

Curriculum Vitae

Bart De Schutter

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Date of birth: Oct. 18, 1968
Nationality: Belgian
Marital status: married

Brief educational and work record

Dec. 2006–present: Full professor, Chair: Hybrid Control and Intelligent Transportation Systems, Delft Center for Systems and Control (DCSC), Delft University of Technology (TU Delft), Delft, The Netherlands

Currently supervising (as daily supervisor) 9 PhD students and co-supervising 2 PhD students.
In addition, I personally supervised 32 PhD students, 23 postdocs and 2 senior technical staff; co-supervised 8 PhD students, and coached 3 associate professors, 3 assistant professors, and 1 senior research associate.

Sept. 2018–Aug. 2026: Head of department, Delft Center for Systems and Control (DCSC), TU Delft
DCSC coordinates the education and research activities in systems and control at TU Delft, and has a staff of 25 full-time professors, 19 postdocs, and 91 PhD students

Jan. 2004–Nov. 2006: Associate professor, Delft Center for Systems and Control, TU Delft
Supervised 8 PhD students, 2 postdocs, and 2 senior technical staff; co-supervised 2 PhD students

Oct. 2000–Sept. 2005: Research fellow, SISTA research group, Department of Electrical Engineering, K.U.Leuven, Leuven, Belgium

Feb. 2000–Dec. 2003: Associate professor, Control Systems Engineering group, Faculty of Information Technology and Systems, TU Delft
Supervised 4 PhD students

Aug. 1998–Jan. 2000: Assistant professor, Control Lab/Control Systems Engineering group, Faculty of Information Technology and Systems, TU Delft
Supervised 3 PhD students

Oct. 1996–July 1998: Postdoc, SISTA research group, Department of Electrical Engineering, K.U.Leuven

Feb. 1, 1996:	Obtained PhD degree at the Faculty of Applied Sciences of K.U.Leuven Topic: "Max-algebraic System Theory for Discrete Event Systems" Grade: summa cum laude and congratulations from the PhD examination committee (i.e., the highest possible distinction) PhD thesis advisor: prof.dr.ir. B. De Moor
Feb. 1993–Sept. 1996:	PhD student and researcher, SISTA research group, Department of Electrical Engineering, K.U.Leuven
Aug. 1992–Aug. 1997:	Instructor at Memento, a student coaching office in Leuven, Belgium (during the evenings)
Apr. 1992–Jan. 1993:	Military service as a computer specialist and system manager in Brussels, Belgium
Sept. 1991–Mar. 1992:	PhD student, SISTA research group, Department of Electrical Engineering, K.U.Leuven
Oct. 1986–July 1991:	BSc and MSc student electrotechnical-mechanical engineering at K.U.Leuven Specialization: control theory MSc thesis: "Design and simulation of neural controllers" Final grade: summa cum laude

Short list of scientific performances

- Publications:[1]
  - 3 books and 1 edited book
  - 294 international journal papers
  - 27 contributions to books
  - 445 international conference papers
- h-index[2]: **61** (WoS), 71 (Scopus), 91 (GS)
- 23 postdocs supervised
- 57 PhD students supervised (10 ongoing; 47 successfully graduated, of whom 7 cum laude)
- 96 MSc theses supervised
- 54 project acquisitions (14 European, 30 national, 5 TU Delft, 5 contract research); total effectively acquired net amount: ± M€ 11.94
- 2 personal PhD grants (4 year each) and 1 personal postdoc grant (3 year) acquired
- 3 scientific awards

[1] See https://www.bartdeschutter.org/publications for the most up-to-date list of publications.
[2] See also https://publons.com/researcher/2807303/bart-de-schutter/

Activities at university, national, and international level (see next pages for extra details)

