



## Invited Special Speech

### An Integrated Perception and Thinking Framework for Productive Creativity

#### Speaker Name,

Oliver Yu, Ph.D.

Founder and CEO, the STARS Group

Chairman of the Board, Global Alliance for Innovators and Entrepreneurs

Co-founder and Secretary, International Society of Innovation Methods



#### Speaker Biography:

**Dr. Oliver Yu**, Founder & CEO of the STARS Group, a premier technology and resource strategy consulting firm spun off from SRI International (formerly Stanford Research Institute) in year 2000, is an internationally recognized expert on technology strategy and innovation management. He is also a Consulting Associate Professor of Management Science and Engineering at Stanford University, and an Executive in Residence at the College of Business of San Jose State University. In 2017, he co-founded and serves as the Board Chairman of Global Alliance for Innovators and Entrepreneurs, which was awarded a US\$5 million contract to develop and operate an international innovation center in China. Dr. Yu holds a BSEE from National Taiwan University, an MSEE from Georgia Institute of Technology, and an MS in statistics and a PhD in Management Science & Engineering from Stanford University. He is an AdCom member of the IEEE TEMS and chair of its Innovation & Entrepreneurship Committee, a Fellow of Portland International Center of Management of Engineering and Technology (PICMET), and a Co-Founder and Secretary of the International Society of Innovation Methods. He has published over 70 technical papers and authored and co-authored 7 books on technology strategy planning. He is currently writing a book on *Innovation Management for the 21<sup>st</sup> Century* to be published by Springer in early 2019.

#### Abstract/Outline

This presentation introduce a brain-science based integrated framework of perception and thinking for productive creativity. The framework starts with value-focused experiments for observing and perceiving the environment and for thinking and exploring new ideas. Then through pattern recognition and induction, the perception and thinking process starts to formulate plausible models of the environment and the structure for ideas generation. After the models have been tested against reality and experience, they are used to deduce new perceptions and new ideas for other realms of reality. When these models and ideas encounter challenges from unfamiliar realities, the perceiver/thinker is then stimulated to modify the existing perception model and thinking process to meet these new challenges through further experimentation. These continuously evolving sequence of experimentation, induction, and deduction form the foundation for productive creativity.