Social networks matter; the characteristics of a network—structure and position of an entity—have consequences for a number of outcomes. Less understood are the conditions that lead to these networks. This dissertation research investigates the role of context as a determinant on the emergence and success of social networks. In reviewing literature on social network dynamics three roots of generative network dynamics are outlined—exogenous contextual factors, endogenous network factors, and individual nodal factors. Evidence as to how context is largely overlooked in social network studies is presented and a theoretical framework based on structuration is developed which allows the investigation of three different levels of aggregation of scientific collaboration networks: (1) the success of individual network structures (Chapter 3); (2) the patterns of generative mechanisms within networks (Chapter 4); and (3) the tendency of interaction (Chapter 5). In a mixed methods research design the effect of context is explored through the lens of Dutch Computer Science researchers’ scientific collaboration patterns from 2006 – 2012.

This research contributes to social network theory and method, as well as practical knowledge about the emergence of scientific collaboration networks through the study of the modi-operandi of social networks. The empirical chapters employ statistical models, SIENA and the exploration of a mean field model. Understanding social network dynamics requires understanding of context. Tendencies to collaborate can be explained by a common university affiliation; the existence of a tenure system influences the generative roots that explain the emergence of these scientific collaboration network structures of a department; and that the policies of a professional tenure system and a publication target list within an academic department enhance the success of cohesive scientific collaboration networks.