- Coordinator of H2020 EU project SeaClear and Horizon Europe project SeaClear2.0 with partners from Germany, France, Romania, and Croatia
- Coordinator of FP7 EU STREP project HD-MPC with partners from Germany, France, Italy, Spain, Belgium, Colombia, and USA
- Project co-leader of an NSFC-NWO project with Shanghai Jiao Tong University
- Overall project leader of national projects with RU Groningen, with TU Eindhoven, and with other departments of TU Delft
- Chair of the the board of the Dutch National Graduate School DISC (Dutch Institute of Systems and Control, 2025–present)
- Member of the IFAC Conference Board (2020–present)
- Member of the Board of Governors of the IEEE Intelligent Transportation Systems Society (2008–2010, 2013–2018)
- Vice-chair of the IFAC Technical Committee on Transportation Systems (2006–2008, 2010–2013, 2020–present)
- Chair of the IFAC Technical Committee on Transportation Systems (2014–2020)
- Vice-chair of the EU COST Action ARTS
- Invited lectures in Amsterdam (NL), Beijing (CN), Birmingham (UK), Bologna (IT), Brussels (BE), Cambridge (UK), Cluj Napoca (RO), Delft (NL), Durham (UK), Eindhoven (NL), Ghent (BE), Istanbul (TR), Lausanne (CH), Leuven (BE), Lucca (IT), Lund (SE), Maui (USA), Milan (IT), Mol (BE), Nancy (FR), Naples (IT), Nicosia (CY), Rennes (FR), Shanghai (CN), Siena (IT), The Hague (NL), Zandvoort (NL), Zürich (CH)
- Senior editor for *IEEE Transactions on Intelligent Transportation Systems* (2016–present)
- Associate editor for *IEEE Transactions on Automatic Control* (2018–2023), *IEEE Transactions on Intelligent Transportation Systems* (2004–2015), *IEEE Control Systems Letters* (2017), *Automatica* (2004–2016), *Discrete Event Dynamic Systems: Theory and Applications* (2012–2020), and *Nonlinear Analysis: Hybrid Systems* (2011–2016)
- Guest editor of special issues for *IEEE Transactions on Intelligent Transportation Systems* (2015, 2009, 2007)), *Transportation Research Part C* (2015), *Journal of Process Control* (2011), and *Nonlinear Analysis: Hybrid Systems* (2013)
- National organizing committee (NOC) (co-)chair IFAC World Congress 2029
- General (co-)chair of the 4th IFAC ADHS (2012)
- Program (co-)chair of NecSys 2013, IEEE ITSC 2013, IEEE ICNSC 2011, IEEE IV'08, and IEEE ITSC 2005
- Workshop chair ECC25
- Registration chair ECC 21
- IPC chair for IFAC CTS 2021, IFAC CTS 2018, IFAC CTS 2016, IFAC CTS'09
- Head of department Delft Center for Systems and Control (2018–2026)

- Member of the board of the PhD school DISC (2020–present)
- Member of the program board of TRAIL (2017–present)
- Member of the Career Development Committee ("Loopbaancommissie") of the Faculty 3mE, TU Delft (2013–2018)
- Chair of the Board of Studies MSc Systems and Control, TU Delft (2011–2018)

Main research topics

- Machine learning for decision making
- Optimization-based control
- Model predictive control of discrete-event systems and hybrid systems
- Multi-agent and multi-level control of large-scale networks
- AI methods for underwater image detection and classification
- Intelligent transportation networks, smart energy systems, autonomous underwater robots, underwater vision

Acquired projects and grants (as main (local) applicant)

As overall project leader and/or main applicant

1. "Robotic and participatory solutions for marine litter prevention & remediation (SeaClear2.0)", Horizon Europe project, in cooperation with among others Technical University of Munich, University of Dubrovnik, Technical University of Cluj-Napoca, Dunea, Fraunhofer, Hamburg Port Authority, Subsea Tech, and Veolia, 2023–2026 (funding received: k€ 875)
   Role: overall project leader (total project budget: M€ 7.971)
2. "A novel control paradigm for large-scale hybrid networks (CLariNet)", ERC Advanced Grant, 2021–2026 (k€ 2500)
3. "Search, identification and collection of marine litter with autonomous robots (SeaClear)", H2020 EU project, with Technical University of Munich, University of Dubrovnik, Technical University of Cluj-Napoca, Dunea, Fraunhofer, Hamburg Port Authority, Subsea Tech, 2020–2023 (k€ 743)
   Role: overall project leader (total project budget: M€ 4.981)
4. "Smart irrigation using satellite and smartphone-based predictive control (S3C)", TU Delft Global Seed Fund project, 2018
5. NWO Van Gogh grant for cooperation with Supélec Rennes (FR), 2014–2015
6. "Multi-party risk management and key performance indicator design at the whole system level (PYRAMIDS)", NWO[3]-MAGW/ProRail project, with RU Groningen and TU Delft CiTG), 2013–2017 (k€ 212)
   Role: overall project leader (total project budget: k€ 637)
7. "Advanced monitoring of intelligent rail infrastructure (ADMIRE)", STW[4]/ProRail project, with TU Delft (CiTG), 2012–2016 (k€ 236)
   Role: overall project leader (total project budget: k€473)

