

CV Sjoerd M. Verduyn Lunel

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Education

- 1979-1980 Technical University Delft, Propedeuse Computer Science and Mathematics
- 1980-1981 University of Amsterdam, Bachelor Mathematics and Physics (Cum Laude)
- 1981-1983 University of Amsterdam, Master Mathematics with Economy (Cum Laude)
- 1987-1988 Ph.D. Leiden University

Work experience

- 1981-1983 Teaching Assistant, University of Amsterdam
- 1984-1985 Software Engineer, AT &T and Philips, Hilversum, The Netherlands
- 1985-1987 Software Engineer, AT &T and Philips, Indian Hill Bell Labs., Naperville, U.S.A.
- 1987-1988 Teaching Assistant, Leiden University
- 1988-1989 Postdoctoral fellow, Brown University, Providence
- 1989-1994 Assistant professor, Georgia Institute of Technology, Atlanta
- 1992-1995 Fellow of the Netherlands Royal Academy of Arts and Sciences
- 1993-1997 Assistant Professor, University of Amsterdam
- 1997-1997 Associate Professor, University of Amsterdam
- 1997-2000 Full Professor, Vrije Universiteit Amsterdam
- 1999-2013 Full Professor, Leiden University
- 2004-2007 Head of the Mathematical Institute
- 2004-2008 Head of the Leiden Institute for Advanced Computer Science
- 2007-2012 Dean of the Faculty of Science, Leiden University
- 2013- Full Professor, Utrecht University
- 2014- Scientific Director, Mathematical Institute, Utrecht University

Honors and Prizes

- Recipient of the C.J. Kok Prize from Leiden University for an outstanding Ph.D. thesis
- Recipient of a Fellowship of the Netherlands Royal Academy of Arts and Sciences
- Recipient of a NWO PIONIER Grant
- Elected member of the Royal Holland Society of Sciences and Humanities
- Honorary Member of the Indonesian Mathematical Society
- Elected Secretary of the European Mathematical Society

Research visits (longer than a month)

1990	Visiting professor, Institute for Mathematics and its Applications, Minnesota
1991	Visiting CNR Fellow, University Tor Vergata, Rome
1993	Visiting CNR Fellow, University Tor Vergata, Rome
1994	Visiting professor, Rutgers University, New Brunswick
1995	Visiting professor, Rutgers University, New Brunswick
1998	Visiting CDS Fellow, National Tsing Hua University, Hsinchu, Taiwan
1999	Visiting professor, Rutgers University, New Brunswick
2000	Visiting professor, University of California, San Diego
2005	Visiting professor, Colorado State University, Fort Collins
2005	Visiting professor, Georgia Institute of Technology, Atlanta
2013	Visiting professor, Georgia Institute of Technology, Atlanta
2013	Visiting professor, Rutgers University, New Brunswick

Five key and strategic publications since 2009

1. S.M. Verduyn Lunel et al., *Biomathematics, A vision for success*, Verkenningcommissie Biowiskunde (KNAW), 2009 | xxviii + 76 pagina's | ISBN 978-90-6984-586-9.
2. M. Muskulus, A. Slats, P.J. Sterk and S.M. Verduyn Lunel, Fluctuations and determinism of respiratory impedance in asthma and chronic obstructive pulmonary disease, *J. Appl. Physiology* **109** (2010), 1582-1591.
3. M. Muskulus and S.M. Verduyn Lunel, Wasserstein distances in the analysis of time series and dynamical systems, *Phys. D* **240** (2011), 45-58.
4. R. Nussbaum, A. Priyadarshi and S.M. Verduyn Lunel, Positive operators and Hausdorff dimension of invariant sets, *Trans. Amer. Math. Soc.* **364** (2012), 1029-1066.
5. B.A. van de Rotten and S.M. Verduyn Lunel, A memory-efficient Broyden method to compute fixed points of non-linear maps arising in periodically forced processes, *IMA J. Appl. Math.* **80** (2015), 585-607.

