

Bart Lodewijk René De Moor

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PERSONAL INFORMATION

- Names: De Moor, Bart, Lodewijk, René
- Date of birth: July 12, 1960
- Nationality: Belgian
- Married to [Hilde Devoghel](#), three children: Thomas (1992), Hannah (1994), Jakob (2000)
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- Researcher unique identifier: [ORCID](#)



EDUCATION

- 1988: PhD Electrical Engineering, [KU Leuven](#), [Faculty of Engineering](#), Belgium (promotor: [Joos Vandewalle](#))
- 1983: Master Electrical Engineering, Control Theory, KU Leuven, Faculty of Engineering, Belgium
- 1975-1978: [Sint-Jan Berchmanscollege](#), Brussels
- 1972-1983: [Music Academy Alseberg](#): Solfege, percussion, piano, composition
- 1966-1974: [Sint-Victor Instituut](#), Alseberg

POSITIONS

- 2000-now: Full Professor, [Dept. Electrical Engineering](#), KU Leuven, Belgium
- 2016-now: Guest Professor, [Dept. Information Engineering & Mathematics](#), [Universita Di Siena](#), Italy
- 2010-2015: Scientific Director Department Medical IT, Strategic Research Center [iMinds](#), Flanders
- 2009-2013: Vice-rector [International Policy](#), KU Leuven
- 2007-2009: Head Socio-Economical Cabinet, Minister-President Flanders Region ([Y. Leterme](#))
- 1994-1999: Main Science Advisor, Minister-President Flanders Region ([L. Van den Brande](#))
- 1992: Visiting Research Associate, [University of Minneapolis](#), USA
- 1991-1992: Head of Cabinet, Federal Minister of Science Policy (W. Demeester), Brussels
- 1990-1999: Senior Research Associate, [Scientific Research Foundation](#) (FWO), Flanders
- 1988-1990: Research Associate at [Stanford University](#) (depts. [Electrical Engineering](#) ([Thomas Kailath](#)) and [Computer Science](#) ([Gene Golub](#)))
- 1983-1988: PhD Grant IWONL (Institute for Scientific Research in Industry and Agriculture)

FELLOWSHIPS, AWARDS, HONORS

- 2020: Commander in the [Order of King Leopold I](#), granted by [King Filip](#) of Belgium
- 2020: ERC [Advanced Grant 'Back to the roots'](#)
- 2018-now: Co-holder KU Leuven Chair '[Health Care Systems Quality and Accessibility](#)', endowed by Health Insurance Organisation [CM](#)
- 2017: [Fellow SIAM](#) for '*Contributions to numerical multilinear algebra*'
- 2010: [Excellence Award](#) of the Flanders Research Foundation, by [King Albert II](#) of Belgium
- 2003: [Fellow IEEE](#) for '*Contributions to algebraic/numerical methods for systems and control*'
- 1999: IEEE [Signal Processing Society](#) Award
- 1996: [Automatica Award](#), International Federation of Control ([IFAC](#))
- 1994: Bi-annual Siemens Award by the Flanders Research Foundation
- 1992: Laureate of the [Royal Academy of Belgium for Sciences and Arts](#)
- 1990: [Guillemin-Cauer Award](#) IEEE Transactions Circuits and Systems
- 1989: [Leslie Fox Prize](#), Cambridge, UK
- 1986: Leybold-Heraeus Prize

