Editorial

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Biographical notes: Elias G. Carayannis is a Professor of Science, Technology, Innovation and Entrepreneurship as well as Co-Founder and Co-Director of the Global and Entrepreneurial Finance Research Institute (GEFRI) and Director of Research on Science, Technology, Innovation and Entrepreneurship, European Union Research Center (EURC), at the School of Business of the George Washington University, Washington DC. He has published more than 40 refereed journal papers and eleven books, *The Strategic Management of Technological Learning* (CRC Press, 2001), *Idea Makers and Idea Brokers* (Praeger, 2003), *The Story of Managing Products* (Praeger, 2005), *Knowledge Creation, Diffusion, and Use in Innovation Networks and Knowledge Clusters* (Praeger, 2006), *E-Development Toward the Knowledge Economy* (Palgrave MacMillan 2006), *Global and Local Knowledge* (Palgrave MacMillan, 2006), *Leading and Managing Creators, Inventors, and Innovators* (Praeger, 2007), and *Rediscovering Schumpeter* (Palgrave Macmillan, 2007).

This IJEIM 2009 Special Issue in two parts, is a compagnion piece to the IJTM Issue Vol. 46, Nos. 3/4 with the title: *Innovation Networks and Knowledge Clusters in the Knowledge Economy and Society* and edited by Professor Elias G. Carayannis (GWU School of Business) and Professor Piero Fomica (Jonkoping International Business School) to be published by Inderscience Publishers in 2009. The focus of the IJEIM Special Issue is on knowledge matters in the globalising with a local focus (hence *glocal*) society and economy. In particular, the papers included profile, analyse and discuss *innovation* networks (Carayannis and Alexander, 2004)[1] and *knowledge* clusters (Carayannis and Campbell, 2005a)[2] (*see definitions below*). The Special Issue papers also review how, why and when these knowledge creation, diffusion and use modalities may also serve as catalysts and accelerators of new and sustainable technological venture formation and growth. In this context, innovation-triggering *technological entrepreneurship* is viewed as a core element of local, regional and national innovation systems, as well as '*glocal*' knowledge production and innovation-triggering networks (Carayannis and von Zedtwitz, 2005).[3]

This IJEIM Special Issue aimed to compile and synthesise a number of conceptual and empirical studies from the USA, Europe and Asia, that could contribute to a better understanding of the role of knowledge in the theory and practice of technological entrepreneurship in *the context of socio-technical networks architecture design, form and*

function and from diverse theoretical perspectives, including, regional development economics and sociology of innovation, as well as regional science, and, technology and knowledge management.

Towards this goal, the two-parts IJEIM Special Issue includes papers that overlap with one or more of the following areas:

- Select industries of focus such as biotechnology, advanced materials and ICT (as well as cross-disciplinary, emerging threads such as nano/bio-technology, MEMS, bio-informatics, etc) and in each region or country, innovation networks and knowledge clusters based on such industries would be identified and studied.
- Public-private partnerships for research and technology development, transfer, deployment and commercialisation and their relationships and roles in catalysing and accelerating the formation and growth of networks, clusters and individual new ventures.
- Top-down policies and bottom-up initiatives from regions in the USA, Europe or Asia looking at what works and what does not, how and why in each region, country and industry.

In conclusion, the purpose of this IJEIM Special Issue, is the identification and articulation of insights that could inform *both public sector policies and private sector practices* to render them more effective and efficient.

A series of recommendations for policy makers and practitioners would ideally emerge from this comparative, conceptual and empirical research contributing to the growing literature on the role of knowledge on *technology, innovation and entrepreneurship* and in particular with regards to the role of knowledge creation, diffusion and use in *local, national, regional, and global* innovation networks and knowledge clusters that form the underpinnings of the knowledge economy and society.

Key working concepts defined (Carayannis and Campbell, 2005b):[4] We provide here a set of working definitions developed in the context of this and prior related research projects that are meant to inform the author contributions (Carayannis and Campbell, 2009):[5]

- *'Mode 3'*: 'Mode 3' for Knowledge Creation, Diffusion and Use (Carayannis et al., 2006):[6] 'Mode 3' is a multi-lateral, multi-nodal, multi-modal, and multi-level systems approach to the conceptualisation, design, ent-University-Industry Public-Private Research and Technology Development Co-opetitive Partnerships) (Carayannis and Alexander, 2004).[7,8]
- *Knowledge Clusters* (Carayannis et al., 2006):[7] Knowledge Clusters are agglomerations of co-specialised, mutually complementary and reinforcing knowledge assets in the form of 'knowledge stocks' and 'knowledge flows' and management of real and virtual, 'knowledge-stock' and 'knowledge-flow', modalities that catalyse, accelerate, and support the creation, diffusion, sharing, absorption, and use of co-specialised knowledge assets. 'Mode 3" is based on a system-theoretic perspective of socio-economic, political, technological, and cultural trends and conditions that shape the co-evolution of knowledge with the "knowledge-based and knowledge-driven, gloCal economy and society" (Carayannis and von Zedtwitz, 2005).[4]

- *Innovation Networks* (Carayannis et al., 2006):[7] Innovation Networks[9] are real and virtual infra-structures and infra-technologies that serve to nurture creativity, trigger invention and catalyse innovation in a public and/or private domain context (for instance, Governm that exhibit self-organising, learning-driven, dynamically adaptive competences and trends in the context of an open systems perspective.

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Notes

[1]Carayannis and Alexander (2004).

[2]Excerpts from Carayannis and Campbell (2005a).

[3]Carayannis and von Zedtwitz (2005).

[4]Excerpts from Carayannis and Campbell (2005b).

[5]See also: Carayannis and Campbell (2009).

[6]Carayannis *et al.* (2006).

[7]Inter alia see: Carayannis and Alexander (2004).

[8]Inter alia see: Carayannis and Alexander (2004). Note: Awarded 1999 Lang-Rosen Award for Best Paper by the Technology Transfer Society.

[9]Networking is important for understanding the dynamics of advanced and knowledge-based societies. Networking links together different modes of knowledge production and knowledge use, and also connects (sub-nationally, nationally, trans-nationally) different sectors or systems of society. Systems theory, as presented here, is flexible enough for integrating and reconciling systems and networks, thus creating conceptual synergies.