Jonas Nölle is currently a Ph.D. student at the Centre for Language Evolution (CLE) at the University of Edinburgh (UK). His Ph.D. project titled, “Ecological Factors in Cultural Language Evolution,” builds on an experimental approach to test whether novel spatial communication systems that are grounded directly in interaction are sensitive to the environment at hand. His approach combines psychological and semiotic experiments with modern methods (e.g., Virtual Reality) as well as insights from comparative linguistics. The idea behind this approach is to have human subjects solve carefully controlled experimental tasks in the laboratory for which they have to invent a novel communication system (e.g. gestural or graphical). This allows to observe how communication systems emerge ad hoc and culturally “evolve” to fit the communicative needs of their users. Experimental conditions are introduced to test whether changes to certain variables (e.g. whether the task environment contains landmarks) can systematically affect the structure of such communication systems (e.g. the underlying frame of reference). The results can complement linguistic field work and large-scale statistical data, as they allow to directly test causal relationships between external variables and the evolution of human communication systems.

Before joining the CLE in 2016 Nölle completed a B.A. in Language and Communication at the Technical University of Berlin (2010–2013), where he also worked as a student assistant and tutor at the Department of General Linguistics. The topic of his undergraduate thesis was German spatial language and its reflection in non-linguistic cognitive tasks. He later received an M.A. in Cognitive Semiotics from Aarhus University, Denmark (2013–2015). His thesis investigated whether linguistic routines that emerge spontaneously in joint problem-solving are constrained by the environment at hand. The results suggest that linguistic conventions that emerge in interaction are not simply random, but adapt to their context of use (Nölle et al. in prep.).

After completion of his M.A. Nölle was funded by the Interacting Minds Centre in Aarhus to work on a project titled, Contextual Factors Shaping the Emergence of Communication Systems (Nölle, Staib, Tylén, and Fusirol, in progress). Similar to the work above, experiments are used to investigate the role of adaptation in language evolution. The studies in this project so far focused on how iconicity and systematicity of emerging sign languages are affected by variation in the environment. Another side project dealt with the emergence of linguistic complexity. A first experiment showed that context can influence how quickly over-specification emerges in an artificial language as it gets culturally transmitted (Hartmann et al. 2016).