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INTERNATIONAL CONFERENCE ON COMPUTATIONAL INTELLIGENCE & DATA  
ENGINEERING

KEYNOTE TALK TITLE:

**COMPUTATIONAL INTELLIGENCE AND BRAIN-INSPIRED SYSTEMS  
(CYBER-TECHNO-SOCIAL INTELLIGENCE)**

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To achieve an antifragile behavior, next generation human-made computational and cognitive intelligent system must have a new fundamental component, able to address and to face the problem of multiscale ontological uncertainty management [1] in an instinctively sustainable way [2]: bottom-up active wisdom [3] by design!

To effectively face the incoming challenge and threats of the Fourth Industrial Revolution, current human world-consortium needs solutions based on Cyber-Techno-Social (CTS) intelligence and creativity [1]. Therefore, contrary to the current metaphor of big data and accordingly to Leydesdorff [4], we argue that knowledge is not in the disembodied data only, but much more in the quality of our handling of those data using high quality models, able to conserve and to take the maximum advantage of data full information strength as much as possible [5]. In fact, as shown by Wang's RNTHS recent finding [6], by CICT [5,7] and using the metaphor of evolutionary Triple Helix [4], disembodied data are not "given" in nature (or by God) but constructed in previous cycles by recursive typing from the bottom up as a graded structure.

Accordingly, to grasp more reliable, effective representation of reality and to gain more realistic cognitive, biological and physical simulation techniques, differently from reductionist past, researchers and scientists need two intelligently articulated hands: both top-down and bottom-up system approaches synergistically articulated by natural coupling. Both stochastic and combinatorial approaches synergistically articulated by natural coupling. Only then, they will be able to develop effective computational and cognitive intelligent system. Only then, they will be able to be ready to fully reconnect the never disjointed non-dual dichotomy between human beings and their universe in the unity of Nature [8].

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