Curriculum vitae - Joeri Van der Veken

KU Leuven - Department of Mathematics
Celestijnenlaan 200B – Box 2400
3001 Leuven
Belgium

Tel: +32 16327017
E-mail: joeri.vanderveken@kuleuven.be

1. General Information

Personal data
Name: Van der Veken
First name: Joeri
Gender: male
Nationality: Belgian
Date of birth: June 29, 1981
Place of birth: Bonheiden, Belgium

Working address
KU Leuven - Department of Mathematics
Celestijnenlaan 200B - Box 2400
3001 Leuven, Belgium

Known languages
Dutch, English, French, some knowledge of German

2. University degrees

Master in Mathematics

2000-2001	1st + 2nd year	KU Leuven	magna cum laude
2001-2002	3rd year	KU Leuven	magna cum laude
2002-2003	4th year	KU Leuven	summa cum laude

Thesis: *Deelvariëteiten met parallelle fundamentaalvorm* ("Submanifolds with parallel fundamental form")

PhD in Sciences: Mathematics

2003-2007	PhD in mathematics	KU Leuven

Thesis: *Submanifolds of homogeneous spaces*

Date of public defense: April 20, 2007

Examination board: Prof. dr. Franki Dillen (supervisor), Prof. dr. Leopold Verstraelen (chair), Prof. dr. Wolfgang Kühnel, Prof. dr. Luc Vrancken, Prof. dr. Ignace Van de Woestyne, Prof. dr. Willem Veys, Prof. dr. Stefan Haesen

3. Academic positions

-Doctoral student, KU Leuven
From October 1, 2003 until September 30, 2007

-Postdoctoral researcher FWO, Research Foundation - Flanders
From October 1, 2007 until September 30, 2010

-Guest teacher at Université Libre de Bruxelles
Academic year 2009-2010

-Postdoctoral researcher FWO - renewal, Research Foundation - Flanders
From October 1, 2010 until September 30, 2013

-Part-time assistant professor, KU Leuven (10%)
From March 1, 2013 until September 30, 2013

-Tenure track assistant professor (*docent*), KU Leuven
From October 1, 2013 until September 30, 2018

-Associate professor (*hoofddocent*), KU Leuven
From October 1, 2018 until September 30, 2022

-Professor (*hoogleraar*), KU Leuven
From October 1, 2022

4. Teaching career

4.1. Exercise courses

-*Wiskunde* ("Mathematics") - 1st bachelor year pharmaceutical sciences
-*Wiskunde III* ("Mathematics III") - 2nd bachelor year bio-engineer and geology
-*Differentiaalvergelijkingen* ("Differential equations") - 2nd bachelor year bio-engineer
-*Meetkunde I* ("Geometry I") - 1st bachelor year mathematics and physics
-*Meetkunde II* ("Geometry II") - 2nd bachelor year mathematics and physics

at KU Leuven, 2003-2008.

4.2. Courses

-*Meetkunde I* ("Geometry I")
2nd bachelor year mathematics and physics at KU Leuven and Kulak, 2008-2009 / 2010-2011 / 2011-2012.

-*Meetkunde II* ("Geometry II")
2nd / 3rd bachelor year mathematics and physics at KU Leuven, 2012-present,
3rd bachelor year mathematics and physics at Kulak, 2013-2014 / 2015-2025.

-*Géométrie de contact ou questions avancées* ("Contact geometry or advanced questions")
final master year mathematics and PhD students at Université Libre de Bruxelles, 2009-2010.

-*Complexe analyse* ("Complex analysis")
3rd bachelor year mathematics and physics at Kulak, 2012-2013.

-*Differentiaaltopologie* ("Differential topology")
master mathematics at KU Leuven, 2014-present.

-*Hogere Wiskunde II* ("Higher Mathematics II")
1st bachelor year business engineering, 2018-present.