Academic services (a selection)

Currently

- Director Teylers Foundation (2016-)
- Member of the Scientific Council of the Stefan Banach International Mathematical Center, Warszawa, Poland (2015-)
- Secretary of the European Mathematical Society (2014-)
- Member of the Board of Trustees of the European Mathematical Foundation (2014-)
- Chair of the Board of the National Platform for Dutch Mathematics (2013-)
- Chair of the Scientific Advisory Board of Leiden Institute for Physics (2013-)
- Member of the Board of the Foundation Econophysics (2009-)
- Member of the Board of the Foundation Computer Algebra Nederland (2003-)

At the University of Amsterdam

- Student member of the Faculty Council for Mathematics and Computer Science (1981-1983)
- Assessor of the Board of the Faculty of Mathematics and Computer Science (1982-1983)
- Member Colloquium Committee (1995-1997)
- Member Education Committee (1994-1997)
- Member Board of Vakgroep Wiskunde (1996-1997)
- Member Research Committee (1996-1997)

At the Vrije Universiteit Amsterdam

- Chair of the Task Force Internationalization (1997-1999)
- Member of the Scientific Advisory Board of the Stieltjes Institute (1997-2004)
- Member Science Advisory Board (1998-1999)
- Member of the National Committee to develop a strategy for mathematics (1999)
- Member of the Foresight Committee Future of Mathematics (2000)

At Leiden University

- Member of the Advisory Board of NWO for Mathematics (1999-2002)
- Coordinator undergraduate mathematics in the life science (2000-2004)
- Member of the advisory board of the BioScience Initiative (2000-2007)
- Coordinator undergraduate mathematics in the life science (2000-2004)
- Chair of the Task Force Theoretical Biology (2001)
- Member of the Task Force Bioinformatics (2001-2002)
- Chair of the Education Committee (2001-2004)
- Co-initiator of the NWO Program Computational Life Sciences (2001-2002)
- Chair of the Advisory Board of NWO for Mathematics (2002-2004)

- Member of the NWO Program Committee Computational Life Sciences (2002-2007)
- Member of the advisory board of the Leiden Institute for Brain and Cognition (2005-2007)
- Chair of the Foresight Committee Biomathematics of the Netherlands Royal Academy of Arts and Sciences (2005-2007)
- Co-founder and board member of the research cluster Nonlinear Dynamics of Natural Systems (NDNS+) (2006-2010)

At Leiden University as Dean of Science

- Member of the advisory board van het Leiden Bioscience Park (2007-2013)
- Member of the Promotion and Tenure Committee of the Faculty of Electrical Engineering, Mathematics, and Computer Science, Technical University Delft (2007-2010)
- Member of the Curriculum Committee of Leiden University College (2007-2009)
- Member of the Steering Committee of Leiden University College (2009-2010)
- VSNU Chair for Science (2009-2012)
- Chair of the National Assembly of Deans of Science (2009-2012)
- Member of the editorial board of Leiden University Press (2010-2013)
- Member of the LUC Advisory Board (2010-2012)
- Member of the Board of Bioscience Leiden Delft (2011-2013)
- Member of the Executive Council of the Topsector High Tech Systems and Materials (2011-2013)

PhD students

- B. Lehman, *Vibrational control of nonlinear delay systems*, 1992 (promotor: J.K. Hale, Georgia Institute of Technology)
- M.J. Maes, *Mathematical methods for reflector design*, 1997 (promotor: P.W. Hemker, University of Amsterdam)
- B. Lemmens, *Iteration of nonexpansive maps under the 1-norm*, 2001
- T.L. van Noorden, *New algorithms for parameter-swing reactors*, 2002
- B.A. van de Rotten, *A limited memory Broyden method to solve high dimensional systems of nonlinear equations*, 2003
- M.V.S. Frasson, *Large time behaviour of neutral delay systems*, 2005
- M.C.M. Welten, *Spatio-temporal gene expression analysis from 3D in situ hybridization images*, 2007 (co-promotor: Dr.ir. F.J. Verbeek)
- H.J. Hupkes, *Invariant manifolds and applications for functional differential equations of mixed type*, 2008
- P.C. Svensson, *Crossed product algebras associated with topological dynamical systems*, 2009 (co-promotor: Dr. M.F.E. de Jeu)

