rett Syndrome patients and that visual evoked potential could be used as a non-invasive and quantitative biomarker to follow the progression of the disorder and potentially response to treatment.

Recently, she is focusing her efforts in understanding how mutations in CDKL5 X-linked protein give rise to such a devastating neurodevelopmental disorder. Again, Dr. Fagiolini combines multidisciplinary approaches to this question and is working in close collaboration with the CDKL5 Center of Excellence at Boston Children's Hospital.