-*Mathematics of the 21st Century*
Master mathematics at KU Leuven, 2021-present

4.3. Summer schools

-Teacher of a course entitled *Minimal surfaces*
at the summer school series *Computer Aided Geometry of Curves and Surfaces with Image Recognition*,
1st edition held in Łódź, Poland from August 26 until September 8, 2012,
2nd edition held in Łódź, Poland from June 30 until July 13, 2013,
3rd edition held in Dijon, France from July 6 until July 19, 2014.

4.4. Supervision of projects and theses at bachelor and master level

-Supervisor of bachelor projects (final bachelor year mathematics) at KU Leuven (2009, 2023) and Kulak (2019).

-Supervisor of master theses in mathematics at KU Leuven: Lore Seynhaeve and Lynn Govaert (2012), Daan Michiels (2013), Sam Tertooy (2015), Hendrik-Jan Van Damme (2016), Niels Melotte and Anne Wijffels (2017), Bram Verjans and Emily Jasmin Decoussemaeker (2018), Kristof Dekimpe, Laurens Walleghem and Jolien Uyttendaele (2019), Daan Ruyters (2021), Michaël Liefsoens and Marie D'haene (2022), David Van Hee and Giel Stas (2023), Nicolas Tribouillard and Niels Libeer (2024), Jonas Beirinckx (2025), Mirandra Ali (ongoing).

(Supervision of PhD theses: see section 5.5.)

5. Scientific career

5.1. Publication list

Papers in international journals with reading committee

[1] B.-Y. Chen and J. Van der Veken, *Marginally trapped surfaces in Lorentzian space forms with positive relative* nullity, Class. Quantum Grav. **24** (2007), 551-563.
[2] B.-Y. Chen and J. Van der Veken, *Spatial and Lorentzian surfaces in Robertson-Walker space times*, J. Math. Phys. **48** (2007), 073509.
[3] F. Dillen, J. Fastenakels and J. Van der Veken, *A pinching theorem for the normal scalar curvature of invariant submanifolds*, J. Geom. Phys. **57** (2007), 833-840.
[4] F. Dillen, J. Fastenakels, J. Van der Veken and L. Vrancken, *Constant angle surfaces in S^2 x R*, Monatsh. Math. **152** (2007), 89-96.
[5] J. Inoguchi and J. Van der Veken, *Parallel surfaces in the motion groups E(1,1) and E(2)*, Bull. Belg. Math. Soc. Simon Stevin **14** (2007), 321-332.
[6] F. Dillen and J. Van der Veken, *Higher order parallel surfaces in the Heisenberg group*, Differ. Geom. Appl. **26** (2008), 1-8.
[7] J. Inoguchi and J. Van der Veken, *A complete classification of parallel surfaces in three-dimensional homogeneous spaces*, Geom. Dedicata **131** (2008), 159-172.
[8] J. Van der Veken, *Higher order parallel surfaces in Bianchi-Cartan-Vranceanu spaces*, Result. Math. **51** (2008), 339-359.
[9] J. Van der Veken and L. Vrancken, *Parallel and semi-parallel hypersurfaces of S^n x R*, Bull. Braz. Math. Soc. N. S. **39** (2008), 355-370.
[10] G. Calvaruso and J. Van der Veken, *Lorentzian symmetric three-spaces and the classification of their parallel surfaces*, Internat. J. Math. **20** (2009), 1185-1205.
