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# SECTION ONE

## EDITORIALS, PAPERS AND CORRESPONDENCE

**LETTER FROM THE PRESIDENT, February 2009**

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We are all familiar with the names of luminaries in the systems sciences. We each have our favorites whose achievements express most comfortably our individual perspectives on what is systems thinking and how it applies. While I stand in deep respect of all of the great names, some of whom I have been lucky enough to know as acquaintances and even some to have as personal friends, if I must choose one it is Robert Rosen. I hope to do more than translate him for a wider audience in my life, but that in itself would be achievement enough. Several of us hope the upcoming meeting does some of that. But for all the towering figures of our discourse, there are remarkably few institutions in systems science that have proven to be stable and robust enough to stand the test of the passing of the individuals who founded them.

Deans step in and dismantle what they do not understand, taking the money for their discipline centered favorites. Perhaps the University of Florida, Gainesville will have the wisdom to continue the thrust of H. T. Odum, but these are early days after our having lost his personal presence.

But then to give the lie to all I have said above stands the University of Queensland, Brisbane, the setting of our upcoming meeting. Is it something in water Northern Australia, or the great demand from businesses and a "dry-continent-society" to help them dealing with the complexities of sustainability and climate change adaptation that a center for systems sciences is there? Better than that, I do not see any one person as the singular figure head of it all, no Churchman or Odum or Boulding give systems in Queensland its identity. Rather there is a full set of energetic systems scientists running a broad curriculum of excellence in the field. There may be some distinctive systems scientists e.g. Bosch and Maani) who set things going in Brisbane, and perhaps we will learn of a remarkable history when we are there in July. But even if that proves to be the case what I see now is rather a set of schools and a university at large pressing forward on general systems thinking on a broad front. Deans and administrative leaders will welcome us and are supporting the effort of our members as they plan a great meeting.

Brisbane systems science is here to stay. And for me personally I am most excited that it is environmentally centered, all the way from basic environmental science to deeply applied systems thinking with people and values forcing complexity upon us.

And the theme of our meeting is cutting edge. It focuses on sustainability and livability, an essential double stage way into the future. That theme addresses an issue that has been central to my own development as a system scientist: scale. Scale is the issue at the center of hierarchy theory, my own passion. We cannot get to a planned rational future without both long and short term perspectives. In the end it is a grand vision of a happy long term for our planet and ourselves. But we cannot get there without going through a series of local times with people in them. The unfolding long plan must always be acceptable, or better still embraced, by the people who must live at that time while planning for their respective futures. In the realm of livability human values keep changing, but must be continually met, their transience notwithstanding. The path to sustain-

ability must pass through all of the differently valued livabilities until over the long term sustainability is the outcome. As the values for what is livable change, sometimes they must include accepting what might have been seen as unacceptable and a failure in the past, but is in the respective present the best realistic outcome. It took gasoline prices to double in months for livability in the United States to include rejecting SUVs and trucks. The change in values was reflected in sales of those vehicles as they plummeted. The price of a second hand Cadillac is so low now that it might make sense to buy one and pay the higher fuel prices. So the dual issues of sustainability and livability together are very much a complex systems issue that invokes more than one level of analysis. There is plenty for systems theorists and practitioner to bite on.

But there is another prong to the trident with which this meeting will probe the future. While looking at two places separated by centuries, Joseph Tainter discussed the Rio Grande Valley in New Mexico and Epirus in Greece. He saw a parallel in stunning detail in the change in both places from self-sufficient subsistent peasantry to unemployment in a tourist economy. The common cause for the unfortunate twin outcomes was the intrusion of new information from outside. At the end of his paper, Tainter suggested that all parts of contemporary humanity from the First to the Third World face similar predicaments. His solution is global systems thinking, which he says can only be achieved by education from a very early age. Only in that way can humans come to see global systems thinking as unremarkable. It is Tainter's choice of the word "unremarkable" stimulated me to include it in the theme for the meeting over which I will preside. Yes livable sustainability is a fine goal for the systems community, but we will not get far until it becomes something unremarkable, something the rank and file take for granted.

It is the old problem of how do we get systems thinking into the mainstream, an issue that has challenged all of us who have been systems thinkers for any length of time. This, of course, touches on global matters, and in particular on education. The University of Queensland appears to find systems thinking unremarkable, in that many of its even discipline centered programs teach it and integrate it as a matter of course. What a unique place Brisbane will be for us all to move forward in a way that really matters. Please come join us in Brisbane for what promises to be a fully remarkable event.

Timothy Allen,

President of the ISSS

## **A DIFFERENCE IN WHAT?**

**Ron Cottam, Willy Ranson and Roger Vounckx**

As Gregory Bateson noted [1], information can be described as ‘a difference that makes a difference’. But a difference in what? Is it possible to communicate information between spatio-temporal locations as itself? It would seem not. We as humans communicate by speech, as a modulation of acoustic waves. We transmit images by modulating electro-magnetic waves. Information moves around in computers as a modulation of the clock frequency. Within a system’s scalar level, information is exchanged as a modulation of properties of the level’s population. Can information alone be communicated? No – as a ‘difference’, or as ‘novelty’, it is always superimposed on a structured ‘carrier’. So let us look at the implications of this in different contexts.

One of the present authors has published elsewhere details of the elastic similarity of zinc blende crystals of the group IV elements, the III-V compounds and the II-VI compounds [2]. Educational studies of crystallography would lead us to suppose that the directional elastic properties of macroscopic crystals should correspond exactly to those of their representative unit cells, but this is not strictly true. The correspondence is very nearly exact – to within less than ½ % for a comparison between the III-V compounds, for example – but there is a remaining degree of dependence on the atom types present. Elastic anisotropy in single crystals depends mainly on the basic order of the nominal crystal structure, but information about the atoms present is carried across from micro- to macro- scales, superimposed on the lattice structure: like a wireless transmission, it is transported ‘on the back’ of a carrier.

It is interesting to note that in highly multi-scalar stems – i.e. uniquely biological ones – success in generating a ‘higher’ scale results in the imposition of downward ‘slaving’ on its progenital population, in turn strengthening the structural carrier which both permitted its emergence and transported the elements of its cross-scalar differentiation. The more levels that are generated, the more strongly lower levels will be slaved, only later resulting in their apparent structural stasis and ‘simplicity’. It would be unwise, for example, to suppose that all electrons were identical in an early primeval post-bang soup – the simplicity of their contemporary low-quantum-number description is more likely the result of slaving from the multitude of higher scalar levels they now experience.

We note, then, that this appears to be a general property of all information transport, whether in-scale or cross-scale: a structured carrier is always necessary to communicate ‘a difference that makes a difference’. Bateson’s ‘difference’ is a difference in a structured carrier.

If we turn to bio-chemicals we find a similar situation. Based on the directional bonding of carbon, the smaller bio-molecules often exhibit nearly crystallographic atomic arrangements with only minor differentiating regions. A prime case is the lipid pdmpg, around 170 of whose some 200 molecular atoms are aligned in a tetrahedrally-regular 3D structure, leaving only a tail of 30 or so atoms to ‘carry its message’ to a higher scale. Ultimately, when we arrive at DNA, we find it to be a unified physically structured carrier – the double helix – which supports the dogmatically-supposedly ‘sufficient’ set of protein-representative genes (if we leave aside for the moment the last five-or-so years’ revelations about conserved sequences and expression-control from within the ‘junk’ DNA!). It would not be stretching the point too much to describe DNA as a quasi-crystal, based on a quadruple distributed-unit-cellular basis of adenine, cytosine, guanine and thymine. In the massive proteins we find blossoming of this structural-carrier/differential-signal metaphor into the digital-analog bi-coding we associate with living tissues, where the combination of structural-bonding ‘rigidity’ and real-3D constraints produces the beauty of protein bending.

But let us now take a step sideward into the properties of natural hierarchy. A radical difference between biological hierarchies and those we construct as engineers is that higher bio-levels operate faster than their constituent lower ones, and not more slowly as our own meager constructional experiences would lead us to expect. In addition, the natural world operates ecosystemically, and not mono-rationally as we ourselves aspire to do. We have published elsewhere extensive details of

the bi-rational properties of natural hierarchies [e.g. 3, 4], where the correlated hierarchical scales we observe are interleaved with a second complementary correlated hierarchy which appears to consist of complexity ejected from the scales themselves. Within the observable Newtonian scales, information is naturally communicated as we described above – as quasi-disorder ‘difference signals’ superimposed on quasi-ordered ‘carriers’. In the second, complementary hierarchy, however, we would expect to find information as quasi-ordered ‘signals’ superimposed on quasi-disordered ‘carriers’. We now believe that, much as the observable scales can be reductively associated with ‘matter’, the complementary ‘complex’ scales may be associable with ‘fields’.

So what are the implications of all this to our understanding of our very selves, of our apparently dualistic nature of ‘mind and matter’? First of all, we should remember that, much as biological evolution may ‘wish’ – whether by direction or stochastics – to implement a ‘template’ it finds all around in crystals and molecules, it is always dependent on what it already achieved – it cannot (easily!) ‘start over again’. Consequently, although the relationship we find between unit cell and macroscopic III-V crystal may be elegant, evolution would be hard put to reproduce such a simplistic ‘carrier-signal’ relationship at the highest level of our being. And yet this seems to be the case.

The two hemispheres of our brains appear to approximately correspond to the two interleaved ‘structures’ of a natural hierarchy: one is somewhat ‘logical’ (reductive towards localization), the other somewhat ‘creative’ (reductive towards delocalization). Most interestingly, although split-brain patients sometimes refer to a ‘duality of consciousness’, this is more generally a singular phenomenon, which is surprising for a brain which is divided into two parts! The hemispheres are connected by a massive ‘information highway’ – the corpus callosum. A number of researchers have suggested that the 40Hz EEG waves associated with consciousness couple the two hemispheres together through the corpus callosum – a reasonable conclusion. But is that all? Is it possible that these waves are primarily the carrier which supports the emergence of an integrated high level of awareness from brain-wide informational ‘signal’ fluctuations, thus delivering consciousness? If so, then life corresponds to a resonance between the quasi-ordered and quasi-disordered carriers of the two sub-hierarchical ‘structures’, and the evolution of high-level awareness in organisms would most likely follow that of the corpus callosum.

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## **LIVING SYSTEM THEORY AND REPLACEMENT MIGRATION**

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Replacement migration is defined as “the international migration that would be needed to offset possible population shortages, i.e., decline in the size of population, the decline in the population of working age, as well as to offset the overall ageing of a population” (United Nations, 2001). However, currently the decline in population size is not a real threat to developed countries; indeed, it is unclear if any such threat will arise in the future. At present, the need for immigration (Coleman, 2002) is predominantly motivated by three main factors: the need for care of the aging population (by providing services directly and paying income tax to provide pensions indirectly), the disparity between supply and demand of labor in domestic labor markets, and the need to rejuvenate the working population. Coleman’s analysis of both demographic and economic features of the population demonstrates that developed countries possess significant reserves of labor force members among unemployed and inactive populations. Existing labor shortages in Europe relate to occupational workers who comprise only a small part of the potential flow and citizens’ reluctance in the receiving countries to take on certain jobs—also temporarily—such as those in agriculture, construction, industry, tourism, elderly care, and cleaning. According to Saszuk (2003), this is the real cause of the replacement migration.