- M. Muskulus, *Distance-based analysis of dynamical systems and time series by optimal transport*, 2010
- J. Bierkens, *Long term dynamics of stochastic evolution equations*, 2010 (co-promotor: Dr. O.W. van Gaans)
- D. Worm, *Semigroups on spaces of measures*, 2010 (co-promotor: Dr. S.C. Hille)
- Lin Luo, *Biomass refining for sustainable development: analysis and directions*, 2010 (co-promotor Dr. E. van der Voet)
- I. Stojkovic, *Geometric approach to evolution problems in metric spaces*, 2011 (co-promotor: Dr. O.W. van Gaans)
- M. Wortel, *Group representations in Banach spaces and Banach lattices*, 2012 (co-promotor: Dr. M.F.E. de Jeu)
- A. Ghosh, Calculating hazard rates of introgression with branching processes, 2012 (tweede promotor: J.A.J. Metz; co-promotor: Dr. P. Haccou)
- W.Liao, A thermodynamic perspective on technologies in the Anthropocene: Analyzing environmental sustainability, 2012 (co-promotores: Dr. G. Huppes and Dr. R. Heijungs)
- Guiling Liu, A fixed point approach towards stability of delay differential equations with applications to neural networks, 2013 (co-promotor: Dr. O.W. van Gaans)
- Taleb Alkurdi, Piecewise deterministic Markov processes: an analytic approach, 2013 (co-promotores: Dr. S.C. Hille and O.W. van Gaans)

Currently there are three PhD students working with me to fulfill their requirements for a Ph.D.

Postdocs

- Dr. O.W. van Gaans
- Dr. S. Hille
- Dr. V. Rottschäfer
- Dr. R. Van der Vorst
- Dr. J. Williams

Editorial work

- Associate editor *SIAM Journal on Mathematical Analysis* (2014-)
- Reviewer for *Mathematical Reviews*, American Mathematical Society (1995-)
- Member editorial board *Integral Equations and Operator Theory* (2009-)
- Editor-in-Chief *Integral Equations and Operator Theory* (2000-2009)
- Editor *Archiv der Mathematik* (2005-2009)
- Editor *Integral Equations and Operator Theory* (1994-2000)

National and international programs

- NATO Collaborative Research Grant (CRG 970189) *Investigations of Systems of Reaction Diffusion Equations*, co-operation with D. Estep and J.K. Hale (Ga Tech, Atlanta) and L.A. Peletier (Leiden) (1997-2001)
- NWO Grant (613-302-209) *The study of non-expansiveness: computational methods*, co-operation with M. Keane (1997-2001) (one Ph.D. student for four years)
- Shell-Grant for Ph.D. Research: *New algorithms for parameter-swing reactors*, co-operation with A. Blik (1998-2002) (one Ph.D. student for four years)
- NWO-PIONIER-grant (616-61-410) *Analysis, dynamical systems and applications* (1998-2004) (four Ph.D. students and three Postdocs)
- NWO-Large project (613.006.571): *Stochastic Analysis: self-interacting random processes, measure-valued diffusions and stochastic evolution equations*, cooperation with Ph. Clément and F. den Hollander (2001-2004) (3 Postdocs)
- NWO-Theme 2001 on Mathematical Biology, in co-operation with L. Stougie
- Local coordinator of the European project RTN `Classical Analysis, Operator Theory, Geometry of Banach Spaces, their interplay and their applications (coordinator J. Esterle (Université Bordeaux I)), RTN1-1999-00196 (2000-2004)
- NWO Computational Life Sciences Project (635.100.006): *Views*, in collaboration with G. Rozenberg and J. Kok, (2004-2008) (three Ph.D. students)
- NWO-Cluster Node Nonlinear Dynamics of Natural Systems (NDNS+) (2006-2010) (2 Tenure Track positions and 1 part-time Professor)