[11] B.-Y. Chen and J. Van der Veken, *Complete classification of parallel surfaces in 4-dimensional Lorentzian space forms*, Tohoku Math. J. **61** (2009), 1-40.
[12] F. Dillen, J. Fastenakels and J. Van der Veken, *Rotation hypersurfaces in S^n x R and H^n x R*, Note Mat. **29** (2009), 41-54.
[13] F. Dillen, J. Fastenakels and J. Van der Veken, *Surfaces in S^2 x R with a canonical principal direction*, Ann. Glob. Anal. Geom. **35** (2009), 381-396.
[14] F. Dillen, J. Van der Veken and L. Vrancken, *Pseudo-parallel Lagrangian submanifolds are semi-parallel*, Differ. Geom. Appl. **27** (2009), 766-768.
[15] G. Calvaruso, D. Kowalczyk and J. Van der Veken, *On extrinsically symmetric hypersurfaces of H^n x R*, Bull. Austral. Math. Soc. **82** (2010), 390-400.
[16] G. Calvaruso and J. Van der Veken, *Parallel surfaces in three-dimensional Lorentzian Lie groups*, Taiwanese J. Math. **14** (2010), 223-250.
[17] G. Calvaruso and J. Van der Veken, *Parallel surfaces in Lorentzian three-manifolds admitting a parallel null vector field*, J. Phys. A: Math. Theor. **43** (2010), 325207.
[18] B.-Y. Chen, F. Dillen and J. Va*n der Veken, Complete classification of parallel Lorentzian surfaces in Lor*entzian complex space forms, Internat. J. Math. 21 (2010), 665-686.
[19] B.-Y. Chen and J. Van der Veken, *Classification of marginally trapped surfaces with parallel mean curvature vector in Lorentzian space forms*, Houston J. Math. **36** (2010), 421-449.
[20] F. Dillen, M. I. Munteanu, J. Van der Veken and L. Vrancken, *Classification of constant angle surfaces in a warped product*, Balkan J. Geom. Appl. **16** (2011), 35-47.
[21] J. Fastenakels, M. I. Munteanu and J. Van der Veken, *Constant angle surfaces in the Heisenberg group*, Acta Math. Sin. (Engl. Ser.) **27** (2011), 747-756.
[22] B. De Leo and J. Van der Veken, *Totally geodesic hypersurfaces of four-dimensional generalized symmetric spaces*, Geom. Dedicata **159** (2012), 373-387.
[23] R. Souam and J. Van der Veken, *Totally umbilical hypersurfaces of manifolds admitting a unit Killing field*, Trans. Amer. Math. Soc **364** (2012), 3609-3626.
[24] G. Calvaruso and J. Van der Veken, *Parallel surfaces in three-dimensional reducible spaces*, Proc. Roy. Soc. Edinburgh Sect. A **143** (2013), 483-491.
[25] G. Calvaruso and J. Van der Veken, *Totally geodesic and parallel hypersurfaces of four-dimensional oscillator groups*, Result. Math. **64** (2013), 135-153.
[26] B.-Y. Chen, F. Dillen, J. Van der Veken and L. Vrancken, *Curvature inequalities for Lagrangian submanifolds: the final solution*, Differ. Geom. Appl. **31** (2013), 808-819.
[27] F. Dillen, J. Fastenakels, S. Haesen, J. Van der Veken and L. Verstraelen, *Submanifold theory and parallel transport*, Kragujevac J. Math. **36** (2013), 33-43.

