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SUMMARY

Advanced independent research on opportunistic systems for over thirty years with numerous significant findings. --for bio see web site--

EDUCATION

1964-68 **B.S. physics, math**: St. Lawrence University, projects in how experiments misbehave, minors in economics, fine art, athletics

1968-70 **Post Grad Study**: Stony Brook U. - Gödel's Incompleteness theorem; Columbia U. – topology; Columbia U. - Architecture

1971-73 **Masters in Architecture & Landscape**: University of Pennsylvania – theses in sustainable design and micro climate

INDEPENDENT STUDY

MICRO CLIMATE EVOLUTION 1976-79

Assembled mobile climate lab for detailed 24 hr mapping of energy flows in buildings and made numerous studies of evolving convection systems unique to individual solar and non-solar homes, and unique to each day and hour.

APPROPRIATE SYSTEMS TECHNOLOGY

Applied air current evolution observations to design of solar collectors allowing a clean separation of hot and cold air currents in an open space heat transfer devices where turbulent mixing would normally have occurred.

GENERAL UNCONTROLLED SYSTEMS THEORY 1979 -

Developed method of tracing the evolution of growth processes based on the accumulative stages of change identified in isolated individual energy flow systems, an "Unhidden Pattern of Events", and assembled a collection of papers self-published as a book. – work continues

UNCONTROLLED ECONOMIC SYSTEMS THEORY 1979 -

Developed economic models for systems of uncontrolled parts, proved a physical cause for limits to growth in terms of learning process response-time limits and their ways of responding to signals of diminishing returns and getting their signals reversed.

DERIVATIVE RECONSTRUCTION 1986 -

To identify the domain and internal processes of uncontrolled systems developed a technique of identifying the continuities in their data and method of reading shifts in their continuities as implying organizational change in their internal designs. Derived the law of conserved continuity in organizational development and decay as a unification of the conservation laws, and applications. – work continues

PALEONTOLOGY: PUNCTUATED EQUILIBRIUM 1994 – 2006

Located dynamic uncontrolled systems in the evolutionary transition of one species of plankton to another, demonstrating clear repeated systemization and collapse in the process. Developed important new mathematical tests for continuity in data implying the type of physical processes in the environment producing them.

CRIMINOLOGY: SOCIAL SYSTEM COLLAPSE 2005-6

Studied the great American crime wave of the 1960-2000 period, identifying for New York City the location and timing of internal changes in the crime culture indicating why it collapsed.

SUSTAINABILITY SCIENCE 2005 -

Developed whole system metrics to correct the error of omitting the directly implied but individually unaccountable environmental impacts. Developed methods of reading whole environment signals from development process learning curves and way they are customarily read backwards by financial metrics and self-interest with reverse multiplying effect. Developed a whole systems design & learning approach for continually going beyond definitions to see how the problem is changing.

PUBLICATION

Research Papers

- 2009-1 [Complex Systems](#) - Encyclopedia of the Earth article
- 2008-2 [Life's Hidden Resources for Learning](#), Cosmos & History issue on "What is Life"
- 2008-1 [A Continuity and Divergence Principle](#)
- 2007 [Flowing processes in a punctuated species change, G. pleisotumida to G. tumida, displaying feedback driven evolution, Abstract & Intro](#) - draft for journal 12! ...best so far -
- 2000-1 (book including below) Marcos Rodrigues ed., Invariants for Pattern Recognition and Classification, World Scientific, 2000, Chapter 6
- 1999-1 [Features of derivative continuity in shape](#), [[Abstract & Intro](#)] *International Journal of Pattern Recognition and Artificial Intelligence (IJPRAI)*, for a special issue on invariants in pattern recognition, V13 No 8 1999 1181-1199
- 1995-1, [Reconstructing the Physical Continuity of Events](#), deriving the continuity of change from conservation laws
- 1985-2, [Unconditional Positive feedback in the economic system](#), *Proceedings*, Society for General Systems Research, Louisville KY
- 1985-1, [Directed Opportunity, Directed Impetus: New tools for investigating autonomous causation](#), *Proceedings*, Society for General Systems Research, Louisville KY
- 1983-1, [General Allocation Theory](#), a model of where all money goes.(2.3 meg scan)
- 1979-1, An Unhidden Pattern of Events [a book of essays]
- [Covers & contents](#), [Foreword](#), [An Unhidden Pattern of Events](#), Two Magical Farmers, Taking hold of Things to Come, An Appropriate Approach for Appropriate Technology, What Makes a Net Working, On Finding the Knack, [The Infinite Society](#),
- Natural Building Climate: [W.I.S.P.](#), Multi-Climate Building, Stage Sets for Personal Climate, Sneaky Invisible Things, Natural Orders of Convection, Building Climate Pathways, House Stories I
- 1978-2, Natural Orders in Convection, Int'l Soc. for Solar Energy Research
- 1978-1, [Air Current Networks](#), Rain Magazine, Portland; Int'l Soc. for Solar Energy Research
- 1977-1, [House Stories](#) - The daily evolutions of micro-climates inside homes

Posts, Letters & Conf. Circulars

- 2008 [Profiting In Scarcity](#) - (our compounding investment in depleting necessities) - draft for [OilDrum](#)
- 2008 [Steady State... Multiplication?](#) - for [Earth Portal](#)
- 2008 [Reading the Limits](#) - draft for [OilDrum](#)
- 2008 [Limits To Renewables](#) - July issue of [WorldWatch](#)
- 2008 [Negative effects & Positive Growth](#) - 6/3/08 in [Sustainable Science Practice & Policy](#)
- 2007 [Projecting Images of Complex Systems](#) - poster for for SASO-2007, see also [PICS.htm](#) for notes
- 2001 [On mathematical truth & beauty](#) – Letter NY Sci. Times
- 1981 ["we didn't think it through"](#) - A Letter in the NY Times

Web Correspondence Archives

- from 2006 [Synapse9 Blog](#) Some better letters, visitors can post or comment
- from 2008 [LCA](#) Life Cycle Analysis tech forum
- from 07-08 [GAIAPc](#) [Downslope](#) [GaiaFdn](#) [O2mail](#) issue discussion groups
- Nov 06-08 on [AIA C.O.T.E](#) & [Archinect.com](#) Sustainable Design Forums
- from Jun-Nov 06 [FriAM](#) Santa Fe complexity group list serve
- Mar 06 [NECSI](#) re: capitalism, from R.Newman article in the Guardian
- from 2005 [cybernation in nature & ideas](#) snail mail with Don McNeil
- from 2005 [seems familiar & easy to mark](#) email threads w/ [Stan Salthe](#)
- 95-2000 [Sci.Physics](#) news group conversations

Web Sites

- Publication list - www.synapse9.com/phpub.htm
- General site – www.synapse9.com
- Physics Research – www.synapse9.com/drwork.htm
- Sustainable design model – www.Connection.metadot.net
- Blog – www.synapse9.com/blog