SOCIETY FOR CHAOS THEORY IN PSYCHOLOGY & LIFE SCIENCES

NEWSLETTER
▪ VOL. 15, NO. 2, JANUARY 2008 ▪

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Announcing 2008 Conference Location and Historic Lodging Elegance!
SCTPLS Heads to Virginia, Teams up with Center for the Study of Biological Complexity

The 18th Annual International Conference of the Society for Chaos Theory in Psychology & Life Sciences will be at Virginia Commonwealth University (VCU) in Richmond, Virginia, August 8-10, 2008. We're excited at the co-sponsorship of the conference with VCU's Center for the Study of Biological Complexity. Conference meetings will be held in the Eugene P. and Lois E. Trani Center for Life Sciences. Tarynn Witten, who is an SCTPLS member and senior fellow and the director of research and development at the Center, is bringing this co-sponsoring arrangement to life, with some unique program features you won't want to miss!
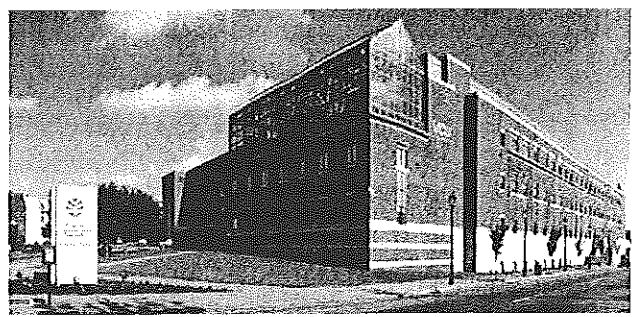
City of Richmond Flag

Elegant and oh-so-comfortable lodging at Richmond's historic Jefferson Hotel is a brief walk away (see page 2). A short trip from Washington, DC, Richmond's landmarks tell the story of the city's extraordinary place in American history as the capital of the confederacy. Its neoclassical Virginia State Capitol building, designed by Thomas Jefferson, is where the legislature met in 1785 and still meets today. Then there's Saint John's Church, site of Patrick Henry's speech that became the battle cry of the American Revolution: "Give me liberty or give me death..." And the list goes on!
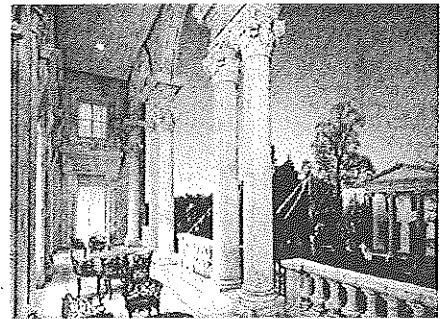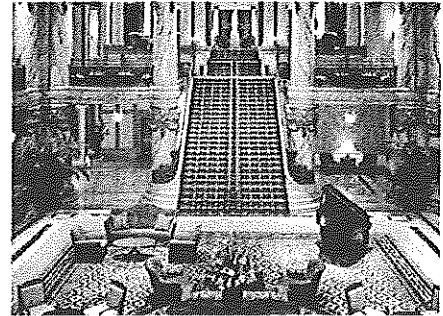
Keep your eyes out for announcements of more neat things to do in and around historic Richmond!

THE JEFFERSON

SCTPLS 2008 ANNUAL CONFERENCE LODGING

The Jefferson Hotel
The 18th Annual SCTPLS Conference Lodging

A historical, learning and inspiring place!

- One of only twenty seven hotels in North America to receive the MObil Five Star and AAA Five Diamond awards for 2007

- Charter member of Historic Hotels of America

- Opened in 1895, today, is national historic landmark

- The Jefferson provides a hotel experience that is uniquely Richmond

- Just nine miles from Richmond International Airport

- Easily accessible from Interstate 64 and 95.

- No less than eleven Presidents. Harrison, McKinley, Wilson, Coolidge, Taft, both Roosevelts (Theodore and Franklin Delano), Truman and Reagan, and both Bushes have stayed at the hotel.

- Among the rich and/or famous guests were: Admiral Dewey, Sarah Bernhardt, Scott and Zelda Fitzgerald, Vanderbilts, Whitneys and Barrymores, Gertrude Stein, Sir Edmund Hillary, Charles Chaplin, Nelson Eddy, Robert Mitchum, Ray Charles, Frank Sinatra and Elvis Presley.

- Sergie Rachmaninoff played in The Grand Ballroom and one of the world's most famous dancers, Bill (Bojangles) Robinson, was "discovered" as he waited tables in the dining room.

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18th Annual SCTPLS Conference
August 8-10, 2008
VCU, Richmond, Virginia

SOCIETY FOR CHAOS THEORY IN PSYCHOLOGY & LIFE SCIENCES

2008 SCTPLS Conference Call for Papers
Richmond, Virginia ▪ August 8-10, 2008

We invite all interested scholars to submit abstracts reporting work involving chaos theory, fractals, nonlinear dynamics, complex systems, and related topics. Along with work in all areas of psychology, general biology, neuroscience, medicine, and the social sciences, recent conferences have also included presentations in anthropology, art, education, literature, mathematics, philosophy, and physics. The program will include symposia, panel discussions, a poster session, and sessions of individual papers. Advances in basic or applied research, developments in theory, reports of empirical results, and methodological papers are all welcome. Another format popular with conference attendees in recent years has been short workshops focused on sharing a particular set of techniques or methods, which might include a demonstration of relevant software (short workshops will be scheduled as part of the regular program).

The conference registration fee will be waived for *student members* of SCTPLS who have an abstract accepted.

Instructions for Abstracts

For all abstracts: The connection to nonlinear dynamics, chaos, complexity, fractals or related concepts should be clear to the reader. Please stress what is the *overall value added to the field* (e.g. new method, new information, new perspective or issue, valuable confirmation of the present knowledge, adds clarity to present understanding). The official language of the conference is English.

Length: Abstracts should be between 150-250 words for *posters, papers*, or *short workshops*. Abstracts may be up to 500 words for symposia or panel discussions.

Number of submissions: Each person submitting is limited to a maximum of two presentations as first author (it is acceptable to be a co-author on additional submissions by others).

For *symposia,* abstracts should reflect the content of EACH speaker's contribution. The format for a symposium is for all speakers to give presentations, followed by or interspersed with discussion. The format for a panel discussion is an introduction to the topic and the speakers, after which the panelists address a series of questions or issues (rather than giving a series of presentations).

For *panel discussions,* abstracts should provide a brief overview of the topic, and indicate the relevant back-ground of the panelists and sample questions they will address. The format for a panel discussion is an introduction to the topic and the speakers, after which the panelists address as series of questions or issues (rather than just giving a series of presentations).

For **experimental work:** background, aims and framework, methods and samples, results, conclusions and Implications should be clear to the reader.

For **theoretical work:** background, aims and framework, mode of inquiry, outcomes, conclusions and implications should be clear to the reader.

Abstract for **workshops** should present state-of-the-art information on techniques useful for conducting research or applications of nonlinear science in the behavioral, social and life sciences. They should be pedagogical in nature, and where applicable emphasize skills that attendees can expect to acquire.

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The deadline for submissions is April 29, 2008. Please submit abstracts at our web portal: www.societyforchaostheory.org/conf/2008/cfp.html

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If you have any questions about abstracts, please contact Conference Chair Ivelisse Lazzarini drLazzarini@mac.com,

The iris is Virginia's state flower. These irises are by Van Gogh.

