Piet F. A. Van Mieghem

Experience

Delft University of Technology (10/98-now): appointed at the age of 34 years as full professor (hoogleraar) with a chair in Telecommunication Networks and Services. Research on **Network Science and its applications** to infrastructural as well as human brain networks. All scientific papers and invited talks are listed on my webpage.

Google Scholar: $H = 74$ and 24 400 citations in total (on 30 January 2026).

Network Architectures and Services (NAS) (4/99-now): Programme Director of NAS in the faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS).

From 2000 until 2025, promotor of 38 successfully finished PhD students. For information about people, courses, projects and publications in NAS, please consult www.nas.ewi.tudelft.nl

Princeton University (3/22-8/22): Visiting professor at Princeton University, department of electrical and computer engineering with Professor Vincent Poor (networks & epidemics).

Stanford University (4/15-8/15): Visiting professor at Stanford, department of electrical engineering with Professor Stephen Boyd (network optimization).

Cornell University (5/09-8/09): Visiting professor at the Center of Applied Mathematics (CAM) and collaborated with Professor Strogatz, director of CAM, on network synchronization.

University of California Los Angeles (UCLA) (4/05-8/05): Visiting professor at UCLA, department of electrical engineering. Collaborated with Professor Vandenberghe (UCLA) on convex optimization applied to QoS routing in data communications networks.
Supported by the Dutch Technology Foundation (STW).

Alcatel (11/93-9/98): employed in the research division of Alcatel (Antwerp), now Nokia Bell Labs

Network Architecture Department (3/96-9/98): Within Alcatel Research, responsible for the advanced routing team, that studies the broad spectrum of routing algorithms for the Internet and ATM networks.

Traffic Department (11/93-3/96): Connection admission control and performance evaluation of ATM switches and small queueing networks.
Involved in several research programs with European universities (IWT, Esprit, etc.).
Co-organizer of the B-ISDN Teletraffic Modelling Symposium (Alcatel-Bell, Antwerp, 17/2/95).

Massachusetts Institute of Technology (MIT), USA (11/92-11/93): Visiting scientist in the department of electrical engineering. Research on the impact of ferromagnetic thin films on semiconductors and proposal of new applications. Collaborating with Prof. dr. J. del Alamo and Prof. R. O'Handley.
Fellowship of Belgian National Fund for Scientific Research (NFWO) and of NATO.

Interuniversity Micro Electronics Center (IMEC) (10/87-10/92) :

Thin-film high temperature superconductors ($HT_c's$): Designed, configured and tested a flexible YAG-laser patterning tool for the processing of $HT_c's$. Designed a non-impact measurement environment for determining the electrical characteristics (current-voltage dependence as a function of temperature and frequency) of HT_c's.

Thermally induced stresses in semiconductors: With a finite elements environment (SYSTUS) the temperature and stress distribution in integrated circuits and packages and the lattice interfacial stresses in SiGe-alloys were investigated.

Teaching Assistant, University K. U. Leuven: Assisted Prof. dr. ir. Baron R. van Overstraeten, general director of IMEC, in teaching his class on Solid State Physics in the third year of electrical engineering. Supervised laboratory experiments to measure the performance of the bipolar transistor using the Ebers-Moll model. Instructor of the course on hybrid and analog computers.

Education

University K.U. Leuven, (9/96-6/97): Postgraduate in Business Management and Administration.

University K.U. Leuven and IMEC, (9/87-11/91): Ph.D. in Electrical Engineering.
Thesis: *Heavy Doping Effects in Semiconductors.*
Awarded Summa cum Laude with Congratulations of the eight members of the jury.

University K.U. Leuven, (9/82-6/87): MS in Electrical Engineering, Magna cum Laude.
Thesis: *A New Algorithm for the Identification of Linear Multivariable Systems.* (in Dutch)
Awarded Summa cum Laude. Recepient of the Student Prize 1987 for the best Belgian Master's thesis in electrical engineering awarded by the Belgian Institute for Control and Automatization (BIRA).

