

# Curriculum Vitae



## Personal details

<b>Title(s)</b>	Prof.dr.ir.
<b>First name</b>	Dick
<b>Surname</b>	den Hertog
<b>Date of birth</b>	4 February 1967

## Master's degree

<b>University</b>	Technical University Delft, Faculty of Technical Mathematics and Informatics
<b>Date of graduation</b>	1989
<b>Topic</b>	Technical Mathematics, specialisation Operations Research Title MSc thesis: Interior point methods for linear programming
<b>Distinction</b>	Cum Laude

## Doctorate

<b>University</b>	Technical University Delft, Faculty of Technical Mathematics and Informatics
<b>Date of graduation</b>	1992
<b>Topic</b>	Operations Research Title dissertation: Interior point approach to linear, quadratic and convex programming: algorithms and complexity
<b>Distinction</b>	Cum Laude

## Professional affiliations

<b>1989-1992</b>	PhD student, Faculty of Technical Mathematics and Informatics, Technical University Delft
<b>1992-1995</b>	Consultant Operations Research at CQM
<b>1995-1998</b>	Senior Consultant Operations Research at CQM
<b>1998-2000</b>	Top Consultant Operations Research at CQM
<b>2000-2020</b>	Full Professor Operations Research, School of Economics and Management, Tilburg University

<b>2002-2006</b>	Coordinator Operations Research track of Business Graduate School, School of Economics and Management, Tilburg University
<b>2006-2010</b>	Vice-dean Research and Director CentER, School of Economics and Management, Tilburg University
<b>2016-2019</b>	Scientific Director <i>Data Science Center Tilburg (DSC/t)</i>
<b>2017-2019</b>	Leader of TiU Impact Theme "Creating Value from Data"
<b>2019-present</b>	Visiting Professor MIT, Cambridge, US – 7 weeks per year
<b>2020-present</b>	Full Professor Operations Research, Amsterdam Business School, University of Amsterdam
<b>2022-present</b>	Science To Impact Director of <i>Analytics for a Better World Institute</i>

## Awards

<b>1989</b>	Delft University Fund Award for best faculty master thesis
<b>1994</b>	Finalist A.W. Tucker Prize of the Mathematical Programming Society, Ann Arbor
<b>2000</b>	EURO Best Applied Paper Award, Budapest (with H.P. Stehouwer)
<b>2001</b>	Teaching Quality Award (School level)
<b>2003</b>	Best Teacher Award (School level)
<b>2004, 2005</b>	Docent of the year (Departmental level)
<b>2013</b>	INFORMS Franz Edelman Award for dike height optimization project
<b>2015</b>	Research Valorization Award (School level)
<b>2017</b>	IISE Best Paper Award
<b>2017</b>	Best Teacher Data Expert Program (Professional Learning)
<b>2021</b>	INFORMS Franz Edelman Award for food supply chain UN World Food Programme.
<b>2022</b>	Finalist Huibregtsprijs
<b>2023</b>	Lecturer of the Year – MBA Big Data & Business Analytics
<b>2023</b>	Amsterdam Impact Award

## Grants

<b>2002</b>	Grant from SamenwerkingsOrgaan Brabantse Universiteiten for PhD student Bart Husslage (200,000 euro)
<b>2008</b>	NWO Mozaiek grant for PhD student Mohammed Chahim (220,000 euro)
<b>2009</b>	NWO Graduate Program grant (800,000 euro)
<b>2012</b>	EU Marie Curie ITN Action "Mixed Integer Nonlinear Optimization" for PhD student Ahmadreza Marandi (225,000 euro)

<b>2013</b>	NWO Grant Free Competition for PhD student Jianzhe Zhen (200,000 euro)
<b>2013</b>	NWO Research Talent for PhD student Krzysztof Postek (160,000 euro)
<b>2014</b>	NWO Research Talent for PhD student Frans de Ruyter (160,000 euro)
<b>2017</b>	NWO Research Talent for PhD student Ernst Roos (214,000 euro)
<b>2019</b>	NWO SGW Open Competition PhD grant (252,000 euro)
<b>2020</b>	ENW-groot Grant, Main Applicant, with University of Amsterdam, TU Delft, Tilburg University, and CWI (2.5 million euro)
<b>2020</b>	EU grant for PhD in RAPTOR project (250,000 euro)
<b>2021</b>	ASF Grant (9,000 euro) for sustainability research
<b>2021</b>	Grant from Data Science Center UvA for Data Scientist
<b>2021</b>	Sustainability grant (6,400 euro) for developing cases in course Analytics for a Better World
<b>2021</b>	NWO grant for PhD position on optimizing infrastructure for hydrogen-based energy (250,000 euro)
<b>2021</b>	Outside-In PhD grant from UvA-FEB (250,000 euro)
<b>2023</b>	ASF Grant (4,500 euro) for sustainability research

