



## Jim Bower

*Neuroscientist, Education Pioneer, Software Entrepreneur*

TOPIC: Life Science

SUBTOPICS: Social Change; The Future; Technology/Media

### BIG IDEAS:

#### How to “Teach” Science and Math

Researchers have identified the middle school years as a time when children, especially girls, lose their interest in math and science. Studies suggest that exposure to engaging educational, and in particular, scientific activities during this critical period can substantially influence future academic and career choices. Jim launched Whyville.net, a highly successful online activity environment for kids ages 8-12, because he saw how limited traditional teaching methods were in reaching these children. He talks about his philosophy of teaching, and how inquiry-based methods, particularly on-line tools, can fuel kids’ imagination and desire to learn.

## BIOGRAPHY

James Bower is Professor of Computational Neuroscience at the University of Texas Health Science Center at San Antonio and at the University of Texas, San Antonio.

He is also Founder, Chairman and CEO of Numedeon Inc., producer of Whyville.net, one of the most popular educational web sites for children, with 2.2 million registered users. Whyville is the leading educational virtual world for children ages 8 - 15. It was launched in 1999 by Numedeon, Inc. to apply over 17 years of research in education and cooperative learning to develop an innovative environment for engaging children in constructive and engaging activities on the web.

Aside from Whyville, Numedeon’s proprietary software also powers a virtual campus for the University of Texas Health Science Center in San Antonio (UTHSCSA). UTHSCSA-Virtual supports scientists and medical professionals in their collaborations both locally and at a distance.

Bower was a professor at the California Institute of Technology (Caltech) for 17 years. His scientific research focuses on the cerebellum and the mammalian olfactory system and employs a variety of experimental and computational techniques. His laboratory invented the neural-simulation system GENESIS

and pioneered techniques in multi-single-unit neuronal recording. He has a longstanding interest and involvement in science education at all levels, having founded several international courses in computational neuroscience and established annual computational neuroscience meetings.

Dr. Bower has also been involved in educational reform efforts since he was President of the Teen League of Rochester (NY) as a high school student from 1970 - 1971. While at Caltech, he founded and directed the Caltech Precollege Science Initiative (CAPSI). He has been a member of numerous national advisory groups on education, including the National Research Council of the National Academy of Science, the National Science Foundation and the Society for Neuroscience.

He has published more than 100 scientific articles and has authored several books. Bower received a Ph.D. in neurophysiology from the University of Wisconsin-Madison.