[3]NWO: The Netherlands Organization for Scientific Research
[4]STW: Dutch Technology Foundation

8. “Sustainable mobility with cooperative vehicle-infrastructure systems”, BSIK-NGI (Next Generation Infrastructures) project, with TU Delft (CiTG), 2010–2012 (k€ 104)

9. “Model-based predictive control for intelligent micro-transportation systems”, BSIK-NGI project, 2010–2012 (k€ 137)

10. “Model-based predictive control for intelligent water management – Towards real-life implementation”, BSIK-NGI project, with TU Delft (CiTG), 2010–2012 (k€ 69)

11. “Hierarchical and distributed model predictive control of large-scale systems (HD-MPC)”, European 7th framework STREP project, with POLIMI (IT), K.U.Leuven (BE), RWTH Aachen (DE), Univ. Seville (ES), Supélec (FR), UNC (CO), UWM (USA), EDF (FR), INOCSA (ES), 2008–2011 (k€ 382) I was the *coordinator* of this project (total project budget: M€2.769)

12. “Intelligent model-based predictive control methods for flood and water management”, BSIK-NGI and TU Delft-NGI project, 2008–2010 (k€ 300)

13. “Modeling and control of transportation networks and logistic systems”, Faculty of Mechanical, Maritime and Materials Engineering (3mE) project, 2007–2009 (k€ 120)

14. “Model-based traffic flow control for sustainable mobility”, Shell/TU Delft project, 2006–2010 (k€ 300)

15. NWO Van Gogh grant for cooperation with Supélec Rennes (FR), 2006–2007

16. “Multi-agent coordination and intelligent control of infrastructure networks”, BSIK-NGI project, 2004–2012 (k€ 74)

17. “Adaptive learning for multi-agent coordination and control”, BSIK-ICIS (Intelligent Collaborative Information Systems) project, 2004–2009 (k€ 204)

18. “Network-wide traffic management — Multi-agent control strategies for integrated control of freeway and urban traffic networks”, Traffic Research Centre Delft project, 2004–2006 (k€ 91)

19. “Multi-agent control of large-scale hybrid systems”, NWO/STW VIDI Innovational Research Incentives Program project, 2004–2008 (k€ 495)

20. “Robust coordinated control of freeway and urban traffic networks”, Traffic Research Centre Delft project, 2003–2004

21. “Model predictive control for hybrid systems”, STW project, with TU Eindhoven, 2002–2006 (k€ 210)

As local project leader and/or main local applicant

22. “Integrated approach to assess the levels and impact of contaminants of emerging concern on blue health and biodiversity modulated by climate change drivers (ONE-BLUE)”, Horizon Europe project, with among others CSIC (Spain), Örebro University (Sweden), University of Dubrovnik (Croatia), Micronit (The Netherlands), and Venthic Technologies (Greece), 2024–2027 (funding received: k€ 318)

23. “Improved water efficiency control based on advanced remote sensing technologies (IWACA-TECH)”, Netherlands Enterprise Agency project, with Mobile Water Management, VanderSat, and IHE Delft, 2018–2020 (k€ 37)

24. “Performance assessment methodology for automated vehicles using real-life driving data”, PhD project funded by TNO, 2017–2018 (k€ 40)

25. “Innovative controls for renewable source integration into smart energy systems (INCITE)”, European Innovative Training Network project, with among others UPC (Spain), Univ. of Bologna (Italy), VITO (Belgium), General Electric (Germany), 2015–2018 (k€ 255)

