Received his M.Sc. degree in biology from Örebro University in 2009. Currently he is a Ph.D. candidate in environmental science at Man-Technology-Environment Research Centre at Örebro University.

Worldwide the modern society produces vast amounts of waste materials containing strategic metals such as vanadium and uranium. If controlled recovery of metals can be performed some waste materials are therefore of substantial economic value. Also the opposite scenario is valid since many of them are chemical threats to man and the environment why large sums are needed to prevent future risks.

The aim of this thesis is to investigate and evaluate how low-technology processes can be used for recovery and/or immobilization of strategic metals present in waste materials such as steel slag and mine waste. For this purpose interactions with plants and microorganisms have been in focus. By using cheap and easily available additives such as bark compost and wood chips the cost for metal mobilization can be minimized, even for such stable waste materials as steel slag. A tenfold decrease in mobilization of several metals from sulfidic mine waste was obtained by establishing the grass Agrostis capillaris after adding bark compost. For shale residues the mobilization of e.g. uranium was clearly enhanced when wood chips covered the shale to mimic natural litter formation on crushed shale residues.