

The Center for Organization Research & Design invites you to attend a talk by:

## Mario Coccia

Wednesday, April 1, 2015

UCENT 580

Downtown Phoenix campus

12-1:00 pm

### **EVOLUTIONARY CONVERGENCE OF THE PATTERNS OF INTERNATIONAL RESEARCH COLLABORATIONS ACROSS SCIENTIFIC FIELDS**

#### Abstract

The collaboration pattern of global scientific research is a topic of great interest for scholars in different disciplines. Frame and Carpenter analyzed in 1970s the patterns of international research collaboration among scientific fields. Starting from this pioneering work, this paper investigates international collaborations over 1997-2012 and compares the critical results with earlier studies to detect the evolution of collaboration patterns in different scientific fields. This study uses the dataset by National Science Foundation (2014) based on published articles, classified by co-authorship attribute (total articles with domestic institutions only and with international institutions) for forty countries, which accounted for 97% of the worldwide scientific output.

Empirical analysis supports two vital findings:

- a) although the unparalleled growth of internationally co-authored papers (since 1970s), there is a relatively stable structure of international research collaborations across different scientific fields over time; this result shows that external factors to science, such as ICTs, are affecting collaboration patterns in research fields, despite they do not change the intrinsic nature and basic collaboration structure of science.
- b) a convergent process of collaboration patterns between theoretical and applied research fields that supports vital breakthroughs in modern science.

Some possible determinants of observed results are discussed.

Mario Coccia is a researcher at National Researcher Council of Italy and fellow at United Nations University