



## Peter M.A. Sloot

Professor of Computational Science, UvA, Amsterdam, NL.  
Professor of Complex Systems, NTU, Singapore  
Co-Director Complexity Institute, NTU, Singapore  
Professor of Advanced Computing, ITMO, St. Petersburg, Russian Federation

**Office:** UvA, Faculty of Science, SciencePark 904, Amsterdam, The Netherlands. && Nanyang Technological University; 18 Nanyang Drive, Block 2 Innovation Center #2-245; Singapore 637723

**Email:** [p.m.a.sloot@uva.nl](mailto:p.m.a.sloot@uva.nl), [psloot@ntu.edu.sg](mailto:psloot@ntu.edu.sg);

**Contact:** +31651564723; +6590902455

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

**Editor in Chief** of two Elsevier Science journals, FGCS<sup>1</sup> and JOCS<sup>2</sup>

### 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),

Scientific Advisor MacNeal-Scwendler Company (1997 - 2000),

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 - )<sup>3</sup>

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 Sciences<sup>4</sup>.

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 - ...)

**Supervised** over 50 Doctoral PhD Dissertations<sup>5</sup>.

**The average number of international keynotes** and invited lectures over the past 5 years were 8 per year<sup>6</sup>.

### 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.

---

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

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

<sup>3</sup> <http://www.uva.nl/en/about-the-uva/organisation/faculties/faculties/content/folder/faculteit-der-natuurwetenschappen-wiskunde-en-informatica/research/distinguished-research-professors/distinguished-research-professors.html>

<sup>4</sup> <http://www.iccs-meeting.org>

<sup>5</sup> [http://staff.science.uva.nl/~sloot/index\\_files/Page799.html](http://staff.science.uva.nl/~sloot/index_files/Page799.html)

<sup>6</sup> [http://staff.science.uva.nl/~sloot/index\\_files/Page675.html](http://staff.science.uva.nl/~sloot/index_files/Page675.html)

**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, Cellular Automata and Agent Based Models. Recently I focused my work to socio-dynamics, particularly to understand the behavior and intervention of hidden criminal activities. See my [WebPages](#)<sup>7</sup>

### Five Most relevant recent publications

1. 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](#))
2. 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
3. Dijkstra, L. J., Yakushev, A. V., Duijn, P. A. C., Boukhanovsky, A. V., & Sloot, P. M. A. (2013). *Inference of the Russian drug community from one of the largest social networks in the Russian Federation*. Quality & Quantity, 1-17.
4. S. Mei; Y. Zhu; X. Qiu; Z. Zu; T. Zheng; A.V. Boukhanovsky and P.M.A. Sloot: *Individual decision making can drive epidemics: a fuzzy cognitive map study*, IEEE Transactions on Fuzzy Systems, (On-line first) vol. 21, nr 6 pp. 1-10. 2013. ISSN 1063-6706. (DOI: [10.1109/TFUZZ.2013.2251638](#))
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)

### 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<sup>8,9</sup>
- ✓ 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**:

**ViroLab**<sup>10</sup>: 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

**DynaNets**<sup>11</sup>: 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 Computing**<sup>12</sup>: 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*

---

<sup>7</sup> <http://peter-sloot.com>

<sup>8</sup> <http://uva.computationalscience.nl/news/russia-awards-3.3-million-euros-to-uva-professor-peter-sloot>

<sup>9</sup> <http://uva.computationalscience.nl/news/press-attention-for-the-opening-of-peter-sloots-laboratory-for-advanced-computing-in-russia>

<sup>10</sup> <http://www.virolab.org/>

<sup>11</sup> <http://www.dynanets.org/>

<sup>12</sup> <http://escience.ifmo.ru/?ws=sub32>