## PhD thesis supervision

<b>PhD students</b>	- Mevlude Ebru Angun (Turkey) – 2004
<b>- year of defense</b>	- Lonneke Driessen (Netherlands) – 2006
	- Bart Husslage (Netherlands) – 2006
	- Erwin Stinstra (Netherlands) – 2006
	- Gamal Elabwabi (Sudan) – 2007
	- Alex Siem (Netherlands) – 2008
	- Katya Vladislavleva (Russia) – 2008
	- Gijs Rennen (Netherlands) – 2009
	- Elleke Janssen (Netherlands) – 2010
	- Ozge Ozdemir (Turkey) – 2013
	- Mohammed Chahim (Netherlands) – 2013
	- Ihsan Yanikoglu (Turkey) – 2014
	- Bram Gorissen (Netherlands) – 2014
	- Ehsan Mehdad (Iran) – 2015
	- Krzysztof Postek (Poland) – 2017
	- Marleen Balvert (Netherlands) – 2017
	- Ahmadreza Marandi (Iran) – 2017
	- Frans de Ruyter (Netherlands) – 2018
	- Jianzhe Zhen (China) – 2018
	- Ernst Roos (Netherlands) - 2021
	- Stefan ten Eikelder (Netherlands) – 2021
	- Jorn Baayen (Netherlands) - 2022
	- Wouter van Eekelen (Netherlands) - 2023

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**Current PhD students**

- Koen Peters (Netherlands)
  - Valentijn Stienen (Netherlands, per September 2018)
  - Danique de Moor (Netherlands, per January 2020)
  - Meike Reusken (Netherlands, per May 2020)
  - Donato Maragno (Italy, per November 2020)
  - Merel Wemelsfelder (Netherlands, per September 2020)
  - Guanyu Jin (Netherlands, per January 2021)
  - Parvathy Krishnan (India, per Spring 2021)
  - Justin Starreveld (Netherlands, per September 2021)
  - Zihang Qiu (China, per September 2021)
  - Britt van Veggel (Netherlands, per January 2022)
  - Judith Brugman (Netherlands, per March 2022)
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**Journal editor****2000-2006**Editor for *STATOR***2000-2011**Associate editor for *Operations Research Letters***2008-2011**Associate editor for *Journal of Industrial and Management Optimization***2012-2019**Associate editor for *Management Science* – area Optimization**2012-2022**Associate editor for *Operations Research* – area Optimization**2017-2022**Associate editor for *INFORMS Journal on Optimization***2023-**Associate editor for *Operations Research* – area:**Other academic activities****1989-1992**

Member of "Committee for Science", Technical University Delft

**1990-1992**

Member Board of Dept. Stochastics, Statistics and Operations Research, Technical University Delft

**1989-1990**

Member of organizing committee of symposium "Interior Point Methods for Linear Programming: Theory and Practice", Scheveningen, January 18-19