RESEARCH ACTIVITIES

- Scientific Disciplines:
 - o Numerical (multi-) linear algebra and algebraic geometry (generalized singular value decompositions, multi-dimensional SVD, generalized linear complementarity problems, quantum information theory, numerical linear algebra approach to rooting sets of polynomial equations)
 - o Dynamical System Theory and Identification, data science, machine learning (subspace identification, support vector machines)
 - o Advanced Control Theory (observers, computer aided control system design)
- Application Areas:
 - o Industry 4.0: Subspace system identification and control of the synthesis section of a Urea plant, of the dipping section of a capsule manufacturing process, data driven identification of several Belgian river basins (flood avoidance), forecasting models for indoor CO₂ concentration, modelling (prevention of) flutter for airplane wings, model-based data assimilation for microclimate air-quality forecasting, smart grid Belgian electrical load forecasting (3000 transformers, sampled every 15 min during 5 years)
 - o Medical decision support systems (DSS): Belgian health insurance prescription records analysis, automation of intensive care DSS, algorithms for automated PCR analysis, hospital prediction of duration stay software
- Publications: Books, papers, other
 - o See www.bartdemoor.be
 - o Search engine on <https://homes.esat.kuleuven.be/~sistawww/cgi-bin/pub.pl>
 - o Google Scholar <https://scholar.google.com/citations?hl=en&user=qws2WIMAAAAJ>
- Bibliometry
 - o <https://scholar.google.com/citations?hl=en&user=qws2WIMAAAAJ>: 86 675 citations; H-index 124;
 - o Web of Science: H-index 72; Total cited: 21 482 (without self-citation: 20 904)
 - o Ranked 15th all-time top PhD advisors in mathematics (<https://genealogy.math.ndsu.nodak.edu/extrema.php>)
 - o Ranked 76th worldwide and ranked 1st for Belgium in top H-index for Computer Science and Electronics (<http://www.guide2research.com/scientists/>)
- Mentorship:
 - o 1991-now: Promotor of 82 PhD theses (see [Mathematical Genealogy](#)), all worldwide active in academia (30%), industry (60%), government agencies (10%)
 - o 1991-now: Host to 46 postdoctoral researchers and visiting professors
 - o 1991-now: Promotor of 200+ master theses in masters mathematical engineering, statistics, artificial intelligence, bioengineering, electrical engineering
- Coordinator of and contributor to numerous research projects, funded by regional, Belgian and European funding agencies and third parties (full list www.bartdemoor.be)
- Reviews:
 - o Regular reviewer for journals of IEEE, SIAM, IFAC and their major conferences, regular proposal reviewer for Belgian and European Funding Agencies and jury member
- Science Outreach
 - o 2019: Co-founder of [Math popularizing website](#)
 - o 2016-now: patron of [STEM Training Website](#)
 - o 2015-now: Founder & Chairman Board of [Health House](#) (high-tech health experience center)
 - o 2015-2017: Member of the [Flanders STEM Platform](#)
 - o 2009-now: Patron [STEM Olympiad](#)
 - o 2009-now: Trustee of the [RVO-Society](#)
 - o 2005 & 2015: Teacher [KU Leuven Children's University](#)
 - o 2002-now: Regular guest appearances in science outreach programs on national radio and television
 - o 1992-now: Co-founder interdisciplinary philosophical think-tank [Worldviews](#)

ORGANISATION OF SCIENTIFIC MEETINGS

- 1997: Program Chairman [of European Control Conference, Brussels](#), 750 attendees, 2004
- 2004: Chair of the Conference of [Mathematical Theory of Networks and Systems](#), Leuven, 600 attendees

- 2019: Organizer of the Benelux Meeting on Systems and Control, Houthalen, 150 attendees,
- At numerous occasions: Member of the organizing/program committees of the Conference on System Identification (SYSID), European Control Conference (ECC), Benelux meeting on Systems and Control, ...

TECHNOLOGY TRANSFER

- My contribution to our university KU Leuven being ranked 7th in the [Thomson-Reuters ranking of most innovative universities in the world](#) (1st in Europe), has been the creation of 8 spinoff companies:
 - o www.ipcos.com (industrial process control, management buy-out)
 - o www.tmleuven.be (traffic modelling and consulting)
 - o *Data4s* (fraud detection (mobile phones, credit cards, tax evasion), acquired by [Norkom](#) next by [BAE Systems](#))
 - o www.trendminer.com (data mining in the process industry, acquired by Software AG)
 - o Cartagenia (genomics data analysis, acquired by [Agilent](#))
 - o www.ugentec.com (automated PCR analysis)
 - o www.lindacare.com (patient tele-monitoring)
 - o <https://www.aspect-analytics.com> (software for mass spectrometry imaging).
- Patents: Co-holder of several patents
- Member of the Advisory Committee of the [Capricorn](#) Health-tech Investment Fund

TEACHING ACTIVITIES

- KU Leuven: Courses on System Theory and Control, Computer Aided Control System Design, System Identification, case studies in Mathematical Engineering, Entrepreneurship
- Graduate (PhD) courses in Belgium, the Netherlands, Sweden, Italy, USA.

