

Special Issue

Chirality of the Amino Acids

Message from the Guest Editors

One of nature's enduring mysteries is how the Earth's amino acids became dominated by their left-handed chirality. The explanations have included (i) creation of the nonchiral molecules on early Earth via a lightning-like event followed by some mechanism that could then skew slightly toward a preferred chirality, or (ii) creation of the molecules in outer space followed by one of several events that could have selected one chirality, followed by delivery to Earth via meteorites. In either case, autocatalysis is required to amplify the tiny enantiomeric excesses produced to the near homochirality that now exists. Earthly creation of a preferred chirality has involved studies of weak interaction effects in the synthesis of amino acids, effects of electromagnetic radiation, or selection effects in solid materials. The advantage of the latter scenarios is that amino acids in meteorites have been found to have a slight preference for left-handedness, so some mechanism has produced the observed result. Recent research and review papers are encouraged in theoretical, observational, and experimental work.

Guest Editors

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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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