Did you know? Dating from 1991, the SCTPLS is the longest-running annual conference series showcasing the latest ideas and progress in nonlinear dynamics applied to psychology and the life and social sciences.

Lazzarini Re-elected SCTPLS President

The SCTPLS is pleased to announce that we had an excellent turnout in the election of our next president. With an impressive 60 votes cast, congratulations are in order to Dr. Ivy Lazzarini, who will serve a second term. The Society has moved forward under Ivy's guidance, and we are expecting even more from her in this second term. Our thanks to Lynn Winter who ran for office and also received votes and to one ballot write-in candidate.

Guastello Appointed to New Term as *NDPLS* Editor

Congratulations to Stephen Guastello for his reappointment as Editor in Chief of the Society's journal, *Nonlinear Dynamics, Psychology, and Life Sciences.* The Publications Committee has developed a systematic policy approach to the journal editorial appointments (see page 5). Editor terms will run for five years. Steve's new term is 2008-2013. We look forward to the continuing evolution of *NDPLS* under his stewardship.

Members' News

Susie Vrobel is at it again – congratulations, Susie! We are happy share her announcement of a rich compilation of 28 papers in her co-edited volume *Simultaneity: Temporal Structures and Observer Perspectives.* It's already on our Nonlinear Dynamical Bookshelf below!

Hector Sabelli is also churning out the work! He and his co-workers at the Chicago Center for Creative Development are developing a new theory of evolution. Causal actions, including behavior (instead of random variation), play a fundamental role to generate variation, syneric and antagonistic relations (instead of only · competition and predation) play a role in selection). Interactions such as horizontal gene transfer and sexuality are as fundamental. This work is supported by empirical data and computer models, published in Sabelli, H. Bios Theory of Physical, Biological and Human Evolution. In *Explorations in Complexity Thinking.* Edited by Kurt A. Richardson & Paul Cilliers. ISBN: 0979168813. ISCE Publishing (2007) and an article in press: Sabelli, H and L. Kovacevic. Biotic population dynamics. They have demonstrated biotic and Mandala patterns in the prime numbers (Sabelli, H. The Biotic Pattern of Prime Numbers Supports the Bios Theory of Creative Evolution from Radiation to Complexity. Proceedings of the International Conference on Complex Systems. *Inter.Journal* 2007) and in the Riemann function (Kauffman, L. and Sabelli, H. Riemann's zeta function and the prime series display a

biotic pattern of diversification, novelty, and complexity Proceedings of the International Conference on Complex Systems. *Inter.Journal* 2007). The observation of bios and of periodicity in the series of prime numbers demonstrates the importance of bios as **a creative pattern characterized by the generation of novelty by the rotation of opposites.** They have demonstrated biotic patterns in the newly available data on the distribution of galaxies and on gravitational waves. More publications are coming. Currently, they are preparing a special issue on Sociatry, the psychiatric treatment of social dysfunctions, to appear in the Psychodrama journal.

Sara Ross co-edited with Michael Commons a triple special issue, in press, for *World Futures: The Journal of General Evolution.* The invited issue highlights the Model of Hierarchical Complexity, a universal theory of task-measurement developed by Commons and colleagues over 30 years. In addition to the Model's theoretical foundations, the issue includes a non-exhaustive range of applications and implications. A few of those included are: hierarchical complexity dynamics of evolution; evolution of intelligence; hierarchical complexity requirements for scientific innovation; moral, religious, and political development; the hierarchical complexity of public interactions; challenges in communications; and a hierarchical complexity analysis of resistance to concepts of hierarchical complexity ☺.

Little Known Facts and Circumstances of the Society's Roots

Editor's note: This is a new feature in our Newsletter. It is a sp(l)ace to co-create our organizational memory by becoming (more) aware of our history and making it at the same time. Tell us about the past emergences you're aware of – research and interest groups, partnerships, new departments, all the dynamics that fed and still feed this Society's constellation. Recollections galore are especially invited from pioneers in the Society!

Recollections 1: Chaos Afloat

By David Loye
Submitted and with closing note by Fred Abraham

It was dark, cold, and clammy—a night "not fit for man nor beast," as the old saying has it. The light drizzle of rain so blurred my glasses I had to take them off and wipe them off every so often to try to make out where in hell I was.

Anticipating good weather I had brought neither umbrella nor raincoat.

Publications Committee Report

Appointment of the Editor in Chief for
Nonlinear Dynamics, Psychology, and Life Sciences

The following policy was formulated by the SCTPLS Publications Committee October, 2007 in response to the need to develop a systematic plan for appointing an Editor in Chief to SCTPLS' flagship journal *Nonlinear Dynamics, Psychology, and Life Sciences* (*NDPLS*). The policy delineates the editorial purview of the journal, the Editor's job description, term of appointment including provisions for renewing an Editor's term, and method of appointment.

Journal Purview

The editorial purview was established by the Publications Committee in the fall of 1995, and remains operative as follows: The purview of the journal is critical to the inclusion of articles: *Nonlinear Dynamics, Psychology, and Life Sciences* publishes papers that augment the fundamental ways we understand, describe, model, and predict nonlinear phenomena in psychology and the life and social sciences. One or more of the following nonlinear concepts must be an explicit part of the exposition: attractors, bifurcations, chaos, fractals, solitons, catastrophes, self-organizing processes, cellular automata, genetic algorithms and related evolutionary processes, neural networks, agent-based models. The broad mixture of the disciplines represented here indicates that many bodies of knowledge share common principles. By juxtaposing developments in different fields within the life and social sciences, the scientific communities may obtain fresh perspectives on those common principles and their implications. Because the journal is multidisciplinary in scope, each article should make an original contribution to at least one substantive area and, to the extent possible, illuminate issues beyond that area's boundaries.

Contributions may be theoretical or empirical. Theoretical papers should be firmly grounded in the extant literature and culminate in new principles involving nonlinear dynamics that can be tested; manuscripts heavy on conjecture with little reference to evidence are not encouraged. Reviews of the relevant literature on applications of nonlinear dynamics are also welcome, if they synthesize and interpret this material in novel ways. Empirical papers may include experimental observations, simulations, or analyses of real-world data. Articles will be reviewed by two or more experts in the relevant field. *NDPLS* is published quarterly by the Society for Chaos Theory in Psychology & Life Sciences.

Job Description

The Editor in Chief will maintain the identity and develop the professional standing of NDPLS. The Editor is responsible for soliciting manuscripts for consideration, managing the review of solicited manuscripts and general submissions, reporting the results of reviews to authors, defining any necessary revisions, making the final acceptance decisions and issuing contracts to authors, organizing issues of accepted manuscripts for publication, maintaining the production timetable, and keeping the necessary records of manuscript flows and reviews.

The foregoing responsibilities of the Editor are carried out in conjunction with an Editorial Board that is composed of approximately 20 people who, collectively, are experts in the full range of nonlinear dynamics covered by the journal. The Editorial Board members are appointed by the Editor in Chief. Society membership for Editorial Board members is not required, but is highly recommended. The global geographic distribution of members is another important consideration in addition to technical qualifications in the appointment of members to the Editorial Board. The *NDPLS* Editorial Board is a working board, and not simply an honorific appointment.