[28] B.-Y. Chen, J. Van der Veken and L. Vrancken, *In memory of Franki Dillen*, Int. Electron. J. Geom. **7** (2014), 1–3.
[29] J. Inoguchi and J. Van der Veken, *Gauss maps of constant mean curvature surfaces in three-dimensional homogeneous* spaces, Kobe J. Math. **31** (2014), 45-62.
[30] B. Dioos, J. Van der Veken and L. Vrancken, *Sequences of harmonic maps in the 3-sphere*, Math. Nachr. **288** (2015), 2001-2015.
[31] V. Pessers and J. Van der Veken, *On holomorphic Riemannian geometry and submanifolds of Wick-related spaces*, J. Geom. Phys. **104** (2016), 163-174.
[32] V. Pessers and J. Van der Veken, *Riemannian geometry and Lie-Rinehart algebras*, Int. J. Geom. Methods Mod. Phys. **13** (2016), 1641003.
[33] B. Bektas, J. Van der Veken and L. Vrancken, *Surfaces in a pseudo-sphere with harmonic or 1-type pseudo-spherical Gauss map*, Ann. Glob. Anal. Geom. **52** (2017), 45-55.
[34] N. Cipriani, J. M. M. Senovilla and J. Van der Veken, *Umbilical properties of co-dimension two spacelike submanifolds*, Result. Math. **72** (2017), 25-46.
[35] B.-Y. Chen, F. Dillen, J. Van der Veken and L. Vrancken, *Classification of δ(2,n-2)-ideal Lagrangian submanifolds in n-dimensional complex space forms*, J. Math. Anal. Appl. **458** (2018), 1456–1485.
[36] B. Bektas, M. Moruz, J. Van der Veken and L. Vrancken, *Lagrangian submanifolds with constant angle functions of the nearly Kähler S^3 x S^3*, J. Geom. Phys. **127** (2018), 1-13.
[37] B. Bektas, M. Moruz, J. Van der Veken and L. Vrancken, *Lagrangian submanifolds of the nearly Kähler S^3 x S^3 from minimal surfaces in S^3*, Proc. Roy. Soc. Edinburgh Sect. A **149** (2019), 655–689.
[38] B. Dioos and J. Van der Veken, *The Bonnet problem for harmonic maps to the 3-sphere*, Adv. Geom. **19** (2019), 335-343.
[39] M. Antic, M. Moruz and J. Van der Veken, *H-umbilical Lagrangian submanifolds of the nearly Kähler S^3 x S^3*, Mathematics **8** (2020), 1427.
[40] G. Calvaruso, R. Storm and J. Van der Veken, *Parallel and totally geodesic hypersurfaces of non-reductive homogeneous four-manifolds*, Math. Nachr. **293** (2020), 1707-1729.
[41] K. Dekimpe and J. Van der Veken, *Geometric study of marginally trapped surfaces in space forms and Robertson-Walker spacetimes — an overview*, Axioms **9** (2020), 60.
[42] H. Li, H. Ma, J. Van der Veken, L. Vrancken and X. Wang, *Minimal Lagrangian submanifolds of the complex hyperquadric*, Sci. China Math. **63** (2020), 1441-1462.
[43] F. Manfio, R. Tojeiro and J. Van der Veken, *Geometry of submanifolds with respect to ambient vector fields*, Ann. Mat. Pura Appl. **199** (2020), 2197–2225.
[44] F. Torralbo and J. Van der Veken, *Rotationally invariant constant Gauss curvature surfaces in Berger spheres*, J. Math. Anal. Appl. **489** (2020), 124183.
[45] J. Van der Veken and A. Wijffels, Lagrangian submanifolds of the complex hyperbolic quadric, Ann. Mat. Pura Appl. **200** (2021), 1871–1891.
[46] L. Swijsen, J. Van der Veken and N. Vannieuwenhoven, *Tensor completion using geodesics on Segre manifolds*, Numer. Linear Algebra Appl. **29** (2022), paper no. e2446, 21 pp.
[47] M. Cloet, L. Arno, D. Kabus, J. Van der Veken, A. V. Panfilov and H. Dierckx, *Scroll Waves and Filaments in Excitable Media of Higher Spatial Dimension*, Phys. Rev. Lett. **131** (2023), 208401.
[48] K. Dekimpe, J. Van der Veken and L. Vrancken, *Minimal δ(2)-ideal Lagrangian submanifolds and the quaternionic projective space*, J. Geom. Phys. **191** (2023), 104857.
[49] M. Anarella and J. Van der Veken, *Totally geodesic Lagrangian submanifolds of the pseudo-nearly Kähler SL(2,R)×SL(2,R)*, Math. Nachr. **297** (2024), 1922-1944.
[50] G. Calvaruso, L. Pellegrino and J. Van der Veken, *Totally geodesic and parallel hypersurfaces of Gödel-type spacetimes*, J. Geom. Phys. **198** (2024), 105108.
[51] G. Calvaruso, L. Pellegrino and J. Van der Veken, *Totally geodesic and parallel hypersurfaces of Siklos spacetimes*, Int. J. Geom. Methods Mod. Phys. **21** (2024), 2450123.
[52] M. D'haene, J. Inoguchi and J. Van der Veken, *Parallel and totally umbilical hypersurfaces of the four-dimensional Thurston geometry Sol^4_0*, Math. Nachr. **297** (2024), 1879-1891.
[53] D. Gao, J. Van der Veken, A. Wijffels and B. Xu, *Lagrangian surfaces in H^2 x H^2*, Comm. Anal. Geom **33** (2025), 957-980.
[54] F. Guimarães and J. Van der Veken, *On minimal intrinsically homogeneous submanifolds of the hyperbolic space up to codimension two*, Ann. Mat. Pura Appl. **204** (2025), 759-771.
[55] S. Jacobsson, R. Vandebril, J. Van der Veken and N. Vannieuwenhoven, *Approximating maps into manifolds with lower curvature bounds*, Bit Numer. Math. **65** (2025), 37.
[56] F. Manfio, J. B. M. dos Santos, J. P. dos Santos and J. Van der Veken, *Hypersurfaces of S^3 x R and H^3 x R with constant principal curvatures*, J. Geom. Phys. **213** (2025), 105495.
[57] R. Vandebril, J. Van der Veken, N. Vannieuwenhoven and H. Wang, *Manifold-valued function approximation from multiple tangent spaces*, SIAM J. Sci. Comput., to appear.

