## Performance, Composition and Arranging for the Reverse Action Piano Harp

The Reverse Action Piano Harp (Raph) is a novel musical instrument interface. It consists of a bespoke zither, with playing enhanced through a secondary damping interface. Current prototypes incorporate a traditional keyboard, which provides reverse damping from individual keys, to each octave occurrence of a pitch on the string surface. The interface is designed from a conception of an ideal playing position that provides optimum access for the left hand to address the keyboard and the right hand to address the string surface.

This project has been informed through periods of practice based research, alternating between design and build (and analysis of the results), and performance, composition and arranging (with similar reflective analysis informing the subsequent design and build phase). The project dates from 2008 and includes a patent (secured 2012) and successful PhD (completed 2015).

The submission focuses in detail upon the performance techniques, acquired and developed subsequent to the completion of prototype 5. This begins with a recognition of the instrument's learning pathway; the design conception provided almost immediate access to harmonic texture. The rite of passage through to more advanced repertoire has proved more challenging. Since the instrument is unique, an astute strategy has proved to be, to reference and adapt technique from oublique angles; flamenco techniques from guitar, tremolo techniques from mandolin/bazouki and referencing these back to traditional autoharp techniques. This has lead to further critical examination of the range of genres and cultural possibility in which the instrument might successfully function.

This submission documents the performance, composition and arranging work undertaken upon the instrument covering the relevant period for the REF

submission; this includes recordings, recordings of performances (in ensemble and solo contexts), scores of compositions and arrangements and analysis of relevant techniques developed upon the instrument.