

COMPLEXITY + ECONOMICS

A slow-motion revolution has been occurring in science over the past decades—and will likely continue into the rest of the 21st century.

Stephen Hawking has coined it the century of **complexity**.

Governments, companies and NGOs have to act in a highly connected and diverse world—a globalized and digitalized world. In other words: they have to find their way in a complex world.

At this **seminar**, two experts in the field of complexity and economics will address how we can deal with complexity in government, business and other fields, **bringing clarity to complexity**.

For further information, please contact:
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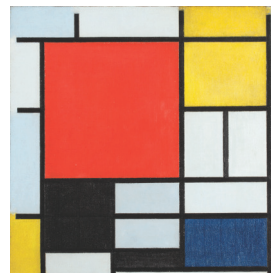
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To be held in conjunction with
The 36th Peter Stuyvesant Ball
Celebrating in De Stijl



Friday, November 17, 2017
The Plaza Hotel
New York City

Piet Mondrian,
Composition with Large Red Plane, Yellow,
Black, Gray and Blue, 1921
Collection of the Gemeentemuseum Den Haag

Henk J. Guitjens
NAF Director and Member, Executive Committee
Chair, Peter Stuyvesant Ball Organizing Committee
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COMPLEXITY + ECONOMICS

a **seminar** on how complexity science is applied to the problems of government, business and economics, seeing systems not in equilibrium, but in motion, perpetually constructing itself anew

Thursday, November 16, 2017
5 pm to 8 pm

Baker McKenzie
452 Fifth Avenue (at 40th Street)
New York, New York 10018

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SPEAKERS

PROF. LEX HOOGDUIN



PRINCIPLES FOR GOVERNANCE IN A COMPLEX WORLD

Many of the issues we face are complex. They involve many stakeholders, are not simple to define and involve many interacting causal factors—issues like climate change, migration flows, ageing, Brexit, world poverty and obesity. The future is uncertain. You cannot know now

what others and you will discover in the future. There is always potential for surprises, positive and negative, opportunities and threats. Our governance models, however, assume that the world is simple. Prof. Hoogduin will introduce an alternative Framework for Acting Under Uncertainty and Complexity (FAUC) for public and private governance, based on complexity science and older economic theory. It is a framework based on the fact that the world and many issues are complex and the future is not knowable at the moment you have to decide.

Lex Hoogduin is professor of complexity and uncertainty in financial markets and financial institutions at Groningen University. He is also CEO of GloComNet B.V., the network for social complexity and uncertainty, based in Hilversum, the Netherlands (www.glocomnet.com).

In addition, he is a non-executive board member of the London Stock Exchange Group (LSEG) and chairman of LCH Group, LCH Ltd and LCH SA. LCH is an international clearing house, based in London, Paris and New York. He is board member at LCH LLC (New York). LSEG has a majority stake in LCH.

Prof. Hoogduin is chairman of the supervisory board of CIR (Center for Integral Revalidation), a small company in the Dutch health care sector.

During his career, he has spent several periods at the Dutch Central Bank, in the last period from 2009 to 2011 as a member of the executive board. He has also been head of the research department and monetary and economic policy department. He has been the project leader of the merger of the Dutch central bank and the Dutch pension funds and insurance companies supervisor.

From 1997 to 2001, Lex Hoogduin was advisor to Wim Duisenberg, the first president of the European Central Bank. From 2005 to 2009, he was chief economist of Robeco (an asset manager) and head of IRIS, the joint retail investment research company of Robeco and Rabobank.

DR. ROLAND KUPERS



THE COMPLEXITY FRAME IMPACT IN FIVE PRACTICAL CASES

Robbert Dijkgraaf has described how we have spent the past two centuries understanding the pieces and now increasingly focus on understanding how the pieces work together in systems. Basic science ultimately has a determinant influence on

how we frame and understand practical interventions in the world of business and government. Dr. Kupers will illustrate this impact through practical examples ranging from air traffic control to for-benefit-corporation structures.

Roland Kupers is an independent consultant on Complexity, Resilience and Energy Transition, as well as Associate Fellow at Oxford University, Visiting Professor at Singapore Management University and Executive Lecturer at Nyenrode Business Universiteit. A theoretical physicist by training, Roland spent a decade each at AT&T and at Shell in various senior executive functions, including Vice President for Sustainable Development and Vice President Global LNG.

Dr. Kupers has published widely, including in **Harvard Business Review**, on Project Syndication and co-authored **The Essence of Scenarios** (AUP 2014), **Complexity and the art of public policy** (PUP 2014) and **Turbulence: A corporate perspective on collaborating for resilience** (AUP 2014). He is also the managing director of NewEconomicMetrics BV, a fintech start-up.



Presenter:

MADELEIJN VAN DEN NIEUWENHUIZEN

Madeleijn van den Nieuwenhuizen is a NAF-Fulbright scholar at Columbia University, pursuing an MA in American Studies with a focus on American political history and foreign policy. She holds degrees from University College Utrecht and Sciences Po Paris, and has a background in European affairs.

COMPLEXITY THEORY's basic premise is that there is a **hidden order to the behavior (and evolution) of complex systems**, whether that system is a national economy, ecosystem, organization or production line. In business and finance, complexity theory places its focus on the ways a factory or company resembles an ecosystem or market, rather than a machine “whose parts and functions have been plucked out in advance,” according to David Berreby. He maintains that **the organization of systems is no accident, but “the results of laws of nature that we don't yet fully understand.”** Once understood, managers will learn that if left to function on their own, systems organize themselves, bringing about “order for free”.

Complexity theory attempts to explain **how even millions of independent actors can unintentionally demonstrate patterned behavior and properties that, while present in the overall system, are not present in any individual component of that system.**

While complexity theory has built on chaos theory, complexity theorists maintain that chaos, by itself, does not account for the coherence of self-organizing, complex systems. Rather, **complex systems reside at the edge of chaos**—the actors or components of a system are never locked in to a particular position or role within the system, but they never fall completely out of control.

Much of the research on complexity theory originates from the Sante Fe Institute in New Mexico, a mecca for those studying complexity theory. It has become quite popular in the Netherlands, both in academia and in business practice.

(Edited from <http://www.referenceforbusiness.com>)