Papers in proceedings of international conferences with reading committee

[58] F. Dillen, J. Fastenakels and J. Van der Veken, *Remarks on an inequality involving the normal scalar curvature*, "Pure and Applied Differential Geometry PADGE 2007" (2007), 83-92.

[59] J. Van der Veken, *Marginally trapped surfaces in Lorentzian space forms*, "Pure and Applied Differential Geometry PADGE 2007" (2007), 261-266.

[60] J. Van der Veken, *On the Gauss map of constant mean curvature surfaces in E(1,1)*, "Symposium on the Differential Geometry of Submanifolds" (2007), 233-238.

[61] J. Van der Veken, *Parallel and higher order parallel surfaces in three-dimensional homogeneous spaces*, "Proceedings of the XV International Workshop on Geometry and Physics" (2007), 361-366.

[62] J. Van der Veken, *Parallel surfaces in three- and four-dimensional Lorentzian real space forms*, Bull. Transilvania Univ. Brasov **1** (2008) (containing the proceedings of the conference RIGA 2008), 405-414.

[63] B.-Y. Chen, J. Van der Veken and L. Vrancken, *Lagrangian submanifolds with prescribed second fundamental form*, "Pure and Applied Differential Geometry PADGE 2012 - In Memory of Franki Dillen" (2013), 91-98.

[64] J. M. Manzano, F. Torralbo and J. Van der Veken, *Parallel mean curvature surfaces in four-dimensional homogeneous spaces*, "Proceedings Book of International Workshop on Theory of Submanifolds" (2016), 57-78.

[65] J. Van der Veken, *Ideal Lagrangian submanifolds*, "Recent Advances in the Geometry of Submanifolds Dedicated to the Memory of Franki Dillen (1963-2013)", Contemp. Math. **674** (2016), Amer. Math. Soc., 161–174.

[66] J. Van der Veken and A. Wijffels, *Lagrangian submanifolds of the complex quadric as Gauss maps of hypersurfaces of spheres*, "Geometry of Submanifolds", Contemp. Math. **756** (2020), Amer. Math. Soc., 241-246.

[67] M. Moruz, J. Van der Veken, L. Vrancken and A. Wijffels, *Totally geodesic surfaces in the complex quadric*, "Differential Geometry and Global Analysis — in Honor of Tadashi Nagano", Contemp. Math. **777** (2022), Amer. Math. Soc., 153–161.

Preprints

[68] B. Dioos and J. Van der Veken, *Sequences of helicoidal H-surfaces*, preprint.

[69] S. Gerdan Aydin and J. Van der Veken, *On Lagrangian submanifolds admitting soliton structures*, preprint.

[70] S. Jacobsson, L. Swijsen, J. Van der Veken and N. Vannieuwenhoven, *Warped geometries of Segre-Veronese manifolds*, preprint.

[71] M. Liefsoens, D. Ruyters, R. Steeno and J. Van der Veken, *Rotationally invariant constant Gauss curvature surfaces in SL(2,R)*, preprint.