High School Sint-Jozefscollege (Jesuit school), Aalst (9/77-6/82) :
Classical Latin-Greek education. Editor of the class event's book "Jaarboek 6LG".
Awarded with the School prize for Mathematics.

Extra Professional Activities

Awards :

- *Member of the Royal Netherlands Academy of Arts and Sciences (2026)*
- *Fellow of the Network Science Society (2026)* for foundational contributions to epidemic spread on networks, graph spectra of complex networks, and network routing, that overarch theory and applications.
- *Zilveren Erespeld TUDelft, 1 October 2023*: Special merit for 25 years of dedication to Delft University of Technology.
- *IEEE Fellow (2023)* for contributions to network modeling and quality of service based routing.
- *ERC grant (2.5 million Euro) for ViSioN, Virus Spread in Networks, April 2021.*
- *Personal, free-to-use, research gift (165.000 Euro) by Huawei, October 2018.*
- *Oorkonde Fonds Christoffel Plantin, Oct. 2017*: The Christoffel Plantin Foundation recognizes and honors a Belgian residing abroad, whose work contributes to the prestige of Belgium and who deserves the attention of his compatriots. Handed out by the Belgian Ambassador Chris Hoornaert, Van Mieghem has received this certificate for his scientific merits in the field of Network Science for the modeling and analysis of complex networks (such as infrastructural, biological, brain, social networks) and for his work on routing algorithms in communications networks.
- *Bronzen Penning TUDelft, July 2017*: The bronze medal is awarded by Delft University of Technology to persons that deserve a special merit, such as PhD advisor of at least 25 doctors (graduate students that have obtained their doctoral degree).

Single author of five books :

The Mittag-Leffler and Gamma function, Oxford University Press (2026).

Performance Analysis of Complex Networks and Systems, Cambridge University Press (2014).

Graph Spectra for Complex Networks, Cambridge University Press (2010); second edition (2023)

Data Communications Networking, Techne Press, Amsterdam (2006); 2nd print Delft (2010)

Performance Analysis of Communications Networks and Systems, Cambridge University Press (2006)

Editorial Board member of the following journals :

- OUP Journal of Complex Networks (2013- 2026).
- Computer Communications (2012-2016).
- Journal of Discrete Mathematics (2012-2015).

- IEEE/ACM Transactions on Networking (2008-2012).
- Computer Networks (2004 -2006).

Memberships :

- External Faculty Member at the Institute for Advanced Study (IAS) of the University of Amsterdam (October 2020- now).
- Bataafsch Genootschap der Proefondervindelijke Wijsbegeerte.

Committees :

- Active during the Corona crisis (March 2020-2022): invited by RIVM (Dutch Ministry of Health) to join an expert group; several Dutch newspaper articles and interviews on Dutch radio and TV; invited by KNAW for a webinar "Verbonden tegen Covid-19: hoe netwerken pandemieën verspreiden en bestrijden".
- Board member of the Netherlands Platform of Complex Systems (NPCS). TUDelft representative since January 2019. Each Dutch university has one member in NPCS, invited by NPCS and appointed by the Rector of the university.
- Steering committee member of the Dutch Network Science Society (www.netsci.nl)

Conferences organized :

- My group NAS organized the Dutch NetSci, IAS and DIEP Symposium 2024, 30 Januari 2024, at TUDelft, which is a joint event of the Dutch Network Science Society with the Institute of Advance Studies (IAS) in Amsterdam and Dutch Institute of Emergent Phenomena (DIEP)
- My group NAS organized the Dutch NetSci Summer Symposium, 30-31 August 2023, TUDelft. (www.netsci.nl/dutch-netsci-summer-symposium)
- General Chairman of the Workshop on Advances on Epidemics in Complex Networks, 31 Aug.-1 Sept. 2017, TUDelft (www.nas.ewi.tudelft.nl/aecn)
- General Chairman of the sixth IFIP International Workshop on Self-Organizing Systems (IWSOS2012), March 15-16, 2012, TUDelft.
- Co-chair of International Workshop on Modeling, Analysis, and Control of Complex Networks (Cnet 2011), 23rd International Teletraffic Congress (ITC23), September 6-8, 2011, San Francisco, USA.
- General Chairman of the International Workshop on Quality of Service Routing (IWQoSR04) in conjunction with QofIS 2004 in Barcelona.