Approaching migrations as a kind of interaction between living systems using Miller’s (1978, 1990) Living Systems Theory (LST) as a framework may be helpful in understanding replacement migration. LST deals with each living system (LS) as being comprised of 20 subsystems that process information and matter/energy inside the LS as well as between the LS and its environment. Eighteen of these 20 subsystems process either matter/energy or information only while the remaining two—the (1) reproducer and (2) boundary—process both matter/energy and information. The subsystems that process matter/energy only are (3) ingestor, (4) distributor, (5) converter, (6) producer, (7) matter/energy storage, (8) extruder, (9) motor, and (10) supporter. The last ten subsystems process information only: (11) input transducer, (12) internal transducer, (13) the channel and net, (14) the timer, (15) the decoder, (16) the associator, (17) the memory, (18) the decider, (19) the encoder, and (20) the output transducer. These 20 subsystems are considered at eight levels: cell, organ, organism, group, organization, community, society, and supranational system. The first three constitute the level of biological living systems while the other five comprise the level of social living systems. According to Miller (1978), LSs are open and self-organized systems interacting with their surroundings. Autopoiesis (Maturana and Varela, 1980) is a system property according to which a system is self-renewing and in which the product of the system is the system itself; the allopoietic function of a LS is a function that generates an organized structure that is something other than itself. The allopoietic function of a LS is provided by its reproducer subsystem while the autopoietic function is provided by all other subsystems. Migrations are vital components of both allopoietic and autopoietic processes in LSs at the level of society. Through migration, society reproduces itself in a new society similar to itself (allopoiesis) by sending emigrants overseas; moreover, through migrations, society maintains its own structure (autopoiesis) by sending or receiving migrants.

Society possesses many attributes regenerated through autopoiesis—namely, socio-demographic structures, genomes, norms, languages, customs, institutions, etc. Each of these may be attributed to one or more LS subsystems. One of the fundamental attributes of a society’s structure is its hierarchy, which may be related to society’s supporter subsystem; society tends to reproduce itself in a hierarchical manner. Hierarchical regularly means non-egalitarian. Status in human society is achieved through efforts in education, positions, and wealth. Privileged status is frequently transferred through prestigious occupations (Duncan, 1961); meanwhile, the most non-prestigious occupations are left for strangers—namely, immigrants coming via replacement migration, second-class non-citizens who do not possess civil rights and execute unpopular tasks. Some citizens

prefer not to work at all; society supports them in order to distinguish between them and non-citizen foreign workers as well to maintain society's hierarchy and ethnic preferences.

Pierre Bourdieu (1983) introduced the concept of "cultural capital" to refer to the ability of the elite to transmit privileged status to the next generation—a process he marked as "social and cultural reproduction." This ability in modern society is achieved by channeling energy not into the reproducer subsystem at the level of the organism but into other subsystems at the society level. As a result, fertility rates decline and the need for manpower and human resources for other social roles is born. This need generates replacement migration, which—to some extent—recoups the shortages in existing demographic and social structures of the receiving society, thereby helping preserve the existing social order, which is an important component in the society's self-renewal.

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## **SCIENCE AND DESIGN OF SYSTEMS**

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For a long time people have been contacting parts of the world through their sense organs which feed sensations for interpretation into their brain/mind assembly so as to produce views of or beliefs about these parts. People also create and communicate their views to others. The means of contact and communication are called 'things that stand for other things' like images (pictures, sculptures, gestures, signs or icons and pointers of instruments or indexes) and symbols (natural language, music and mathematics). All 'things that stand for other things' consist of a medium the job of which is to provide the physical impact on the sense organs and to carry meaning which establishes the relation between 'things that stand for other things' and aspects of parts of the world. The development of 'things that stand for other things' over thousands of years reflects the evolution of descriptive, explanatory and predictive qualities of beliefs. 'Heated bones', 'earth, water, air and fire', 'tarot cards' (are outside the objects which they are intended to describe), 'astrology' (loosely connected to objects by birthdays) and many others culminating in 'quantitative properties of conventional science' (integral part of objects), illustrate this development.

Conventional science views parts of the world as phenomena classified according to shared, concrete properties which can be used to create mathematical relations or models which translate notions, fundamental or not, into refutable relationships by exposing them to test of experience. It is then possible to predict aspect of the state or behaviour of members of a class provided this

aspect is repeatable or recurs with 'unfailing' regularity. For example, we have a 'class of beams for supporting a ceiling or any other structure' for which materials science generates mathematical relations between geometrical (length), material (Young's modulus) and energetic (force) properties. In other words, a 'beam' as a complex object, has been reduced to a relation. The deflection of any 'beam' in the class can then be predicted. However, replacing a 'beam' with a 'man' supported at two extreme ends by two chairs although 'he' may be considered a member of the 'class of beams', will not yield predictable result without the proviso of 'as long as 'he' acts as a 'beam'', because a 'man' has will and can simply stop acting as a 'beam'. In principle all predictions are subject to conditions.

Conventional science is uncomfortable with multidisciplinary, dynamical, technical, purposive scenarios with a number of interacting objects like a control/computer system. It cannot cope with design thinking and with living, in particular human activity scenarios. However, conventional science has evolved the method of searching for fundamental notions prevailing within a class like the '1st law of thermodynamics', which can serve as explanatory premises and can be developed into the symbolism of mathematical models which can be exposed to tests of experience.

There is another view of parts of the world, the view of related objects, the 'systemic view' of complexity and hierarchy, which is claimed to be pervasive and indivisible. The aim of current research to show how to convert the systemic view, a much debated topic, into systems science by following the method of conventional science so as to model aspects of the immense variety and diversity of objects (natural, technical, living, human and their conceivable combinations) and their activities. The basic ideas of reductionism, refutation and repeatability are to be applicable in such systems science.

The pervasive and fundamental notions in systems science are suggested as :

1. Qualitative as well as quantitative properties of objects,
2. Objects and their Relations (above, left, is joined to, father of etc), and
3. Objects and their Interactions by means of flow of energy or information.

These notions are organised into inferential structures based on 'building blocks of one – and two – place sentences' of formalised, or homogeneous, natural language, an equally pervasive symbolism which lead to mathematics of 'ordered pairs' and predicate logic statements. Once the basic structure of a scenario has been exposed by a linguistic network or semantic diagram, the appropriate mathematics like uncertainties or differential equations, can be superimposed. These structures are constructed to enable relations or energy and/or information to propagate so as to produce outcomes as emergent properties and final states the possibilities of occurrence of which can now be investigated. Descriptions of : Concept of information, A design methodology for technical and human activity scenarios, Elicitation of requirements, and, A view of organisations and management, are introduced which make use of the inferential structures.

Reductionism is introduced by using building blocks, which are the elements into which complex, linguistic patterns are broken down. Refutation is dealt with by the application of concrete properties applied to things like feelings or emotive issues as far as necessary and repeatability, and consequently predictability, is recognised as restricted when living, in particular human activities are involved.

Systematic thinking about actual and as yet nonexistent, imagined or designed, future scenarios including human activities has become possible using a semi-quantitative approach. However, the unpredictability of living in particular, human behaviour introduces additional uncertainty into and opens debate about the use of a formal method.

# EXAMPLES OF MEASURING CONTINUOUS SYMMETRY

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## Introduction

This paper continues the process of computing continuous symmetry for various geometric figures, mostly plane figures with perimeter of length 1. There are several levels of computation at present: 1) figures for which exact values can be obtained in terms of  $e$ ,  $\pi$ , and so on. These values are typically found by the Integrate[ ] command in Mathematica. 2) figures for which numerical approximations can apparently be obtained to several significant digits; typically these values are found by the NIntegrate[ ] or N[ ] command in Mathematica. 3) figures for which integrals can be written but do not calculate out, 4) figures for which some approximations can be found and 5) figures for which some bounds may be given. The goal is to move calculations to a smaller level number.

## Methods

There are several steps to approximating the continuous symmetry.

drawing the figure of perimeter 1,

calculating the distances on the interior and boundary of the triangle bounded by the x-axis, the y-axis and the line  $x+y=1$ . As the first parameter  $s$  is traced along the figure, its distance is measured downward from the point  $(0,1)$  to  $(0,0)$ . As the second parameter  $t$  is traced along the figure, its distance is measured right from  $(0,0)$  to  $(1,0)$ . As a consequence any point on the line  $x+y=1$  represents the same distance traced out with respect to each parameter  $s$  and  $t$ , and thus has 0 distance from the first point to the second. The distance  $u(x,y)=u(t,1-s)$  on the interior of the above triangle is calculated (with  $s=1-y$  and  $t=x$ ) as the square root of  $(x_2(t)-x_1(s))^2+(y_2(t)-y_1(s))^2$ , where  $P(s) = (x_1(s),y_1(s))$  and  $P(t) = (x_2(t),y_2(t))$  are points on the original drawing, i.e. original coordinate system.

Integrating area versus  $u$  on the interior of the above triangle. As  $u$  goes from 0 to maximum distance apart of any two points on the drawing, the area goes from 0 to  $\frac{1}{2}$ .

Multiplying the function of part 3) by 2, so that it goes from 0 to 1 as distance between points goes from 0 to maximum. This function represents the c.d.f or cumulative distribution function of a probability density.

Taking the derivative with respect to  $u$  of the cdf gives this density  $f(u)$ .

Calculating the continuous entropy of  $f(x)$  or integral of  $-p(x) \ln(p(x))$  from 0 to maximum distance,

Taking the negative of the entropy or negentropy to get the continuous symmetry or order.

## Results

Results for some examples are presented as follows (exact value given after result if known):

Figure	Continuous Symmetry
1) straight line (length 1)	.193= $\ln(2)-1/2$
2) L-shape (1/2 length each side)	.476
3) V-shape ( $60^\circ$ , $\frac{1}{2}$ length each side)	.741
4) coinciding lines (1/2 length each)	.886= $\ln(4)-1/2$

5) square (1/4 length each side)	1.068
6) equilateral triangle (1/3 length each side)	1.161
7) circle (circumference 1, radius $1/(2*\pi)$ )	$1.289=2*\ln(\pi)-1$

### Circle Theorem

The above results can be understood somewhat by what I call the “Circle Theorem,” which is different from the “Gershgorin Circle Theorem” of eigenvalues.