[72] M. Liefsoens and J. Van der Veken, *Curvature and Lagrangian submanifolds of the nearly Kähler* $\boldsymbol{CP^3}$, preprint.

[73] D. Artacho de Obeso, J. D. Lotay and J. Van der Veken, *Deformation theory for asymptotically conical Cayley submanifolds*, preprint.

[74] G. Stas and J. Van der Veken, *Spheres with parallel mean curvature in* $S^2 \times H^2$, preprint.

Books as editor

[75] J. Van der Veken, I. Van de Woestyne, L. Verstraelen and L. Vrancken (eds.), Pure and Applied Differential Geometry PADGE 2012 - In Memory of Franki Dillen, Shaker Verlag, Aachen, 2013.

[76] B. D. Suceava, A. Carriazo, Y. M. Oh and J. Van der Veken (eds.), Recent Advances in the Geometry of Submanifolds Dedicated to the Memory of Franki Dillen (1963-2013), Contemporary Mathematics **674**, American Mathematical Society, Providence, Rhode Island, 2016.

[77] C. Bejan, E. Canfes, N. C. Turgay and J. Van der Veken (eds.), Proceedings Book of International Workshop on Theory of Submanifolds, Istanbul Technical University, 2016.

[78] J. Van der Veken, A. Carriazo, B. D. Suceava, Y. M. Oh and L. Vrancken (eds.), Geometry of Submanifolds, Contemporary Mathematics **756**, American Mathematical Society, Providence, Rhode Island, 2020.

Papers in journals for a general audience

[79] J. Van der Veken, *Optimale bolstapelingen. Over sinaasappels en foutenverbeterende codes* (Dutch for "Optimal sphere packings. About oranges and error correcting codes"), Karakter **60** (2017), Academische stichting Leuven, 14—16.

5.2. Research visits to foreign universities

-Michigan State University, East Lansing, Michigan, United States: September-October 2006,
invited by prof. dr. Bang-Yen Chen.

-Université Paris 7 – Denis Diderot, Paris, France: October-November 2009,
invited by prof. dr. Rabah Souam.

-Tsinghua University, Beijing, China: May 2011,
invited by prof. dr. Haizhong Li.

-Michigan State University, East Lansing, Michigan, United States: March-April 2012,
invited by prof. dr. Bang-Yen Chen.

-University College London, London, United Kingdom: October-December 2012,
invited by dr. Jason Lotay.

-University College London, London, United Kingdom: October 2014-January 2015,
invited by dr. Jason Lotay.

-University of the Basque Country, Spain: April 2016,
Invited by prof. dr. José Senovilla.

-Tsinghua University, Beijing, China: May 2016,
invited by prof. dr. Hui Ma.

-Tsinghua University, Beijing, China: May-June 2017,
invited by prof. dr. Hui Ma.

-Universidade de São Paulo, São Carlos, Brazil: January-February 2018,
Invited by prof. dr. Fernando Manfio

-Tsinghua University, Beijing, China: May 2018,
invited by prof. dr. Hui Ma.

-California State University, Fullerton, California, USA: October 2018,
invited by dr. Bogdan Suceava.

-Tsinghua University, Beijing, China: May 2019,
invited by prof. dr. Hui Ma.

-Tsinghua University Beijing, China: May-June 2026,
invited by prof. dr. Hui Ma.

-Hokkaido University, Sapporo, Japan, May-June 2026,
invited by prof. dr. Jun-ichi Inoguchi.

Several shorter visits to

-Université de Valenciennes, Valenciennes, France, invited by prof. dr. Luc Vrancken,
-Università del Salento, Lecce, Italy, invited by dr. Giovanni Calvaruso,
-University College London, London, United Kingdom, invited by dr. Jason Lotay,
-University of Leicester, Leicester, United Kingdom, invited by prof. dr. Katrin Leschke.

5.3. Participations in summer schools and international conferences

-*Summer School on Geometry and Visualization,*
June 21 - 24, 2004 in Maubeuge, France.

