

Inter-National Association FOR Trans-Disciplinary Communication (AFTC)

Founder: Nagib Callaos, n.callaos@iis.org
International Institute of Informatics and Systemics (IIS, www.iis.org)

You can ask for your membership using the email address given above

Sponsored by
International Institute of Informatics and Systemics (IIS, www.iis.org) and by
The Journal of Systemics, Cybernetics, and Informatics (JSCI, <http://www.iissci.org/journal/sci/home.asp>)
TIDC (Trans- and Inter-Disciplinary Communication) Publishing, LLC
International Institute of Informatics and Cybernetics (IIIC, <http://iiic.iis.org/pastconf.asp>)

Purpose and Meta-Purpose:

The Inter-National Association FOR Trans-Disciplinary Communication (AFTC) is a project of *The International Institute of Informatics and Systemics* (IIS, www.iis.org), oriented to create the International Federation of Associations FOR Trans-Disciplinary Communication (IF-AFTC).

The purpose of the International Association FOR Trans-Disciplinary Communication (AFTC) is to foster trans-disciplinary communication and its end (meta-purpose) is to create a self-sustainable International Federation of Associations FOR Trans-Disciplinary Communication (IF-AFTC). The federated associations may be local (e.g., universities), national, or regional. Each association would have its ways and methods for fostering Trans-Disciplinary Communication. What would be common to them are the objective and the meaning of “Trans-Disciplinary Communication”. The diagram below (figure 1) schematizes this paragraph



Figure 1: The main purpose of the International Association FOR Trans- Disciplinary Communication is to create an International Federation of Associations FOR Trans-disciplinary Communication

The association will be an *intellectual community* (including academics, professionals, higher education students, etc.) with the common interest of learning, or being informed, from each other via trans-disciplinary communication. There are and will be many methods and means to do so. This will depend on the creativity of the members.

Among AFTC's purposes will be to address what Professor Abraham Loeb¹, the founding Director of Harvard's Black Hole Initiative, wrote in a very important article entitled "Renewing the Contract between Academia and Society: Universities owe the public a fresh look at their educational and research missions". He affirmed, in this article, that

1. "[T]he traditional boundaries among disciplines should be blurred since innovation often blossoms along these boundaries. Universities should consider a new organizational structure that moves away from the existing system of departments and enables a continuum of expertise across the arts, humanities and sciences."
2. "Students should be encouraged to take courses in multiple disciplines and organically weave them into new research patterns."
3. "For too long universities have been engaged in a monologue ... It is time for us to engage once again in a dialogue with society."² [Italics added]

As we will see below, one of the senses in the meaning of trans-disciplinary communications is strongly associated with Abraham Loeb's point 1, while the other sense is strongly associated with points 2 and 3.

We may visually summarize the nature of the International Association FOR Trans-Disciplinary Communication (AFTC) in the diagram of Figure 2. Some textual details will be provided after the immediately below diagram. The details related to the meaning are especially important because "trans-disciplinarity" has several meanings. We specifically refer here to the word as 1) an adjective for "**communication**", **not as a field** of knowledge, and 2) to its two etymological senses. *Other meanings are valid but to avoid misunderstanding we prefer to refer to the meaning that is being used in this document. Other meanings may be validly applied to other associations, institutions, purposes, or intellectual contexts.*

There are an increasing number of senses and meanings, implicitly or explicitly, associated with the adjective "Trans-Disciplinary". These senses/meanings depend on their *linguistic, intellectual, and/or programmatic context*, as well as on the *purpose* of the writer, the project, or the program, in which the adjective is being used.