**1994-1998**

Secretary Board of the Dutch Operations Research Society

**2000**

Member jury A.W. Tucker Prize 2000 of Mathematical Programming Society

**2000, 2002, 2006**

Member of organizing committee of HPOPT 2000, HPOPT 2002 and HPOPT 2006

**2000-2003**

Member jury for the VVS thesis prize

**2002**

Chairman Wim Bogers Stichting conference

**2002-2005**

Chairman Wim Bogers Stichting

**2004**

Chairman Program Committee Operations Research

<b>2005-2006</b>	Chairman Education Committee, Tilburg School of Economics and Management, Tilburg University
<b>2008</b>	Member SIAG/Opt Prize 2008 Committee
<b>2012-2016</b>	Board member of "Dutch Network on the Mathematics of Operations Research (LNMB)"
<b>2016-2020</b>	Chairman of "Dutch Network on the Mathematics of Operations Research (LNMB)"
<b>2016-2020</b>	Research Coordinator Operations Research group, TiSEM
<b>2018-2020</b>	Board member of the Dutch Big Data Alliance
<b>2020</b>	Member Farkas Prize of INFORMS Optimization Society
<b>2020-2021</b>	Organizer Worldwide <i>Robust Optimization Webinar</i> (>180 subscriptions)
<b>2020-present</b>	Co-organizer Worldwide <i>Analytics for a Better World Webinar</i> (>630 subscriptions) (together with D. Bertsimas, MIT)
<b>2020-2021</b>	Co-organizer Worldwide <i>Analytics for Practitioners Webinar</i> (> 400 subscriptions) (together with D. Bertsimas, MIT)
<b>2021- Jan 2022</b>	Head of Operations Management group at Amsterdam Business School
<b>2022</b>	Member EURO prize Prize for OR for the Common Good

### Main research interests

		publications
<b>1989-1992</b>	Interior Point Methods	[1-7,9-12,B1, R1-R5]
<b>1992-2000</b>	Practical projects	[13,18,26,C1-C3,P1-P3]
<b>2000-2011</b>	Derivative Free Optimization	[13-21,23-24,27-33,35-36,38-43,P4-P7]
	Applied research	[25,34,45-47]
<b>2011-present</b>	Robust Optimization	[48-51,55-57,59-60,62,63,65-73,75-77,80-81,83-85,87-90 92-94,96-98, 100,101,R10,R11,R15]
	Applied research	[52-54,58,61,64,74,78-79,82,86,88,90,91]
<b>2020-present</b>	Optimization with Machine Learning	[106,110,R12]
<b>2022-present</b>	Analytics for a Better World	[101,102,108,R13,R15]

## Examples of applied projects

- **Configuration of telephone exchanges for AT&T (1992-1993)**
  - Publications: [C1]
- **Simulation-based optimization of different parts of the Philips TV (1994-1999)**
  - This work has been awarded with the "EURO Best Applied Paper Award" (2000).
  - Publications: [13]
- **Optimization of the European distribution structure of Philips Consumer Electronics (1995)**
  - Publications: [C2]
- **Optimal maintenance schedule for the Dutch rail infrastructure (1997-1999)**
  - Publications: [18,26]
- **Dike height optimization for the Dutch Government (2008 – 2016)**
  - Final results have been accepted by House of Parliament, and now stated in the Dutch Water Act.
  - Estimated savings: more than 7 billion euros.
  - Awarded with the INFORMS Franz Edelman Prize (2013)
  - Publications: [53,54,64,74]
- **Optimization in radiotherapy (2004 – current)**
  - Publications: [25,34,45-47,52,58,61,78,79,82,88,91,99]
- **Optimal food supply chain for World Food Program (2016 – 2021)**
  - Optimization model has been applied to Yemen, Syria, Iraq, Ethiopia, and several countries in Africa.
  - Awarded with the INFORMS Franz Edelman Prize (2021)
  - Publication: [86,102]
- **Optimization of healthcare facility locations (2020 – current)**
  - In cooperation with the World Bank
  - Especially for the countries Timor-Leste and Vietnam.
- **Optimizing the removal of plastic from the oceans (2022 – current)**
  - In cooperation with The Ocean Cleanup
  - Publication:

## Publication List

### Journal papers:

[111] Leveraging AI for Natural Disaster Management : Takeaways From The Moroccan Earthquake (2024), to appear in *NeurIPS*.

[110] Optimization with constraint learning: A framework and survey  
A Fajemisin, D Maragno, D den Hertog (2024) *European Journal on Operational Research*, 314(1), 1-14, 2024.

[109] Pareto Adaptive Robust Optimality via a Fourier-Motzkin Elimination Lens  
D. Bertsimas, S. ten Eikelder, D. den Hertog, N Trichakis (2023) *Mathematical Programming* (published online).

