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Biology in the Early 21st Century: Evolution Beyond Selection

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Deadline for manuscript
submissions:

closed (15 September 2017)

Message from the Guest Editors

Dear Colleagues,

The conventional NeoDarwinian appraisal of evolution is based on corresponding pillars of random genetic variation and selection via differential fitness. In the 21st century, a salient question arises. Is this a sufficient evolutionary narrative? This Special Issue will offer several differing perspectives on evolutionary development and phylogeny that extend beyond Darwinian selection. The role of cellular cooperativity, cellular cognition, self-reference, niche construction, stigmergy, self-organization, epigenetic modifications, genetic transfer and mobility, endosymbiosis, hologenomics, and non-stochastic genetic mechanisms will be addressed. In particular, cell-cell communication and aspects of cellular/genetic self-engineering will be considered. Over many years, movement towards a substantial revision of the NeoDarwinian synthesis has gained slow momentum through many diverging approaches. This Special Issue will explore a variety of contemporary alternative views that may provide a pathway towards a dominant, cohering, and predictive non-Darwinian narrative for evolutionary development.

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mdpi.com/si/8621



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Message from the Editorial Board

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