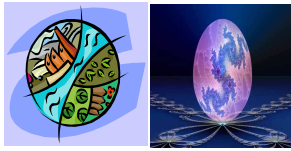


**Between Nature and Science:
Advanced Modeling Concepts for Environmental Sciences****Vit Klemes****Some Thoughts about Stochastic Hydrologic Modelling inspired by the
Canadian Wilderness****Thursday April 28th****4:00-5:00pm****PES 3001****Light refreshments provided**

Hydrologic science starts with observations of water, continues with recording them, i.e. converting them into "data", then proceeds to fitting the patterns of these data with mathematical models, and finally uses such models to make predictions about the behavior of water in the frequency and the time domains. It is significant, though often overlooked that, on this route, hydrological science inconspicuously tends to drift ever farther from the "hydro" towards the "logic" with an implicit hope that in doing so it raises its "scientific status". The irony of this "natural process" is that the most "scientific" predictions about the behavior of the real wet water are often based on the behavior of the rather dry "logical constructs" – mathematical models fitted to pure numbers whose original "hydro" meaning does not enter the picture: the models would be exactly the same regardless of what their underlying numbers might represent. However, what is even more important, is that the main product of these models – their predictions – are usually extrapolations of their "logic" beyond – and often far beyond! – the range of the observations. And it is well known that extrapolation is bad science, except when used as a hypothesis subject to confirmation by observation – a situation seldom if ever encountered in stochastic hydrology. Based on inspirations from the Canadian wilderness (and from other natural settings), the lecture will consider possible ways of "irrigating the dry logic" of stochastic hydrological modeling.

Vit Klemes, born in 1932, received doctoral degrees in hydrology and water resources from the Slovak Technical University, Bratislava, and from the Czech Technical University in Prague. After graduation, he worked for almost a decade in construction, design and planning of water resources systems. Beginning with an assignment at the Slovak Academy of Sciences and in Canada since 1968, Dr. Klemeš pursued a research career that landed him at the National Hydrology Research Institute of Environment Canada for 17 years. From 1990 to 1999 he was a water resources consultant in Victoria, B.C., where he and his wife now live in retirement. During his career Dr. Klemeš has authored about 150 scientific and technical publications, lectured extensively on all five continents, was a visiting professor at the California Institute of Technology, the Swiss Federal Institute of Technology in Zürich, at the Monash University in Melbourne, at the Agricultural University in Vienna, the University of Karlsruhe, and in 1994 was appointed Invited Professor at the Université du Québec. In 1987, he was elected President of the International Association of Hydrological Sciences (IAHS) and his work has been recognized by a number of awards; among others, he received a Gold Medal from the Slovak Academy of Sciences (1993), the International Hydrology Prize from the IAHS (1994), the Ray K. Linsley Award from the American Institute of Hydrology (1995), and the Ven Te Chow Award from the American Society of Civil Engineering (1998).

Upcoming Speakers:

12-May	Constantino Tsallis	"Nonextensive Statistical Mechanics - Introduction and Applications"
19-May	John Rundle	TBA
2-Jun	Jim Crutchfield	"Multiagent Dynamical Systems"

Sponsored By: John Muir Institute for the Environment, Computational Science and Engineering Center, Department of Civil and Environmental Engineering, Department of Land, Air, and Water Resources, Department of Chemical Engineering and Materials Science, Soil Sciences, Atmospheric Sciences, and Hydrologic Sciences Graduate Groups, College of Agriculture and Environmental Sciences, U.C. Cooperative Extension