Meaning of the Adjective "Trans-Disciplinary"

The explicit meaning that AFTC (and its consequent IF-AFTC) will be the etymological one, i.e., as follows (what follows in this section is a copy and paste from a larger, unfinished, article): Etymologically, "trans" is a "word-forming element meaning "across, beyond, through, on the other side of, to go beyond," from Latin trans (prep.) "across, over, beyond," (Online Etymological Dictionary)

¹ The Scientific American affirms that "Abraham Loeb is chair of the astronomy department at Harvard University, founding director of Harvard's Black Hole Initiative and director of the Institute for Theory and Computation at the Harvard-Smithsonian Center for Astrophysics. He also chairs the advisory board for the Breakthrough Starshot project." (Loeb, 2018)

² (Loeb, 2018)

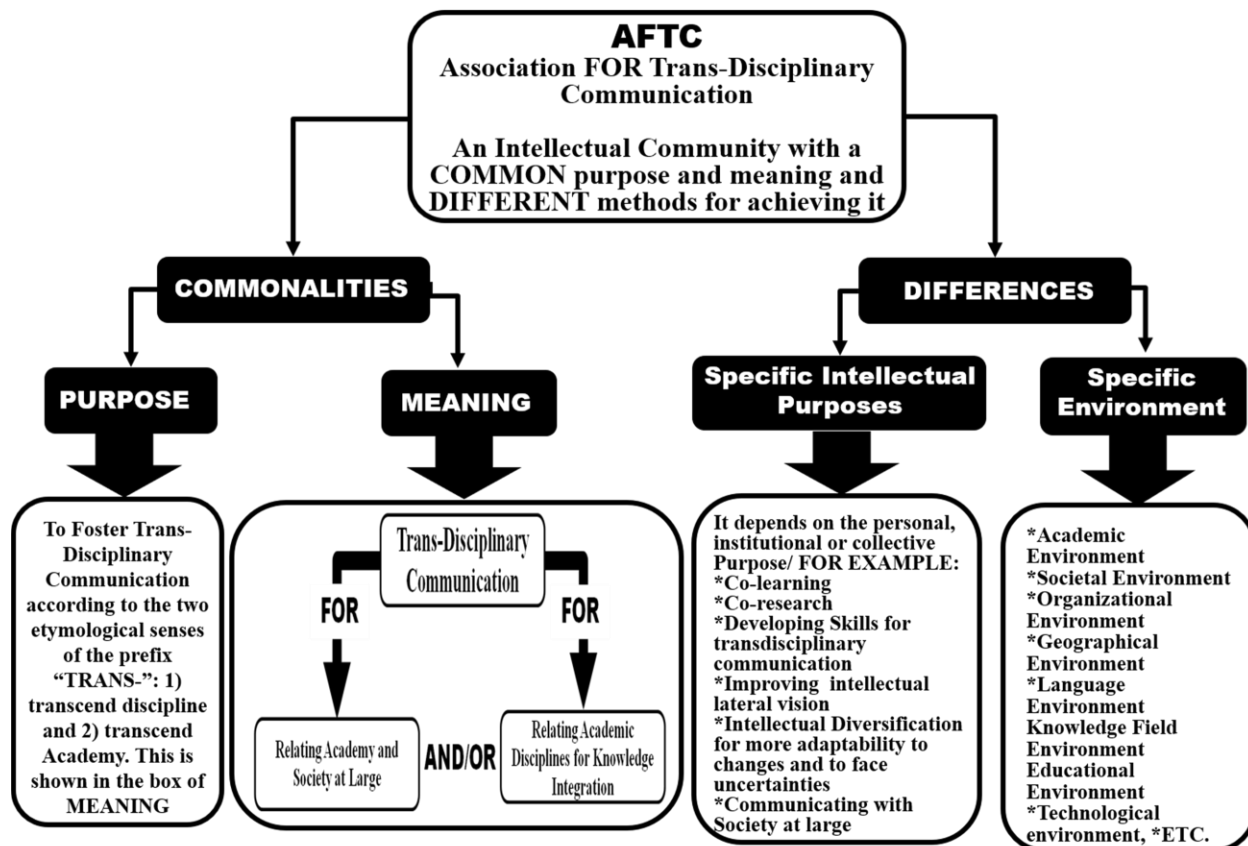


Figure 2: The Association FOR Trans-Disciplinary Communication has 1) **two commonalities** a) purpose and b) the meaning of the adjective “Transdisciplinary” and 2) **differences**, based on specific a) intellectual purposes and b) academic and social environments

Consequently, trans-disciplinary communication would mean to communicate 1) “across”, “through” disciplines, and/or 2) “beyond”, “on the other side” of, disciplines, i.e., “to go beyond” disciplines. *In the first meaning, Trans-disciplinary Communication support **inter-relationships among academics**, and in its second sense supports **relating Academy with Society**.*

It is important to notice that *Trans-Disciplinary Communication* is different from *Trans-Disciplinary fields*. For example, Mathematics, Operations Research (Mathematical Optimization), Informatics, etc. are trans-disciplinary fields, because they can be applied to most, if not all, disciplines. But mathematical or computing languages are not necessarily effective for Trans-Disciplinary Communication. It depends on how they are being used³.