- [108] Online adaptive planning methods for intensity-modulated radiotherapy  
Z. Qiu, S. Olberg, D. den Hertog, A. Ajdari, T. Bortfeld and J. Pursley (2023) *Physics in Medicine & Biology* (published online).
- [107] Minkowski Centers via Robust Optimization: Computation and Applications  
D. den Hertog, J. Pauphilet, M.Y. Soali (2023), *Operations Research* (published online).
- [106] Mixed-Integer Optimization with Constraint Learning  
D. Maragno, H. Wiberg, D. Bertsimas, S.I. Birbil, D. den Hertog, A. Fajemisin (2023), *Operations Research* (published online)
- [105] A Reformulation-Linearization Technique for optimization over simplices  
A. Selvi, D. den Hertog, W. Wiesemann, (2023) *Mathematical Programming*, 197:427–447.
- [104] Robust Convex Optimization: A New Perspective That Unifies And Extends  
D. Bertsimas, D. den Hertog, J. Pauphilet, J. Zhen (2023), *Mathematical Programming*, 200 (2), 877-918.
- [103] Dual approach for two-stage robust nonlinear optimization  
de Ruiter, F.J.C.T., Zhen, J., den Hertog, D (2023). *Operations Research* 71 (5), 1794-1799.
- [102] Determining optimal locations for blood distribution centers  
Wemelsfelder, Merel L; den Hertog, Dick; Wisman, Onno; Ihalainen, Jarkko; Janssen, Mart P, (2022) *Transfusion*, 62,12,2515-2524.
- [101] UN world food programme: Toward zero hunger with analytics  
K. Peters, S. Silva, T.S. Wolter, L. Anjos, N. van Ettehoven, E. Combette, A. Melchiori, H. Fleuren, D. den Hertog, O. Ergun, 2022, *INFORMS Journal on Applied Analytics*, 52, 8-26.
- [100] MAD dispersion measure makes extremal queue analysis simple  
Den Hertog, D., Van Leeuwaarden, J.S.H. (2022), *INFORMS Journal on Computing* 34(3):1681-1692.
- [99] Adjustable robust treatment-length optimization in radiation therapy  
Ten Eikelder, S., Ajdari, A., Bortfeld, T., Den Hertog, D. (2022) *Optimization and Engineering*, **23**, 1949–1986.
- [98] Disjoint bilinear programming: a two-stage robust optimization perspective  
Zhen, J., Marandi, A., den Hertog, D., Vandenberghe, L. (2022) *INFORMS Journal on Computing*, 34(5):2410-2427.
- [97] Improving tractability of real-time control schemes via simplified S-lemma  
G. Banjac, J. Zhen, D. den Hertog, J. Lygeros (2022) To appear in *IEEE Transactions on Automatic Control*.
- [96] Tight tail probability bounds for distribution-free decision making  
Roos, E., Brekelmans, R., Van Eekelen, W., Den Hertog, D., Van Leeuwaarden, J. (2022) *European Journal on Operational Research*, 299, 3, 931-944.
- [94] Convex maximization via adjustable robust optimization  
A. Selvi, A. Ben-Tal, R. Brekelmans, D. den Hertog, (2022) *INFORMS Journal on Computing* 34(4):2091-2105.
- [93] Extending the scope of robust quadratic optimization  
Marandi, A., Ben-Tal, A., den Hertog, D., Melenberg, B. (2022) *INFORMS Journal on Computing*, 34,1,211-226.
- [92] Robust optimization for models with uncertain SOC and SDP constraints  
Zhen, J., De Ruiter, F.J.C.T., den Hertog, D. (2022) *INFORMS Journal on Computing*, 34,1,196-210.
- [91] Conic formulation of fluence map optimization problems  
Ten Eikelder, S., Ajdari, A., Bortfeld, T., Den Hertog, D. (2021) *Physics in Medicine & Biology*, 66(22), 225016.
- [90] Optimal depot locations for humanitarian logistics service providers using robust optimization  
Stienen, V., Wagenaar, J., den Hertog, D., Fleuren, H. (2021), *Omega*, 104, 102494.