The Editor in Chief of *NDPLS* will also be a member of the SCTPLS Publications Committee, which establishes policies regarding SCTPLS Publications and carries out many of the activities that are intrinsic to the publications.

Term of Appointment

The Editor in Chief serves for renewable terms of 5 years. Renewals would occur by mutual agreement of the incumbent Editor and the Publications Committee. At the time this policy went into effect, the incumbent Editor's term was extended by a vote of the members at the SCTPLS Business Meeting, July 2007 through the *NDPLS* issue of October 2008. The first term under this policy will begin with the issue of January 2009, and extend to the issue of October, 2013. The incumbent Editor has expressed willingness to accept a new term of appointment, which the Publications Committee hereby accepts. The following procedures will be followed for future contingencies where the Society needs to appoint a new Editor.

Method of Appointment

The successful candidate for Editor in Chief will be an active (dues-paid) SCTPLS member at the time of his or her application for the position, someone of high academic standing, and a strong track record of publication and other accomplishments in nonlinear dynamics research, consistent with the scope of the journal. Candidates whose home discipline is psychology will be strongly preferred, *ceteris parabus*. A call for nominations and self-nominations for Editor in Chief will be issued by the Nominations and Elections Committee. The call will include a request for curriculum vitae and any related supporting materials.

The candidates' qualifications will be evaluated by an ad hoc subcommittee that operates under the purview of the Publications Committee. The recommendations of the ad hoc committee are subject to approval by the Publications Committee and concurrence of the Executive Committee.

The ad hoc committee will be composed of 3 to 5 people who are active (dues-paid) SCTPLS members at the time of their appointment, and also of high academic standing, and a strong track record of publication and other accomplishments in nonlinear dynamics research, consistent with the scope of the journal. At least one member of the ad hoc committee will be a member of the then-current NDPLS Editorial Board. A call for nominations and self-nominations for the ad hoc review committee will be issued by the Nominations and Elections Committee. This call will also include a request for curriculum vitae and any related supporting materials.
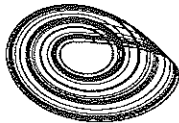
Recollections 1: Chaos Afloat (continued from page 4).

Anticipating a short dash from the cab to the boat, I had not worried. Now I found myself in the murk of a wharf in San Francisco with the sod den piece of paper in hand that purported to be the "directions that would be easy to follow." Following them explicitly led to a locked gate. The cab was gone. There was no other escape in sight. I began to flounder from street lamp to street lamp in search of some glimpse through the murk and drizzle of an open passage through this maze of wet wood, wet concrete, and wet chain linked fencing that kept one imprisoned here on the wrong side of where I could see the dark hulls of the boats clustered. It had obviously been a horrible mistake, I thought, cursing Allan, Fred, or whoever was responsible for this wet and dismal wild goose chase.

It had all begun favorably enough. In the spring of 1991 the phone call had come from Allan Combs. Allan I had first recruited to serve as a book reviewer with me for our General Evolution Research Group (GERG) journal, *World Futures*. After a bit—pointing out that Allan was not only a prize as a psychologist with a background in physics and brain science, but was also one of few social scientists I knew who could write for beans—I had persuaded Ervin to bring him aboard as a full-fledged GERGite. Allan had a most attractive offer to impart. He and Fred Abraham, who was chaos theorist and fellow GERGite Ralph Abraham's psychologist brother, were putting together a conference in San Francisco at which they hoped to launch a new society for the study of chaos theory in psychology. Would I be interested in speaking?

Well, of course. This was very exciting. Chaos theory was still then overwhelmingly confined to the natural sciences, but it was rapidly becoming the big buzz word for the time. Here, it seemed to me, was a prime candidate for pushing the increasingly dull and shallow fields of academic (as opposed to "hands on") psychology and sociology out into the real world. I wrote a paper with Riane showing how the roots of chaos theory can actually be found in social science—in I Ching, in Kurt Lewin, particularly in sociological pioneer Max Weber's powerful concept of charisma. We explained what chaos theory is, laid out its potential for social science, and after publication in *Behavioral Science*—a flagship publication for the field of systems science—the paper became a widely cited, rallying tool for the surge of chaos theory into social science.

It had all looked so very favorable. Soon the printed program arrived. Considering what shoestring operations all these new ventures are at the start, I had expected something mimeographed, with the "conference" involving perhaps a dozen people in a restaurant. An industrial psychologist in Seattle, who had been the originator of the idea, Larry Vandervert, however, felt so passionately about the need for this move that he had put up the funds to launch it with a good-looking program and many of the trappings of a big time, long established operation. It was to be at the Saybrook Institute in San Francisco with kick off talks by psychologists Stanley Krippner, best known for his pioneering exploration of paranormal or psychic phenomena, Fred Abraham, and myself. The main address was to be by Karl Pribram of the holographic brain-mind theory fame.

In lieu of a fee, the honorarium for Allan, Fred, Karl, and me was to be something very special. We were to be put up overnight not in some common, ordinary, old hotel, but rather in a small, select, and sumptuous yacht moored at the San Francisco wharf. It was beautifully appointed with all the comforts of home. The letter didn't say of course that George Washington had slept here, but there was something of this sort involving visiting royalty or some other form of distinguished foreign visitor. It was to be all ours, gently

San Francisco Wharf
(picasaweb.google.com)

lulled to sleep by the waves so we might be both happy and fresh for our talks the following day.

So here I was. I was about to give up and try to find a phone for a cab when a voice spoke out of the dark. A flashlight gleamed from an open gate. It was Allan. "I was afraid you might get lost," he said. "Awful instructions."

He explained that he and Fred had also had the same problem but had finally found the secret doorway. Fred was in the boat below. I joined them, and after we had all warmed up a bit, and I had changed to dry clothes, we remembered Karl Pribram.

"My God," Fred said. "Do you suppose..."

The picture of the most distinguished speaker for the morrow, without whom we might be doomed, wandering about up there impelled us rapidly up the stairs into the gloom.

"Karl! Karl!" Fred called out.

"He could have fallen off the dock," Allan muttered.

There was no answer, and then like an apparition rising from the mist, his mane of white hair uncovered to the night, he appeared before us. He was beaming happily. He had every reason, it seemed to me, to be mad as hops and cursing, but instead he floated down the stairs with us marveling about what a wet night it was. He too couldn't follow the directions, so he had simply wandered up and down the boat docks in the rain.

"This is a big place!" he marveled. "But I felt sure I would find you."

We settled in, all three of us now anticipating a good time getting to know Karl. Although considered controversial by many for his "New Age" holographic brain-mind theory, he was clearly recognized by many others in brain science and psychology as one of the certified great scientists of the 20th century. But Karl proved to be as unpredictable as the subject for our conference was supposed to be. Within a few minutes, he suddenly announced happily that he was leaving us.

He had decided to go stay with a friend overnight. Was the boat too cold? We could turn the heat up.

"No, no, I wouldn't get any sleep here," he said, and happily beaming a benediction upon us from the staircase he disappeared upward into the night.

That night as the boat creaked and rocked with every passing wave, and just as one was dropping off a seal would honk closely by, and then as the crack of dawn brought on the squawking and screaming of what must have been hordes of seagulls outside, we could only marvel at his uncanny intuition.

The conference went off well.