Teaching

1989/90	Two undergraduate courses Linear Algebra and Discrete Mathematics at Georgia Institute of Technology, Atlanta
1990/91	Undergraduate course Analysis II at Vrije Universiteit Amsterdam
1991/94	Three undergraduate courses Linear Algebra and two graduate courses Delay Equations and Applied Functional Analysis at Georgia Institute of Technology
1994/95	Master course Partial Differential Equations at University of Amsterdam
1995/96	Master course Partial Differential Equations, three undergraduate courses Modeling and Simulation, Kaleidoscoop, and the Student Seminar at University van Amsterdam
1996/97	Two master courses Partial Differential Equations and Modeling. Undergraduate course Linear Algebra for Dynamical Systems (with A. Ran, VUA) and a research seminar Dynamical Systems (with M. Keane). Two undergraduate courses

	Simulation and Modelling (with P. Sloom) and Methods and Technics for Beta-Gamma students
1997/98	Two undergraduate courses Simulation and Modelling (with P. Sloom) and Methods and Technics for Beta-Gamma students. Master course Functional Analysis
1998/99	Three undergraduate courses Analysis, Applied Analysis, and Financial Mathematics. Master course Infinite Dimensional Dynamical Systems
1999/00	Two undergraduate courses Analysis I and Modelling
2000/01	Three undergraduate courses Analysis I, Analysis II, and Modelling
2001/02	Three undergraduate courses Analysis I, Real Analysis, and Modelling (with S.A. van de Geer)
2002/03	Four undergraduate courses Analysis I, Mathematics A and B (Life Science), Mathematical Principles of Development (Life Science) and Modelling (with S.A. van de Geer)
2003/04	Two undergraduate courses Analysis III, Mathematical Principles of Development and the Master Course Functional Analysis
2004/05	Two undergraduate courses Analysis III, Mathematical Principles of Development and the Master Course Functional Analysis
2005/06	Two undergraduate courses Analysis III, Mathematical Principles of Development and the Master Course Functional Analysis
2006/07	Two undergraduate courses Analysis I, Mathematical Principles of Development
2007/08	Undergraduate course Linear Algebra II
2013/2014	Two undergraduate courses Functional Analysis and Analysis
2014/2015	Undergraduate course Analysis and master course Differential Delay Equations
2015/2016	Undergraduate course Analysis and undergraduate course Advanced Mathematics Utrecht University College

Organiser of the seminars Analysis and Linear Operators (VUA) (1997-1999), Dynamics in Amsterdam (CWI) (1995-1999), Delft-Leiden Analysis Colloquium (1999-2001), Leiden Analysis Colloquium (2001 -2005).

From 1995 till 1997 coordinator of the Master Applied Mathematics at University of Amsterdam.

Master students: B. Lemmens, J. Baker, S. Vlaar, T.L. van Noorden, J. Versteegh en M.D. Nie (1997); W. Lammen, I.B.M. van Doorn en L. Kubbe (1998); Tran Ngoc Lien (1999); Hamadi Zaghdoudi (2000); Sandra Bruin and Raoul Pietersz (2001); Huib Dirksen and Igor Grubisic (2002); Hermen-Jan Hupkes, Martijn Onderwater en Martijn van Iwaarden (2003); Timon Idema (2005); Mona Hammond (2006); Anne Kuenen (2008).

From 2013 I have been co-advisor of two Master theses and advisor of three Bachelor projects.

Organisation of international meetings (a selection)