³ Regarding this issue, Professor John Coffey made an important comment, regarding the use of natural language for describing algorithms and the potential of pseudo-code for describing algorithms and for communicating with the users of information systems. This is good example of making an effective effort to translate from a disciplinary semiotic system to a trans-disciplinary semiotic system. Our experience showed us that interfaces like screens design may also be effective ways of communication with users; *which is a form of trans-disciplinary communication*.

Figure 3 visualizes the meaning given above.

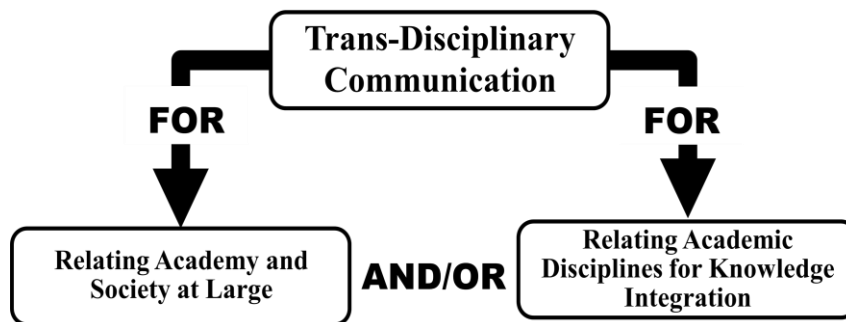


Figure 3: The meaning of the adjective “trans-disciplinary” has two senses, related to the two etymological senses of the prefix “trans-”, among disciplines and beyond disciplines. The former relates academic disciplines and the latter relates Academy to Society at Large.

Communicating academics, researchers, professionals, and intellectuals with the Society at large should be made through what is common to both sides. This certainly is not a disciplinary semiotic system but the respective natural language semiotic system; which differs among different countries. This is the main reason for the meta-purpose of an International Federation, where each association, as an intellectual community may have English as a common language among academics, but what is common with the members of their Society at Large is, very probably, another language. This means that translating would require not just translation between/among disciplinary semiotic systems but may also require translation between natural languages.

This means that meaning of the adjective “trans-disciplinary” should be limited to one’s natural language. As we showed above, the etymological meaning of trans-disciplinary communication means to communicate

- 1) “*Across*”, “*through*” disciplines and/or
- 2) “*Beyond*”, “on the other side” of, disciplines, i.e., “to go beyond” disciplines.

In the first meaning, trans-disciplinary Communication support relating academics, researchers, professionals, and other intellectuals, which may be made via international language; but the second etymological sense would relate any academic, researcher, professional, or another intellectual with society at large. In this second sense, the communication should also be done utilizing what is common; hence, it requires the natural language (the semiotic system) of the Society at Large

This is why the Association FOR Trans-Disciplinary Communication (AFTC) would, initially, communicate via English, but later also in other languages. The associations affiliated with the International Federation of Associations FOR Trans-Disciplinary Communication (IF-AFTC) would generate trans-disciplinary communication and should also address the communication with their Society at Large requiring the communication to be in the respective language.

The following annexes provide more related details

- ANNEX A: Suggestions for the Founding Members, but any may suggest a different way to support the founding of the Association FOR Trans-Disciplinary Communication
- ANNEX B: Methodology
- ANNEX C: Suggested Methods for Members of the International Association FOR Inter-Disciplinary Communication

ANNEX A

FOUNDING MEMBERS

The purpose of this very initial draft is 1) to provide starting ideas related to means and methods that may be used in founding a *decentralized* International Association FOR Trans-Disciplinary Communication (AFTC) and 2) to collect more ideas regarding this issue from the founding members.