26. “Car as Power Plant – Fuel cell cars creating an integrated, efficient, reliable, flexible, clean, multi modal and smart transport and energy system”, NWO-Shell project, with TU Delft and Utrecht University, 2014–2018 (k€ 210)

27. “Multi-level predictive traffic control for large-scale urban networks”, NSFC-NWO project, with Shanghai Jiao Tong University, China, 2013–2017 (k€ 259)

28. “Integrated scheduling and control for cyber-physical systems”, STW-Perspectief project, with Univ. Nijmegen and TU Eindhoven, 2013–2017 (k€ 200)

29. “Towards autonomic road transport support systems”, European COST Action TU1102, 2011–2015 I am vice-chair of this project

30. “Highly-complex and networked control systems (HYCON2)”, European 7th Framework Network of Excellence, 2010–2014 (k€ 125)

31. “Literatuurstudie coördinatie in verkeersmanagement (Literature survey on coordination in traffic management)”, project for the Dutch Ministry of Transport, Public Works and Water Management, 2009 (k€ 20)

32. “Externe experttoets Praktijkproef Verkeersmanagement Amsterdam (Evaluation by external experts of the Practical Test Traffic Management Amsterdam)”, participation in an expert evaluation for the Dutch Ministry of Transport, Public Works and Water Management, 2009

33. “Real-time monitoring, surveillance and control of road networks under adverse weather conditions”, European COST Action TU0702, 2008–2012

34. Evaluation of the feasibility study “Verkeersverwachting” (Traffic Forecast) proposed by Rups Adviseurs voor Innovatie, Schiedam, The Netherlands, 2005

35. “Integrated model predictive control” and “Decentralized Control”, BSIK-TRANSUMO (Transition Sustainable Mobility) ATMA subprojects, 2004–2009 (k€ 145)

36. “Decentralized traffic control and management with intelligent vehicles” and “Design and communication aspects”, BSIK-TRANSUMO IV subprojects, 2004–2009 (k€ 157)

37. “HYbrid CONtrol: Taming Heterogeneity and Complexity of Networked Embedded Systems (HYCON)”, European 6th Framework Network of Excellence, 2004–2009 (k€ 157)

38. “Design methodology for fault-tolerant control of advanced driver assistance systems”, TNO-TRAIL project, 2003–2004 (k€ 103)

39. “BOSS scenario evaluatie (Decision support system scenario evaluation)”, project for the Dutch Ministry of Transport, Public Works and Water Management, 2002

40. “Modelling, simulation and control of nonsmooth dynamical systems (SICONOS)”, European 5th Framework research project, 2002–2006

41. “Development of advanced multi-agent control strategies for multi-class traffic networks”, NWO-CONNEKT AMICI subproject, 2002–2006 (k€ 149)

42. “Fuzzy decision support system for traffic control centers”, project for AVV, Dutch Ministry of Transport, Public Works and Water Management, 1999–2000 (k€ 22)

43. “Advanced control techniques for optimal adaptive traffic control”, TRAIL-AVV project, 1999–2002 (k€ 131)

44. “Traffic congestion problems in Belgium: mathematical models, analysis, simulation, control and actions”, DWTC (Belgian Federal Office for Scientific, Technical and Cultural Affairs) project, 1997–2000 (k€ 178)

45. “ALAPEDES (The Algebraic Approach to Performance Evaluation of Discrete Event Systems)”, European Commission TMR project, 1996–2000 (k€ 268)

As co-applicant

46. “Holistic and integrated asset management for Europe’s rail system (IAM4RAIL)”, Horizon Europe project, 2023–2026 (funding received: k€ 358)

47. “Scheduling adaptive modular flexible manufacturing systems (SAM-FMS)”, NWO-ESI project, 2020–2024 (k€ 116)

48. “Control of evasive manoeuvres for automated driving: solving the edge cases (EVOLVE)”, NWO-TTW project, 2020–2024 (k€ 229)

49. “Autonomous underwater vehicles for exploration in the North Sea”, PhD project funded by TNO-NLDA, 2016–2020 (k€ 251)

50. “Modelling, verification and control of complex systems: From foundations to power network applications (MoVeS)”, European 7th framework STREP project, 2010–2013 (k€ 311)