-*Summer school on Minimal Surfaces and Variational Problems,*
June 30 - July 8, 2004 in Paris, France.

-*Conference on Differential Geometry and Physics*,
August 29 - September 2, 2005 in Budapest, Hungary.

-*International Workshop on Geometry and Physics*,
September 11 - 16, 2006 in Puerto de La Cruz, Tenerife, Spain.

-*International Congress on Pure and Applied Differential Geometry Padge2007,*
April 10 - 13, 2007 in Brussels, Belgium.

-*Symposium on the Differential Geometry of Submanifolds*,
July 3 - 7, 2007 in Valenciennes, France.

-*Riemannian Geometry and Applications RIGA 2008*,
July 8 - 11, 2008 in Brasov, Romania.

-*FNRS Contact Group in Differential Geometry*,
November 12 - 14, 2008 in Han-sur-Lesse, Belgium.

-*International Symposium on Differential Geometry*,
August 17 - 21, 2009 in Rio de Janeiro, Brazil.

-*Mini-workshop on Submanifolds*,
February 4 - 5, 2010 in Leuven, Belgium and Valenciennes, France.

-*Contributions in Differential Geometry,*
September 6 - 9, 2010 in Luxembourg, Grand Duchy of Luxembourg.

-*Geometric Structures in Mathematical Physics*,
September 19 – 26, 2011 in Varna, Bulgaria.

-*EUYAM Workshop on Geometric Analysis and Partial Differential Equations*,
November 28 – 30, 2011 in Granada, Spain.

-*Conference on Pure and Applied Differential Geometry Padge2012*,
August 27 - 30, 2012 in Leuven, Belgium.

-*Computer Aided Geometry of Curves and Surfaces with Image Recognition CAGIR 2012*,
August 26 - September 8, 2012 in Łódź, Poland.

-*Computer Aided Geometry of Curves and Surfaces with Image Recognition CAGIR 2013*,
June 30 - July 13, 2013 in Łódź, Poland.

-*7th International Meeting on Lorentzian Geometry GeLoSP2013*,
July 22 - July 26, 2013 in São Paulo, Brazil.

-*29º Colóquio Brasileiro de Matemática*,
July 21 - August 2, 2013 in Rio de Janeiro, Brazil.

-*Nord Pas de Calais / Belgium Congress of Mathematics*,
October 28 - October 31, 2013 in Valenciennes, France and Mons, Belgium.

-*Kobe-Leuven Workshop on Geometry and Integrable Systems*,
July 7 – July 9, 2014 in Leuven, Belgium.

-*XXIII International Fall Workshop on Geometry and Physics*,
September 2 - September 5, 2014 in Granada, Spain.

-*AMS Central Spring Sectional Meeting,*
March 14 – March 15, 2015 in East Lansing, Michigan, USA.

-*International Workshop on Theory of Submanifolds*
June 2 – June 4, 2016 in Istanbul, Turkey.

-*Conference on Pure and Applied Differential Geometry Padge2017*,
August 21 - 25, 2017 in Leuven, Belgium.

-*International Conference on Applied and Pure Mathematics*,
November 2 - 5, 2017 in Iasi, Romania.

-*Riemannian Geometry – Past, Present and Future: an homage to Marcel Berger*,
December 6 - 9, 2017 in Bures-sur-Yvette, France.

-*Differential Geometry in Honor of Udo Simon's 80th Birthday*,

September 7 – 10, 2018 in Bedlewo, Poland.

-*Harmonic maps, biharmonic maps, harmonic morphisms and related topics 2018*,
September 12 – 14, 2018 in Cagliari, Sardinia, Italy.

-*AMS Central Fall Sectional Meeting*,
October 20 – 21, 2018 in Ann Arbor, Michigan, USA.

-*32° Colóquio Brasileiro de Matemática*,
July 28 - August 2, 2019 in Rio de Janeiro, Brazil.

-*Workshop on Submanifold Theory and Geometric Analysis*,
August 5 - August 9, 2019 in São Carlos, Brazil.

-*Symmetry and Shape 2019*,
October 28 - October 31, 2019 in Santiago de Compostela, Spain.

