A main purpose of the International Institute of Informatics and Systemics (IIIS) is to foster knowledge integration processes, interdisciplinary communication, and integration of academic Activities. Based on 1) the trandisciplinarity of the systemic approach along with its essential characteristic of emphasizing *relationships* and *integrating* processes, and 2) on the multi-disciplinary support of informatics concepts, notions, theories, technologies, and tools, the IIIS has been organizing in its initial phase multidisciplinary conferences as a platform for fostering inter-disciplinary communication and knowledge integration processes.

Multi-disciplinary conferences are organized by the IIIS as support for both **intra-** and **inter-disciplinary** communication. Processes of intra-disciplinary communication are mainly achieved via traditional paper presentations in corresponding disciplines, while conversational sessions regarding trans- and inter-disciplinary topics are means for inter-disciplinary communications. Intra- and inter-disciplinary communications might generate *co-regulative cybernetic loops*, via negative feedback, and *synergic* effects, via positive feedback loops, in which both kinds of communications could increase their respective effectiveness. Figure 1 shows at least two cybernetic loops if intra- and inter-disciplinary are adequately related. A necessary condition for the effectiveness of Inter-disciplinary communication is an adequate level of **variety** regarding the participating disciplines. Analogical thinking and learning of disciplinarians depends on it, which in turn are potential sources of the creative tension required for cross-fertilization among disciplines and the generations of new hypothesis.
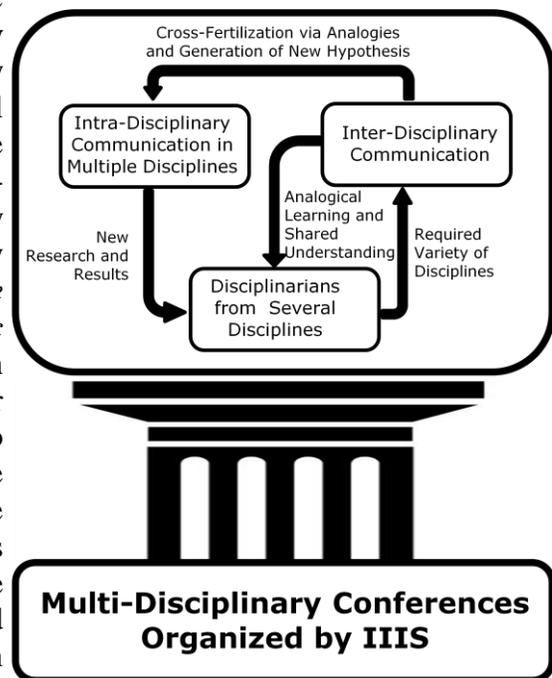

Figure 1

In many senses, Intra- and Inter-disciplinary Communications are polar opposites. They do not contradict, but complement, each other. Table 1 schematically contrasts characteristics of both kinds of academic communication.

