CARREN ANYANGO MELINDER has a background in public health. She joined Örebro University in 2012 as a doctoral student at Nutrition and Physical Activity Research Centre (NUPARC) and is currently also based at Clinical Epidemiology and Biostatistics Unit at Örebro University Hospital, working part-time as a research assistant.

The thesis consists of register-based epidemiological studies that examine physical fitness and stress resilience in adolescence and their association with subsequent risk of gastrointestinal disease (inflammatory bowel disease, peptic ulcer disease, and gastrointestinal infections) in adulthood. Higher levels of physical fitness are thought to reduce levels of systemic inflammation, so fitness may potentially influence the risk of some inflammatory gastrointestinal diseases. It is also hypothesised that higher levels of exposure to psychosocial stress can increase levels of inflammation and intestinal permeability, thus increasing the risk of some gastrointestinal diseases. As there is considerable variation in susceptibility - or resilience - to stress, an indicator of stress resilience may provide a useful measurement of the likely experience of stress in daily life. Any influence of physical fitness or stress resilience on gastrointestinal disease risk is likely to be the consequence of low-level exposures over many years, so a life course approach is necessary to examine whether the two exposures are associated with the long-term risk of the mentioned outcomes.