Birman is a research professor emerita at Barnard College, where she spent most of her career. She is a low-dimensional topologist who has made major research contributions in multiple subfields. Birman’s extensive list of publications includes 5 books, and she received the MAA Chauvenet Prize (1996) for expository writing. She has supervised 21 doctoral students of whom 7 were female. Birman was the AWM Noether Lecturer (1987), and was named an AWM Fellow (2020). She has sponsored the AWM Joan & Joseph Birman Research Prizes, and the Joan and Joseph Birman Fellowship for Women Scholars at the AMS, to support mathematical research by mid-career women.