- [89] Probabilistic guarantees in Robust Optimization: a general methodology  
Bertsimas, D., Den Hertog, D., Pauphilet, J. (2021) *SIAM Journal on Optimization*, 31(4), 2893-2920.
- [88] Robust dose-painting-by-numbers vs. nonselective dose escalation for non-small cell lung cancer patients  
S.F. Petit, S. Breedveld, J. Unkelbach, D. den Hertog, M. Balvert (2021), *Medical Physics* 48(6):3096-3108.
- [87] A distributionally robust analysis of the program evaluation and review technique  
Roos, E.R., den Hertog, D. (2021), *European Journal on Operational Research*, 291(3), 918-928.
- [86] The nutritious supply chain: Optimizing humanitarian food assistance  
Peters, K., Fleuren, H., den Hertog, D., Kavelj, M., Silva, S., Goncalves, R. (2021), *INFORMS Journal on Optimization*, 3(2), 200-226.
- [85] A universal and structured way to derive dual optimization problem formulations  
K. Roos, M. Balvert, B.L. Gorissen, D. den Hertog, (2020) *Informs Journal on Optimization*, 2(4), 229-255.
- [84] Optimal treatment plan adaptation using mid-treatment imaging biomarkers  
Ten Eikelder, S.C.M., Ferjančič, P., Ajdari, A., Bortfeld, T., den Hertog, D., Jeraj, R. (2020), *Physics, Medicine and Biology*, 65 (24), 245011.
- [83] Reducing conservatism in Robust Optimization  
Roos, E.R., den Hertog, D. (2020), *INFORMS Journal on Computing*, 32 (4), 1109-1127.
- [82] Optimal combined proton-photon therapy schemes based on the standard BED model  
Ten Eikelder, S.C.M., den Hertog, D., Bortfeld, T.M., Perkó, Z. (2019) *Physics in Medicine and Biology* 64(6), 065011.
- [81] An approximation framework for two-stage ambiguous stochastic integer programs under mean-MAD information  
Postek, K., Romeijnders, W., den Hertog, D., Van der Vlerk, M.H. (2019) *European Journal of Operational Research* 274 (2), 432-444
- [80] A survey of adjustable robust optimization  
Yanikoğlu, İ., Gorissen, B., den Hertog, D. (2019), *European Journal of Operational Research* 277 (3), 799-813
- [79] Robust optimization of dose-volume metrics for prostate HDR-brachytherapy incorporating target- and OAR volume delineation uncertainties  
Balvert, M., den Hertog, D., Hoffmann, A. (2019) *INFORMS Journal on Computing* 31(1), 100-114.
- [78] Uncertainties in dose-response relations strongly affect the expected gains of robust dose-painting  
Petit, S., Breedveld, S., Unkelbach, J., Den Hertog, D., Balvert, M. (2018) *Radiotherapy and Oncology* 127, S478-S479.
- [77] When are static and adjustable robust optimization problems with constraint-wise uncertainty equivalent?  
Marandi, A., den Hertog, D. (2018) *Mathematical Programming* 170 (2), 555-568.
- [76] Adjustable robust optimization via fourier-motzkin elimination  
Zhen, J., den Hertog, D., Sim, M. (2018) *Operations Research* 66 (4), 1086-1100.
- [75] Robust optimization with ambiguous stochastic constraints under mean and dispersion information  
Postek, K., Ben-Tal, A., den Hertog, D., Melenberg, B. (2018) *Operations Research* 66 (3), 814-833.
- [74] Adjustable robust strategies for flood protection  
Postek, K., den Hertog, D., Kind, J. & Pustjens, C. (2019) *Omega* 82, 142-154.
- [73] Computing the maximum volume inscribed ellipsoid of a polytopic projection  
Zhen, J., den Hertog, D. (2017) *INFORMS Journal on Computing*, 30(1), 31-42.