■

Note from Fred Abraham: David Loye's reminisces re the founding meeting of SCTPLS at Saybrook 1991 are submitted by Fred Abraham (with David's approval). The classic paper by David and Riane he mentions is: Loye, D. & Eisler, R. (1987). Chaos and Transformation: Implications of Nonequilibrium Theory for Social Science and Society. Behavioral Science. 32, 53-65. This paper had a major influence on many of us in the early days of dynamical systems theory entering social and psychological sciences. GERG refers to an elite systems group created by Ervin Laszlo. Larry Vandervert and Allan Combs were the main creators of that first meeting, with some assists from me, such as recruiting Karl as key-note speaker at Larry's suggestion.

TOP 40 BOOK LIST
Most frequently cited books in *NDPLS* 2003-2007

Stephen Guastello & Arnitta Holliman
Marquette University

Once again, at long last, we have compiled a new listing of the forty books that were most frequently cited in *Nonlinear Dynamics, Psychology, and Life Sciences (NDPLS)* articles during the years 2003-2007. The count included books that were cited in editorials and in the reference lists to book reviews. If a book was reviewed in *NDPLS*, a citation was counted for it having been reviewed. If a book was cited in two different editions, the counts for the two editions were combined. Edited collections were included here also. If a chapter was cited in an article, the citation count went to the book. If two or more chapters were cited within the same article, however, the citation was counted only once for appearing in that article. This procedure would give equal treatment to authored and edited books. The trends are described from the vantage point of the books, the publishers, and some self-organizing propensities of the NDS literature.

All together 1122 books were cited in the journal during the five year span. The distribution of citation frequencies, starting at three citations, appears in the figure below. The Top 40 broke nicely at 4 or more citations per book; the Top 40 actually contains 41 titles.
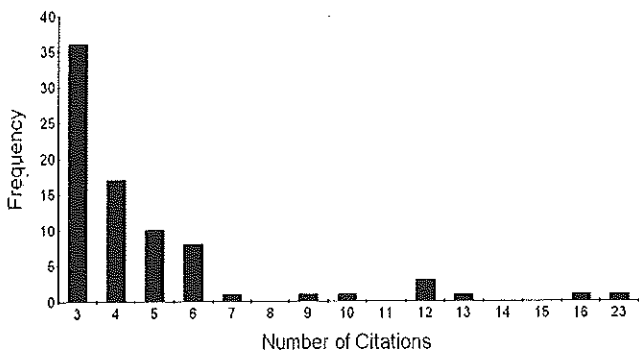
Publishers in the Top 40

Number of Books in Top 40
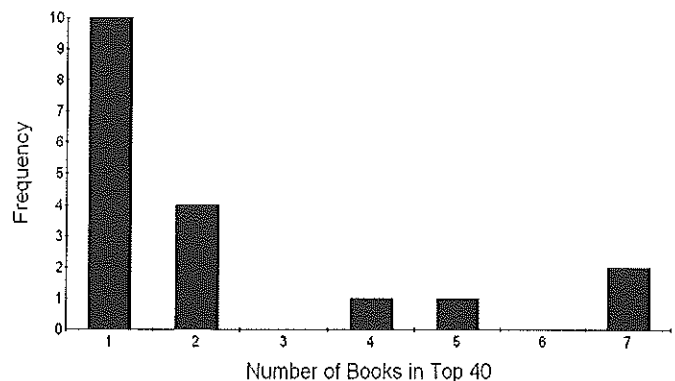
Not shown in the figure are the 113 books with two citations, which left 927 that were cited once. Many of the books that were cited infrequently pertained to specific application areas and did not always involve nonlinear dynamics. Books that addressed some more generalizable principles of dynamics were cited more often.

It is probably not surprising that the most books with the highest citation counts were published before 2003 and thus had the greatest exposure. Only three books in the top 40 were published in 2003, and none later. For a listing of what's new and interesting, always check the Nonlinear Dynamical Bookshelf feature of the SCTPLS Newsletter, and "New Books by Society Members" on the SCTPLS web site, News archive page.

Distribution of Book Citations
2003-2007

An analysis of the publishers might be informative for authors who are shopping for a publisher, and for avid readers who like to scour catalogs looking for the latest publications. The most frequent publishers on the Top 40 list are Lawrence Erlbaum Associates and MIT Press. LEA was purchased by Taylor and Francis in 2006; most of LEA's titles are marketed under T&F's Psychology Press imprint.

The second most frequent publisher, actually ranking third, is the coalition of Plenum, Kluwer Academic, and Springer-Verlag. Plenum was purchased by Kluwer in 1998, and Kluwer was merged with Springer-Verlag in 2003 to form Springer. Oxford University Press is fourth most frequently appearing publisher in the list.

World Scientific, which has a long-running series of books in nonlinear dynamics, is tied in the next tier with Princeton University Press, Addison-Wesley, and Freeman for two titles each.

Of the 41 titles, 13 (or 32%) were published by well-known university presses. Commercial publishers whose purviews expand beyond research material into broader ranges of readership (Bantam, Freeman, Simon & Schuster, and Viking) accounted for five titles (12%). Commercial academic presses accounted for the remainder.

Before closing it should be remembered that the Top 40 list of books and publishers does not represent any universal truths about the field of nonlinear dynamics. Rather it is a snapshot of what appears to be a self-organizing effect of the NDPLS purview, the interests of

the authors who contribute, and the scope of particular books. Brilliant contributions that are designed to cover a specific topic deeply are probably not going to be mentioned as often as those that span a broader range of topics. What does appear to be most frequently mentioned in this list are books with substantial methodology components, basic nonlinear dynamics, and those pertaining to self-organizing phenomena. Last, but certainly not least: The key word *chaos* appears in 12 of the titles.

12-23 Citations

Bak, P. (1996). *How nature works: The science of self-organized criticality*. New York: Springer-Verlag.

Guastello, S.J. (1995). *Chaos, catastrophe, and human affairs*. Mahwah, NJ: Lawrence Erlbaum Associates.

Guastello, S.J. (2002*). Managing emergent phenomena: Nonlinear dynamics in work organizations*. Mahwah, NJ: Lawrence Erlbaum Associates.

Kantz, H. & Schreiber, T. (1997). *Nonlinear time series analysis*. New York: Oxford University Press.

Kauffman, S. (1993). *The origins of order: Self-organization and selection in evolution*. New York: Oxford University Press.

Kelso, J.A.S. (1995). *Dynamic patterns: The self-organization of brain and behavior*. Cambridge, MA: MIT Press.

6-10 Citations

Abraham, F.D. & Gilgen, A.R. (Eds.). (1995). *Chaos theory in psychology*. Westport, CT: Greenwood.

Arthur, B, Durlauf, S., & Lane, D. (1997). *The economy as an evolving complex system II*. Cambridge, MA: MIT Press.

Axelrod, R. (1997). *The complexity of cooperation*. Princeton, NJ: Princeton University Press.

Elliot, E. & Kiel, L.D. (1999). *Nonlinear dynamics, complexity, and public policy*. Commack, NY: Nova Science.

Heath, R.A. (2000). *Nonlinear dynamics: techniques and applications in psychology*. Mahwah, NJ: Lawrence Erlbaum Associates.

Holland, J.H. (1995). *Hidden order*. Cambridge, MA: MIT Press.

Kaplan, D. & Glass, L. (1995). *Understanding nonlinear dynamics*. New York: Springer-Verlag.

Kauffman, S. (1995). *At home in the universe: The search for the laws of complexity*. New York: Oxford University Press.

