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An Abstract for
PRACTICE-LED RESEARCH / RESEARCH-LED
PRACTICE IDENTIFYING THE THEORY AND
TECHNIQUE OF SONIC SPACE ECOSYSTEMS

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ABSTRACT

This dissertation defines and explores the practice of composing and understanding sonic space ecosystems; a type of eco-art and interactive music system. As such, this dissertation work includes this thesis, a tutorial of composition techniques presented as a set of SuperCollider scripts, as well as the seven compositions completed during this study; including their scores, code bases, and resulting media documentation. This work builds and expands on the larger *Sonic Spaces Project*, which is an ongoing creative research project into this specific type of sonic ecosystem. While focusing on Phase II from the *Sonic Spaces Project* and using the practice-led research / research-led practice method, the work for this dissertation has iteratively developed a definition of sonic space ecosystems, that is grounded in both practice and extant knowledge from the fields of general systems theory, complex systems, cybernetics, ecosystems, emergence, and interactive music systems. Building from this definition, the practice of sonic space ecosystems is placed in relationship to the larger field of interactive music systems. The definition and composition techniques resulting from this study are then discussed in relation to each of the seven compositions. The presentation of these compositions involves a description of the technical processes and aesthetic goals underlying each work, as well as how each was used to test theory and compositional techniques. Further discussion examines how the processes involved in developing each composition contributed to, or altered, the direction of dissertation work itself. The work from this dissertation provides new information and techniques to the practice of a style of composition that is unique to this project while providing practical information that can be applied to a more general practice of feedback-based sonic ecosystems.