- Organiser (with A.M. Cohen, L.J. van Gastel and J.A. Sanders) of the "Studies in Computer Algebra for Industry" (SCAFI) Workshops in November 1991 and November 1992
- Organiser (with M.A. Kaashoek and A.C.M. Ran) of the "Summer School for Analysis and Operator Theory" from June 6 till August 12 1994
- Organiser (with S. van Strien) of the Akademie Colloquium "Dynamical Systems and their Applications in Science" van 26--28 January 1995 at the Netherlands Royal Academy of Arts and Sciences
- Organiser (with L.A. Peletier) of the NWO Theme 1997-1998 "Dynamical Systems and Pattern Formation" from 15 September tot 15 November 1997 at the Lorentz Center
- Organiser (with L.A. Peletier) of a program on Nonlinear Systems and Applications from 16 August till 11 September 1999 at the Lorentz Center
- Co-organiser of the NWO/IOP-Genomics Winter School on Mathematical Biology, Wageningen, 17-19 December, 2001
- Member Organising Committee of the EQUADIFF 2003 in Hasselt, Belgium
- Co-organiser of the NWO Winter School on Mathematical Biology, Wageningen, 15-17 December, 2003
- Fourth Annual Meeting of the European Research Network Analysis and Operators, Dalfsen, May 1-7, 2004, co-organiser M.A. Kaashoek
- NDNS+ kick-off workshop on Mathematics of Life Sciences, Groningen, October 10-13, 2005, co-organisers H. Broer, A. Doelman and A. van der Vaart

Keynote invited lectures at international conferences and workshops since 2005

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| Apr 2005 | Workshop Dynamics of Infinite Dimensional Structured Systems, Lefschetz Center for Dynamical Systems, Brown University, USA |
| May 2005 | Symposium Synchronization and control in coupled systems with delay, Weierstrass Institute for Applied Mathematics (WIAS), Berlin, Germany |
| July 2007 | International Workshop on Operator Theory and Its Applications (IWOTA 07), Potschefstroom, South Africa |
| July 2010 | International Workshop on Operator Theory and Its Applications (IWOTA 10), Berlin, Germany. |
| July 2011 | International Workshop on Operator Theory and Its Applications (IWOTA 11), Sevilla, Spain. |
| May 2012 | Dynamics of Differential Equations, Brown University, Providence, USA. |
| June 2012 | 9th Advanced Course in Complex Analysis and Operator Theory, Sevilla, Spain. |

- July 2012 Konferensi Nasional Matematika XVI, Jatinangor, Indonesia.
- Mar 2013 Conference on Dynamics of Differential Equations, in memory of Jack Hale, Georgia Institute of Technology, Atlanta, U.S.A.
- Feb 2014 Workshop on Differential-Delay Equations: theory and applications, University College London, U.K.
- Jun 2014 Konferensi Nasional Matematika XVII, ITS, Surabaya, Indonesia.
- July 2015 10th Colloquium on the Qualitative Theory of Differential Equations, Szeged, Hungary
- Sep 2015 SciCADE 2015, International Conference on Scientific Computation and Differential Equations, Potsdam, Germany

International colloquium talks and seminars since 2005

- Apr 2005 Analysis colloquium, Department of Mathematics, Tsinghua University, Beijing
- Apr 2005 Shandong University, Jinan, China
- Apr 2005 Xi'an Jiaotong University, Xian, China
- Apr 2005 Analysis seminar, Department of Mathematics, Brown University, U.S.A.
- May 2005 Oberseminar Nonlinear Dynamics, Freie Universität, Berlin
- May 2005 Colorado State University
- Mar 2013 Dynamical Systems Seminar, Georgia Institute of Technology, Atlanta
- Nov 2013 Dynamical Systems Seminar, Warwick University, Warwick, U.K.
- Jun 2014 University of Gadjah Mada, Djokja, Indonesia
- Nov 2015 Technische Universität Berlin

Research visits since 2005 (a selection)

- Sep 2005 Tsinghua University in Beijing and Shandong University in Shandong
- Sep 2008 NUS Singapore and UNPAD Bandung
- Sep 2011 Chili (member of an ESO delegation)
- May 2014 EMF meeting, Mittag-Leffler Institute, Sweden
- Jun 2014 EMS Council, San Sebastian, Spain
- Nov 2014 EMS meeting, Catalan Mathematical Society, Barcelona, Spain
- Dec 2014 EMF Board meeting, ETH, Zurich, Swiss
- Mar 2015 EMS meeting, Czech Academy of Sciences, Prague, Czech
- May 2015 EMS Presidents Meeting, Innsbruck, Austria
- Jun 2015 EMF Board meeting, ETH, Zurich, Swiss
- Nov 2015 EMS meeting, Steklov Institute, Moscow, Russia