

- ALEXANDRE MADEIRA, MANUEL A. MARTINS, LUIS BARBOSA, *Models as arrows: the role of dialgebras*.

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A large number of computational processes can suitably be described as a combination of construction, i.e. algebraic, and observation, i.e. coalgebraic, structures. This paper suggests dialgebras as a generic model in which such structures can be combined and proposes a small calculus of dialgebras including a wrapping combinator as well as parallel and sequential composition. To take good care of invariants in software design, the paper also discusses how dialgebras can be typed by predicates and proves that invariants are preserved through composition. This lays the foundations for a full calculus of invariant proof-obligation discharge for dialgebraic models.