

Abstract Submitted  
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**Universal Description of Interactive Growth**<sup>1</sup> CARLOS CONDAT, LUCAS BARBERIS, FaMAF - Universidad Nacional de Cordoba and IFEG - CONICET — Although the existence of organism-organism interactions during ontogenesis is well documented, ontogenetic growth models usually focus exclusively on the organism-environment interaction. We develop a new formalism to describe the interactive growth of two or more organisms in a given environment. Using a vector formulation of the Phenomenological Universalities concept, we are able to characterize the joint growth of two or more interacting organisms and assess the direct mutual influences between them, as well as the indirect influences that operate through environment modifications. The resulting equations describe synergetic, antagonistic, and cooperative growth, and can be applied to biological and ecological problems. As an example, we examine the growth dynamics in a mixed-species plantation.

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