- [72] Globalized robust optimization for nonlinear uncertain inequalities  
Ben-Tal, A., Brekelmans, R., den Hertog, D., Vial, J.-Ph. (2017) *INFORMS Journal on Computing*, 29(2), 350-366.
- [71] Robust shift generation in workforce planning  
van Hulst, D., den Hertog, D., Nuijten, W. (2017) *Computational Management Science*, 14(1), 115-134.
- [70] Centered solutions for uncertain linear equations  
Zhen, J., den Hertog, D. (2017) *Computational Management Science*, 14(4), 585-610.
- [69] Robust optimization of uncertain multistage inventory systems with inexact data in decision rules  
de Ruiter, F., Ben-Tal, A., Brekelmans, R. & den Hertog, D. (2017) *Computational Management Science*, 14(1), 45-66.
- [68] Adjustable Robust Optimisation approach to optimise discounts for multi-period supply chain coordination under demand uncertainty  
Buhayenko, V., den Hertog, D. (2017) *International Journal of Production Research* 55(22), 6801-6823.
- [67] Computationally tractable counterparts of distributionally robust constraints on risk measures  
Postek, K., den Hertog, D., Melenberg, B. (2016) *SIAM Review*, 58(4), 603-650.
- [66] The impact of the existence of multiple adjustable robust solutions  
de Ruiter, F., Brekelmans, R. & den Hertog, D. (2016) *Mathematical Programming*, 160(1-2), 531-545.
- [65] Multi-stage adjustable robust mixed-integer optimization via iterative splitting of the uncertainty set  
Postek, K. & den Hertog, D. (2016) *INFORMS Journal on Computing*, 28(3), 553-574.
- [64] Optimal strategies for flood prevention  
Eijgenraam, C., Brekelmans, R., den Hertog, D. & Roos, C. (2016) *Management Science*, 63(5), 1644-1656.
- [63] Globalized robust optimization for nonlinear uncertain inequalities  
Ben-Tal, A., Brekelmans, R., den Hertog, D. & Vial, J. P. (2017) *INFORMS Journal on Computing*, 29 (2), 350-366.
- [62] Robust dual-response optimization  
Yanikoglu, I., den Hertog, D. & Kleijnen, J. P. C. (2016) *IIE Transactions: Industrial Engineering Research and Development*, 48(3), 298-312.
- [61] A framework for inverse planning of beam-on times for 3D small animal radiotherapy using interactive multi-objective optimization  
Balvert, M., van Hoof, S. J., Granton, P. V., Trani, D., den Hertog, D., Hoffmann, A. L. & Verhaegen, F. (2015) *Physics in Medicine and Biology*, 60(14), 5681-5698.
- [60] A practical guide to robust optimization  
Gorissen, B., Yanikoglu, I. & den Hertog, D. (2015) *Omega* 53, 124-137.
- [59] Deriving robust counterparts of nonlinear uncertain inequalities  
Ben-Tal, A., den Hertog, D. & Vial, J. P. (2015) *Mathematical Programming*, 149(1-2), 265-299.
- [58] Dwell time modulation restrictions do not necessarily improve treatment plan quality for prostate HDR brachytherapy  
Balvert, M., Gorissen, B. L., den Hertog, D. & Hoffmann, A. L. (2015) *Physics in Medicine and Biology*, 60(2), 537-548.
- [57] Deriving robust and globalized robust solutions of uncertain linear programs having general convex uncertainty sets  
Gorissen, B. L., Blanc, J. P. C., den Hertog, D. & Ben-Tal, A. (2014) *Operations Research*, 62(3), 672-679.
- [56] A mixed integer nonlinear optimization approach to optimize dike heights in the Netherlands

Brekelmans, R., Eijgenraam, C., den Hertog, D. & Roos, C. (2014) *Optima Mathematical Optimization Society Newsletter*, 94.

[55] Hidden conic quadratic representation of some nonconvex quadratic optimization problems  
Ben-Tal, A. & den Hertog, D. (2014) *Mathematical Programming*, 143(1-2), 1-29.

[54] Economically efficient standards to protect the Netherlands against flooding  
Eijgenraam, C., Kind, J., Bak, C., Brekelmans, R. C. M., den Hertog, D., Duits, M., Roos, C., Vermeer, P. J. & Kuijken, W. (2014) *Interfaces*, 44(1), 7-21.

[53] An impulse control approach to dike height optimization  
Chahim, M., Brekelmans, R. C. M., den Hertog, D. & Kort, P. M. (2013) *Optimization Methods and Software*, 28(3), 458-477.

[52] Mixed integer programming improves comprehensibility and plan quality in inverse optimization of prostate HDR Brachytherapy  
Gorissen, B. L., den Hertog, D. & Hoffmann, A. L. (2013) *Physics in Medicine and Biology*, 58(4), 1041-1058.

[51] Robust counterparts of inequalities containing sums of maxima of linear functions  
Gorissen, B. L. & den Hertog, D. (2013) *European Journal of Operational Research*, 227(1), 30-43.

[50] Robust solutions of optimization problems affected by uncertain probabilities  
Ben-Tal, A., den Hertog, D., De Waegenaere, A. M. B., Melenberg, B. & Rennen, G. (2013) *Management Science*, 59(2), 341-357.

[49] Safe approximations of ambiguous chance constraints using historical data  
Yanikoglu, I. & den Hertog, D. (2013) *INFORMS Journal on Computing*, 25(4), 666-681.

[48] Approximating the Pareto set of multiobjective linear programs via robust optimization  
Gorissen, B. L. & den Hertog, D. (2012) *Operations Research Letters*, 40(5), 319-324.

