An institution for processes and data

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Csp-Casl [7] is a comprehensive specification language which combines *processes* written in the process algebra Csp [2, 8] with the specification of *data types* formulated in algebraic specification language Casl [5]. Recent developments on Csp-Casl cover tool support [6] as well as testing from Csp-Casl specifications [3].

In this talk we address the question of how to formulate Csp-Casl as an institution [1]. The Csp-Casl semantics follows a two-step approach: in its first step, the data specified in Casl is turned into an alphabet of communications, in its second step, the Csp process semantics is applied. This allows us to base our new formulation of a Csp-Casl institution on our previous work concerning Csp alone [4].

Solving this fundamental question of semantic nature has impact on the specification practice: the institution independent structuring mechanisms of Casl [5] become available within Csp-Casl specifications; furthermore, as projecting from Csp-Casl institution into Casl institution yields an institution morphism, it is also possible to use Csp-Casl within heterogeneous specifications.

References

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