



## Call for Participation

**AsiaSim 2013: 13<sup>th</sup> International Conference on Systems Simulation**

6 – 8 November 2013, Concorde Hotel, Singapore

<http://www.asiasim2013.org>

The AsiaSim conference is an annual international conference that started in 1999, and has primarily been organized by the three Asian simulation societies, Chinese Association for System Simulation (CASS), Japanese Society for Simulation Technology (JSST), and Korea Society for Simulation (KSS). In 2011, the Federation of Asia Simulation Societies (ASIASIM) was set up to promote the advancement of modelling and simulation in industry, research and development in Asia and beyond. For the first time in the history of the AsiaSim series, the conference will be brought out of the three countries to Singapore.

We welcome you to tropical Singapore, a dynamic city rich in contrast and colour where you will find a harmonious blend of culture, cuisine, arts and architecture. Located in the heart of fascinating South East Asia, Singapore continues to embrace tradition and modernity today. We are proud to be the host of AsiaSim 2013 and welcome you to our city.

The technical program will comprise keynote speeches, technical sessions, vendor exhibits (to be confirmed), and industry visits. The venue of the conference will be the Concorde Hotel (<http://singapore.concordehotelsresorts.com/>), which is situated along Orchard Road, the main shopping belt of Singapore.

## Keynote Speakers

### Making Sense of a Complex World



***Professor Peter Sloot***

Distinguished Research Professor and Professor of Computational Science,  
University of Amsterdam, The Netherlands

Professor of Advanced Computing, St. Petersburg State University, Russia

Visiting Professor of Complex Systems, Nanyang Technological University, Singapore

## Abstract

We live in a complex world and are surrounded by complex systems: from a biological cell, made of thousands of different molecules that seamlessly work together, to millions of computer systems that should work together, to our society, a collection of seven billion individuals that try to work and live together. These complex systems display endless signatures of order, disorder, self-organization and self-annihilation. Understanding, quantifying and handling this complexity is one of the biggest scientific challenges of our time.

Using examples from our recent research, I will introduce a new paradigm of information processing in natural systems that guide the design and evaluation of models for simulating complex dynamical systems. I will show how this paradigm can bridge the uncomfortable gap between Popperian deductivism and Baconian inductivism.

## Challenges in Three-Level-Parallelization-based Analytic Simulation



***Professor Yiping Yao***

Vice Director, Institute of Simulation Engineering

Professor, School of Information System and Management

National University of Defense Technology, Changsha, Hunan, China

## Abstract

Analytic Simulation is an effective approach to study and analyze complex systems. As a peer methodology to experiment and theory, it is used more and more widely in the area of defense and economy. With the in-depth development of the applications of analytic simulation, the scale of them is becoming larger and the models are becoming more complicated. As a result, much more computing resources are required than ever before. To shorten the execution time of simulation has become an urgent job. Parallel computing is an effective way to solve the problem. In this presentation, we will introduce the characteristics of computing of analytic simulation such as multi-sample, as fast as possible, complex model calculation and synchronization for constraint of causality. According to these characteristics we present a three-level-parallelization solution: multi-sample parallelization, multi-entity parallelization and complex model calculation parallelization.

Multi-sample parallelization is job-level parallelization: as there are no dependencies among samples, it is relatively easy to implement. Multi-entity parallelization is MPI task-level parallelization: it is the core issue of parallel simulation. There are several ways to achieve calculation parallelization of complex models now: multicore CPU, GPGPU, FPGA, DSP and MIC etc. In this presentation, we will discuss the challenges in these three levels and introduce our solutions as well as give a perspective on them.

For more information about the keynote speakers, program schedule, and registration details, please go to: <http://www.asiasim2013.org/>

## Conference Chairs

- Gary TAN, National University of Singapore ([gtan@comp.nus.edu.sg](mailto:gtan@comp.nus.edu.sg))
- Gee Kin YEO, Society of Simulation and Gaming of Singapore ([yeogk@ssagsg.org](mailto:yeogk@ssagsg.org))

## Program Chairs

- Stephen John TURNER, Nanyang Technological University ([steve@pmail.ntu.edu.sg](mailto:steve@pmail.ntu.edu.sg))
- Yong Meng TEO, National University of Singapore ([teoym@comp.nus.edu.sg](mailto:teoym@comp.nus.edu.sg))

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- HGST, a Western Digital company ([www.hgst.com](http://www.hgst.com))
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- IEEE Singapore Computer Chapter ([www.ieeesingapore.org](http://www.ieeesingapore.org))
- Chinese Association for System Simulation (CASS) ([www.china-simulation.com](http://www.china-simulation.com))
- Japanese Society for Simulation Technology (JSST) ([www.jsst.jp/e](http://www.jsst.jp/e))
- Korea Society for Simulation (KSS) ([www.simulation.or.kr](http://www.simulation.or.kr))
- Society for Modeling and Simulation International (SCS) ([www.scs.org](http://www.scs.org))
- Federation of European Simulation Societies (EUROSIM) ([www.eurosim.info](http://www.eurosim.info))

## Organisers

- Society of Simulation and Gaming of Singapore ([www.ssagsg.org](http://www.ssagsg.org))
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- Nanyang Technological University, Singapore ([www.ntu.edu.sg](http://www.ntu.edu.sg))

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