[47] Feasibility of convex optimisation with radiobiological models for prostate HDR-brachytherapy  
Steenbergen, F., den Hertog, D., Gorissen, B. L. & Hoffmann, A. L. (2012) *Radiotherapy and Oncology*, 103, S30-S31.

[46] Mixed integer programming for dose and dose-volume based optimization in prostate HDR-brachytherapy  
Gorissen, B. L., den Hertog, D. & Hoffmann, A. L. (2012) *Radiotherapy and Oncology*, 103, S130.

[45] Modulation restrictions do not necessarily improve treatment plan quality for HDR prostate brachytherapy  
Balvert, M., Gorissen, B. L., den Hertog, D. & Hoffmann, A. L. (2012) *Radiotherapy and Oncology*, 103, S142.

[44] Safe dike heights at minimal costs: The nonhomogeneous case  
Brekelmans, R. C. M., den Hertog, D., Roos, C. & Eijgenraam, C. (2012) *Operations Research*, 60(6), 1342-1355.

[43] A method for approximating univariate convex functions using only function value evaluations  
Siem, A. Y. D., den Hertog, D. & Hoffmann, A. L. (2011) *INFORMS Journal on Computing*, 23(4), 591-604.

[42] Enhancement of sandwich algorithms for approximating higher dimensional convex Pareto sets  
Rennen, G., van Dam, E. R. & den Hertog, D. (2011) *INFORMS Journal on Computing*, 23, (4), 493-517.

[41] Space-filling Latin hypercube designs for computer experiments  
van Dam, E. R., den Hertog, D., Husslage, B. G. M. & Rennen, G. (2011) *Optimization and Engineering*, 12(4), 611-630.

- [40] Nested maximin Latin hypercube designs  
Rennen, G., Husslage, B. G. M., van Dam, E. R. & den Hertog, D. (2010) *Structural and Multidisciplinary Optimization*, 41, 371-395.
- [39] On the importance of data balancing for symbolic regression  
Vladislavleva, E., Smits, G. & den Hertog, D. (2010) *IEEE Transactions on Evolutionary Computation*, 14(2), 252-277.
- [38] One-dimensional nested maximin designs  
van Dam, E. R., Husslage, B. G. M. & den Hertog, D. (2010) *Journal of Global Optimization*, 46(2), 287-306.
- [37] Solving the Battleship puzzle as an integer programming problem  
Meuffels, W. J. M. & den Hertog, D. (2010) *INFORMS Transactions on Education*, 10(3), 156-162.
- [36] Order of nonlinearity as a complexity measure for models generated by symbolic regression via Pareto genetic programming  
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### **Reports and Discussion Papers**

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- [R15] Better routing in developing regions: weather and satellite-informed road speed prediction  
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- [R14] Hidden convexity in a class of optimization problems with bilinear terms  
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Stienen, Valentijn; den Hertog, Dick; Wagenaar, Joris; de Zegher, Joann F (2022), CentER Discussion Paper.
- [R12] A Robust Optimization Approach to Deep Learning  
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### **Books:**

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### **Book chapters:**

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#### **Book editing**

Operations Research Proceedings 2004  
Fleuren, H. A. (ed.), den Hertog, D. (ed.) & Kort, P. M. (ed.) (2005) Berlin: Springer Verlag. 486 p.

#### **Doctoral Thesis**

Interior point approach to linear, quadratic and convex programming: Algorithms and complexity  
den Hertog, D. (1992) 207 p.

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Hart en rede in de besliskunde (in Dutch)  
den Hertog, D. (2002) Tilburg: Katholieke Universiteit Brabant. 44 p.

#### **Other publications:**

Advancing society in a digital era: Science with a soul.

Wilthagen, T., Denollet, J.K., den Hertog, D. (2017).

Optimaliseren? Doe het robuust! (in Dutch)

Brekelmans, R. C. M. & den Hertog, D. (2010) *STAtOR*, December Issue, p. 24-27.

Optimalisatie van bestralingsbehandeling tegen kanker; Operations Research toegepast voor radiotherapie (in Dutch)

Hoffmann, A. L. & den Hertog, D. (2008) *STAtOR*, December Issue, p. 4-8.

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Efficient optimization technics implemented in DOT-software of CQM

den Hertog, D. (1997) *Philips Natlab Journaal*, 9, 6-7.

