Brief Bio and $(PR)^2$: Problems & Pitches – Rants & Raves by *Kevin Boyack*

Self Introduction

Kevin W. Boyack recently joined SciTech Strategies, Inc. (www.mapofscience.com) after working for 17 years at Sandia National Laboratories. He received a PhD in Chemical Engineering from Brigham Young University in 1990, and has worked in a variety of fields since that time. These include combustion (experimental and modeling), transport processes, socio-economic war gaming, and most recently, knowledge domain visualization or science mapping. At SciTech Strategies, he and Dick Klavans create maps of science for planning and evaluation purposes. His interests include metrics and indicators, text mining, data fusion, and expanding the application and uses of science mapping.

Publications

Boyack, K. W. (2008). Using detailed maps of science to identify potential collaborations. *Scientometrics*, in press.

Klavans, R., & Boyack, K. W. (2006). Identifying a better measure of relatedness for mapping science. *Journal of the American Society for Information Science and Technology*, 57(2), 251-263.

Boyack, K. W., Klavans, R., & Börner, K. (2005). Mapping the backbone of science. *Scientometrics*, 64(3), 351-374.

Boyack, K. W. (2004). Mapping knowledge domains: Characterizing PNAS. *Proceedings of the National Academy of Sciences*, 101, 5192-5199.

Börner, K., Chen, C., & Boyack, K. W. (2003). Visualizing knowledge domains. *Annual Review of Information Science and Technology* 37, 179-255.

General Questions

1) What is (are) your main interest(s) in attending the workshop?

   To learn from the smart people who will be attending – especially to learn if there are tools/techniques/lessons from other fields (e.g. bioinformatics) that will make a difference if applied in science policy

   To expand my professional network

2) What information/knowledge management needs do you have?

   Making effective use of very large databases (tens of millions of records); linking of records from different databases; quick access, aggregation, slices, and visualizations

Explain your 'dream tool' for scientific discovery and innovation.

Given that amounts of data expanding in an out of control fashion, I would like a tool that would sort the wheat from the chaff based on the question I want to answer, and then aggregate the data in meaningful, intuitive, and statistically significant ways to provide answers or suggest new hypotheses.

3) What is the most insightful visualization of static or dynamic phenomena you know?

   World map at night; time series of epidemic data at local and/or global scales; time series of any meaningful quantities on geographic maps.

4) What would you like to learn / achieve at the workshop?

   See #1 above