

**James H. (Jim) Laurie**  
Biologist, Futurist, Technical Trainer

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## Education

**Rice University - Houston, Texas Bachelor of Arts - Biology (1972)**

- Biochemistry, Cell Biology, Physiology, Ecology - 32 hr.
- Chemistry - 18 hr.

**University of Houston at Clear Lake (UHCL), Texas, Master of Science - Future Studies (1997)**

- Systems Thinking - Holistic & Ecological Models
- Visionary Futures - Mental Models & Paradigms
- Strategic Planning; Biology Courses - Estuary Ecology, Bioenergetics, Ecological Toxicology
- Computers - Boolean Logic and Integrated Circuits
- Master's Thesis Title - *Biological and Educational Tools for Reversing the Loss of Biodiversity in the 21st Century*

## Employment

**United States Army - 25th Infantry Division, Schofield Barracks, Hawaii**

- 1st Lt. - Medical Service Corps (1972 - 1975)
- Responsible for two platoons in 1974 & 1975. (40 medics and cooks)
- Received Expert Field Medical Badge in 1974.

**Bayer Corporation (formerly Mobay), Baytown, Texas (1976-1995)**

- Plastics Color Lab Technician (2 years)
- Shift Supervisor - Quality Assurance Lab (2 years)
- Bayer Laboratories Training Supervisor (14 years)
- Provided technical training for over 75 chemists, engineers, and lab technicians.
- Developed and taught courses in process chemistry, analytical chemistry, lab safety, toxicology, quality issues, SPC & team training for self-directed work teams.
- Brought Macintosh Computers into the Main Lab to improve training and information flow.
- Taught computer skills including spreadsheets, word processing, graphics, and LIMS databases.
- Developed a HyperCard information system for laboratory training.

**Environmental Biologist, with Bayer Corp (1993 - 1995)**

- Designed, built, and operated several ecosystem wastewater pilot plants to treat chemical wastewater. The Main Lab Pilot Plant included a freshwater marsh, anaerobic algae tank, and fish tanks. It removed many chemicals from lab wastewater including chlorinated solvents, toluene, ammonia, cyanide, phenols, & heavy metals including nickel & cadmium.
- Acted as Environmental Coordinator advising management on environmental issues in 1985-1988.

**Living Technologies, Inc. (LTI) (1995 - 1996) - Burlington, Vermont**

- Plant Manager - South Burlington "Living Machine"
- Responsible for start-up and operation of 80,000 gal/day EPA-funded Advanced Wastewater Treatment Plant designed by Dr. John Todd of Ocean Arks Int'l. This Living Machine system was located in a greenhouse where algae, plants, invertebrates, and fish used sewage as a nutrient and created water that was safe to swim in.
- Reached design flow in four months with no ammonia excursions, despite cold water temperatures in the Vermont winter.
  - Managed \$500,000 operations and maintenance budget
  - Staffed & trained operations and laboratory team.

**The Arlington Institute (TAI) (1999) - Arlington, Virginia**

- Biosystems Analyst at this futurist think tank.
- Focused on the Y2K issue in 1999, and studied the impacts of the loss of biodiversity, global warming, and the changes in the global nitrogen cycle due to chemical fertilizers.

**Environmental Education Consultant - (1996 - 2004)**

- Built educational ecosystems at high schools in Texas, Vermont, New Hampshire, and D.C. Supplied science teachers with an integrated curriculum for bringing nature into the classroom.
- Developed curriculum and taught at two summer conferences for H.S. science teachers in VT.
- Provided technical training for the Living Technologies Engineering Team.
- Built two research ecosystems, one was powered by photovoltaics, the other treated duck waste in ponds and constructed wetlands.
- Spoke at World Future Society's conference in Minneapolis in July, 2001, Topic: "The Internet in Ecology and the Ecology of the Internet"

**International Wolf Center - Full Time Volunteer (2002) - Ely, Minnesota**

- Taught educational programs about wolves and ecology and led nature tours for visitors.
- Began the process of digitizing the IWC's slide inventory into Power Point-ready formats.

**Evergreen Resources - Environmental Restoration Consultant (2005) - Oroville, CA**

- Developed strategy for restoration of the Eel River using mycelial networks
- Worked closely with both mining and environmental communities to craft a mutually agreeable plan

**Pogo Organics - Mycobiologist (2006) - Brookeville, Maryland**

- Built clean room to study fungi growth.
- Grew spawn for mushroom species including shiitake, maitake, reishi & oyster.
- Researched several restoration strategies using wood chips and wood compost

## **Other Educational & Teaching Experience**

### **Ocean Arks International - Falmouth, Massachusetts**

- 1992 Ecological Design Conference (Falmouth)
- 1993 Ecological Design Conference (Mountain Lake, VA), Both were 3 week courses taught by Dr. John Todd & David Orr.
- Spoke at Chattanooga Urban Design Conference - December, 1994, Topic: Ecological Engineering in a Chemical Plant

### **Chinquapin School Outdoor Classroom - Highlands, Texas - (1993 to 1995)**

- Worked with this school (Grades 7 to 12) to develop a holistic science curriculum by doing projects outdoors. Included are gardens, composting, fish tanks, energy projects, microscope studies, & chemical analysis. The goal is to teach process by providing "hands-on" time for students.

### **Holistic Resource Management - Albuquerque, New Mexico**

- I have studied this concept for 10 years. This organization is restoring biodiversity & community health while also being profitable financially. Many West Texas ranchers have saved their ranches using HRM.

### **University Teaching Experience**

- I have taught several classes in Biology, Future Studies, and Environmental Science courses both in Texas and in Vermont.
- Co-taught with Dr. Oliver Markley at UH-Clear Lake a course titled "Global Consciousness." My part of the course included the new biological paradigms and a review of ecological design.