What would be *common* to the members of the AFTC is its purpose and meta-purpose, given above. What may potentially be *different* is how it would be done in each specific case. These differences are very important for increasing the *adaptability* of the AFTC, which is a necessary condition for its effectiveness.

Specific cases refer to specific individuals, intellectual networking of each individual, universities, countries, regions, etc. Differences among specific cases may support learning processes for other founding members and as well as to members, in general.

The founding members will be invited to participate in exploratory mini-projects which will be implemented in the context of actions-learning oriented to identify what is both desirable and feasible. These mini projects may potentially provide different learning processes for the different participants according to their knowledge and also be promoting Trans-Disciplinary Communication in different languages and cultures. In our opinion, Trans-Disciplinary Communication relates via an increasing number of analogies with Trans-Cultural Communication, especially because a discipline is frequently an intellectual culture regarding epistemological and methodological values that are frequently based in the respective disciplinary semiotic systems and the academic promotional systems of each organization.

The following is a very initial list, oriented to different non-exclusive ways of helping as a founding member. This list will be periodically updated according to what founding members may be willing to add to it. Any mini- or micro-activity listed below, or any suggested one, will help a lot the AFTC in taking the needed roots, in its founding process

1. The first activity that would help into accelerating the decentralization process of the AFTC is to host virtual meetings, via Zoom, for virtual dialogues oriented to Inter-Disciplinary Communication on Transdisciplinary topics or notions. Any of these first virtual dialogues may be dialogues on the same issue of the AFTC. Information regarding these events may be shared with other founding members (of future members of the AFTC)
2. Any activity that may support the founding of the AFTC at any level: personal, local, or international, etc.
3. To write an article oriented to the importance of Trans-Disciplinary Communication for academics and, especially, for future professionals whose work effectiveness would depend on

their skills for communication with the general public, including patients, clients, users, managers, CEOs, policy-makers, decision-makers, etc. If we have an adequate number of these articles, we will publish a special issue of the journal with these articles and they would form an *AFTC's founding dossier*

4. To participate in exploratory mini-projects being implemented by other founding members in order to a) help the other founding member(s) in their exploration and b) to learn from these mini-projects (oriented of action-learning) in order to b.1) repeat them in the respective academic organization and/or networking, b.2) to adapt them to the specificity of each case (e.g., individual, organization, local or regional association, etc.)
5. According to what may be learned from participating in others' mini-projects to implement similar, adapted, or new mini-projects.
6. Any other ways that may help in founding the AFTC (e.g., promotion, writing articles related to the importance of Trans-Disciplinary Communication, supporting others' initiatives via respective networking and/or social media, Co-Publishing articles of other founding members or any academic article related to the importance or methodology for Trans-Disciplinary Communication and/or Education, organizing and/or participating in Zoom meeting ON or FOR Trans-Disciplinary Communication, etc.
7. ***To add options to this list***, so other founding members may have other possibilities that may fit better their intellectual interests and/or the potential time they may have for it.
8. ***To add founding members***. This is especially important in the case of identifying and inviting *young scholars* who believe in the founding statement above. This is important because of 1) the usual creativity of young people and 2) the increasing survival probability after the old founders have passed away. Since Trans-Disciplinary Communication is a necessary (though not sufficient) condition for *Trans-Disciplinary Education*, and then AFTC should have a student chapter as soon as possible.

ANNEX B

METHODOLOGY

As it has been informed in the main document, the “Society FOR Trans-Disciplinary **communication**” is an intellectual community oriented to fostering “transdisciplinary communication” among its members and/or with Society at Large. This is based on the two senses of the etymological meaning of the prefix “trans”, i.e., among and beyond disciplines.

What would be common to this intellectual community is its purpose or its end, what would be different among its members (academics and professionals) would be how to achieve this end, i.t., what means would be used to achieve the same end. The means usually depends on what is feasible and recommendable in achieving an end (means/ends logic, which in turn depends on the respective academic or professional environments as well as on the socio-economic one and on the corresponding language and (organizational and/or national) culture.

