

nature Structural biology

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molecular form & function

Continuing journal evolution

Biological research is evolving — and so is *Nature Structural Biology*

Traditional strategies of research — as well as publishing — are being challenged by ever-increasing amounts of data and the need to synthesize information obtained from many different disciplines, including genomics, molecular biology, and structural biology. At the same time, the subdisciplines themselves are also undergoing rapid transformations — structural biology, in particular, is changing as improved equipment and methodologies make it easier to collect and analyze structural data. As structures become easier to determine, more will be needed to obtain a thesis, a grant, or a high-impact publication. The challenge for structural biologists will be to move beyond a structure determination, to analyze the function and the mechanism of action of the biological molecule under scrutiny. Such challenges are being met by research that investigates intermolecular interactions and uses biochemistry or molecular biology either to propose interesting structural questions or to address issues raised by available structures. In anticipation of this changing direction of the field, *Nature Structural Biology* has been broadening the scope of papers that are considered appropriate for the journal under the umbrella term ‘structural biology’ — interpreted as research on the molecular form and function of biological macromolecules.

This policy of the journal, “considering any and all studies that provide insight into the molecular function of biological macromolecular systems”, is not new. Indeed, it has been in effect for some time and was officially announced and explained last year¹. Questions that are distinctly ‘structural’ in nature — such as how proteins specifically recognize their targets and how macromolecular complexes assemble — are being addressed by molecular and cellular biologists, biochemists, biophysicists, and structural biologists in many different areas of research including, for example, DNA replication and repair, transcription, splicing, translation, protein degradation, signal transduction, membrane trafficking, and nuclear transport. We have recently published many papers that demonstrate our interest in including such work in the journal. To illustrate, studies presented in *Nature Structural Biology* have addressed the assembly of the SNARE complex^{2,3}, interactions between PDZ domains and their targets⁴, gating of a potassium channel⁵, design and selection of RNA-binding zinc fingers⁶, orientation of transcription factors on the DNA⁷, the dependence of replication on hydrogen bonding between DNA bases⁸, and the mechanics of single DNA molecules⁹. The varied content of the current issue also shows the range of papers that we receive, and we would like to continue to publish such a wide breadth of material.



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...is evolving

- Enhanced emphasis on insight into molecular function
- Broader coverage of molecular and cellular biology, biochemistry and biophysics
- More pages to present the top results
- Continued focus on high-resolution structures and protein folding studies
- Informative News and Views and commentary

For more information, please visit <http://structbio.nature.com>

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Successful evolution depends on a solid foundation

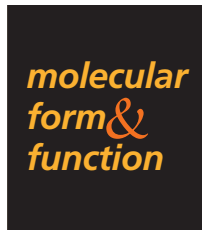
While we are actively encouraging submissions of biochemical and molecular biological research, we fully intend to maintain a solid interest in protein folding studies and in determinations of atomic structures of biomolecules — two areas in which *Nature Structural Biology* has always had a strong presence. New structures often yield important and interesting information by themselves, and there are many additional challenges that will be rich sources of interesting results, such as examining the dynamics of molecules, determining the structures of large protein complexes, and analyzing more complex *in vivo* and *in vitro* protein folding pathways. Structural biology is extremely successful, as the numbers of structures deposited annually in the Protein Data Bank and the increasing numbers of submissions to *Nature Structural Biology* indicate. The structural genomics projects will undoubtedly amplify this success, as more novel folds are determined. Publication of more pages in the journal each month allows us to broaden our content while continuing to cover much of the best ‘traditional’ structural research. Moreover, the informative and timely News and Views and commentary sections that accompany the original research material will remain a core feature of the journal.

Future directions

Feedback from the community has been positive; readers appear to appreciate inclusion of a variety of research papers that address structural questions. Throughout the next few months, you will see an increase in our efforts to inform a wider audience of our broadened content. We will be running ‘call for papers’ advertisements, such as the one shown on the previous page, that reinforce our interest in publishing molecular and cellular biology, biochemistry, and biophysics. Furthermore, we have initiated a special section on the *Nature Structural Biology* web site (<http://structbio.nature.com>) that outlines our policy and gives free full-text examples (in the form of PDF files) of papers, such as the ones mentioned above, that clearly illustrate the range of material that we will consider. The number of manuscripts submitted to *Nature Structural Biology* is already high; so we have added another editor to the staff to allow us to handle the anticipated further increase in manuscript submissions.

This is an exciting time for science, and particularly for structural biology as more researchers begin to use structural tools in their own research. The evolution of *Nature Structural Biology* is a very positive reflection of the changing field and the growing relevance of structural biology to a broad audience. We look forward to working with the community as we continue to present some of the best research on the molecular form and function of biomolecules.

1. Editorial, *Nature Struct. Biol.* **5**, 837–838 (1998).
2. Nicholson, K.L. et al. *Nature Struct. Biol.* **5**, 793–802 (1998).
3. Fiebig, K.M., Rice, L.M., Pollock, E. & Brünger, A.T. *Nature Struct. Biol.* **6**, 117–123 (1998).
4. Schultz, J. et al. *Nature Struct. Biol.* **5**, 19–24 (1998).
5. Perozo, E., Cortes, D.M. & Cuello, L.G. *Nature Struct. Biol.* **5**, 459–469 (1998).
6. Morales, J.C. & Kool, E.T. *Nature Struct. Biol.* **5**, 950–954 (1998).
7. Leonard, D.A. & Kerppola, T.K. *Nature Struct. Biol.* **5**, 877–881 (1998).
8. Friesen, W.J. & Darby, M.K. *Nature Struct. Biol.* **5**, 543–546 (1998).
9. Rief, M., Clausen-Schaumann, H. & Gaub, H.E. *Nature Struct. Biol.* **6**, 346–349 (1998).



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