This result says that if the figure is confined to within a circle of diameter  $d$ , then the order or continuous symmetry is greater than or equal to  $\ln(1/d)$ , due to the fact that entropy is maximized by the uniform density. The result gives a lower bound on continuous symmetry. For example, the circle of case 7) has a diameter  $d=1/\pi$ , leading to a continuous symmetry (1.289) greater than or equal to  $\ln(\pi) = 1.114$ . The straight line of case 1) has diameter 1 leading to a continuous symmetry (.193) greater than or equal to  $\ln(1) = 0$ . The equilateral triangle of case 6) has continuous symmetry (1.161) greater than or equal to  $\ln(1/(1/3)) = \ln(3) = 1.098$ .

The result also carries over to three or higher dimension. For example if a three-dimensional curve is confined within a sphere of diameter  $d$ , then the three-dimensional continuous symmetry is greater than or equal to  $\ln(1/d)$ , since the 1-dim distance integral only goes from 0 to  $d$  and the entropy is maximized by the uniform density over this interval.

### Maximum Entropy

Surprisingly it appears that the maximum entropy or minimum continuous symmetry of a one-dimensional connected figure of length 1 must occur for a straight line, i.e. equal .193. This result happens because any “kinks” put into the straight line reduce the distance integral to a length less than one, thereby increasing the “wobble room” of some intermediate distances. Caution: There might be a counterexample to this conjecture. Clearly if the figure is not connected, it may extend over more distance and the entropy may go up, or the continuous symmetry go down. For example the continuous symmetry of a broken line, with each  $1/2$ -length segment separated by 0.1 unit along a straight line (i.e. from 0 to .5 and then from .6 to 1.1), goes down to  $.0683 < .193$ , and if the two  $1/2$  length segments are separated by  $1/2$  unit along a straight line (i.e. from 0 to .5 and then from 1 to 1.5), the continuous symmetry goes down to  $-.1534 < .193$ . This value stays the same as the  $1/2$ -length line segments are further separated along a straight line.

It appears if a straight line of length one is crumpled up, to straighten it out the first place to look would be the places of highest occupational numbers  $f(x)$  on the above-mentioned density graph.

Similarly the continuous symmetry of a two-dimensional surface could be measured by constructing distances between pairs of points within a four-dimensional structure (simplex). Then the maximum entropy or minimum continuous symmetry of a disc (of area 1 say) would be a flat disc. If a flat disc were crumpled up, the first place to look to straighten it out would again be the places of maximum occupational number on the corresponding density.

As so often happens with symmetry definitions, it appears a crumpled connected line of length 1 will have more continuous symmetry than a straight line according to this definition, contradicting the expectation of the previous paper about malignant tumors.

### Parallel Line Segments

Another perhaps counter-intuitive result of the given definition of continuous symmetry is that  $1/2$ -length tandem parallel line segments increase in continuous symmetry as they are moved apart. This calculation happens because the dispersion of lengths decreases with increasing separation according to the Pythagorean formula (e.g.  $(1^2 + 0.1^2)^{.5} = 1.00498$  but  $(1000^2 + 0.1^2)^{.5} = 1000.000005$ ). This fact of putting more probability within a smaller interval makes the entropy go down and the continuous symmetry go up, as evidenced by the following table:

Tandem parallel lines of length $\frac{1}{2}$	Continuous symmetry
Coinciding line segments (as above)	.886
Separated by 1 unit (say $\{(u,0), u \in [0,.5]\}$ and $\{(v,1), v \in [0,.5]\}$ )	1.297
Separated by 2 units	1.638
Separated by 10 units	2.441
Separated by 100 units	3.592
Separated by 1000 units	4.743

For reference the two perpendicular  $\frac{1}{2}$ -length line segments  $\{(u,0), u \in [0,.5]\}$  and  $\{(0,1+v), v \in [0,.5]\}$  are calculated to have continuous symmetry .059.

### Conclusion

As opposed to discrete symmetry as discussed previously by the author, continuous symmetry has many fascinating quirks, requiring further study. However these quirks, such as the fact that compressing a line into a smaller and smaller ball makes the continuous symmetry go to infinity, may have some application in physics and biology. Remark: By adding a  $\ln$  constant term, continuous symmetry can be normalized to maximum distance 1 versus perimeter 1.

### Acknowledgments

As a graduate student at Illinois Institute of Technology in Chicago, Illinois in the early 1970's, I attended a couple lectures by Karl Menger, who kindly gave me a couple of his papers. He was famous for his work on continua and curves, so that I always had the goal of doing some work in this area. Of course his paper, dealing for example with his theory of "fluents," had nothing to do with the specific topic of this paper.

### References

- Collins, Dennis G., "Algorithm to Measure Symmetry and Positional Entropy of n-Points," (talk at 2007 annual meeting of the American Mathematical Society, Jan.6, 2007 and SIDIM XXII), published in (ISSS--Int. Society of Systems Sciences) General Systems Bulletin , Vol. XXXVI, p.15-21.
- 2007 Collins, Dennis G., "Measuring Continuous Symmetry and Positional Entropy," poster presented at MAXENT2007, Saratoga Springs, NY, July 9, 2007 (unpublished manuscript).

# MEETINGS AND CONFERENCES

## **The 53rd Annual Meeting International Society for the Systems Sciences ISSS 2009**

**Making Liveable, Sustainable Systems Unremarkable  
Hosted by The University of Queensland and the School of Integrative Systems,  
Brisbane, Australia, and The Australia New Zealand Systems Group (ANZSYS)**

“Some commentators regard liveability as a more local or short-term manifestation of sustainability while others see it as a necessary but insufficient pre-requisite of sustainability” (Brook Lyndhurst 2004). In practice however, this has not prevented unsustainable actions in the name of liveability. Transport, for example is one such area in which the “pursuit of personal ‘liveability’ can conflict with the liveability of whole neighbourhoods and the community, and more widely with that of sustainable development”.

There are many examples of how liveability, especially in urban and peri-urban areas is affected by the ability of people to have access to and benefit from a physical and cultural environment, key facilities and services, and a secure and supportive community, e.g. environmental markets and emissions trading; Do people want to pay?; the environmental sustainability of increasing longevity through improved health systems; food security and land use; utilising scarce arable land for food or fuel?

Liveability appears to be a constraint on what sustainability will be. However, is the questions for sustainability to address the issue of liveability related to:

- “for whom” (speaks of people prepared to sacrifice for the longer run);
- “for how long” (addresses the aftermath of liveability decisions);
- “at what costs” (is the cost less than for easy liveability);
- “of what” (identification of what comes when a particular liveability scenario is over).

The question we ask is if liveability can be achieved in cooperation with achieving sustainability or are these concepts in conflict. More important, how can we as systems scientists help to make Liveable, Sustainable Systems Unremarkable - especially in a society where Systems Thinking is often kept out of science and mainstream problem solving?

We encourage those interested in attending the conference to submit an abstract for a full paper or poster, or organise a workshop or other event, and begin working with us in creating this important meeting.

Please review the following SIG and Exploratory streams Calls for Papers and contact the named chair to begin developing your contribution to the meeting.

We look forward to seeing you in Queensland! Professor Timothy F H Allen, President 2008-09 Professor Ockie Bosch, VP Membership and Conferences

### **Confirmed Plenary Guest Speakers**

Timothy F H Allen, President, ISSS (2009) and Professor, Department of Botany, University of Wisconsin

Graeme Taylor, Best Futures, Brisbane, Australia

Robert Kerr, Commissioner of the Victorian Competition and Efficiency Commission

Dr Jacqui de Chazal, Australian National University, Canberra, Australia

Professor Martin Burd, Monash University, Victoria, Australia  
Professor Richard Bawden, Michigan State University and Open University  
UQ Vice Chancellor Professor Paul Greenfield  
Martha Shepherd, Galeru, Queensland, Australia  
John Larcombe, Queensland State Planning and Infrastructure, Brisbane, Australia  
Hon. Steve Maharey, Vice Chancellor Massey University, New Zealand  
Lynelle Briggs, Australian Public Commissioner, Canberra, Australia  
Christine Ballinger, Noosa Regional Gallery, Queensland, Australia  
Ben McMullen, Environmental Services Manager, Sunshine Coast Regional Council, Noosa, QLD, Australia  
Professor Ockie Bosch, University of Queensland, Brisbane, Australia  
Professor Kambiz Maani, University of Queensland, Brisbane, Australia  
Michael Williams, University of Queensland, Brisbane, Australia  
Emeritus Professor Valerie A. Brown AO, BSc MEd PhD, Australian National University, Canberra, Australia  
Dr Ishwaran Natajara, Director, Division of Ecological and Earth Sciences, UNESCO, Paris  
Professor Michael Bromley, Professor of Journalism and Head of the School of Journalism and Communication at the University of Queensland, Brisbane, Australia  
Professor Amareswar Galia, University of Queensland, Brisbane, Australia  
Drs Alexander and Kathia Laszlo  
Professor John Herbohn, University of Queensland, Brisbane, Australia  
Dr Allenna Leonard, President ISSS (2010), Complementary Set, Toronto, Canada

### **Call for Papers**

Although the conference will accept papers related to the following areas of research, the list is neither exclusive nor restrictive. Proposals of new sessions and tracks are very welcome, but should be submitted for consideration by March 1, 2009. Each session chair takes the final responsibility for running his/her session. All submitted papers are encouraged to state how relevant the paper is with regard to systems thinking, systems modeling and/or systems practice. The areas listed below have additional contact and content information listed for each specific SIG. See the conference webpages.

Areas proposed by existing Special Integration Groups (SIGs) and current exploratory groups:

### **SIGs**

Agent-based Social Systems Sciences  
Aging Systems  
Balancing Individualism and Collectivism  
Critical Systems Theory and Practice  
Designing Educational Systems  
Evolutionary Development



Hierarchy Theory  
Human Systems Inquiry  
Information Systems Design & Information Technology  
ISSS Roundtable  
Living Systems Analysis  
Medical and Health Systems  
Meta-Modeling & Systems Epistemology  
Organizational Transformation & Social Change  
Research Towards General Theories of Systems  
Socio-Ecological Systems  
Spirituality and Systems  
Student SIG  
Systemic Approaches to Conflict and Crises  
Systems Applications in Business & Industry  
Systems Biology and Evolution  
Systems and Mental Health  
Systems Modeling & Simulation  
Systems Pathology  
Systems Philosophy & Systems Ethics  
Systems Specific Technology  
What is Life/Living

**Exploratory Groups**

Arts Based Inquiry  
Foundations of Information Systems  
Monetary Systems

In addition to paper presentations, the Student SIG and Roundtable will organise sessions, and there will be Mini-Conversations, based on interactions from the field trip experiences. Anyone who is interested in these sessions is welcome to participate in them without prior notice; no papers or abstracts are required in these sessions.