Prigogine, I. & Stengers, I. (1984). *Order out of chaos: Man's new dialogue with nature*. New York: Bantam.

Sprott, J.C. (2003). *Chaos and time-series analysis*. New York: Oxford University Press.

Thom, R. (1975). *Structural stability and morphogenesis: An outline of a general theory of models*. New York: Benjamin-Addison-Wesley.

5 Citations

Arrow, H., McGrath, J.E. & Berdahl, J.L. (2000). *Small groups as complex systems: Formation, coordination, development, and adaptation*. Thousand Oaks, CA: Sage.

Epstein, J.M. & Axtell, R. (1996). *Growing artificial societies: Social sciences from the bottom up.* Cambridge, MA: MIT Press.

Gleick, J. (1987). *Chaos: Making of a new science.* New York: Viking Press.

Gottman, J.M., Murray, J.D., Swanson, C.C., Tyson, R. & Swanson, K.R.(2003). *The mathematics of marriage: Dynamic nonlinear models.* Cambridge, MA: MIT Press.

Gregson, R.A.M. (1988). *Nonlinear psychophysical dynamics.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Haken, H. (1984). *The science of structure: Synergetics.* New York: Van Nostrand.

Ruelle, D. (1991). *Chance and chaos.* Princeton, NJ: Princeton University Press.

Sprott, J.C. & Rowlands, G. (1995). *Chaos data analyzer.* Raleigh, NC: Physics Academic Software.

Sulis, W. & Combs, A. (Eds.). (1996). *Nonlinear dynamics in human behavior.* Singapore: World Scientific.

Tschacher, W., & Dauwalder, J.-P. (Eds.). (2003). *The dynamical systems approach to cognition: concepts and empirical paradigms based on self-organization, embodiment, and coordination.* Singapore: World Scientific.

4 Citations

Carley, K. & Prietula, M. (Eds.). (1994). *Computational organization theory.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Feder, J. (1998). *Fractals.* New York: Plenum.

Freeman, W.J. (2000). *Neurodynamics: An exploration of mesoscopic brain dynamics.* New York: Springer-Verlag.

Freidman, J.W. (Ed.). (1994). *Problems of coordination in economic activity.* Boston: Kluwer.

McClelland, J.L. & Rummelhardt, D.E. (1986). *Parallel distributed processing (PDP) models: Explorations in the microstructure of cognition.* Cambridge MA: MIT Press.

Mandelbrot, B.B. (1977, 2nd ed. 1983). *The fractal geometry of nature.* New York: Freeman.

Nicolis, G. & Prigogine, I. (1989). *Exploring complexity.* New York: Freeman.

Ott, E., Sauer, T. & Yorke, J. (Eds.). (1994). *Coping with chaos.* New York: Wiley.

Robertson, R. & Combs, A. (Eds.). (1995). *Chaos theory in psychology and the life sciences.* Hilldale, NJ: Lawrence Erlbaum Associates.

Rosser, J. (1991). *From catastrophe to chaos: A general theory of economic discontinuities.* Boston: Kluwer.

Schroeder, M. (1991). *Fractals, chaos, power laws: Minutes from an infinite paradise.* Cambridge, MA: MIT Press.

Sulis, W. & Trofimova, I. (Eds.). (2001). *Nonlinear dynamics in the life and social sciences.* Amsterdam, IOS Press.

Thelen, E. & Smith, L.B. (1994). *A dynamic systems approach to the development of cognition and action.* Cambridge, MA: MIT Press.

Waldrop, M. (1992). *Complexity: The emerging science at the edge of order and chaos.* New York: Simon and Schuster.

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Wolfram, S. (2002). *A new kind of science.* Champaign, IL: Wolfram Media.

Zeeman, E.C. (1977). *Catastrophe theory: Selected papers 1972-1977.* Reading, MA: Addison-Wesley.

The Nonlinear Dynamical Bookshelf

We gratefully share book news you send to us. When you find a new or even not-so-new nonlinear book you think we ought to know about, please email the full citation with description, using "Nonlinear Bookshelf" in subject line, to register@societyforchaostheory.org.

You might already know of these following two books that oppose one another, so that the critical or cynical reader would want both. RAMG

Buss, D. (2007). Evolutionary psychology: the new sciences of the mind. 3rd Ed. Boston, MA: Allyn & Bacon.

Richardson, R. C. (2007). Evolutionary psychology as maladapted psychology. Cambridge, MA: MIT Press.

Birta, I. G. & Arbez, G. (2007). Modelling and simulation: Exploring dynamics system behaviour. New York: Springer. ISBN 9781 8462 8621 6. The book covers the modelling and simulation activity for both Discrete Event Dynamic Systems and Continuous Time Dynamic Systems. It has a novel project-oriented approach showing the dependency of model structure and granularity on project goals. Written for senior undergraduate and junior graduate levels. Covers experimentation and output analysis. RAMG

Cox, D. R. & Solomon, P. J. (2002). Components of variance. Monographs on Statistics and Applied Probability, Vol. 97. ISBN: 9781584883548

Crassidis, J. L. & Junkins, J. L. (2004). Optimal estimation of dynamic systems. Chapman & Hall/CRC Applied Mathematics & Nonlinear Science. Vol. 2. ISBN: 9781584883913

Harrison, N. E. (2006). Complexity in world politics: Concepts and methods of a new paradigm. Albany, NY: State University of New York Press. *From the publisher:* Despite one hundred years of theorizing, scholars and practitioners alike are constantly surprised by international and global political events. The collapse of communism in Europe, the 1997 Asian financial crisis, and 9/11 have demonstrated the inadequacy of current models that depict world politics as a simple mechanical

systems. *From the Bookshelf:* No kidding?! Topics include conflict resolution, ethnic tensions and violence, credible uses of agent-based models in international global studies. Contributors include: Neil E. Harrison, J. David Singer, Dennis J. D. Sandole, Walter C. Clemens, Jr., Matthew J. Hoffmann, Robert Axelrod, David C. Earnest, James N. Rosenau, Desmond Saunders-Newton, Neil E. Harrison.

Marks-Tarlow, T. (in press). Psyche's veil: Psychotherapy, fractals and complexity. Taylor & Francis. From the foreword by Daniel J. Siegel: Historically, the language and concepts within clinical theory have been steeped in linear assumptions and reductionistic thinking; Psyche's Veil suggests clinical practice is inherently a nonlinear affair. It provides therapists with new language, models and metaphors to narrow the divide between theory and practice, and bridge the gap between psychology and the sciences... The author discards traditional conceptions of health based on ideals of regularity, set points and normative statistics in favour of nonlinear models that emphasize unique moments, variability, and irregularity... This is a case-based book that aspires to a paradigm shift in how practitioners conceptualize critical ingredients for internal healing. Sophisticated psychoanalytical issues are examined in novel ways, making this book appeal to both the generalist reader, and the specialist practitioner. – Publisher.

Nishisato, S. (2006). Multidimensional nonlinear descriptive analysis. Boca Raton, FL: Chapman & Hall.

Northrop, R. B. (2000). Introduction to Dynamic Modeling of Neuro-Sensory Systems. Boca Raton, FL: CRC Press.