The International Institute of Informatics and Systemics (IIS) has been exploring different means or methods which happened to have different levels of effectiveness. Among the things we learned up to the present is that the effectiveness of the explored methods depended significantly on 1) the *academic culture* of each academic organization, 2) the *intellectual interest* of different academics/professionals, 3) the restrictions they have especially those related to the respective promotional systems in their respective careers and organization, 5) the time they got left after meeting their work and family responsibilities, etc.,

This means that the differences among the methods may be necessary for the general effectiveness of the association. This is why it should be based on a methodology and not on a method, where the methodology is understood as a set of methods; which may be related or relatable. Both methods and methodology should be adaptable.

Each member (person, department, university, organization, etc.) may get the support of methods used by the IIS or by any other member and, if necessary, adapts any of them to its environment. This would make the methods similar but not necessarily the same. Metaphorically speaking it would be what we may call “fractal methodology”. As it is well known natural fractals are a combination of self-replication and adaptation to the dynamics and uncertainty of their environment. The latter is what makes different the plications. They are similar but not equal; replications that have adapted to their environment; the same pattern but with different dimensions, colors, etc. As it is well-known trees, fruits, vegetables, grass, etc.

Adaptation based on the same pattern would probably be the initial source of difference. Hence action-learning and action-research would generate new methods which will be replicated in an adapting process and so, on where the most effective adapted and/or created method will survive. So, the metaphors we used allowed us analogical thinking with the notion of “evolution”. This would be how the different methods, methodologies, and the “Association FOR Trans-Disciplinary **communication**” would evolve. This conception is based on an Incremental Evolutive General systems Theory that we applied effectively in information systems

development. This methodology has strong similarities and analogies with the Agile Movement in Software Development. It can also get nurtured via *analogical thinking* with Mimetics and Richard Dawkins' notion of "Meme". Notice that we used the phrase "*analogical thinking*" because Richard Dawkins' notion of "Meme" requires self-duplication, while in our analogy it is not a self-replication, but "replication" via a human being who meditates in the replication, which may generate an adapted replication. What is saved in this analogy are the notions of *evolutionary process and adaptability*. Which are the quintessence of a General Systemic Methodology based on Bertalanffy's General Systems Theory

It is important to notice that what is related to methods and methodologies, not all acquired knowledge is explicit, but implicit and tacit knowledge. The implicit requires experience and the tacit requires transmission by imitation. The latter is not expressed and may not be expressed as it is the case of implicit knowledge, which may be made explicit via intellectual effort. The only known way to transmit tacit knowledge is by imitating (like running a bicycle or tying shoes), hence tacit knowledge may, at least, be theoretically related to mimetics.

ANNEX C

Suggested Methods for Members of the International Association FOR Inter-Disciplinary Communication

Based on several exploratory projects and events that the International Institute of Informatics and Systemics (IIS) has been doing in the last few years, via processes of action-learning, we may suggest the following methods FOR transdisciplinary Communication, which are ordered from the simplest and requiring fewer resources to methods that may require incrementally more resources (mainly time from the members). We also suggest following an action-learning and action-design methodology (design is referred to as method-redesign if adaptation is needed as a consequence of action-learning or changes in the environment and or purposes)

