Masanja was educated in her native Tanzania and in Germany, and is the first Tanzanian woman to earn a doctorate in mathematics. She is now professor of computational mathematics at The Nelson Mandela African Institution of Science and Technology in Tanzania. Masanja’s research is in fluid dynamics and mathematical modeling, with publications related to water pollution, food security, and disease spread. She has also published both a textbook for teacher trainees and a university number theory textbook. Masanja has supervised 7 doctorates so far. She received the University of Dar es Salaam Golden Outstanding Award (2011) for her contributions to the teaching and learning of mathematics.