Piers, C., Muller, J. P., & Brent, J. (2007). Self organizing complexity in psychological systems. Amsterdam: Jason Aronson, Inc. ISBN 9780 7657 05259. Complexity theory as the parent science of psychoanalysis. A biological theory of brain function and its relevance to psychoanalysis. Neurodynamics, state, agency and psychological functioning. Emergence: When a difference in degree becomes a difference in kind. Emergence and psychological morphogenesis. The dynamics of development. The language of complexity theory. RAMG

Sarangapani, J. (2006). Neural network control of nonlinear discrete-time systems. Automation and Control Engineering, Vol. 21. Boca Raton, FL: CRC Press. ISBN: 9780824726775

Stein, D.J. & Ludik, J. (2007). Neural networks and psychopathology: Connectionist models in practice and research. Cambridge, UK: Cambridge University Press, This book reviews theoretical, historical and clinical issues, including the contribution of neural network models to diagnosis, pharmacotherapy and psycho-therapy. Models are presented for a range of

disorders, including schizophrenia, obsessive-compulsive disorder, dissociative phenomena, autism and Alzheimer's disease. RAMG

Vrobel, S., Marks-Tarlow, T., & Rössler, O. E. (Eds.). (in press). Simultaneity: Temporal structures and observer perspectives. Pub. date: Scheduled Spring 2008. ISBN 978-981-279-241-9/981-279-241-4. Edited This book presents an interdisciplinary approach to the question of how observer–participant perspectives are generated, what constrains them and how they may be modified. These questions are of vital importance and must be addressed in any discipline before formulating a hypothesis or designing a model about reality. Both epistemological questions about the nature of temporal nested structures and practical applications of our ability to contextualize are discussed. The resulting temporal observer–participant perspectives reflect approaches to the concept of simultaneity from the viewpoints of philosophers, logicians, cyberneticists and systems theorists, mathematicians, psychologists, medical practitioners, physicists, educationists, economists and musicologists. *Publisher*

Re-View Corner

The *Re-View Corner* feature welcomes and houses diverse kinds of reviews. Members have been generous with reviews that inform us by sharing their perspectives and alert us to noteworthy work. In this space we explicitly encourage more! We have a comfortable chair reserved for long-time contributor Robert A. M. Gregson (ramgdd@bigpond.com). This space represents a standing invitation to many more to pull up a chair and take time to share what they are reading, learning from, reacting to, experiencing, and critically reflecting on.

Journal Alert

New: *Swarm Intelligence Journal.* From Springer: Swarm Intelligence is the principal peer-reviewed publication dedicated to reporting on research and developments in the multidisciplinary field of swarm intelligence. Two issues came out in 2007; 2008 begins quarterly publication. It will report on advances in the understanding and utilization of swarm intelligence systems, that is, systems that are based on the principles of swarm intelligence. The following subjects are of particular interest to the journal: modeling and analysis of collective biological systems such as social insect colonies, flocking vertebrates, and human crowds as well as any other swarm intelligence systems; application of biological swarm intelligence models to real-world problems such as distributed computing, data clustering, graph partitioning, optimization and decision making; theoretical and empirical research in ant colony optimization, particle swarm optimization, swarm robotics, and other swarm intelligence algorithms.

Articles that combine experimental and theoretical work are especially welcome. Publisher.

Article Alert

Bosse, T., Jonker, C. M. & Treuer, J. 2007. Simulation and Analysis of Adaptive Agents: An Integrative Modelling Approach. Advances in Complex Systems, 10(3), 335-357. (tbosse@cs.vu.nl) This paper should be of interest to those who are studying agent-based modelling, because it integrates quantitative, qualitative and logical aspects within one expressive temporal specification language. It uses agents that themselves also have capacities to learn and to adapt. The internal states of an agent can be modeled and compared with the known internal dynamics of an organism. Computer language, and a long worked example from a biological context, are given in the paper. I think it offers a significant extension on previous ideas about agent-based modelling and comes closer to some psychological processes about which we already have partial knowledge. RAMG

Dutkay, D. E. and Jorgensen, P. E. T. Harmonic analysis and dynamics for affine iterated function systems. Houston Journal of Mathematics, 2007, 33(3), 877-905. This is strictly for the mathematically erudite, but ties nicely into the work of Barnsley on fractals and superfractals, and Markov processes. RAMG

Konishi, K. (2007) Amplitude death induced by a global dynamic coupling. International Journal of Bifurcation and Chaos, 17(8), 2781-2789. This paper adds on to the issues about dynamics between two coupled attractors, potential applications in psychotherapy. Death need not be taken literally, though in cardiac dynamics it could be; the illustrations are actually from electrical engineering. RAMG

Lai, D. (2007). A nonparametric statistical test for chaos: cumulative periodogram under an order transformation. International Journal of Bifurcation and Chaos, 17(8), 2815-2820. Uses a modified form of Bartlett's Kolmogorov-Smirnov statistic, shows that Bartlett's test unmodifed is not efficient, but can be greatly improved. A useful source of test procedures. RAMG

Verwey, W. B. & H. Heuer, H. 2007. Nonlinear visuomotor transformations: Locus and modularity. Quarterly Journal of Experimental Psychology, 60(12), 1629-1659. (w.b.verwey@utwente.nl) This paper is a bit unusual for a mainstream psychological journal, in that it explicitly considers nonlinear processes in human behaviour. It involves the identification of internal processes in a tracking task, and produces copious evidence of hysteresis. The fact that a working-memory task had little effect on performance suggests that the internal model is modular and not dependent on high-level cognitive processes. RAMG

They may wait, if you hurry...

Call for Papers:
Special Issue of *Nonlinear Dynamics, Psychology, and Life Sciences* on Psychomotor Coordination and Control

NDPLS is actively searching for manuscripts for a special issue to be entitled, "Psychomotor Coordination and Control." Topics for potential papers could include:

- Response time and movement generation
- Sensorimotor responses, including any of the senses
- Neural-behavioral mechanisms
- Cognition-action sequences
- Vestibular-oculomotor synchronization
- Motor coordination
- Skill acquisition
- Intentionality and behavior
- Robotic design
- Multiple robot systems

- Physiological synchronization between humans
- Operation of real systems such as automobiles, aircraft, or industrial equipment
- Effects of sleep deprivation and stress on motor performance or cognition-action sequences
- Modification by pathological conditions including concepts for diagnosis and treatment
- Mechanisms of prediction and adaptation

Contributions may be theoretical or empirical. Theoretical papers should be firmly grounded in the extant literature and culminate in new principles involving nonlinear dynamics that can be tested; manuscripts heavy on conjecture with little reference to evidence are not encouraged. Reviews of the relevant literature on applications of nonlinear dynamics are also welcome, if they synthesize and interpret this material in novel ways. Empirical papers may include experimental observations, simulations, or analyses of real-world data. Articles will be reviewed by two or more experts in the relevant field.

The purview of the journal is critical to the inclusion of articles: *Nonlinear Dynamics, Psychology, and Life Sciences* publishes papers that augment the fundamental ways we understand, describe, model, and predict nonlinear phenomena in psychology and the life and social sciences. One or more of the following nonlinear concepts must be an explicit part of the exposition: attractors, bifurcations, chaos, fractals, solitons, catastrophes, self-organizing processes, cellular automata, genetic algorithms and related evolutionary processes, neural networks, agent-based models. The broad mixture of the disciplines represented here indicates that many bodies of knowledge share common principles. By juxtaposing developments in different fields within the life and social sciences, the scientific communities may obtain fresh perspectives on those common principles and their implications. Because the journal is multidisciplinary in scope, each article should make an original contribution to at least one substantive area and, to the extent possible, illuminate issues beyond that area's boundaries.