## OTHER CONFERENCES

### **5th National & International HSSS Conference**

**24th - 27th June, 2009**

**Xanthi, Greece**

**Hellenic Society for Systemic Studies (HSSS)**

**& Democritus University of Thrace,**

**Department of Production and Management Engineering,**

**Xanthi, Greece.**

**“From Systemic Thinking to Systems Design and Systems Practice”**

e-mail: [hsss05@pme.duth.gr](mailto:hsss05@pme.duth.gr)

Contact: <http://hsss05.pme.duth.gr/>

Venue of the Conference:

Democritus University of Thrace, Xanthi

Kimmeria Campus, just out the City of Xanthi

### **EURO XXIII Bonn 2009**

**5 - 8 July, 2009**

Call for invited papers on Methodology of Societal Complexity

<http://www.geocities.com/doriendetombe/detombebonneuro2009.html>

### **13th World Multi-Conference on Systemics,**

**Cybernetics and Informatics: WMSCI 2009**

**July 10th-13th, 2009**

**Orlando, Florida, USA**

Further details from: <http://www.ICTconfer.org/wmsci>

### **The 27th International Conference of The System Dynamics Society**

**July 26 – 30, 2009 (Bonus Day - Friday, July 31)**

**Albuquerque, USA**

Hosted by: Sandia National Laboratories, Albuquerque, New Mexico USA Co-hosted by: Argonne National Laboratory, Idaho National Laboratory, Paul Scherrer Institut Conference Partner: The Boeing Company

The 2009 program will emphasize high-impact applications and research on the difficult issues at the leading edges of the field. It will consist of invited and contributed sessions and workshops demonstrating the state of the art in the theory and application of system dynamics.

We will also schedule exhibits, model-assistance workshops, panel discussions, special sessions, a student colloquium and the business meetings of the society. There will be time for social and

professional interaction in a relaxed, historic setting. The bulk of the presentations will be based on full papers submitted through the regular process and placed in the existing program threads:

- Business applications
- Complexity/agent-based/nonlinear
- Economic dynamics
- Education
- Energy and resources
- Environment and ecology
- Health
- Information science
- Methodology
- Military applications
- Operations management/ supply chains
- Organizational dynamics
- Psychology/social dynamics
- Public policy
- Qualitative system dynamics
- Security
- Strategy

Contact for further information: Roberta L. Spencer, Executive Director System Dynamics Society Milne 300 - Rockefeller College University at Albany Albany, New York 12222 USA Phone: +1 518 442-3865 Fax: +1 518 442-3398 E-mail: [office@systemdynamics.org](mailto:office@systemdynamics.org)

**Symposium on Photonics and Optoelectronics (SOPO2009)  
August 14-16, 2009  
Wuhan, China**

Sponsored by IEEE Laser & Electro-Optics Society

Conference Website: <http://www.scirp.org/conf/sopo2009/>

Contact: [sopo@scirp.org](mailto:sopo@scirp.org)

**INTERNATIONAL CONFERENCE ON SCIENCE IN SOCIETY  
5-7 August 2009  
University of Cambridge, United Kingdom**

Further details at: <http://www.ScienceInSocietyConference.com>

Key themes addressed by the Conference include the social impacts of science, the values and ethics of science, the pedagogies of science, the knowledge making processes of science, the politics of science and the economics of science. At first glance, the scope and concerns of the Conference are enormous. However, in contrast to conferences with a specialist disciplinary focus, this Conference aims to explore in an interdisciplinary spirit linkages between different areas of concern and practices of investigation. We welcome presentation proposals which range from broad explorations of philosophical, theoretical, methodological and policy questions, to proposals which present finely grained evidence of the connections of science to society in microcosms of research, teaching and practice.

As well as an impressive international line-up of main speakers, the Conference will also include numerous paper, workshop and colloquium presentations by practitioners, teachers and researchers. We would particularly like to invite you to respond to the Conference Call-for-Papers. Presenters may choose to submit written papers for publication in the fully refereed International Journal of Science in Society. If you are unable to attend the Conference in person, virtual registrations are also available which allow you to submit a paper for refereeing and possible publication in this fully refereed academic Journal, as well as access to the electronic version of the Conference proceedings. Whether you are a virtual or in-person presenter at this Conference, we also encourage you to present on the Conference YouTube Channel. Please select the Online Sessions link on the Conference website for further details.

Full details of the Conference, including an online proposal submission form, are to be found at the Conference website - <http://www.ScienceInSocietyConference.com>

**UKSS Conference 2009**  
**1st - 2nd September 2009**  
**Systems Research: Lessons from the Past - Progress for the Future**  
**Oxford University, UK**

Keynote speaker: Professor Peter Checkland

For further details please see <http://www.ukss.org.uk/>

**OR51**  
**8th to 10th September 2009**  
**University of Warwick**

Frances O'Brien and Ruth Davies are delighted to be organising OR51 from September 8th to 10th, 2009. Please reserve these dates in your diary or on-line calendar now. OR51 will have a programme, full of interest, appealing to a wide range of individuals. It is located at the University of Warwick, a dynamic university with a large well-known OR group. We anticipate an extensive and interesting scientific programme with contributions from both academics and practitioners. We are planning that the plenaries and some keynotes should address contemporary concerns such as climate change and the financial crisis. The plenaries, streams, coffee and exhibitions will be co-located, with all but two rooms under one roof and all within easy access.

Operational Research ("OR"), also known as Operations Research or Management Science ("OR/MS") looks at an organisation's operations and uses mathematical or computer models, or other analytical approaches, to find better ways of doing them.

The OR Society, with members in 53 countries, provides training, conferences, publications and information to those working in Operational Research. The Society also provides information about Operational Research to interested members of the general public.

Further details from: Ruth Davies, University of Warwick, [ruth.davies@wbs.ac.uk](mailto:ruth.davies@wbs.ac.uk) or Frances O'Brien, University of Warwick, [frances.O'Brien@wbs.ac.uk](mailto:frances.O'Brien@wbs.ac.uk)

**Special Track within EMS: Information Systems and Management (ISM 2009)  
September 20-22, 2009  
Beijing, China**

ISM is a special track within the 3rd International Conference on Engineering Management and Service Sciences (EMS2009).

Topics:

Information and Systems Security

Information System Applications

Data Mining and E-Commerce

This conference is sponsored by IEEE Computer Society, Beijing University of Posts and Telecommunications,

Beijing Institute of Technology and Wuhan University. All papers accepted will be included in IEEE Xplore and indexed by Ei

For more information, please contact: [ism@scirp.org](mailto:ism@scirp.org)

<http://www.scirp.org/conf/ism2009>

**The 5th International Conference on Wireless Communications, Networking and  
Mobile Computing (WiCOM 2009)  
September 24-26.2009  
Beijing, China**

Sponsored by IEEE Communications Society

Conference Website: <http://www.wicom-meeting.org/2009/> Contact: [wicom@scirp.org](mailto:wicom@scirp.org)

**The 3rd International Conference on Engineering Management and Service Sci-  
ences (EMS 2009)  
September 20-22, 2009  
Beijing, China**

Conference Website: <http://www.scirp.org/conf/ems2009/>

Sponsored by IEEE Computer Society

Conference Website: <http://www.scirp.org/conf/ems2009/>

Contact: [ems@scirp.org](mailto:ems@scirp.org)

**Organization and Emergence: Tensions and Symbiosis**  
**THIRD CONFERENCE ON EMERGENT ORDER AND SOCIETY**  
**December 3-6, 2009**  
**Harrison, New York 10604**

We seek original work in three areas:

1. Exploring the relations between emergent orders and the instrumental organizations within them. To what degree are they benign, mutually beneficial, or conflicting? For example, the role of interest groups and political parties within democracy considered as an emergent order; the role of corporations and unions within the market considered as an emergent order; schools of thought within science considered as an emergent order; 2. Exploring organizations that straddle the borders of different emergent orders, such as the market or politics and the environment, the market and science, democracy and science, and so on. Different emergent processes are coordinated by different rules biased towards different values. How do they interact? and 3. The nature of rules that generate and sustain emergent processes compared to rules that generate organizations.

Conference website: [http://www.studiesinemergentorder.com/index.php?option=com\\_content&view=article&id=125&Itemid=108](http://www.studiesinemergentorder.com/index.php?option=com_content&view=article&id=125&Itemid=108)

**The 2nd International Conference on Computer Science and Software Engineering (CSSE 2009)**  
**December 13-15, 2009**  
**Shenzhen, China**

Sponsored by IEEE Computer Society

Conference Website: <http://www.scirp.org/conf/csse2009/>

Contact: [csse@scirp.org](mailto:csse@scirp.org)

**The 2nd International Conference on Information Technology in Education (CITE 2009)**  
**December 13-15, 2009**  
**Shenzhen, China**

Sponsored by IEEE Computer Society

Conference Website: <http://www.scirp.org/conf/csse/cite>

Contact: [cite@scirp.org](mailto:cite@scirp.org)

**Astronomy and Civilization**  
**August 10-13, 2009**  
**Roland Eotvos University, Budapest, Hungary**

Deadline for early registration: May 30, 2009

Deadline for registration: July 1, 2009

The conference "Astronomy and Civilization", to be held in Budapest, August 10-13, 2009, to celebrate the International Year of Astronomy 2009, is intended as an exceptional, multidisciplinary event on the most challenging questions of science, philosophy, religion and art. Its motto and central theme can be stated as follows: "The level of knowledge attained in all ages has been determined by the generally accepted theory of the Universe", as observed by Paul Couderc in *Histoire de l'Astronomie*, 1960, page 8. The goal of the conference is to call attention to the close relations between astronomy, natural sciences, culture and civilization, first of all to the foundational, active and renewing role of astronomy in the development of our civilization and shaping our future,

searching for our cosmic origin and our common heritage which connect all citizens of planet Earth. We think that Asia contributed much of great significance to the culture and harmony of mankind, in their dealings with one other and with the Universe, than it is known today in the West. For this reason, besides presenting the Western achievements, we plan to give a special emphasis to the contributions of Asia to civilization. The only safe ground of our future is the wider and deeper understanding of the Universe. Astronomical insights and observations have profound implications for the development of science, philosophy, culture and the general conception of the universe. The conference intends to combine plenary sessions on big questions in an inspiring manner with minisymposia on cutting-edge research in physics, astrobiology, biosemiotics, complexity and cognitive sciences, as well as on social sciences, art, religion and astronomy. Actually, we have the impression that it needs a serious amount of work enlightening the significance of astronomy for natural and social scientists, philosophers, theologians, artists, sociologists, and for the wide public. More information is available at the webpage of the conference, <http://www.konkoly.hu/AC2009/>

**STS New Beginnings: Five Sessions with a Latin American Emphasis**  
**Society for Social Studies of Science (4S) Annual Meeting**  
**October 28 - November 1, 2009**  
**Washington, DC. USA**

This year the 4S gathers in Washington DC, an historical seat of global influence and a present node of much controversy. With the inauguration of a new U.S. President, hopes for change engage and excite both national and international communities. Climate change, sustainable development, financial stability, human rights (freedom, education, health) and global terror continue to be inter-dependent challenges around which converges much popular and scholarly attention. Advances in science and technology over the past century are often framed as both the culprit and panacea in discussions of how we arrived in these troubled global waters and how we might navigate our way out of them.

