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What Is Self-Organization?

Guest Editors:

Prof. Dr. Claudius Gros

Institute for Theoretical Physics, Goethe University Frankfurt/Main, Frankfurt, Germany

Dr. Damián H. Zanette

Centro Atómico Bariloche and Instituto Balseiro, Comisión Nacional de Energía Atómica, Universidad Nacional de Cuyo, Av. E. Bustillo 9500, San Carlos de Bariloche 8400, Argentina

Prof. Dr. Carlos Gershenson

Instituto de Investigaciones en Matemáticas Aplicadas y en Sistemas, Universidad Nacional Autonóma de México, Ciudad de México 04510, Mexico

Deadline for manuscript submissions: closed (15 October 2021)

Message from the Guest Editors

In this Special Issue, we invite viewpoints, perspectives, and applied considerations on questions regarding the notions of self-organization and complexity. Examples include:

Routes: In how many different ways can self-organization manifest itself? Would it be meaningful, or even possible, to attempt a classification?

Detection: Can we detect it automatically—either the process or the outcome? Or do we need a human observer to classify a system as "self-organizing"? This issue may be related to the construction of quantifiers, e.g., in terms of functions on phase space, such as entropy measures.

Complexity: Is a system self-organizing only when the resulting dynamical state is "complex"? What does "complex" mean exact;ly? Are there many types of complexity, or just a single one? E.g., it has never been settled whether complexity should be intensive or extensive, if any.

Domains: Where do we find self-organizing processes? Are the properties of self-organizing systems domain-specific or universal? In which class of systems does self-organization show up most clearly?









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Editor-in-Chief

Prof. Dr. Kevin H. Knuth

Department of Physics, University at Albany, 1400 Washington Avenue, Albany, NY 12222, USA

Message from the Editor-in-Chief

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