NDPLS is a refereed journal and is published quarterly by the Society for Chaos Theory in Psychology & Life Sciences. Additional information for the preparation of articles for submission can be found on the journal's web site: www.societyforchaostheory.org/ndpls/ . The project is planned on the following schedule:

- Abstracts are requested prior to submission in order to assist with the organization of the issue contents, and they are welcome any time before the paper submissions deadline. Send abstracts by e-mail to mjs@dizzy.med.jhu.edu
- Full-text papers need to arrive by January 20, 2008. Electronic submission to the email address above is preferred. Manuscripts should be prepared in APA style. Key style points and small variations that are specific to the journal can be found in the Instructions for Authors on the journal web site.
- Reviews completed by March 20, or sooner to the extent possible.
- Revisions and final edits should be received by June 1, 2008.
- Publication in January, 2009.

We look forward to receiving your abstracts and papers. If you have any questions about the project, please do not hesitate to ask one of the editors below.

Sincerely,
Stephen J. Guastello, Ph.D., Editor in Chief, Stephen.guastello@marquette.edu
Mark Shelhamer, Sc.D. Special Issue Editor. mjs@dizzy.med.jhu.edu

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An Invitation to Participate

INSC 2008

3RD INTERNATIONAL NONLINEAR SCIENCE CONFERENCE

Chuo University - Tokyo, Japan
March 13-15, 2008

http://www.societyforchaostheory.org/insc/2008

Register now!

The principal aim of the INSC is to provide a scholarly environment conducive to promoting exchanges between an array of disciplines to facilitate research and related academic activities in collaboration with colleagues worldwide. The topics covered by the conference include applications of nonlinear dynamics theory and techniques to problems encountered in any area of the behavioral, social and life sciences including psychology, sociology, economics, education, management sciences, anthropology, art, biology, physiology, ecology, neurosciences and medicine.

Conference Committee:

Ivelisse Lazzarini, Yuji Aruka, Dimitrios Stamovlasis, Maria Karanika, and S. Lee Hong

Dr. Masanao Aoki ■ *Mittag-Leffler Distributions, Power-laws and Non-Self Averaging in Macroeconomics*

Dr. Aoki is a Professor Emeritus of the Department of Economics at UCLA. Field: Applied Macroeconomics. His research is focused on a new approach to macroeconomic modeling by means of jump Markov processes by specifying transition rates appropriately in the backward Chapman-Kolmogorov (master equation); solutions of master equations to obtain aggregate dynamic equations, and fluctuations by solving the associated Fokker-Planck equations. Modeling and analysis of multi-agent models to investigate such things as herding behavior and return dynamics, i.e., power-laws in share or stock markets; Modeling and analysis of multiple country models by state space time series technique; aggregation of economy with heterogeneous agents by neural network methods; adaptive learning algorithms.

Dr. Gottfried Mayer-Kress ■ *Nonlinear Dynamics of Motor Learning*

Dr. Mayer-Kress received his doctorate in theoretical physics from the University of Stuttgart, Germany in 1864. The thesis was "On the persistence of chaos and order in nonlinear dynamical systems. " under his advisor Professor Hermann Haken. Since that time he worked on different aspects of stochastic and chaotic systems in a variety of applications. During his post-doctoral studies at the Center of Non-Linear Studies and the Santa Fe Institute he contributed to the dimensional analysis of chaotic time series as well as to modeling the impact of missile defense on the strategic arms race. He held visiting professor positions at UC Santa Cruz and UI Urbana Champaign where he was the first (with Peter Jung) to introduce spatio-temporal stochastic resonance in two-dimensional excitable systems. Presently he is a faculty member in the department of Kinesilogy at Pennsylvania State University. For the past years he has worked (with Karl Newell and Yeou-Teh Liu) as Adjunct Associate Professor in the Department of Kinesiology on a nonlinear dynamical systems theory of motor learning. He is the founding editor of *Complexity Digest* since 1999; served as one of the editors of Nonlinear in Physiological Time Series Analysis, Springer, 1998; member of the editorial board of Princeton Series in Complexity and of the *International Journal of Bifurcations and Chaos in Applied Sciences and Engineering*. Editor of Dimensions and Entropies in Chaotic Systems - Quantification of Complex Behavior, Springer Series in Synergetics, Vol 32, Springer Verlag, Berlin, 1986.

Dr. William Sulis ■ *Emergence, Cognition, and Collective Intelligence*

Dr. Sulis received a B.Sc. (Hon) in 1976 from Carleton University, Ottawa; M.D. in 1980; M.A. in 1984; a Ph.D in 1989 from the University of Western Ontario, London, and a FRCPC in Psychiatry in 1984, from The Royal College of Physicians and Surgeons of Canada, Ottawa. He is Director of the Collective Intelligence Laboratory, McMaster University and has a practice in Geriatric Psychiatry. He is an Associate Clinical Professor in the Department of Psychiatry and Associate Member, Department of Psychology, McMaster University. He is past President of the Society for Chaos Theory in Psychology and the Life Sciences and is on the Editorial Board of *Nonlinear Dynamics, Psychology, and Life Science*. He co-directed a NATO ASI and co-organized a NATO ARW. He is an alumnus of the Summer School of the Santa Fe Institute. He has published 3 books and over 30 articles in the field of complex systems theory, neural networks, artificial life, emergence, and collective intelligence. He discovered transient induced global response stabilization and saliency in complex systems. Dr. Sulis has studied a range of complex systems models including tempered neural networks, cocktail party automata, random graphical dynamical systems and is currently developing a theory of emergence called archetypal dynamics which is being applied to the foundations of quantum theory.

Dr. Irina Trofimova ■ *Coupling of Measurement Characteristics in Psychological Diversity*

Dr. Trofimova received an M.Sc. in 1988 from the Department of Psychology, Lomonosov Moscow State University, and a Ph.D in 1995 from the Institute of Psychology, Russian Academy of Science, Laboratory of differential psychology and psychophysiology. She was an Assistant Professor, in Moscow State Social University; Senior Scientific Researcher at Keldysh Institute of Applied Mathematics; Invited Lecturer at Moscow State University, Department of Psychology and Part-time Lecturer at Moscow Institute of Physics and Technologies. She was a founder and head of the Russian Synergetic Society, and an affiliate of the SCTPLS. At the Keldysh Institute she pioneered the modeling of Ensembles with Variable Structures (EVS) and she has studied models of functional diversity. In psychosemantic experiments, she discovered the phenomenon of projection through capacities. As part of her research in temperament she has developed a Compact version of the Structure of Temperament Question-naire for use in organizational and educational settings. She has conducted 7 test-development projects. She co-organized a NATO ASI and a NATO ARW. She is Director of Psycho-logical Services. Dr. Trofimova is the Administrator and Senior Researcher in the Collective Intelligence Laboratory, McMaster University. She has published 7 books and over 40 articles.