Up to the present, the IIIS has been using the format of conversational sessions to support inter-disciplinary communications processes. Table 2 schematically contrasts characteristics of both kinds of academic communications. As a second phase, IIIS is starting a process of written inter-disciplinary communication via special issues in its journals, short monographs, multiple author books, etc.
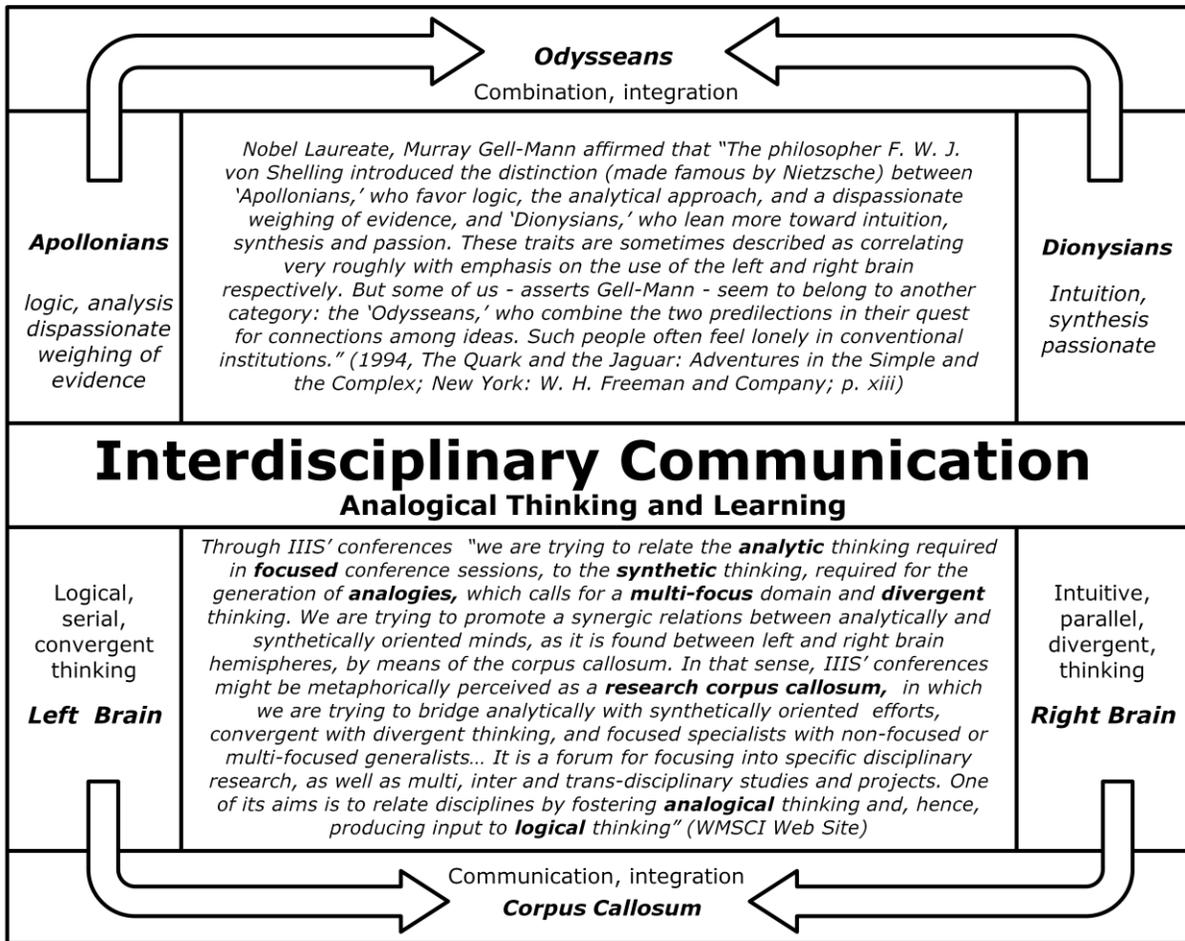
As it is known, identification of analogies among disciplines is being increasingly favored by academic and research institutes. A progressively larger number of eminent scientists are supporting inter- and trans-disciplinary research and communication. Some of them decided to dedicate an increasing intellectual effort to this issue, as it is the case of the theoretical physicist and Nobel Laureate Murray Gell-Mann. He explains his perspective on this issue by 1) using the differentiation (made by Shelling and Nietzsche) between " '*Apollonians*,' who favor logic, the analytical approach, and a dispassionate weighing of evidence, and '*Dionysians*,' who lean more toward intuition, synthesis and passion,"[1] who are respectively associated with left brain and right brain processes; and 2) by introducing the category of '*Odysseans*' who *combine and integrates Apollonian and Dionysian perspectives*. Murray Gell-Mann relates a metaphor we use in the IIIS, to describe the differentiation and integration between the Apollonian left brain and the Dionysian right brain. It is the *corpus callosum* that actually connects them physiologically, relating the two kinds of mental processes. Accordingly, a basic purpose of conferences organized by IIIS has been to support processes for this kind of integration, and it has been described for about 15 years in the terms included in Figure 2.

Inter-Disciplinary Conversations or Dialogues: Academics, professionals, and practitioners have increasingly been using the conversation, or dialogue, format as an **alternative** to the conventional conference format. We think that the conversational format might also be used, not just as an alternative, but concurrently with conventional conferences in a way as to generate synergic relationships between both formats/models. If this combination is feasible, then the intra-disciplinary and inter-disciplinary communication might be implemented simultaneously though the same meeting or conference.

To our knowledge, the largest meetings with the conversational format are The Fuschl and The Asilomar Conversations. The Fuschl Conversations have been organized every second year for about 30 years by the International Federation of Systems Research (IFSR), and The International Systems Institute (ISI) has organized 25 meetings with the conversational format since the early 80's, the Asilomar Conversations being the core of them. The late Bela H. Banathy, former President of the IFSR and the ISSS (International Society for Systems Research) was the founder of these two series of meetings with the conversational format. The experience gathered in these conversations supported the organizing process of conversational meetings in the context of the conventional conferences organized by the International Institute of Informatics and Systemics (IIIS) since 2006.

Organizing conversational meetings in the context of conventional conferences might support the generation of ideas with regards to the possible synergies that might be generated my means of combining both models and the ways of implementing them with the purpose of 1) increasing the effectiveness of conventional conferences, and 2) *synergistically combining intra- and inter-disciplinary communication*.