INSTITUTIONAL RESPONSIBILITIES

- 2021-present: Member of the Board of [‘Ignatius in Beweging’](#) (Jesuit School Network)
- 2020-present: Chairman of the Board of [Capricorn Digital Growth Fund](#) (CDGF, venture capital)
- 2019-present: Member of the Board of [UCSIA](#) (Jesuit Academic Foundation)
- 2017-present: Founding Chairman of [Health House](#) (high-tech health experience center)
- 2015-present: Member Steering Group [Leuven Mindgate](#)
- 2014-present: Member of the Board of [Officenter](#)
- 2009-present: Chairman [Alamire Foundation](#) (Center for the Study of Polyphonic Music)
- 2009-2014: Founding Board member [Leuven International School](#)
- 2009-2013: Chairman Committee [Internationalisation & Development Cooperation Flemish University Council](#)
- 2009-2013: Member of the Board [KU Leuven](#)
- 2007-2015: Chairman [Industrial Research Fund](#) KU Leuven
- 2007-2011: Board member [iMinds](#) (merged since 2017 with [imec](#))
- 2007-2015: Chairman Board [Hercules Foundation](#) (scientific infrastructure funding agency, merged in 2015 with [FWO](#))
- 2000-2005: Board member [Belgian Nuclear Research Center](#), Belgium
- 1999-now: Secretary Board (till 2015), Member Scientific Committee of [Technopolis](#) (Flanders Children’s Science Experience Center)
- 1995-now: Member Board, remuneration, investment, strategic committees: [Flanders Biotech Research Institute](#)

COMMISSION OF TRUST

- 2018-present: Scientific architect and coordinator of [Flanders AI Program](#) (32 mio €/year), involving universities, research institutes and industry
- 2020-present: Chairman of the Board of [FAIA](#) (Flanders AI Academy)
- 2018-present: Member [ESGAB](#) (European Statistical Governance Advisory Board, nominated by the European Council decision 18/12/2017 (2017/C 439/03))
- 2017-2018: ‘Sherpa’ for Belgium in the European [High Performance Computing Initiative](#)
- 2016-2018: Member of the Scientific Advisory Committee of [Science Europe](#)
- 2016-present: Member Int. Scientific Advisory Board of [Wallenberg Autonomous Systems Program](#), [Knut and Alice Wallenberg Foundation](#)

- Assessments:
 - o 2021: Member of the assessment committee of [KTH](#), Stockholm
 - o 2020-2021: Chairman of the assessment committee of the [Electrical Engineering Institute Nicola Tesla](#)
 - o 2015-2019: Chairman University Research Policy Assessment Committee, [Finish Academy of Sciences](#)
 - o 2016-2019: Member committee of the Villum Young Investigator Grants of the [Velux Foundation](#), Denmark
 - o 2015-present: Member of committees in the Swedish, Norwegian, Irish and Luxembourg Science/Research Councils
 - o 2013-2020: Member Panel Starters Grant Computer Sciences [European Research Council](#)
 - o 2013-2014: Member National Tenure Track Commission for Control and Automation in Italy
 - o 2010-2012: Chairman of the Education Assessment Panel (for [NVAO](#)) as well as the Research Assessment Panel of Electrical Engineering University Departments in The Netherlands
 - o 2006-2008: Selection Committees member for Linnaeus Centers of Excellence (Sweden) and UNIK (Denmark)
- 2014-present: Member Board [AstraZeneca Foundation](#)
- 2013-present: Member Board [Trustees Danish National Research Foundation](#)

MEMBERSHIPS OF SOCIETIES

- Fellow of the [Institute for Electrical and Electronic Engineers](#)
- Fellow of the [Society for Industrial and Applied Mathematics](#)
- Member of the [American Mathematic Society](#)
- Member of the [International Federation of Automatic Control](#)
- Elected member [Royal Academy of Belgium for Sciences and Arts](#)
- Member of [VIRA](#) (Organisation of Belgian diplomates and international representatives)
- Member of [ie-net](#) (Flanders Engineering Association)
- Member of '[Academische Stichting Leuven](#)'