As has been noted in past STS work, the manner in which science and technology are produced or translated and then employed to address challenges depends greatly on historical and national contexts. The production of knowledge about the interactions of science, technology and society is not exempt from this contextualization. Yet much like the production of technoscientific knowledge, STS knowledge production remains primarily EuroAmerican despite the field's attempts to broaden its conceptual perspectives.

The goal of these five sessions is three-fold: (1) to explore the contributions to thinking about science, technology and society by scholars in Latin America: past and present; (2) to provide scholars from around the world working on Latin American STS issues a space to showcase their investigation and findings; and (3) to further contextualize how science and technology innovation, diffusion and adaptation in Latin America are antecedents for, and perhaps solutions of, global and local challenges in this region. Papers are invited to contribute to the following five thematic sessions:

- 1.Theories and Methods in Latin American STS:
- 2.Technologies of Health Care in Latin America.
- 3.Bio-technologies in Latin America
- 4.Post-colonial Computing - Information Technology and Development
- 5.Environment, Technology and Society Interactions in Latin America

For further information, contact: Rick B. Duque, Ph.D. at [rduque@tulane.edu](mailto:rduque@tulane.edu)

**TWENTIETH EUROPEAN MEETING ON CYBERNETICS AND  
SYSTEMS RESEARCH  
(EMCSR 2010)  
April 6 - 9, 2010  
UNIVERSITY OF VIENNA**

organized by the Austrian Society for Cybernetic Studies in cooperation with the International Federation for Systems Research

An electronic version of this CfP (and further information whenever they become available) can be found at <http://www.osgk.ac.at/emcsr/>

Symposia:

A Systems Science

B Mathematical Methods in Cybernetics and Systems Theory

C The Cybernetics of Cybernetics: Cybernetics, Interaction and Conversation

D Biocybernetics and Mathematical Biology

E Living Systems Theory

F Cognitive Rationality, Relativity and Clarity

G Governance of Knowledge & Technology as a Societal Distributed Process

H Management, Organizational Change, and Innovation

I Language Technology

J From Agent Theory to Agent Implementation - AT2AI-7

K Agent-Based Modeling and Simulation

L Companions, Virtual Butler, Assistive Robots: Empirical and Theoretical Insights for Building Long-Term Social Relationships

M Theory and Applications of Artificial Intelligence

N Challenges, Visions and Roadmaps of Systems Sciences

Deadline for submission: November 10, 2009

For further information, please contact, Secretariat Eva Scherag. E-mail: [sec@ofai.at](mailto:sec@ofai.at)

**54th ANNUAL MEETING OF THE INTERNATIONAL SOCIETY FOR THE SYSTEMS  
SCIENCES  
ISSS2010  
July 18-23, 2010  
Wilfred Laurier University, Waterloo, Canada**



# SECTION THREE

## ISSS BUSINESS

### NOTICE OF UPCOMING ISSS MEETINGS

The annual membership, council and board meetings will be held during the annual conference at University of Queensland, St Lucia Campus, Brisbane, Australia (July 12-17, 2009).

### Minutes of 2008 ISSS Board of Directors Meeting Madison Wisconsin USA, July 14, 2008

Present:

Gary Metcalf	President 2007/2008
Jennifer Wilby	VP Administration
Tim Allen	Incoming President 2008/2009
Kyoichi Jim Kijima	Past President 2006/2007
David Ing	VP Research & Publication
G.A. Swanson	Trustees' Representative
Jed Jones	VP Communication & Systems Education
Allenna Leonard	President Elect 2009/2010
Ockie Bosch	VP Membership & Conferences
Pamela Henning	VP Protocol/Secretary
Absent:	
Todd Bowers	VP Funds

Gary Metcalf called the meeting to order at 6:20pm.

### Announcements and General Information

#### Ratification of Elections:

Jennifer Wilby reported that the following people had been voted to the Society's Board of Directors: Allenna Leonard (President Elect 2009/2010); Pamela Buckle Henning (Secretary & VP Protocol); David Ing (VP Research & Publication). Gary Metcalf asked for commendation for the outgoing officers.

#### Proposed Society Budget 2007/2008

Jennifer Wilby reviewed membership numbers over recent years. In particular, student memberships reached 51 this year – a very strong number that has grown over recent years. Jennifer proposed a variable budget (contingent on membership numbers in the year ahead). The annual conference fund is overseen by the Trustees; no planned conferences have taken loans from this fund at this time.

#### 2008 Conference Update

The 2008 conference benefited tremendously from the \$17,877 surplus generated by the 2007 Tokyo conference and will help offset losses this year. Videotaping speakers as a promotional tool will be done this year and these will be put online and used in drawing interest through a redesigned website.

## **2009 Conference Plans**

Tim Allen reported that he is looking forward to working with Ockie Bosch in Australia for the Brisbane conference. Ockie reported that two corporate sponsors are in place. The conference theme will feature sustainability, ecology, and livability. The venue for plenary sessions will be a newly restored facility at the university. The breakout rooms will be in nearby buildings. The Society will not be required to pay for the facilities, only for catering. Dormitories for approximately 100 delegates are available. Several hotels along the river waterfront are available to delegates (with transit to the venue by water taxi). Consideration is being given to combining the ISSS meeting with the Australia New Zealand Systems Group (approximately 80 members). Ockie's students will participate via paper presentations. At the first evening, indigenous people will welcome delegates to the land, as is their tradition. A day of traveling to different locations to hear different keynote speakers is being proposed, with the intention that delegates would form groups to investigate the systemic issues raised by the speakers, workshop those issues for the duration of the conference, and present their findings on the last day of the conference. Preconference workshop plans: systems thinking for governance and policy making for middle managers – targeted at delegates from developing nations. UNESCO has indicated its sponsorship support for such a workshop. For the Thursday banquet, all foods will be accompanied by the producers, who will share the stories of how those foods were sustainably created, transported, etc.

## **Proposed Nominations VP Membership/Conferences 2008/2009**

As Ockie Bosch's term ends this year, it was discussed that he be nominated for a second term, given his importance to the Brisbane conference's planning.

## **Status of Disbanded and Ratified SIGs**

The Society counts on active SIGs to generate attendance and paper submissions for annual meetings. If SIGs are not active for 2 years, they are put on probation or disbanded. Inactive SIGs do not have a seat on the Society Council.

## **Logo Changes**

This year's banner has a new Society logo. Jed Jones and Jennifer Wilby are investigating revision to the Society's small logo to make it clearer. They indicated the importance of having consistency in all logos used by the Society logo and from the logos used from one yearly conference to the next.

## **Web Administration Report**

David Ing reported that ISSS website's infrastructure has been stable for the past year. Jed Jones will be discussing the web plans for the year ahead with David and Jennifer Wilby.

## **Publications**

Jennifer Wilby reported that the Society has ISSN numbers for the online journal proceedings, the online general systems bulletin, and the hard copy of the General Systems Bulletin.

## **Strategy Committee Formation & Plans**

Gary Metcalf, Jennifer Wilby, and Tim Allen reported that they met today with the Society's Trustees to begin forming a strategic plan for the ISSS. Current discussion focus on who needs to be involved, how to create web presence, and the identification of revenue streams for the Society.

## **Other Business**

At Sue Gabriele's request, G.A. Swanson discussed the Bylaw changes as they pertain to the Educational Programs and Materials Committee. He indicated that this committee is designed to gather a critical mass of active systems educators and bring them into discussion. For years,

Society members have sought to promote systems education worldwide; this Bylaw change formalizes this effort. Similarly, the new Bylaws have established a Publications Committee to address issues of access to archival information about systems research.

Jennifer Wilby reported that Maurice Yolles continues to be interested in creating an e-journal. The Board has accepted this request and has referred it to the Publications Committee for consideration.

**Motions:**

1. Pamela Henning moved acceptance of the minutes of the April-June Board e-meeting. Tim Allen seconded. Motion unanimously passed.
2. G.A. Swanson moved ratification of the elected members. Jennifer Wilby seconded. Motion unanimously passed.
3. Jennifer Wilby moved that the proposed 2008/2009 budget be passed. Tim Allen seconded. Motion unanimously passed.

Tim Allen moved that Ockie Bosch be nominated for a second term as VP Membership & Conferences. Pamela Henning seconded. Motion unanimously passed.

Meeting adjourned at 7:45 pm.

**Minutes of 2008 ISSS Council Meeting  
Madison Wisconsin USA, July 15, 2008**

**Present:**

Tim Allen	Incoming President 2008-2009
Ockie Bosch	VP Membership and Conferences
Todd Bowers	VP Funds; Acting SIG Chair, Students
Dennis Finlayson	SIG Chair, Applied Systems and Development
Sue Gabriele	SIG Chair, Roundtable; SIG Chair, Designing Educational Systems
Tamar Zohar Hamel	Acting SIG Chair, Organizational Transformation & Social Change
Pamela Henning	VP Protocol/Secretary
David Ing	SIG Chair, Systems Applications in Business & Industry
Jed Jones	VP Communications/Systems Education; SIG Chair, Info. Systems
Kyoichi Kijima	Past President 2006/2007
John Kineman	SIG Chair, What is Life/Living
Alexander Laszlo	SIG Chair, Evolutionary Development
Kathia Castro Laszlo	SIG Chair, Evolutionary Development
Allenna Leonard	President Elect 2009-2010
Janet McIntyre	SIG Chair, Meta-Modeling and Systems Epistemology
Gary Metcalf	ISSS President 2007/2008
Ignacio Peon-Escalante	ALAS (Association of Latin American Systems)
Lynn Rasmussen	SIG Chair, Research Toward General Theories of Systems
Judith Rosen	SIG CoChair, What is Life/Living
James Simms	SIG Chair, Living Systems Analysis
Carl Slawski	Chair, Los Angeles/Southern California Chapter
G.A. Swanson	Trustee
Len Troncale	SIG Chair, Systems Pathology
Jennifer Wilby	VP Administration
Thomas Wong	SIG Chair, Medical and Health Systems

Gary Metcalf called the meeting to order at 12:20, welcoming members and briefly outlining the decision making role of the ISSS Council.

## **Announcements and General Discussions**

### **Budget for 2008/2009**

Jennifer Wilby presented a proposed ISSS budget for 2008/2009. The budget is variable, based on costs per membership. Each year, conferences are intended to be self-sustaining. Numbers of student members are increasing. The number of retiree members is decreasing. The Trustees Conference Endowment fund is \$18,406.83. The financial health of the Society remains good.

### **Election of VP Membership & Conferences**

Gary Metcalf reported that the position of VP Membership and Conferences has a one-year term. The position works extensively to organize the next year's conference. Ockie Bosch has held that position for the 2007/2008 year. As the 2009 conference will be held at his university in Brisbane, Gary indicated that the Council might consider voting him into that role for a second term.

### **New Council Members**

Todd Bowers has stepped in for the VP Funds to replace Lynn Rasmussen who was unable to complete her term. Jed Jones has replaced David Ing in the role of VP Communications & Systems Education and will work on strategically positioning and marketing the Society worldwide. Gary Metcalf thanked all outgoing Board members for their service to the Society.