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[1] Gell-Mann, M., 1994, *The Quark and the Jaguar: Adventures in the Simple and the Complex*; New York: W. H. Freeman and Company; p. xiii

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                              Odysseans
                         Combination, integration

  Apollonians     Nobel Laureate, Murray Gell-Mann affirmed that "The philosopher F. W. J.    Dionysians
                  von Shelling introduced the distinction (made famous by Nietzsche) between
                  'Apollonians,' who favor logic, the analytical approach, and a dispassionate    Intuition,
  logic, analysis weighing of evidence, and 'Dionysians,' who lean more toward intuition,       synthesis
  dispassionate   synthesis and passion. These traits are sometimes described as correlating    passionate
  weighing of     very roughly with emphasis on the use of the left and right brain
  evidence        respectively. But some of us - asserts Gell-Mann - seem to belong to another
                  category: the 'Odysseans,' who combine the two predilections in their quest
                  for connections among ideas. Such people often feel lonely in conventional
                  institutions." (1994, The Quark and the Jaguar: Adventures in the Simple and
                  the Complex; New York: W. H. Freeman and Company; p. xiii)
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Interdisciplinary Communication
Analogical Thinking and Learning

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  Logical,        Through IIIS' conferences "we are trying to relate the analytic thinking required    Intuitive,
  serial,         in focused conference sessions, to the synthetic thinking, required for the           parallel,
  convergent      generation of analogies, which calls for a multi-focus domain and divergent           divergent,
  thinking        thinking. We are trying to promote a synergic relations between analytically and       thinking
                  synthetically oriented minds, as it is found between left and right brain
  Left Brain      hemispheres, by means of the corpus callosum. In that sense, IIIS' conferences         Right Brain
                  might be metaphorically perceived as a research corpus callosum, in which
                  we are trying to bridge analytically with synthetically oriented efforts,
                  convergent with divergent thinking, and focused specialists with non-focused or
                  multi-focused generalists... It is a forum for focusing into specific disciplinary
                  research, as well as multi, inter and trans-disciplinary studies and projects. One
                  of its aims is to relate disciplines by fostering analogical thinking and, hence,
                  producing input to logical thinking" (WMSCI Web Site)

