

edited by Mitch Leslie



EDUCATION

Hearing Aid

Distinguishing the trill of a canary from the blare of a foghorn is a job for the cochlea, which transforms sounds entering the inner ear into nerve impulses that the brain can interpret. Students and researchers can study the cochlea's architecture and intricate workings at this detailed primer from Italian researchers Renato Nobili of the University of Padua and Fabio Mammano of the Venetian Institute of Molecular Medicine. The anatomy section dissects the coiled structure down to the vibration-detecting inner hair cells. Plentiful illustrations and animations can help you grasp the complexities of translating waves in the cochlea's fluid into nerve signals. The site also offers some aural history, highlighting pioneers such as Italy's Alfonso Corti, who first described the cochlea's internal organization. Above, a cross section through the cochlea shows the organ of Corti (center), which houses the hair cells.

www.vimm.it/cochlea/index.htm

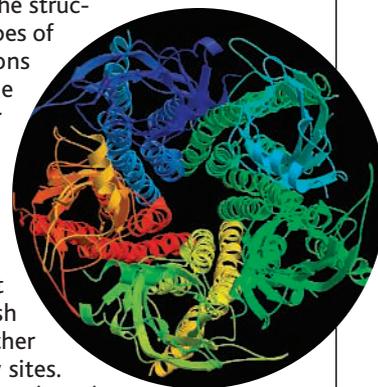
RESOURCES

Journey Through the Membrane

The cell membrane rebuffs ions such as sodium and potassium that attempt to traverse it. But the charged particles can enter and exit cells through protein tunnels known as ion channels that are embedded in the membrane. This trio of sites lets everyone from neophytes to neuroscientists boost their understanding of these passages, which are crucial for nerve cell firing and other activities.

Soak up the basics of ion channels at this tutorial* from Tim Smith, a chemistry student at the University of Warwick, U.K. The pages describe the structure and mechanics of different types of channels and explain how poisons such as tetrodotoxin, produced by the puffer fish, can lock the cellular doorways. Ion Channels.org† is a community site for researchers and students. Sponsored by Ion Channel Media Group of Montreal, Canada, the site features an annoyingly large number of ads but also includes abstracts of fresh papers, a jobs board, and links to other ion-channel and electrophysiology sites.

So-called ligand-gated ion channels (right) open or close when molecules such as the neurotransmitter acetylcholine latch on. This database,‡ hosted by the European Bioinformatics Institute, stows amino acid sequences for more than 500 components of ligand-gated channels from humans, mice, rats, and other organisms.



* www.chemsoc.org/exemplarchem/entries/2002/Tim_Smith

† www.ionchannels.org

‡ www.ebi.ac.uk/compneur-srv/LGICdb/LGICdb.php

DATABASE

When the Earth Moved

The 1964 Great Alaska earthquake toppled buildings in Anchorage, 120 kilometers from the epicenter, and touched off a 67-meter-high tsunami that killed 110 people. The database SeismoArchives houses recordings of the magnitude-9.2 temblor, the second largest of the 20th century, and 25 other "classic" quakes.

The goal of the clearinghouse, a new offering from the seismology consortium IRIS (*Science*, 26 November 1999, p. 1643), is to cache digital versions of deteriorating paper and microfilm seismograms. The hundreds of original recordings in the archive come from researchers and span nearly 70 years of ground shaking, from the 1906 Valparaiso, Chile, quake to the 1972 Managua, Nicaragua, disaster. Earth scientists who want to analyze the events can download high-resolution images of seismograms captured by stations around the world.

www.iris.edu/seismo



EXHIBITS

Science on Screen

Whether the character is Dr. Frankenstein, Dr. No, or Mr. Spock, scientists and mathematicians typically appear on TV and in film as megalomaniacs or maladjusted superbrains. Breaking those stereotypes is the goal of Science Cinémathèque, hosted by the Museum of the Moving Image in Astoria, New York. The exhibit, which premiered this week, explores more complex portrayals of research and researchers in popular culture. For

example, you can screen eight prizewinning student films with scientific themes, including a short biopic on the Hungarian physician Ignaz Semmelweis (1818–1865), who demonstrated the importance of hygiene in hospitals. Other features include a panel discussion of the 2004 film *Primer*, about garage inventors who build a time machine (above).

www.movingimage.us/science

Send site suggestions to netwatch@aaas.org. Archive: www.sciencemag.org/netwatch