### **Revised Bylaws**

Jennifer Wilby reported the revised Bylaws were passed with one abstention. They have been mailed to all Society members and are available on the ISSS website.

### **Other Business**

Len Troncale recommended that the Society membership bring forth nominees for President so we get a pool of strong, strategic candidates to increase the strength and profile of the Society.

Tamar Zohar Hamel indicated a request that the Psychology and Mental Health SIG be renamed the Mental Health SIG, in order to draw a wider pool of interested participants to the SIG. She requested that this be brought to the Board for ratification.

Alexander Laszlo inquired about Maurice Yolles' proposed publication projects for the Society. Gary Metcalf indicated that Maurice's wish to create a new systems journal has been deemed beyond the current means of the volunteers involved in the Society. Len Troncale suggested an annual Society publication on the state of the systems sciences that the Society would control, and from which we would derive visibility and accrue profits. Gary Metcalf indicated that such an initiative would be appropriate food for conversation by the Publications Committee to be chaired (according to the new bylaws) by VP Publications (David Ing). Alexander Laszlo inquired about ISSS's involvement in the new International Academy of Systems emerging from the Fuschl Conversations and IFSR. Jennifer Wilby indicated that she has the role of Secretary role with that new organization.

Sue Gabriel inquired about how SIGs are handled when their founders are unable to attend annual meetings for several years. Jed Jones replied that this is under discussion/action by the Board.

### **Motions:**

G.A. Swanson moved to approve the budget as presented. James Simms seconded. Motion unanimously passed.

Gary Metcalf nominated Ockie Bosch for a second term as VP Membership and Conferences. Pamela Henning seconded. G.A. Swanson moved that nominations cease. Jennifer Wilby seconded. Motion to appoint Ockie Bosch for a second term unanimously passed.

Meeting adjourned at 12:50.

## **Minutes of 2008 ISSS Membership Meeting Madison Wisconsin USA, July 17, 2008**

Gary Metcalf called the meeting to order at 12:20.

### **Discussion**

Gary Metcalf described the Society's decision-making structure: notably the Board of Directors and the Society's Council.

Gary Metcalf indicated that the Society's revised Bylaws had been passed by the membership in the past year and are now posted on the ISSS website.

Jennifer Wilby reported that statements of the Society's financial status are available to members, as is a list of the Society's current members and contact information. Financial information is also available in the Bulletin, which was mailed to members this spring. She reported that the budget for 2008-2009 has been passed.

Gary Metcalf reported that the Society needs to address how to be sustainable as an organization for the people who find it valuable. He commented on the importance of systems-interested people being able to share information and support. Conferences have been the Society's traditional vehicle for this, but given increasing travel costs and scheduling difficulties, he indicated that perhaps an increased use of technology will become a viable alternative. However, he stressed that as long as the Society is important to us, we will continue to find ways to sustain and work to find solutions to the problems we face.

Dennis Finlayson recommended that ISSS have more joint conferences with other systems societies to share information. Gary Metcalf reported that this has happened in the past – for example, with the American Society of Cybernetics. He reported that next year's conference in Australia will be cohosted by ANSYS (the Australia-New Zealand Systems Society). IFSR (the International Federation for Systems Research – an umbrella organization) continues to have presence at our ISSS meetings to continue an exchange of ideas. Also, for the past 3 years, the systems dynamics society has cohosted our ISSS conferences.

Alexander Laszlo questioned if the IFSR was taking a role in promoting participation in any/all systems conferences. Matjaz Mulej indicated that the group hopes to play an increasing role in doing so.

John Kinneman reported that the conferences of the IFORS (International Federation of Operational Research Societies) overlap with those of other systems organizations. Both Gary Metcalf acknowledged the difficulties with scheduling conferences, given that different school terms in UK, Japan, and the US, etc. make it impossible for professors in every country to be available to travel to ISSS annual meetings, regardless when such meetings are scheduled. Jennifer Wilby noted that the ISSS does begin planning its conferences 2 years in advance, and that the IFSR publishes conference dates to make people systems societies aware of one another's plans.

Leonie Solomons inquired about how SIG (Special Integration Groups) are formed. Gary Metcalf referred her and interested others to the Society Bylaws, where that process is outlined. Briefly, he indicated that 12 ISSS members in good standing must sign a petition, which then goes to the Society's Board for approval.

In response to an inquiry about nominations for Board members, Gary Metcalf reported that the Society has a Nominating Committee. All members receive calls for nominations and are encouraged to bring forth names for members they feel would be good officers for the Society. All members are entitled to vote on ISSS officers vote by mail.

Gary Metcalf adjourned the meeting at 12:35.

**CASH ACCOUNTS ISSS**  
**Financial Year 2008 (January - December)**

Beginning January 1 2008			\$75,104.10
Income			
Memberships	\$21957.00		
Conf. Memberships	9330.00		
SIG contributions	600.00		
Additional Journals	0.00		
US Membership deposit	115.00		
Interest CD	1131.30		
		\$33133.30	\$108,237.40
Expenses			
Bank charges	683.16		
Journals	13985.26		
Bulletin	2553.60		
Stationary	1220.10		
Postage	833.75		
Office costs	974.11		
Office stipend	4950.00		
Webmaster stipend	339.63		
Internet/Computing/Equipment	4338.18		
Printing	1120.69		
Tennessee Registration	20.00		
Madison Loss	14226.14		
Currency Exchange Costs/loss	274.12		
		\$45518.74	
Ending December 31 2008			\$62,718.66
US Checking		\$39175.14	
US CD		0.00	
UK Sterling		4894.72	
UK Dollar		18648.79	
Ending December 31 2008			\$62,718.65

**ISSS2008**  
**UNIVERSITY OF WISCONSIN, MADISON CONFERENCE**  
**CONFERENCE FINANCIAL REPORT**  
**Within financial year 2008 (Jan-Dec)**

DEPOSITS / REFUNDS

Madison Registration/Accommodation Fees Deposits	70432.00
Donation from N Callaos	1000.00
Cash registrations/meal tickets	435.00
Registrations to ISSS Office	1555.68
Participant Refunds	-7043.68
<b>TOTAL DEPOSIT/REFUNDS:</b>	<b>\$66,379.00</b>

## DISBURSEMENTS

ISSS Memberships	9330.00
SIG Contributions	600.00
Conference Management Fee	6000.00
CDROM Proceedings	3487.39
Abstract and Program Book	1037.52
Union Facility & External Equipment Rental	3194.38
Internal Catering	13083.75
M/C, Visa Service Charge	2080.00
Accommodations	30738.00
Speaker Costs	4751.66
Publicity	75.00
Transportation	998.00
Vickers award and plaque	641.54
Miscellaneous Supplies & Services	1131.69
Graphics Services	254.25
Posterboards	975.00
Reg & Abstract Link Charges	1014.25
Shipping FedEx and Post Office	270.65
Office bank Charges	71.46
Pre-meeting planning	653.60
Office costs Madison	217.01
TOTAL DISBURSEMENTS:	\$80,605.15

NET PROFIT/LOSS: -\$14,226.15

## **SIG ANNUAL REPORTS:** List of Active SIGs and (Report Received)

Agent- based Social Systems (NO\_  
Aging Systems (NO)  
Balancing Individualism and Collectivism (NO)  
Critical Systems Theory and Practice (NO)  
Designing Educational Systems (NO)  
Evolutionary Development (NO)  
Hierarchy Theory (NO)  
Information Systems Design and Information Technology (NO)  
Living Systems Analysis (NO)  
Medical and Health Systems (NO)  
Meta-modelling and Systems Epistemology (NO)  
Human Systems Enquiry (NO)  
Organizational Transformation and Social Change (NO)  
Research Towards a General Theory of Systems (NO)  
Roundtable (NO)  
Socio-ecological Systems (NO)  
Spirituality and Systems (NO)  
Student SIG (NO)  
Systemic Approaches to Conflict and Crises (NO)  
Systems Applications in Business Industry (NO)  
Systems Biology and Evolution (NO)  
Systems and Mental Health (NO)  
Systems Modelling and Simulation (NO)  
Systems Pathology (NO)  
Systems Philosophy and Systems Ethics (NO)  
Systems Specific Technology (NO)  
What is Life/Living (NO)





# SECTION FOUR MEMBERS' BULLETIN BOARD

## CALLS FOR PAPERS

### **Call for Papers for a 2010 Special Issue of Integral Review “Emerging Perspectives on Metatheory and Theory”**

#### **Special Issue Editors:**

Steven E. Wallis, Ph.D., Foundation for the Advancement of Social Theory, and Mark Edwards, Ph.D., University of Western Australia

In the same sense that data can be understood as “theory laden,” we can also understand theory to be “metatheory laden.” By understanding one, we gain insight into the other. The goal of this Special Issue is to encourage critical reflection on the writings of metatheorists and to enable significant contributions to the growing discourse on metatheory – including but not limited to conversations on the creation, structure, change, testing, and application of theory. This Special Issue asks contributors to submit papers that will extend and deepen our understanding of metatheory and theory. In today’s world, we need more effective theory. The ability to build effective theory rests on our understanding, tacit or explicit, of metatheory. So we might ask, is there anything so practical as a good metatheory? There are many approaches to metatheory. A metatheorist may build overarching frameworks, investigate the structure, evolution or history of theory, or critically evaluate theories. We might generally understand a metatheoretical approach as one that addresses all theory, or a specific set of theories.

#### **Contributions**

We are looking for quality contributions from an international range of authors and contexts. These should meet Integral Review’s general acceptance criteria (see link, below) and respond to the purposes of this Special Issue. Submissions may draw from any discipline and any scale of focus. Our goal is to gain fresh perspectives on this important topic. To that end, we encourage authors to submit papers that are innovative and deep and which challenge assumptions and accepted definitions. We are looking for insightful works of metatheory and, particularly, investigations into the works of metatheoreticians. Given the depth and novelty of this topic, we provide substantial lead time for submissions. Additionally, you are encouraged to engage the editors with questions and conversations around the topic to clarify your approach.

#### **Further Information**

For more information on metatheory, a list of possible topics, and submission requirements, please visit Integral Review’s Call for Papers page at the following link:

<http://integral-review.org/submissions/IR%20Call%20for%20papers,%20Special%20Issue%20on%20Theory%20and%20Metatheory%20long%20vers..pdf> <<http://integral-review.org/submissions/Calls%20for%20Papers%20Page.htm>>

**EMAIL FOR SPECIAL ISSUE ONLY:** For all correspondence, questions and to submit manuscripts to: [Meta-theory@integral-review.org](mailto:Meta-theory@integral-review.org)

Submission deadline: July 31, 2009

**CALL FOR PAPERS for International Journal of Health  
and Ageing Management (IJHAM)  
Inspiring Success through Knowledge: Including Knowledge Creation,  
Management & Collaboration**

The International Journal of Health & Ageing Management is a double blind peer reviewed online journal published by Academic Global Publications Pty Ltd.

