



Peter M.A. Sloot

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Current Position: Appointments at the University of Amsterdam, NTU Singapore and ITMO St. Petersburg, Russian Federation.

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);
Post-doctoral researcher (USA Caltech 1992);
Assistant Professor (UvA 1993); Associate Professor (UvA 1995);
Distinguished Professor Numerical Physics (NNV/UvA 1996-2001),
Full Professor Computational Science (UvA 2001 -),
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 -)
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.
Director of the International MSc program on Computational Science (2008 – 2013).
External member of the UK eScience Strategic Advisory Team.
Co-director Complexity Institute NTU, Singapore (2014 - ...)
Scientific Director Institute for Advanced Study (2016 - ...)

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 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

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?sort=year&institute=53%2C57%2C55%2C54%2C62%2C59%2C63%2C60%2C58%2C56%2C61%2C64&join=and&field2=keyword&documenttype=20&field1=promotoren+copromotoren&documenttype-join=or&smode=advanced&value1=sloot>

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, Cellular Automata and Agent Based Models. See my [WebPages](#)⁵

Five Most relevant recent publications

1. E. Merelli; M. Rucco; P.M.A. Sloot and L. Tesei: *Topological Characterization of Complex Systems: Using Persistent Entropy*, Entropy, 2015.
2. R. Quax; B.D. Kandhai and P.M.A. Sloot: *Information dissipation as an early-warning signal for the Lehman Brothers collapse in financial time series*, Nature Scientific Reports, vol. 3, 2013. (DOI: [10.1038/srep01898](#))
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. S. Mei; N. Zarrabi; M.H. Lees and P.M.A. Sloot: *Complex agent networks: An emerging approach for modeling complex systems*, Applied Soft Computing, 2015.
5. R. Quax; Apolloni, A. and P.M.A. Sloot: *The diminishing role of hubs in dynamical processes on complex networks*, Journal of the Royal Society Interface, vol. 10, nr 88 2013. ISSN: 1742-5662. (DOI: [10.1098/rsif.2013.0568](#))

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, 2016): H = 44

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)
- ✓ 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

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 <http://uva.computationalscience.nl/news/russia-awards-3.3-million-euros-to-uva-professor-peter-sloot>

⁷ <http://uva.computationalscience.nl/news/press-attention-for-the-opening-of-peter-sloots-laboratory-for-advanced-computing-in-russia>

⁸ <http://www.virolab.org/>

⁹ <http://www.dynanets.org/>

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