51. “Model-predictive railway traffic management – A framework for closed-loop control of large-scale railway systems”, STW project, 2010–2014 (k€ 249)

52. “Publishing the book ‘Intelligent Infrastructures”’, project in the BSIK-NGI research program, 2009

53. “Self-organizing moving agents for distributed sensing and control”, BSIK-ICIS project, 2006–2009 (k€ 222)

54. “Reasoning under uncertainty”, BSIK-ICIS project, 2004–2009 (k€ 233)

Prizes and Awards

- 2009 Andrew P. Sage Best Transactions Paper Award for the paper L. Buşoniu, R. Babuška, and B. De Schutter, "A comprehensive survey of multiagent reinforcement learning," *IEEE Transactions on Systems, Man, and Cybernetics – Part C: Applications and Reviews*, vol. 38, no. 2, pp. 156–172, March 2008

- R. Stock Prize for PhD theses in Applied Sciences at K.U.Leuven in the period 1996–1998

- Biennial 1998 Richard C. DiPrima Prize (for my PhD thesis), awarded by SIAM (Society for Industrial and Applied Mathematics)

Educational activities

- Lecturer for the following BSc courses:
  - Systems and control (2014–2020)
  - Control engineering for marine engineers (2008–2014)
  - Advanced control systems (2006–2008)

- Evaluator of BSc design projects (1999–2006)

- Lecturer for the following MSc courses:
  - Optimization for systems and control (2020–present)
  - Modeling and control of hybrid systems (2004–present)
  - Optimization in systems and control (1998–2019)
  - Practical control systems (2002–2004)
  - Modeling, identification and simulation (1999–2002)
  - Theory of hybrid systems (1999–2000)
- Lecturer for the following Postgraduate lectures and courses:
  - Modeling and control of hybrid systems (DISC (Dutch Institute of Systems and Control) course in cooperation with Maurice Heemels (Eindhoven University of Technology), 2002–2017 (once every 2 years))
  - Model-based predictive traffic control (lecture in the PAO (Foundation Postacademic Education) course "Dynamic traffic management", 2005, 2007, 2009)
  - Model predictive control and reinforcement learning: Merits and disadvantages (lecture in the 8th oCPS Fall School on Multidisciplinary CPS Design, Eindhoven, The Netherlands, Oct. 2019)
- 2007, 2008: co-organized TRAIL/SIKS postgraduate course on "Multi agent systems: Theory, technology and applications"
- 2006: initiated MSc student exchange cooperation (within the European Socrates program) with the University of Cagliari, Italy
- 2003: co-organized DISC Summer School on "Modeling and control of hybrid systems" (Veldhoven, The Netherlands, June 2003)
- 2000–2003: MSc contact person for the Control Lab/Control Systems Engineering group, TU Delft
- 1993–1996: ombudsman for the students of the 2nd technical year Electrical Engineering at K.U.Leuven

Academic activities

- 2016–present: senior editor for *IEEE Transactions on Intelligent Transportation Systems*
- 2018–2023: associate editor for *IEEE Transactions on Automatic Control*
- 2017: associate editor for *IEEE Control Systems Letters*
- 2013–2020: associate editor for *Discrete Event Dynamic Systems: Theory and Applications*
- 2011–2016: associate editor for *Nonlinear Analysis: Hybrid Systems*
- 2004–2015: associate editor for the *IEEE Transactions on Intelligent Transportation Systems*
- 2004–2016: associate editor for *Automatica*
- General (co-)chair of the 4th IFAC Conference on Analysis and Design of Hybrid Systems (ADHS 2012), Eindhoven, The Netherlands, 2012
- Program co-chair of the 16th IEEE International Conference on Intelligent Transportation Systems (ITSC 2013), The Hague, The Netherlands, 2013
- Program co-chair of the 4th IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys 2013), Koblenz, Germany, 2013

