

About the Cover

Macrophage and Bacterium 2,000,000X

Watercolor by David S. Goodsell, 2002

Macrophages circulate through the blood, searching for bacterial infection. When bacteria are found, macrophages engulf and digest them. This series of three paintings shows a macrophage engulfing a bacterium. Only a portion of the two cells, where a pseudopod of the macrophage is extending over the bacterium, is shown. The original paintings are 1 meter tall--at this magnification, the macrophage would fill most of a building.

These paintings, which are on display in the Center for Integrative Molecular Biosciences at the Scripps Research Institute in La Jolla, include all of the macromolecules in the two cells and in the surrounding blood serum. The small organic molecules and water, which fill all the space between the macromolecules, are omitted. In the paintings, the cell membranes and their associated proteins are colored green, the cytoplasm is colored blue and purple, and the nuclear material is colored red and orange. The blood serum proteins are in yellow and brown.

Goodsell's watercolor placed second in the illustrations category of last fall's inaugural 2003 International Science & Engineering Visualization Challenge co-sponsored by the National Science Foundation and the journal *Science*. The competition recognized outstanding achievements by scientists and engineers in the use of visual media to promote understanding of research results. Captivating scientific images help promote public engagement in the scientific concepts that are integral to our everyday lives.

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