The refereeing requirements of the Department of Education, Science & Training have been satisfied and this journal has been accepted to be listed on the DEST Register of Refereed Journals: <http://www.dest.gov.au/highered/research/herdc.htm>

**Objectives of the journal**

The aim of The International Journal of Health & Ageing Management is to disseminate knowledge generated by academics, practitioners and researchers regarding management issues related to health, healthcare, ageing and aged care at societal, organizational and individual levels.

Journal objectives include:

- Facilitate dissemination of knowledge with a view to improve management of health and ageing
- Facilitate communication and discussions among managers, academics, researchers and policy makers concerned with health and ageing
- Provide useful knowledge for managers to improve their knowledge and skills in the area of health and ageing
- Publish research articles, case studies, reviews in the area of managing health and ageing.

**Intended audience**

The journal aims at an audience that includes Academics, Practitioners of the health and aged care industry, Policy Makers, Researcher and Students.

Papers should be submitted to the editor

mailto: [ed\\_ijham@academicglobalpublications.com](mailto:ed_ijham@academicglobalpublications.com) or directly to me, Dr. Shankar Sankaran, University of Technology Sydney, [shankar.sankaran@uts.edu.au](mailto:shankar.sankaran@uts.edu.au)

Information for authors can be found at [http://www.academicglobalpublications.com/info\\_aut.htm](http://www.academicglobalpublications.com/info_aut.htm)

Past papers can be found at <http://academicglobalpublications.com/ijham/index.htm>

**JOURNAL INFORMATION AND ON-GOING CALL FOR PAPERS**

The Journal of Systems and Information Technology provides an avenue for scholarly work that takes a systemic or holistic perspective in relation to areas such as:

- information systems development
- information technology
- information systems management
- electronic commerce.

## Editorial criteria

The Journal provides an avenue for scholarly work that researches information systems, electronic business and information technology. Papers examine the wider implications of the systems or technology being researched. This means papers consider aspects such as organisational relevance, business value, cognitive implications, social implications, impact on individuals or community perspectives, rather than focusing solely on the technology.

The Journal of Systems and Information Technology is open to a wide range of research methodologies and paper styles including case studies, surveys, experiments, review papers, and theoretical papers. Research that uses quantitative methods (for example statistical surveys) will be suitable if it takes a broad perspective of the problems and issues.

<http://info.emeraldinsight.com/products/journals/journals.htm?id=jsit>

Sample contents -- Vol. 11(1), 2009

Editor: Craig Standing - [c.standing@ecu.edu.au](mailto:c.standing@ecu.edu.au)

Paper 1: Customer-centric relationship management system development: A generative knowledge integration perspective, Say Yen Teoh, Shan L. Pan (pp. 4-23)

Paper 2: Case study illustrations of a scorecard to measure IT strategy improvements in UK SMEs, John Williams, Hefin Rowlands (pp. 24-42)

Paper 3: Exploratory study to understand the phenomena of adoption of wireless handheld devices in the Australian healthcare system, Abdul Hafeez-Baig, Raj Gururajan (pp. 43-56)

Paper 4: Perceived importance of EMR functions and physician characteristics, David B. Meinert, Dane Peterson (pp. 57-70)

Paper 5: Enhancing the curriculum: shareable multimedia learning objects, Niall MacKenzie, Andrew Walsh (pp. 71-83)

## **CALL FOR PAPERS -- Int. Journal of Information Technologies and the Systems Approach (IJITSA) July 2010 issue (Vol. 3, Issue 2)**

### DEADLINES:

First full paper submission due: July 31, 2009

Publishing date: July, 2010

<http://www.igi-global.com/ijitsa>

### COVERAGE:

IJITSA will publish papers ^ one issue per semester ^ of high quality, rigor and relevance on Information Systems that use the Systems Approach as a main method of inquiry under the following categories:

(i) theoretical research papers (from conceptual review and analysis, formal analysis or modeling),

(ii) empirical research papers (from an engineering perspective (e.g., papers that report the design, and/or building and/or empirical (even as a pilot test) evaluation of a system)) and (iii) behavioral papers (e.g. papers that report survey-based, case study or action research approaches, where human beings, behavior ^including both subjective and objective constructs- are the main focus of the systems studied in laboratory and field settings).

Papers can have the following single or combined research purposes: scholastic, instrumental/methodological, exploratory, descriptive, predictive, explanatory, design and control, evaluative, interpretative or interventionist. The studies can use the following systemic research methodologies or approaches: conceptual, formal mathematical, systems simulation (discrete, multi-agent or hybrid), systems dynamics, soft systems, action research, critical systems, multi-methodology, and their philosophical underpinnings can be either positivist, interpretative, critical or based in critical realism. They are expected to be integrated or discussed under the perspective of the Systems Approach with the long-term aim of obtaining a unified view of Information Systems.

Topics include, but are not limited to the following:

Engineering frameworks, taxonomies, models, methodologies, processes, methodologies, standards and practices based in the systems approach applied in the solving, dissolving or resolving of real or theoretical systems of problems in the disciplines of information systems, systems engineering, software engineering and complex systems.

Management frameworks, taxonomies, models, methodologies, processes, methodologies, standards and practices based in the systems approach applied in the solving, dissolving or resolving of theoretical or real systems of problems in the disciplines of information systems, systems engineering, software engineering and complex systems.

Conceptual analysis, design, utilization, evaluation, enhancement and/or critique of research methods based in the systems approach (conceptual, formal mathematical, systems simulation (discrete, multi-agent or hybrid), systems dynamics, soft systems, action research, critical systems, multi-methodology).

Philosophical research frameworks and paradigms based in the systems approach for doing research in the disciplines of information systems, systems engineering, software engineering and complex systems.

Please visit the IJITSA website at: <http://www.igi-global.com/ijitsa> for submission guidelines.

## MEMBER VISITS AND NEWS

### **Systems Thinking and Systems Practice in Latin America Kathia Castro Laszlo**

I had the honor to participate in two systems events in Latin America in the past 2 weeks. The first event at the end of October was the 4th Brazilian Systems Congress that took place in the city of Franca, Sao Paulo, Brazil. The second event in Mexico City, during first week of November, was the 3rd Regional Reunion of ALAS - the Association of Latin American Systems where researchers from Mexico, Argentina, Colombia, Cuba and Peru participated. My experience in these systems conferences is that they are very similar to family reunions: encounters of friends and colleagues in a warm and celebratory way.

These gatherings are valuable beyond the knowledge that is shared in formal presentations. The richness of these meetings come from the generative, learning, and strategic conversations that happens both within the structured sessions as well as in the unstructured spaces such as breaks, meals and social events. These are conversations that shape relationships that enable ongoing inquiry and collaboration beyond the special moments such as these events when we come together, face to face, as a community.

In addition to the intellectual stimulation, these reunions recharge our emotional batteries to continue our work as scholars-practitioners. Systems scholars are actively seeking to expand boundaries and integrate disciplines and cultures. They are building bridges between theory and

practice, science and art, reason and emotion. The focus of their research address the complex and unique challenges of Latin America in a global context, such as poverty, social and economic development, justice and sustainability. Innovation was explored in a truly systemic context with social responsibility at the heart of the inquiry.

I was struck by the high quality of the research that is being done in Latin American countries. Historically, the work of systems sciences has been done in more developed countries and major works have been published in English. The strengthening of regional knowledge presented, discussed, and published in their languages —such as Portuguese and Spanish— is very important as we want the field of systems science to contribute to society and for systems thinking and practice to reach people in all forms of organizations and communities. As Ignacio Peón, President of ALAS, says, the “systemic virus” is spreading.

The Latin American regional network of people in the systems field has global roots. In both meetings, there was an emphasis in sharing the stories of the people that have created the pathways and influenced their work: who were their teachers, the thinkers that inform them, the part of the network where they have been active. This is an example of how systems thinking and practice is natural for Latin cultures, which are so inclined toward building relationships and making connections. These cultures are also incredibly graceful and grateful. There is a sense of abundance and generosity that make of the learning experience something truly memorable at the human level.

The role of dialogue in systems science was present both in the contents and in the practice of these meetings. Although there is still a tendency for the more traditional format of academic presentations, it was refreshing to see the recognition of the importance of dialogue and reflection as part of the evolution of this field. There is a huge opportunity to encourage and enable ongoing dialogue and collaboration beyond these face to face meetings: this is the promise of the new internet technologies that enable human interaction across time and space.

“We have two hands but one heart” said Enrique Herrscher from Argentina. There are many ways of doing but one care. That’s what the systems community manifest globally, and this is particularly true in Latin America.

### **Bulgarian Society for Systems Research and Helenic Society for Systemic Studies – Joint Event Magdalena Kalaidjieva, President of the BSSR**

The Bulgarian Society for Systems Research (BSSR) and the Helenic Society for Systemic Studies (HSSS) organised jointly in the Institute of Control and System Research of the Bulgarian Academy of Sciences in connection with a Scientific Session-Conference 13-16th November 2008.

Professor PhD Nikitas Assimakopoulos from the Department of Informatics of the University of Piraeus, President of the HSSS, came especially for this event to Sofia with his family, wife Mary and daughter Georgina. He gave a keynote address “System Structuring in Strategic and Procedural level with the Design and Control SYstemic Methodology (DCSYM)”.

Professor PhD Magdalena Kalaidjieva, President of the BSSR introduced “Systems Research. Modelling, Monitoring and Evaluation of Systems with Interdisciplinary Intellect”.

Some research topics were presented to open a mutual discussion for the future: research on multi-component semiconductor magnetometers, new principles for magneto-resistors, managing the water levels in artificial lakes, impact of ozone on some forest types, complex simulation systems, adaptive and robust systems control, optimisation of a biotechnological process, database for the state of forest systems, and also some other international collaboration topics in control and systems research.

The aim of the joint event was to learn more about the activities and research topics of each of the two national societies, to find areas for mutual research and knowledge transfer, for joining the

efforts for contributing to the systemics scientific community. The event resulted from traditional collaboration among other sciences and scientific teams of the two countries. It was renewed, while Professor PhD Magdalena Kalaidjieva took part on 29-31 of May, 2008 in the 4th National Conference of the HSSS on Systems for Management Information and Innovation co-organised with the University of Ioannina at Ioannina-Greece, <http://www.hsss.gr/2008ioannina> with a paper on Dynamic Conditions for Emerging Innovations, PA.10.B1, Applied Systems Research, 72, Book of Abstracts.

In conclusion, Professor PhD Nikitas Assimakopoulos, Editor-In-Chief of the International Journal of Applied Systemic Studies (IJASS) announced a Special Issue for authors from the BSSR as a collaboration output of the two societies.

### **W Ross Ashby Digital Library**

It is with great pleasure that we can now officially announce that the W. Ross Ashby Digital Archive is available at <http://www.rossashby.info>

We would be delighted if you would take the time to have a look at the digital archive web site, and where appropriate, help to spread awareness of its availability, by mentioning it and linking to it in any mailing lists, newsletters, or web sites that you are involved in.