                         Communication, integration
                              Corpus Callosum
```

Figure 2

The conversational and the conventional conferences formats oppose each other in several aspects. The table 2 below summarizes some of them. It might be thought that because of these opposite aspects of both models, the respective meetings have been held separate from each other. But, in our opinion, this opposition does not necessarily mean a **contradiction**; it might be handled as a **polar** one from a synergic perspective, or a complementary opposition**,** where each opposite requires each other to generate a **synergic relationship** or to produce positive **emergent properties,** where the whole is more than the sum of its parts. As it could be noticed, the conversational format would be more effective for intra-disciplinary communication, and the conventional format is more adequate to intra-disciplinary communication. Holding both kinds of academic communications might generate synergies providing disciplinarians 1) with the support to *transmitting* knowledge obtained by means of their research in a conventional format, and 2) with the opportunities for analogical thinking and learning via the conversational format, which might provide them with the opportunity of *creating* knowledge, or *generating* new hypothesis to be tested in future research.

Inter-Disciplinary Versus Intra-disciplinary Communication

Inter-Disciplinary Communication	Intra-Disciplinary Communication
Oriented to analogical thinking and learning	Supported by logical thinking and informing
Based mainly on Synthetic or integrative (probably via syncretic and/or eclectic) thinking	Based mainly on analytical thinking
Dionysians traits: leaning to intuition, synthesis and passion; and/or Odysseans traits : combining the two predilections in their quest for connections among ideas.	Apollonians traits: favoring logic, the analytical approach, and a dispassionate weighing of evidence
Systemic Insertion of research results	Systematic presentation of research results
Strategic intentional ambiguity is required for effective communication with multi-disciplinary audience.	Precision is valued.
Tradeoff between rigor and adaptability to different disciplines, or multiple rigor versions according to the sought audience plurality	Maximization of rigor according to each disciplinary epistemological values and consensually accepted methodologies.
New relationships based of not necessarily original ideas are valued.	Original ideas are valued.
Dialogical and/or Mono-Dialogical Orientation	Monological and/or multi-monological orientation generating potential debates.
Conversations and dialogues	Discussions, argumentations, and potential debates.
Homo dialogus: intellects relating to themselves by means of interacting with other intellects via dialogics.	*Homo argumentus*: intellect relating to others to win an argument by means of relating to themselves via logical thinking
Reveals assumptions and premises for reevaluation.	Defends or attacks assumptions or premises
Require temporarily suspending one's beliefs and assumptions.	Require conviction in one's beliefs and assumptions.
Since enthymemes (syllogism in which one of the premises is not stated) are frequently used in conversations or dialogues, communication processes should include the identification of implicit or tacit disciplinary premises.	The identification of implicit or tacit disciplinary premises is not always a necessary condition for and effective communication.
Frequently causes introspection on one's own position.	Frequently causes critique to other's position
Dialectic as creative tension based on differences identification and opposite perspectives	Dialectic as argumentation, with which opposite opinions are confronted as a way of showing which one represent the truth, or which one is false; or as the sense of art or science of proving through logical argument
Participants search for basic agreements and difference identification is used as potential learning sources in order create knowledge or extend the intellectual common ground.	Perceived differences are conceived as contradictions which should be faced by means of showing the truth or the falsehood of the contradicting thesis or ideas.
Multiple disciplinary dialects might lower communication effectiveness.	Efficient communications through disciplinary dialects
Identification of synergic polar oppositions	Identification of contradictions.
Shared meaning and understanding	Truth/false identification and transference
Communicants submit their best thinking, knowing that other people's reflections might support their respective improvement.	Communicants submit their best thinking and defend it against challenges to show that it is right.
Non-hierarchical networked knowledge	Hierarchical relationships among disciplines
Non-lineal collective thought processes and explicit cybernetic loops	Lineal thought processes with few implicit cybernetic loops
Communication is for knowing with each other and for knowledge creation.	Communication is usually one-way traditional publications and presentations, where the purpose is to *transmit* knowledge previously obtained, not to create it.
Collaborative	Frequently based on individual (or small groups) thoughts to be transmitted or to oppose other thought
Finding common ground is usually the purpose.	Proving truth (or falsehood) in the context of a discipline is the usual purpose, which frequently is achieved via winning an argument.
Listening to the other side in order to understand, learn, find new meanings, agreements, and common ground to improve communication	Listening is usually for information apprehension and/or to identify flaws in order to counter-argument.
Extend and possibly changes a participant's point of view Debate affirms a participant's own point of view.	Points of views are contrasted and discussed in order to confirm or disconfirm them.
Participants assume that many people have different valid perspectives of reality and that together they can put them into a whole which would be a more adequate representation of reality.	Participants usually assume that there is one right perspective and that someone has it.

Copied from N. Callaos. 2011, Interdisciplinary Communications, http://www.iiis.org/Nagib-Callaos/Interdisciplinary-communication

Table 1

Conventional Conferences versus Conversational Format

	Conventional Conferences	Conversational Format
Input	Paper based on a **solution** or an **answer**, which will be presented by an **individual** (its author)	A **problem** or a **question**, which will be addressed by a **group**.
Output	**Knowledge or information** communication.	Sharing of **Knowledge, reflections, ideas and opinions in multi-directional** communication
Flow of Information	Basically **unidirectional**.	**Multi-directional**.
Sequence	**Serial**: one presentation after another, in a **lineal** format	**Serial/Parallel:** multiple short presentations by each individual interacting with similar shorts presentations of others in **a non-lineal** interchange of ideas
Cybernetic Loops	None or very **low level** of feedback in the small time period of questions/answers	**High levels** of feedback and feedforward loops in a highly interactive environment
Formal/Informal	Papers are presented in a **formal** environment and informal interaction is limited to coffee breaks.	More **informal** sharing of ideas and reflections with more possibilities of group creativity and ideas emergence Interaction during meeting
Creativity	**Individual** (or group creativity) **previous** to the meeting	Group creativity during the meeting nurturing and being nurtured by the individuals in the group in positive loops of feedbacks.
Order	**Pre-established fixed** order of papers presentations. **Plan-based** order.	**Post-established, emergent and dynamic** order.**Rules-based** order
Process	Systematic	Systemic
Implicit general Objective	Oriented to **efficient** knowledge or information communication	Oriented to **effectiveness** in knowledge communication, sharing of ideas and reflections, solving problems, answering questions, achieving consensual designs, etc.
Whole/Parts	The whole is basically **equal** (or sometimes even less) to the sum of its parts.	The whole is basically **more** to the sum of its parts.
Guiding Metaphor	**Mechanism**	**Organism**
Methodological and Epistemic Approach	Mostly, but not uniquely, oriented by Reductionism and Mechanism	**Oriented by the Systems Approach and its Pragmatic-Teleological epistemology and methodologies**

Copied from N. Callaos. 2011, Interdisciplinary Communications, http://www.iiis.org/Nagib-Callaos/Interdisciplinary-communication

Table 2

The opposite features of both kinds of meeting do not make any of them better than the other in an absolute form. Each model has its own advantages and disadvantages and depending on the objective of the organizers any one of them might be more or less adequate. If an appropriate combination is made of both of them we might amplify the advantages of each model and diminish its disadvantages. With IIIS as an organic unit and its co-located conferences, a model incorporating both the linear/logical and the parallel/synthetic aspects of communication can evolve further. Every participant in these conferences is invited to help in that evolution. To identify an adequate combination of intra and interdisciplinary modes, some tradeoffs should be made. These tradeoffs are, by their very nature, more subjective than objective, so they require subjects to do them with the objective of finding the most consensual one, and that consensus is organically through us.