Dr. Ichiro Tsuda ■ *Hippocampus Generates Duality of Chaos and Fractal in Episodic context*

Dr. Tsuda is a Professor in the Research Institute of Electronic Science (RIES), and the graduate School of Mathematics, Hokkaido University, as well as visiting Professor at the Dept of Mechanical Engineering, Osaka University. He is a member of the Center of Excellence (COE) in the Dept of Mathematics, Hokkaido University. He is also an Advisory Board of Complex Systems Institute at Kalamazoo College. He has published widely in the field of dynamical processes and the brain. His research interest is mathematical modeling of the higher brain function including memory dynamics, thoughts and inference processes, and also numerical studies of

chaotic dynamical systems. He constructed a one-dimensional map for sufficiently explaining chaos and bifurcation structure in the BZ reaction, and found noise-induced order in such a model. He also constructed neural network models for dynamic associative memory and also for episodic memory, based on physiological data on class I neurons and different types of synapses, where he found a new dynamical state named chaotic itinerancy, and proposed its dynamics interpretation in terms of Milnor attractor. He is also an editor of scientific journals of *Neural Networks, Chaos and Complexity Letters*, New Generation Computing, and the *Journal of Cognitive Neurodynamics*, and also and advisory board of *Chaos*.

Other Conference Announcements & Calls for Papers

16th Annual Winter Chaos Conference: Dynamical Systems Thinking in Science, Education, the Humanities, and Society. February 22-24, 2008. Wesleyan University, Middletown, Connecticut, USA. For Call for Presentations and more information, visit http://www.blueberry-brain.org/winterchaos/Winter%20Chaos%202008.htm

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CHAOS2008 Chaotic Modeling And Simulation International Conference, 3 - 6 June 2008 Chania Crete Greece, http://chaos2008.net/

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First International Conference on Social Entrepreneurship, Systems Thinking, & Complexity, New York, April 24-26, 2008. Adelphi University in association with the Institute for the Study of Coherence and Emergence (ISCE), publishers of the journal *Emergence: Complexity and Organization (E:CO)* and The Plexus Institute. For complete information on this first-of-its-kind conference visit http://www.emergence.org.

Updated & Conference Submission Due Dates!

*Extended abstracts or drafts of academic papers must be received by **February 15, 2008***
*Proposals for Panels or Symposia are due by **March 10, 2008***

The unique and pressing challenges facing both the economic and social situations of the 21st century are calling for fundamentally new initiatives. The burgeoning arena of *social entrepreneurship* is one such example of how individuals and public and private organizations are forging alliances aiming at addressing these challenges. We are considering social entrepreneurship any kind of activity aiming at some social or community good or amelioration of problems that comes out of the joint effort of different streams such as business, community organization, local to federal government. It usually involves joint partnership and networks among the people involved.

As of yet, though, there's no recognizably useful *theoretical* underpinning of the systemic dimension of social entrepreneurship. Recent advances in the sciences of complex systems, however, hold great promise for a more thorough understanding and grounding of social entrepreneurship activities. The need for a complexity-based perspective going beyond current linear and equilibrium-based models is even noted in the most recent guidelines for applications for funding in the area of social entrepreneurship programs.
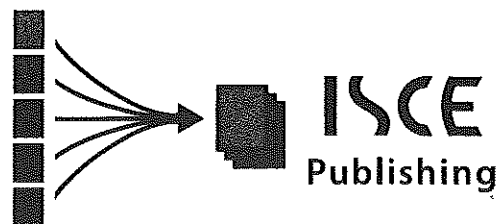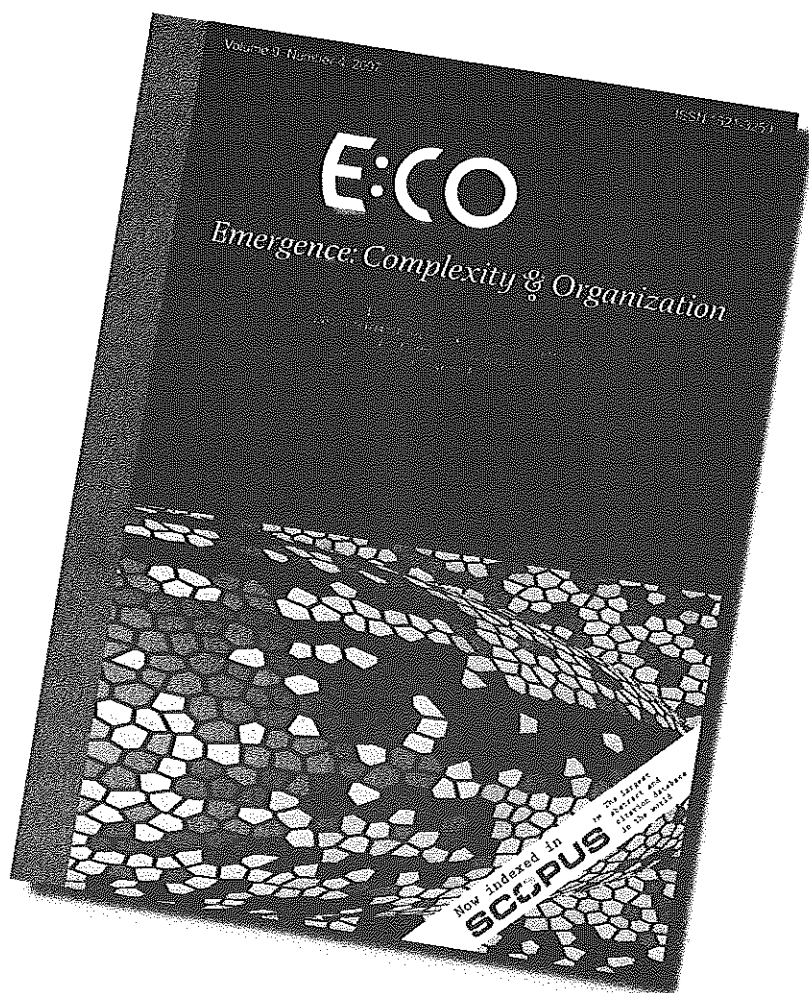
At this conference we will bring together social entrepreneurs with leading thinkers in complexity theory, systems thinking, social innovation, and leadership research to explore questions surrounding social entrepreneurship. Attendees of the conference will gain a better understanding of the state of knowledge in these vital areas and will leave more energized and engaged in furthering the goals of social entrepreneurship. The goal of this conference is not only to provide a unique opportunity to further understanding but also to make a real difference in our world.

We invite presentations of social entrepreneurial programs, theoretical analyses, suggestions for empirical studies, and/or practitioner-based approaches which are particularly receptive to collaborative efforts that span different academic disciplines or fields and that introduce new methodologies or approaches. Three types of submissions are requested: presentations by social entrepreneurships of current and past programs, academic papers, and proposals for panels or symposia as follows:

- Extended Abstracts should be a maximum of four pages, single space;
- Drafts of manuscripts should be approximately 30 pages including references and should be prepared in accordance with *E:CO* submission guidelines found at www.emergence.org.
- Proposals for panels or symposia should be 5 to 10 pages in length and include the names and backgrounds of presenters as well as the logic for and content included in the session. In particular, the proposal should clearly explain how and in what way it will advance the field of either complex systems theory and systems thinking in relation to social entrepreneurship.

Publication Outlets. Outstanding papers will be selected by a board of evaluators to be considered for a special issue of the peer reviewed journal *Emergence: Organization and Complexity (E:CO)* to be published in September of 2008 and additional papers for an edited volume to be published in book form by the end of the year.

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