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Fleuren, H. A., den Hertog, D. & Tuyt, H. L. (1995) *CA Techniek: Tijdschrift voor Industriële Automatisering*, 14(10), 24-28.

#### **Invited lectures (since 2013 only):**

***Economically efficient standards to protect the Netherlands against flooding***, INFORMS Meeting, Finalist Franz Edelman Award, April 7-9, 2013. Keynote speaker.

***Practical Robust Optimization: a tutorial***, Annual Danish OR workshop, June 28-30, 2013. Invited speaker.

***Robust optimization using computer experiments***, 7th International Conference on *Sensitivity Analysis of Model Output*, MASCOT-SAMO 2013, July 1-4. Invited speaker.

***Practical Robust Optimization***, IBM seminar, Dublin, Ireland, May 14, 2013. Invited speaker.

***Practical robust optimization: an introduction***, International Conference on Operations Research, OR2013, Rotterdam, The Netherlands, September 4-6, 2013. Semi-plenary speaker.

***Economically efficient standards to protect the Netherlands against flooding***, INFORMS annually meeting, October 6-9, 2013. Keynote speaker (Franz Edelman Award Winning Presentation).

***Robust Optimization***, 7<sup>th</sup> PhD Summer Academy, June 16-July 11, 2014 at the Zaragoza Logistics Center in Zaragoza, Spain. Invited course teacher.

***Adjustable robust optimization for sustainable water policy pathways***, Third Annual Workshop on Decision Making Under Deep Uncertainty, November 3-5, Delft, The Netherlands, 2015. Invited speaker.

***A tutorial on Robust Optimization***, Workshop "Robust Optimization in Applied Probability", November 8-10, 2015, Eurandom institute in Eindhoven, Invited speaker.

***Two ways to solve a robust nonlinear optimization problem: via the primal or the dual***, 12<sup>th</sup> International Conference on Computational Management Science 2015, Prague, May 27-29, 2015. Keynote speaker.

***Robust optimization with ambiguous stochastic constraints under mean and dispersion information***, MIT, Boston, ORC seminar, May 5<sup>th</sup> 2016. Invited speaker.



**Tutorial on Robust Optimization**, HEC, Montreal, May 9<sup>th</sup>, 2016. Invited speaker.

**Robust optimization with ambiguous stochastic constraints under mean and dispersion information**, Technion, Conference on "Continuous Optimization: Challenges and Applications", September 5-8, 2016, Haifa, Israel. Invited speaker.

**Robust optimization with ambiguous stochastic constraints under mean and dispersion information**, EPFL, Lausanne, Switzerland, September 22<sup>nd</sup>, 2016. Invited speaker.

**Tutorial on Robust Optimization**, International Workshop "Models and Methods of Robust Optimization", Fraunhofer ITWM, Kaiserslautern, Germany, March 9-10, 2017. Invited speaker.

**Is DRO the only approach for optimization problems with convex uncertainty?**, Workshop on "Distributional Robust Optimization", Banff, March 4-9, 2018. Invited speaker.

**Tutorial on Robust Optimization**, INFORMS meeting, 2019, Austin. Invited for tutorial.

**What every OR practitioner should know about Robust Optimization**, EURO conference, 2019, Dublin. Plenary speaker.

**Robust Convex Optimization: A New Perspective That Unifies And Extends**, MIT, Boston, ORC seminar, September 24<sup>th</sup> 2020. Invited speaker.

**Optimization for Zero Hunger**, International Workshop, Fraunhofer ITWM, Kaiserslautern, Germany, October, 2021. Invited speaker.

**Robust Nonlinear Optimization**, ISMP, August, 2022, Plenary Speaker.

**Analytics for a Better World**, ODS2022 - International Conference on Optimization and Decision Science, Florence, Italy, Aug-Sept 2022, EURO Plenary Speaker.

**Analytics for a Better World**, OR64, University of Warwick, UK, Sept 2022, Plenary Speaker.

**Analytics for a Better World**, Harvard Medical School, Boston, Sept 2023, Invited Speaker.

**Analytics for a Better World**, Morocco Solidarity Hackathon, Montreal, 2023, Invited Speaker.

**An Extension of the Reformulation-Linearization Technique to Nonlinear Optimization**, SIAM Conference on Optimization, Seattle, May/June 2023.

**Analytics for a Better World**, London Business School, London, November 2023, Invited Speaker

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