**A person painting a mandala

AI-generated content may be incorrect.🎨 Who is David S. Goodsell?**

David S. Goodsell is a scientist who uses watercolour paints to illustrate the tiny parts inside our cells, like proteins and viruses. His colourful paintings help people understand how life works at the microscopic level.

A person holding a paper chain

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He combines science and art to make complex biology easier to see and learn about.

**🧒 Childhood**

* He enjoyed exploring the natural world and was curious about how things work, and he was interested in science and art from a young age.
* David learned to paint with watercolours from his grandfather, who taught him traditional scenes like barns and trees.
* His early experiences with painting influenced his unique style of scientific illustration
* He kept drawing while studying science—it helped him learn and explain ideas.

**🎓 Education**

* He earned a bachelor's degree in both biology and chemistry from the University of California, Irvine.
* He completed a Ph.D. in biochemistry in 1987.
* During graduate school, he developed molecular graphics programs to help create 3D models of cells.
* He did postdoctoral research at The Scripps Research Institute, focusing on molecular biology.
* He earned a Ph.D. in **X-ray crystallography**, a method used to see molecules, at the University of California, Los Angeles.

**🧪 Career**

* He is a professor of computational biology at The Scripps Research Institute
* He also works with the **RCSB Protein Data Bank**, which collects 3D models of molecules.
* He developed AutoDock, a widely used program for molecular docking in drug design.
* He has written several books, which combines science and art to explain cellular processes, including *The Machinery of Life*.
* He gives talks about the *beauty of molecular biology*.

**🖼️ Artwork**

* A colorful circular pattern with many different colors

  AI-generated content may be incorrect.**Coronavirus (2020)**: A detailed watercolour painting showing the structure of the coronavirus
* He created the "Molecule of the Month" series for the RCSB Protein Data Bank, illustrating molecular structures.

A collage of different colored cells

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A close-up of a cell

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* **Escherichia coli Bacterium**: A painting showing the internal structure of the E. coli bacterium.

**💬 Quotes from David S. Goodsell**

* "To make things even more challenging, cells must also be able to make all of their component molecular machines using only the resources that are available in the local environment."
* "The key molecular process that makes modern life possible is protein synthesis, since proteins are used in nearly every aspect of living."
* “I want to show how crowded and active cells really are.”
* “Science is full of beauty. I try to bring that to life with art.”
* “You don’t need to choose between art and science—you can do both!”

**📚 Bibliography**

* RCSB Protein Data Bank: [molecule of the month](molecule%20of%20the%20month)
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* Goodsell, D. S. (1993). *The Machinery of Life*. Springer-Verlag.
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* [Beautiful Now](https://beautifulnow.is/discover/arts-design/gorgeous-watercolor-paintings-of-tiny-viruses-under-microscope-by-david-s-goodsell?utm_source=chatgpt.com)
* [Zócalo Public Square](https://www.zocalopublicsquare.org/what-does-coronavirus-look-like/?utm_source=chatgpt.com)
* [Wikipedia](https://en.wikipedia.org/wiki/David_Goodsell?utm_source=chatgpt.com)

**🎨 Art Challenges**

**🎨 1. Microscopic Art Challenge**

* Draw your version of what a cell or virus might look like!
* Colour it

🧠 *Extension:* Label basic parts like the nucleus or virus spikes.

**🧬 2. Build a Cell from Craft Materials**

* Use clay, felt, pipe cleaners, or sweets (jelly = cytoplasm!).
* Assign each craft item to a different cell part.

**🔍 3. "Design Your Own Microbe" Activity**

**Goal:** Invent a brand-new microbe!

* What shape is it? What does it do? Is it helpful or harmful?
* draw your microbe and write a short story or label its parts.
* Give it a name, size, and “superpowers.”

Colouring page inspired by David S. GoodsellA dna helix with wooden bars

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Colouring page inspired by David S. Goodsell

A black and white drawing of a cell

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Colouring page inspired by David S. Goodsell

A line of test tubes

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