Michael Johnson *
Macquarie University

Characterising cospans of generalised fibrations

The bicategory Span(Fib), whose objects are categories and whose arrows are spans of fibrations, has important applications in a range of areas related to Bidirectional Transformations [1]. Each span of fibrations is an example of a bidirectional transformation, and span composition corresponds, up to equivalence, to the composition of the corresponding bidirectional transformations. On the other hand, *co*-spans of fibrations can also be seen as bidirectional transformations, and these bidirectional transformations have particularly desirable properties in the applications. Write CoSpBD for the locally full subbicategory of Span(Fib) determined by these bidirectional transformations. This presentation addresses the question of characterising CoSpBD and various generalisations of this question obtained by replacing "fibration" with certain generalised fibrations, called *lenses*, that arise in applications.

References:

[1] Michael Johnson and Robert Rosebrugh, Symmetric delta lenses and spans of asymmetric delta lenses, *Journal of Objet Technology* 16 (2016) 1–32.

*Joint work with Robert Rosebrugh.