Best Paper Awards at the following conferences :

- Best Lightning Presentation Award at the Conference of Complex Networks 2024, Istanbul, for Qiu, Z., I. Jokic, S. Tang, R. Noldus and P. Van Mieghem, 2024, "Inverse All Shortest Path Problem", IEEE Transactions on Network Science and Engineering, Vol. 11, No. 3, pp. 2703-2714.
- 2019 James P. G. Sterbenz best paper award for He, Z., Sun, P. and P. Van Mieghem, 2019, "Topological approach to measure network recoverability", 11th International Workshop on Resilient Networks Design and Modeling (RNDM 2019), 14-16 October, Nicosia, Cyprus.
- Kleiberg, T. and P. Van Mieghem, 2009, "Self-organization of Internet Paths", IFIP Fourth International Workshop on Self-Organizing Systems, December 9-11, ETH Zurich, Switzerland.
- Lu, Y., J. D. Mol, F.A. Kuipers and P. Van Mieghem, 2008, "Analytical Model for Mesh-based P2PVoD", IEEE International Symposium on Multimedia (ISM2008), December 15-17, Berkeley, CA (USA).
- Fallica, B., Y. Lu, F.A. Kuipers, R. Kooij and P. Van Mieghem, 2008, "On the Quality of Experience of SopCast", First IEEE International Workshop on Future Multimedia Networking (IEEE FMN'08), September 18, Cardiff, Wales (UK).

- Hekmat, R. and P. Van Mieghem, 2004, "Study of Connectivity in Wireless Ad-Hoc Networks with an Improved Radio Model", Proceedings of the Second Workshop on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt'04), University of Cambridge, UK, March 24-26, pp. 142-151.

Post Academic Teaching :

- Programme director of the course *Telecommunicatie- en Data Netwerken* in the Dutch PATO (Postacademisch Technisch Onderwijs) in 2001, 2002 and 2006.
- Lecturer of the class *Network Concepts* in the Postacademic Interuniversity Course in Telecommunications (1997). This course was a Flemish initiative of tele-classing co-organized by all Flemish universities and the major telecommunications companies (Alcatel, Siemens-ATEA, Belgacom, Teleindus, Barco).

Additional Information

Married to Huijuan Wang on[1] 3-06-2017 after Saskia Verbeek (deceased on 17/2/2012). Father of Vincent (°1992), Nathan (°1994, deceased on 12/2/2012) and Laurens (°2000).

Member of the Organizing Committee of IMEC-Alumni (1994-1998).

Belgian Army: Researcher in the laboratory Technische Dienst van de Landmacht (TDLM-Peuti) from (10/89-10/90): design of solid-state detectors for nuclear radiation. In the military training center of the Belgian Army, representative for about 800 soldiers acting as liaison to the high rank commanders.

Mountain Guide (84-85): Intersoc-Stahlbad, St.-Moritz, Switzerland.

Co-organizor of a bustrip in the Middle East (1985) with *Expeditie* Δ (the tour experiences are published in a series of articles in the newspaper 'Gazet Van Antwerpen, 1985').

Languages: Dutch, English, French (and German); Latin and ancient Greek.

Love "world-seeing", music (piano), athletics, race-biking (Pijnacker Tourclub), and the history of the Ancient World and of science, in particular, mathematics.

[1] Observe that 2017 is the 306-th prime number!