- Program co-chair of the 8th IEEE International Conference on Networking, Sensing and Control (ICNSC 2011), Delft, The Netherlands, 2011
- Program chair of the 2008 IEEE Intelligent Vehicle Symposium (IV'08), Eindhoven, The Netherlands, 2008
- Program co-chair of the 8th IEEE Conference on Intelligent Transportation Systems (ITSC 2005), Vienna, Austria, 2005
- NOC (co-)chair of IFAC World Congress 2029, Amsterdam, The Netherlands, 2029
- Workshop chair European Control Conference (ECC 2025), Thessaloniki, Greece, June 24–27, 2025
- Registration chair of the 2021 European Control Conference (ECC 21), Rotterdam, The Netherlands, 2021
- IPC chair for 16th IFAC Symposium on Control in Transportation Systems (CTS 2021), Lille, France, 2021; 15th IFAC Symposium on Control in Transportation Systems (CTS 2018), Savona, Italy, 2017; 14th IFAC Symposium on Control in Transportation Systems (CTS 2016), Istanbul, Turkey, 2016; 12th IFAC Symposium on Transportation Systems (CTS'09), Redondo Beach, California, 2009
- Member of national organizing committee of the 11th IFAC Symposium on Control in Transportation Systems (CTS 2006), Delft, The Netherlands, 2006
- Member of the international program committee of among others
  - American Control Conference (ACC) in 2005,
  - European Control Conference (ECC) in 2013 and 2015,
  - IEEE Conference on Decision and Control (CDC) in 2004, 2008, and 2011,
  - IEEE Conference on Intelligent Transportation Systems (ITSC) in 2004, 2006–2007, 2009–2012, 2014–2020, 2024,
  - IEEE Intelligent Vehicles Symposium (IV) in 2007, 2010, 2011, 2013, 2016–2021, 2024,
  - IEEE International Conference on Networking, Sensing and Control (ICNSC) in 2006–2007 and 2010–2013,
  - IFAC Conference on Analysis and Design of Hybrid Systems (ADHS) in 2015, 2018, 2021
  - IFAC Symposium on Control in Transportation Systems (CTS) in 2006, 2009 (**as IPC chair**), and 2012
  - IFAC World Congress (2017, 2020)
  - International Conference on Hybrid Systems: Computation and Control (HSCC) in 2007 and 2008
  - International Workshop on Discrete Event Systems (WODES) in 2002, 2004, 2008, 2010, 2016, 2024
  - Triennial Symposium on Transportation Analysis (TRISTAN) in 2016 and 2022
  - Workshop on Distributed Estimation and Control in Networked Systems (NecSys) in 2009 and 2010
- 2024–present: panel member for ERC Synergy Grants
- 2003–present: member of the IFAC Technical Committee on Transportation Systems
- 2006–present: member of the IFAC Technical Committee on Discrete Event and Hybrid Systems

Executive activities

- Sept. 2018–Aug. 2026: head of department, Delft Center for Systems and Control
- 2013–2018: Member of the Career Development Committee of the Faculty 3mE, TU Delft
- 2011–2018: chair of the Board of Studies MSc Systems and Control, TU Delft
- 2011–2026: head of the consecutive research groups Hybrid and Distributed Systems and Control (HDSC, 2011–2017), Hybrid, Adaptive, and Nonlinear (HAN, 2017–2021), and Optimization and Learning for Control of Networks (OLCN, 2021–2026) of the Delft Center for Systems and Control (DCSC)
- 2005–2026: member of the management team of DCSC
- 2014–2020: chair of the IFAC Technical Committee on Transportation Systems
- 2008–2010 and 2013– 2018: member of the Board of Governors of the IEEE Intelligent Transportation Systems Society
- 2006–2008, 2010–2014, 2020–present: vice-chair of the IFAC Technical Committee on Transportation Systems
- 2023–present: coordinator of the European Horizon Europe project SeaClear2.0
- 2020–2023: coordinator of the European H2020 project SeaClear
- 2008–2011: coordinator of the European 7th framework STREP project HD-MPC
- 2020–present: member of the board of national graduate school DISC (Dutch Institute of Systems and Control)

Additional information

- Member of IEEE since 2008; senior member since 2010; IEEE fellow since 2019
- IFAC Fellow since 2023
- AAIA-AI Fellow since 2026
- Languages: fluent in Dutch, French, and English; good knowledge of German, Spanish, and Italian