### **JOHN N. WARFIELD RESEARCH RECORD WEB SITES NEWS ITEM jnwarfield@aol.com**

John N. Warfield is known to many in the systems community as the founding editor of the journal originally called Systems Research. Many are unaware that he has a long research record on systems in his own right, including six books on systems. The first of those appeared as a Wiley Interscience publication in 1976 and the most recent appeared from World Scientific in 2006. When he retired from George Mason University in the year 2000, the Fenwick Library of that institution began to assemble a special collection of research related to his contributions. This collection is very large, occupying more than 100 linear feet. The entire collection is indexed on the Internet. More recently a fraction of the work has been digitized, including manuscripts and several videos, which can be viewed on the Internet. Some of the videos are interviews of Warfield, while others are videos of Interactive Management (IM) workshops or summary videos of such workshops. A friend created a web site to publicize his books and related software. Warfield had constructed some web sites before retiring from the university. He has continued his research and publication until the present time.

The following web sites which relate to his work may be of interest to ISSS members:

Web Site A. The George Mason University Fenwick Library Special Collections Site.

The John N. Warfield Special Collection: <http://www.gmu.edu/library/specialcollections/warfield.htm>  
This site contains over 100 linear feet of Warfield-provided documents, videotapes, lectures, etc., organized by location in the Fenwick Library. At present 6 videos and approximately 100 documents have been digitized, and can be seen in original text or video format.

Web Site A-1. To get to the digitized items mentioned above, start at the following URL:

<http://mars.gmu.edu/dspace/handle/1920/3059>. You can start your search by scrolling down to a text box that contains the word SEARCH. You can either click on that, which will take you to another text box that contains three major search headings (Title, Author, Subject), or you can enter a key word and do your search on that key word. Please note that to open any one of the digitized files, one may click inside a rectangular box for the file. Downloading the videos works if you have installed the free Apple Quick Time software, and if you use the Mozilla Firefox browser. Trying to download otherwise may work for small files, but may not work for large video files.

Web Site B. The University of Virginia offers another entry to the George Mason Library John N. Warfield

Special Collection:

<http://ead.lib.virginia.edu/vivaead/published/gmu/vifgm00008.xml.frame>

Web Site C. Interpretive Structural Modeling Software that can be downloaded at no charge from the George Mason University: See also notes under Web Site E-2. Note that some personal software provides firewalls that will not allow downloads of executable files. Since the ISM software contains executable files, it may be necessary to make some local changes in order to be successful in downloading free ISM software.

<http://www.gmu.edu/departments/t-iasis/ism/ism.htm>

Web Site D. <http://communities.msn.com/IMCommunity/PhotoAlbum> This site shows seven pages of pictures of people who are connected in some way to John Warfield's work. Each picture is accompanied by a short biographical sketch written by John. This Album was last updated in 2005.

Web Site D-1. <http://communities.msn.com/IMCommunity/messageboard>

This is web site subsidiary to Web Site D which is operated by Roy Smith of England, an engineer retired from Ford Motor Company's England operations.

Web Site E. <http://www.gmu.edu/departments/t-iasis> This older web site was a home page for IASIS, the Institute for Advanced Study in the Integrative Sciences at the George Mason University (GMU). It contains a few papers that can be downloaded, including the complete 105-page "Wandwaver Solution", John's design for the "Great University".

Web Site E-1. <http://www.gmu.edu/departments/t-iasis/warfield/warfield.htm>

This contains John's resume from 1998, which has never been updated.

Web Site E-2. <http://www.gmu.edu/departments/t-iasis/ism.ism.htm> This contains the DOS version of ISM with instructions for downloading. Also see <ftp://mason.gmu.edu/jwarfiel/ismdos>

Web Site F. World Scientific Publishers: <http://worldscibooks.com>

World Scientific Publishers of Singapore has become a leading publisher in the world of scientific books. In 2006 they published the following book: John N. Warfield: An Introduction to Systems Science

Web Site F-1. World Scientific Publishers Discussion of Warfield's 2006 Book:

<http://www.worldscibooks.com/compsci/6058.html> This web site enables the reader to download the Preface, the Table of Contents, and Chapter 1 of the book An Introduction to Systems Science.

The Preface describes a research program extending over almost 4 decades, during which the systems science describes in this book was developed. Please note that Part 4 of the book contains contributions by individuals from the nations whose flags are represented on the back cover of the book. These contributions represent the following topical areas: The Private Sector, The Public Sector, The Social Sector; and the Education Sector. The aim is to lend credence to the author's assertion that the systems science offered here is applicable to all sectors of society. The book can be purchased directly from the publisher.

Web Site G. The jnwarfield Site Hosted by Greg Thomas of Nashville, TN.

<http://www.jnwarfield.com/index.htm> This web site was created and the content written by Mr. Greg Thomas of Nashville TN. He also finances and maintains the site, because he is an advocate of the systems science developed by Warfield and his colleagues. This site has several components.

Web Site G-1. <http://www.jnwarfield.com/bookstore.htm> The Bookstore at the jnwarfield Site: The Bookstore offers books and CDs some of which are free and some of which are for sale. Those items which are for sale are through Nancy Warfield, the daughter of John N. Warfield.

The book *Understanding Complexity: Thought and Behavior* contains almost 20 problematiqués drawn from various contributors, with descriptions of the applications. Also please note that the following items are available for download at no charge:

A Handbook of Interactive Management (almost 400 pages)

Software for Interpretive Structural Modeling (ISM, see also Web Site C, in case there are problems with Web Site G-1). Please note that Appendix 1 to A Handbook of Interactive Management gives very detailed instructions for the use of the DOS version of ISM software, along with examples.

Web Site H. <http://policy.gmu.edu/res/jwarfield/> This contains the contents list “Exhibits from an invited paper by John N. Warfield”, to accompany an article in the *International Journal of General Systems*: Warfield, John N. (2003), “Autobiographical Retrospectives: Discovering Systems Science”, *The International Journal of General Systems*, December, 32(6), 525-563. [This essay was invited by the Editor, Dr. George J. Klir of Binghamton University, New York] This paper detailed the events leading up to the discovery of systems science. Those figures, tables, and drawings that were too large to be included in the journal were posted on the internet, at the George Mason University computer installation, courtesy of the School of Public Policy, Dr. Kingsley Haynes, Dean, as indicated below, and so noted in the journal article.

Web Site H-1. <http://policy.gmu.edu/res/jwarfield/Exhibits.pdf> This contains all the illustrations for the article in the *International Journal of General Systems*. It also includes a table titled “Managing the Unmanageable”.

Web Site H-2. <http://policy.gmu.edu/res/jwarfield/EXHIBIT12.pdf> This is a table titled “Powerpoint presentation, Managing the Unmanageable”. It refers to a compact disk that contains numerous Powerpoint presentations all dealing with the general topic of managing the unmanageable. The disk is contained in the Warfield Special Collection, where its contents could be used as an index or as a possible course outline.

## NEW BOOKS

Second Edition of *SYSTEMIC PLANNING* by Steen Leleur has now been published.

*SYSTEMIC PLANNING* presents principles and methodology for planning in a complex world. It sets out what is called a systemic approach to planning, among other things, by applying “hard” and “soft” methodologies and techniques in combination. Now the book is available in an updated and enlarged Second Edition.

The book is written for Ph.D. and graduate students in engineering, business and other fields, and it is useful for all professionals, across a wide range of employment areas, who share an interest in renewing planning practice. Such an endeavour is seen as both important and timely, recognising that many complex planning tasks make it necessary for organisations – whether public or private – to engage in planning to prepare proactive, long-term decision-making.

The author, dr. techn. Steen Leleur, is professor of decision support systems and planning at the Technical University of Denmark. On the basis of recent developments in systems science and research in planning theory and technical modelling, he presents a research-based but highly practical framework for planning which takes explicit account of complexity and uncertainty. Such an approach to planning is needed in a wide range of today’s application areas in society and business.



In this Second Edition the text has been extended in response to the wide-ranging feedback on the suggested systemic framework for planning renewal.

For further information see: [www.systemicplanning.dk](http://www.systemicplanning.dk)

### **Science and the Design of Systems by Janos Korn**

Matador is delighted to announce the publication of our latest book. Conventional science views parts of the world as phenomena classified according to shared properties, which are used to create mathematical relations or models that translate notions, fundamental or not, into refutable relationships by exposing them to the test of experience. There is another view of parts of the world, the view of related objects, the 'systemic view' of complexity and hierarchy, which is claimed to be pervasive and indivisible. The aim of this book is to show how to convert the systemic view into systems science by following the method of conventional science to model aspects of the immense variety and diversity of objects (natural, technical, living, human and their conceivable combinations) and their activities.

To view or download the Press Release for this title, please click the following link: [http://www.troubador.co.uk/book\\_info.asp?bookid=811](http://www.troubador.co.uk/book_info.asp?bookid=811)

For more information please contact [marketing@troubador.co.uk](mailto:marketing@troubador.co.uk)

Web: [www.troubador.co.uk](http://www.troubador.co.uk)

### **Social Networking Sites and the Surveillance Society. A Critical Case Study of the Usage of studiVZ, Facebook, and MySpace by Students in Salzburg in the Context of Electronic Surveillance. Fuchs, Christian. 2009.**

Salzburg/Vienna: Research Group UTI. ISBN 978-3-200-01428-2.

Study: [http://fuchs.icts.sbg.ac.at/SNS\\_Surveillance\\_Fuchs.pdf](http://fuchs.icts.sbg.ac.at/SNS_Surveillance_Fuchs.pdf)

Background Information: [http://fuchs.icts.sbg.ac.at/SNS\\_E.html](http://fuchs.icts.sbg.ac.at/SNS_E.html)

### **User-Centric Policy Design to Address Complex Needs**

**Editors: Janet McIntyre-Mills (Flinders Inst. of Public Policy and Management, Flinders Univ., South Australia) 2008, 4th quarter**

Nova Publishers [https://www.novapublishers.com/catalog/product\\_info.php?products\\_id=7331](https://www.novapublishers.com/catalog/product_info.php?products_id=7331)

ISBN: 978-1-60456-683-3

This new book addresses the question: How can democracy and governance be made more accountable to diverse groups of people within nested regions? How can we address risks across spatial and conceptual boundaries? Emotions are central to policy making. Making connections is the basis for consciousness and mindfulness. The more connections we can make, the better our thinking, our policy processes and our governance outcomes will be. We need to think about our emotions and not to deny them. Emotions, values, and perceptions are central to our humanity. They underpin the so called 'enemies within', namely 'religion, morality, aesthetics and politics'. Enabling more decision making at the local level has both advantages and disadvantages. The research challenge is to find a democracy and governance process to maximize the advantages and minimize the disadvantages. This requires building organizational capacity to address accountability and the management of risk to enable people to work with diverse perceptions, interests, and issues.

