

Biophysical Journal Call for Papers



Special Issue: Foundations of Membrane Biophysics: Dedicated to Wolfgang Helfrich

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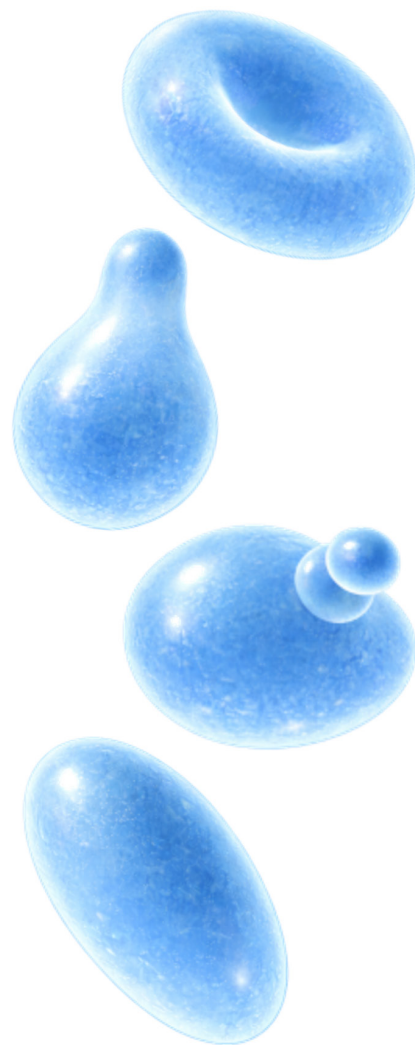
To celebrate the foundational work of Wolfgang Helfrich and his profound and lasting influence on the physics of soft matter and biological membranes, we invite contributions from all areas of biophysics, particularly membrane biophysics, inspired by Helfrich's ideas, concepts, and scientific legacy.

Wolfgang Helfrich, who passed away in September 2025 at the age of 93, shaped entire fields through a rare combination of physical intuition, mathematical clarity, and conceptual simplicity. Beginning with his theoretical work on liquid crystals in 1967 that led to the first twisted-nematic liquid-crystal electro-optical display in 1970, Helfrich went on to transform our understanding of biomembranes. In 1973, he published the first complete description of the elastic energy of fluid lipid membranes, providing a theoretical framework that has become the cornerstone of modern membrane biophysics. In 1978, he set up the first theory of the steric repulsion of membranes caused by shape fluctuations. Over the following decades, Helfrich made numerous theoretical and experimental contributions to membrane physics, spanning vesicle shapes and instabilities, membrane elasticity and fluctuations, and the response of membranes to electric fields. His work established a quantitative language for describing membrane mechanics and continues to guide experiments and theory across scales, from model membranes and vesicles to cellular membranes and synthetic soft-matter systems.

We welcome original research and perspectives from scientists advancing the biophysics of membranes by using experimental, theoretical, and computational approaches. Contributions that build on, extend, or are inspired by Helfrich's concepts, such as membrane elasticity, curvature, fluctuations, interactions, and field-induced phenomena, are particularly encouraged. This special issue aims to honor Helfrich's legacy by highlighting the creativity, rigor, and breadth that characterize his enduring impact on biophysics.

Deadline for submission: September 30, 2026

- Instructions for authors can be found at: <https://www.cell.com/biophysj/authors>.
- Please include a cover letter stating that you would like to contribute to the Wolfgang Helfrich special issue and please describe why the work fits into the issue.
- All accepted articles will be reviewed upon receipt and will appear online as soon as accepted, even if submitted early.
- Normal publishing charges will apply.
- Questions can be addressed to the BJ Editorial Office at BJ@biophysics.org or to (240) 290-5600.



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