



Peter M.A. Slood

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Current Position: Full professor at the University of Amsterdam and NTU Singapore.

Editor in Chief of two Elsevier Science journals, FGCS¹ and JOCS²

Employment History

Research Assistant Dutch Cancer Institute (1983 - 1988);
Post-doctoral researcher (UvA 1989 - 1992);
Assistant Professor (UvA 1993); Associate Professor (UvA 1995);
Professor Numerical Physics (NNV/UvA 1996-2001),
Professor Computational Science (UvA 2001 - 2018),
Chair Computational Science Lorentz centrum (2004 - : <http://www.lorentzcenter.nl>),
Scientific Director of the Institute for Informatics (UvA) (2007 - 2010).
Endowed Visiting Professor NTU (Singapore) (2009 - 2013)
Endowed Professor ITMO, St. Petersburg State University, Russia (2010 - 2013)
Distinguished Research Professor University of Amsterdam (2011 - 2014)
Full Professor Complex Systems, NTU, Singapore (2014 - ...)
Editor in Chief of the Elsevier Science: Journal of Computational Science.
Editor in Chief of the Elsevier Science journal: Future Generation of Computing Systems.
General Chair of the ICCS series of conferences on Computational Sciences³ since 2010.
Co-director Complexity Institute NTU, Singapore (2014 - ...)
Scientific Director Institute for Advanced Study (2016 - ...)
Professor of Complex Adaptive Systems, UvA (2018 - ...)

Supervised over 50 Doctoral PhD Dissertations⁴.

The average number of international keynotes and invited lectures over the past 5 years were 6 per year.

Academic qualifications

Bachelor Chemistry and Physics 1980, University of Amsterdam
Master Chemical Physics, specialization Theoretical Physics 1983, University of Amsterdam
PhD Netherlands Cancer Institute and UvA, The Netherlands.

Research interests: I try to understand how natural and man-made systems processes information. I study this 'natural information processing' in complex systems by computational modeling and simulation as well as through formal methods. My work is applied to a large variety of disciplines. Recent work has been on the virology and epidemiology of infectious diseases, notably HIV, through Complex Networks,

¹ <http://www.journals.elsevier.com/future-generation-computer-systems>

² <http://www.journals.elsevier.com/journal-of-computational-science>

³ <http://www.iccs-meeting.org>

⁴ <http://dare.uva.nl/search?field1=supervisor+cosupervisor&value1=slood&join=and&field2=keyword&value2=&smode=advanced&sort-publicationDate-min=&sort-publicationDate-max=&typeClassification=PhD+thesis>

Cellular Automata and Agent Based Models. One of the biggest challenges I see is to include behavior and socio-economical dynamics into these models. See my [WebPages](#)⁵

Publications: Over 500 peer-reviewed journal papers. Listed [here](#).

Example of five recent publications

1. Alva Presbitero, Emiliano Mancini, Ruud Brands, Valeria V. Krzhizhanovskaya, and Peter M. A. Sloot. *Supplemented alkaline phosphatase supports the immune response in patients undergoing cardiac surgery*. *Frontiers in Immunology* 9(OCT), 2342. (2018)
2. A. Czaplicka.; J.A. Holyst and P.M.A. **Sloot**: *Noise enhances information transfer in hierarchical networks*, *Nature Scientific Reports*, vol. 3, 2013. (DOI: 10.1038/srep01223)
3. Duijn, P. A., Kashirin, V., & **Sloot**, P. M. (2014). *The Relative Ineffectiveness of Criminal Network Disruption*. *Nature Scientific Reports*, 4, pp. 4238+15. Nature Publishers, 2014
4. M. V. Sheraton, J. K. H. Yam, H. S. Oh, E. Mancini, L. Yang, S. A. Rice, and P. M. A. Sloot. *Mesoscopic Energy Minimization Drives Pseudomonas aeruginosa: Biofilm Morphologies and Consequent Stratification of Antibiotic Activity Based on Cell Metabolism*. *Antimicrobial Agents and Chemotherapy* 62(4), (2018)
5. Rick Quax, Gregor Chliamovitch, Alexandre Dupuis, Jean-Luc Falcone, Bastien Chopard, Alfons G Hoekstra, and Peter M.A. **Sloot**. *Information processing features can detect behavioral regimes of dynamical systems*. *Complexity* 2018.

Patents

1. Computer Assisted Centrifugal Elutriation of White Blood-cells: USA patent: 4.939.081. (1990).
2. A decision support system for HIV drugs ranking, Trademark. World coverage: 713908. (2006).
3. SD/Dynamics - Program system for analysis and modeling of information processes in social networks: Software Patent: State registration certificate# 2012617949 (2013)
4. SD/Crawler - Program system for data mining and data analysis in social networks: Software patent: State registration certificate# 2012617951 (2013)
5. Provisional Patent: 'Second Opinion - Clinical Decision Support System': PAT/338/14/15/SG
Inventors: Emiliano Mancini; P.M.A. Sloot & BUI Quoc Chinh.

H-Index (Scholar, 2018): H = 59 (~9000 citations)

Professional Awards

- ✓ Distinguished professor Numerical Physics, Dutch Physics Society (2000), an award given only once in every 5 years
- ✓ Cheng Tsang Man visiting Professorship, NTU (2008), an award given every 3 year
- ✓ WorldComp 2009 Science award (Las Vegas, 2009)
- ✓ Dutch I/O award for most visible outreach scientist (2010)
- ✓ Leading Scientist Award (3.6 M€) (St. Petersburg, Russian Federation, 2010), largest individual scientific award in the world^{6,7}
- ✓ National Institute for Advanced Studies (NIAS): 2013/2014: Fellow of the Rector
- ✓ Education Excellence award by Russian Minister of Science (2017).

Summary of outcomes previous grants

Prof. Sloot was a PI of 5 large EU research projects and 9 National Research Foundation projects (www.nwo.nl). Here we list only **the most recent ones**:

ViroLab⁸: 2007 – 2011: 'A virtual Laboratory to understand the spreading of HIV: From Molecule to Man'. 6 MEuro, 25 People, 60 International peer reviewed Journal papers, 9 PhD graduations, 1 Patent

DynaNets⁹: 2009 – 2013: 'Dynamics on and off Complex Networks, applied to Crime and Contagion'. 4.5 MEuro, 18 People, 35 International peer reviewed Journal papers, 5 PhD graduations, 2 Software Patents

Urgent Computing¹⁰: 3.6 MEuro: *Modelling and Simulation on the edge of human interactions and their urban roles*. 15 People, 7 PhD graduations, 18 International peer reviewed Journal papers, 2 Software Patents.

SimCITY: An infrastructure to detect and act on critical transitions in complex urban systems using a *City Simulator*

⁵ <http://peter-sloot.com>

⁶ <https://www.technologybreakingnews.com/2010/11/russia-awards-3-3-million-euros-to-uva-professor-peter-sloot/>

⁷ E.g.: https://www.youtube.com/watch?v=AAegJFXze_k

⁸ <http://www.virolab.org/>

⁹ <http://www.dynanets.org/>

¹⁰ <http://escience.ifmo.ru/?ws=sub32>