



## Keynote Speech

### Industry 4.0 and TRIZ: learning to invent in a digital world

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**Proposed duration:** 40 minutes + 10 minutes of Q&A

#### Speaker Biography:

- Professor in Engineering of Innovation at INSA Graduate School of Science and Technology
- Head of CSIP research team – ICube (CNRS UMR-7357) at University of Strasbourg
- Member of the Editorial board of Computers in Industry
- Member of the Editorial board of Chinese Journal of Mechanical Engineering

#### Abstract/Outline

The current context of digitization of the world commonly translated for industries into “industry 4.0” concept, requires companies to change the way they organize their practices. But if we can easily see how digital technology can impact manufacturing workshops, there is less buzz around the way digital technology will impact R&D services. How a sort of “machine” will run intelligence in order to invent? Three decades ago, TRIZ has given birth to a whole lot of software of which one of the pioneers called himself “the invention machine” (from the company of the same name). In the end, the promise of a form of systematic invention was, in my opinion, premature in 1970. But things have changed. Artificial Intelligence is recovering attention, our “machines” (computers) are learning fast and on massive data, so much so that what was illusory forty years ago, now becomes a prospect in the medium term.

Before reaching this point, TRIZ must learn to rebuild itself so that its computerization goes beyond the notion of a notebook that accompanies the expert. TRIZ must become an object of research whose legitimacy is not in question anymore. Those who work for its evolution must unite in communities that go beyond their antagonisms to progress together.

This keynote sets out an action plan for research that intends to benefits to TRIZ, without distorting its origins or denying its strengths. Learning to invent in a digital world, to produce something new by combining with forms of artificial intelligence, to build alliances with other phases of the innovation process rather than acting against them. This evolution now appears crucial for TRIZ community if this latter is interested in its growth rather than its decline.