Professor Nordbotten is a mathematician with a strong interest for interdisciplinary collaborations. As early as during his PhD, he worked simultaneously on numerical analysis, while collaborating with environmental engineers on issues related to CO_2 storage. Since then, he has established interdisciplinary collaborations in evolutionary biology, hydro-ecology, geosciences, biomedicine and computer science. Nordbotten has co-authored papers with about 200 researchers from all continents, and was the primary author on the first text-book on modelling and simulation of CO_2 storage. He has received several prizes, most recently the 2025 Interpore Medal for Porous Media Research.

Key results from Nordbotten's research include: The first analysis of monotonicity of finite volume methods beyond M-matrix arguments, Development of fast screening tools for CO_2 storage, Establishing the first algebraic relationship between multiscale finite volume methods and domain decomposition preconditioners, Development and analysis of finite volume methods for poromechanics, Analysis and development of robust solvers for coupled non-linear problems, Development and analysis of models and discretizations for mixed-dimensional partial differential equations, Verification and validation of mathematical modeling and numerical simulation methods for CO_2 storage.