



SAID BUSINESS SCHOOL, University of Oxford

## SEMINAR SERIES / MICHAELMAS 2010

Convenors: Felix Reed-Tsochas, Institute for Science, Innovation and Society,  
Saïd Business School  
Eduardo López, Saïd Business School

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Seminar webpage:  
[www.cabdyn.ox.ac.uk/complexity\\_seminars.asp](http://www.cabdyn.ox.ac.uk/complexity_seminars.asp)

Sandwiches and drinks will be provided

Please note: although the seminar programme detailed was correct at time of printing, seminar arrangements are subject to change - for the latest information, please check the seminar webpage.

**Tuesday 16<sup>th</sup> November**  
(12.30pm - 2.00pm) James Martin Seminar Room

Dr Béla Nagy  
Santa Fe Institute

### 'Predicting Technological Progress'

#### ABSTRACT

A key challenge in modeling technological innovation is predicting future performance based on historical data. We uncovered patterns that appear to be universal across a wide range of technologies in several different industries, based on the data accumulated so far in our web enabled Performance Curve Database at <http://pcdb.santafe.edu/>. These findings suggest that some of these regularities (empirical laws) could be used for forecasting. Far from being purely a theoretical or academic interest, our results have important practical implications for decision making both in the private and public sectors. For example, many corporate strategies, industry roadmaps, and government policies are crucially dependent on the accuracy of forecasts of certain technological capabilities, e.g. in semiconductors, aviation, renewable energy technologies, etc. It is especially intriguing that all the technologies we studied so far fit neatly into a unified framework (Sahal's Law) that can reconcile the debate between modeling progress as a function of time (like Moore's Law) vs. as a function of cumulative production volume (following Wright's Law using the well-known learning/experience curve approach).

Working papers:

<http://tuvalu.santafe.edu/%7Ebn/workingpapers/NagyFarmerTrancikBui.pdf>

<http://tuvalu.santafe.edu/%7Ebn/workingpapers/NagyFarmerTrancikGonzales.pdf>



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