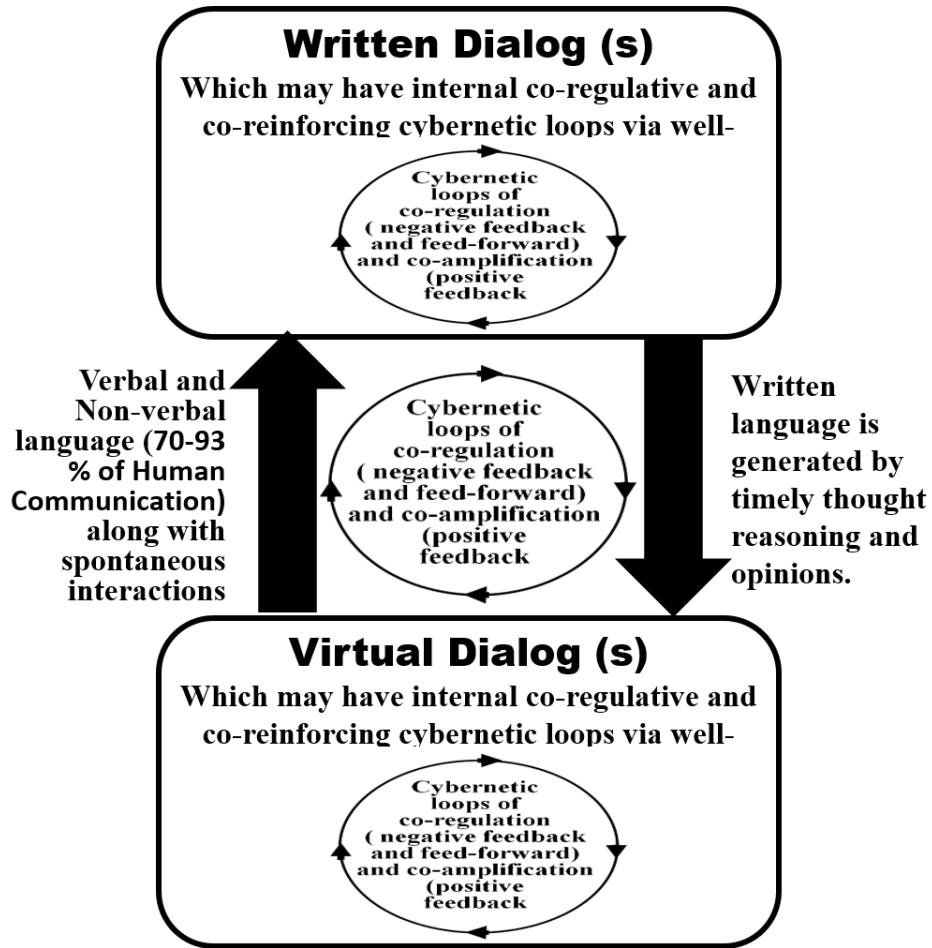
The following methods allow the formation of a highly decentralized Association where any dependence may be reduced to zero as long as the common purpose is shared, no matter which method is used and in which language(s). The latter is a *necessary condition* to relate Academy with Society at large. This is one of the two etymological senses of the prefix “trans-”. The other one is to relate academic disciplines. Transcend academic disciplines and transcend academy are the two senses we are referring to, and the following suggested methods may apply to each one of both senses or both.

1. **Virtual Dialogues:** we are working on the notions of “dialogue” and “dialectic” and the potential relationships between them that may be designed to have cybernetic once, which would provide synergies via co-regulative negative feedback and reinforcing positive feedback. Right now, we may think about *virtual dialogs as inter-disciplinary co-learning via virtual conversations or virtual meetings*. We suggest a duration in the range of 30-100 minutes, which would probably dynamically be changing according to previous experience, and/purposes, and/or environmental changes.
2. **Written Dialogues:** This may end up in a co-authored paper. We recommend that the co-authors would be from different disciplines, the more differentiated the disciplines the better, i.e., social and natural science (or technology), any of them with humanities, philosophy, communication (journalism, marketing, etc.), or Art. The publication may be done in an IIS journal (after meeting the respective requirements) or in another journal, in Academia.edu, or on ResearchGate. Since IIS journals are open journals, the authors are allowed to post them on Academia.edu, or ResearchGate as long as the original publication is used. This is one of the senses of what in IIS by “**co-publishing**”.

Written dialogues may also end up in a special issue of IIS journals. Regarding any IIS journal publication, the notion of co-publishing that is mentioned above also applies.

3. **Both virtual and Written Dialogues, sequentially or via cybernetic relationships.** The IIS is exploring now the sequential method in order to explore later the cybernetic one. No matter if it is sequential or via cybernetic relationships the end would be publication or co-publication

by any means the individual or collective member decides. The following figure visually summarizes the explicit cybernetic relationships that may be designed in the method of cybernetically relating written and virtual (or person-to-person) dialogues. Notice the internal implicit cybernetic relationships. Socrates' dialogues for example have strong internal cybernetic loops between Socrates and his students one of whom was Plato. The educational Socratic Method (Maieutic) is based on the cybernetics that results from relating questions and answers in an iterative form



4. Any of the above publications may be transformed into a **printed open book**, which would be distributed via Amazon or similar distributors.
5. The IIS is exploring other methods and, consequently, the members of the International Association FOR Inter-Disciplinary Communication would be informed about this kind of activity.