-*Workshop on Singularities in Geometry and Dynamics*,
November 22 - November 23, 2021 in Hasselt, Belgium.

-*AMS-EMS-SMF International Meeting*,
July 18 - July 22, 2022 in Grenoble, France.

-*Symmetry and Shape 2022*,
October 13 - October 16, 2022 in Santiago de Compostela, Spain.

-*H-Workshop 2023*,
February 6 - February 10, 2023 in Granada, Spain.

-*Pure and Applied Differential Geometry PADGE2023*,
July 10 - July 14, 2023 in Leuven, Belgium.

-*International Workshop on Geometry of Submanifolds*,
November 6 - November 8, 2023 in Istanbul, Turkey.

-*European Congress of Mathematics 9ECM*,
July 15 – July 19, 2024 in Sevilla, Spain.

-*Conference on Differential Geometry and Partial Differential Equations – in honour of Professor Keti Tenenblat on the occasion of her 80th birthday*,
May 26 - May 30, 2025 in Brasília, Brazil.

-*Symmetry and Shape 2025*,
November 3 – November 7, 2025 in Santiago de Compostela, Spain.

-*AMS Spring Eastern Sectional Meeting*,
March 28 – March 29, 2026 in Boston, Massachusetts, USA.

-*H-Workshop 2026*, SCHEDULED
June 15 - June 19, 2026 in Granada, Spain.

-*Recent Trends in Differential Geometry*, SCHEDULED
July 5 - July 11, 2026 in Będlewo, Poland.

5.4. Obtained research funding

-Bench fee of the Research Foundation - Flanders (4 000 EUR/year) during my two postdoctoral positions.

-Travel grants of the Research Foundation - Flanders for the above mentioned research periods at Michigan State University (2006), Université Paris 7 (2009) and University College (2012, 2014) (±1 700 EUR/month).

-Co-promoter of a bilateral cooperation project with Tsinghua University in Beijing (2009-2012), financed by the research fund of KU Leuven (75 000 EUR at Belgian side) and Tsinghua University.

-Promoter of a an exploratory bilateral cooperation project with Tsinghua University in Beijing (2016-2017), financed by the research fund of KU Leuven (12 500 EUR at Belgian side) and Tsinghua University.

-Promoter of the research project “Lagrangian and calibrated submanifolds” (2016-2020), financed by the research fund of KU Leuven (426 000 EUR).

-Co-promoter of the Excellence Of Science project “Symplectic techniques in differential geometry” (2018-2021), financed by the Research Foundation - Flanders and Fonds de la Recherch Scientifique (total budget for the three universities involved, Université Libre de Bruxelles, Universiteit Antwerpen and KU Leuven: 2 343 000 EUR).

-Promoter of a bilateral cooperation project with Tsinghua University in Beijing, Sichuan University and Fujian Normal University (2019-2021), financed by the Research Foundation – Flanders (213 700 EUR at Belgian side) and the National Science Foundation China.

-Co-promoter of the research project “ManiFactor: Factor analysis for maps into manifolds” (2021-2027), financed by the research fund of KU Leuven (593 703 EUR).

-Co-promoter of the Excellence Of Science project “Beyond symplectic geometry” (2022-2025), financed by the Research Foundation - Flanders and Fonds de la Recherche Scientifique (total budget for the three universities involved, Université Libre de Bruxelles, Universiteit Antwerpen and KU Leuven: 2 913 000 EUR).

-Promoter of a mobility project with Tsinghua University in Beijing (2026-2027), financed by the Research Foundation – Flanders and the National Science Foundation China.

5.5. Supervision of PhD theses

-Supervisor of the following PhD theses at KU Leuven:

- Kristof Schoels (June 27, 2013),
  Classification theorems for 4-dimensional submanifolds,
- Bart Dioos (May 29, 2015),
  Submanifolds of the nearly Kähler manifold $S^3 \times S^3$,
- Victor Pessers (September 7, 2016),
  Extensions of submanifold theory to non-real settings with applications,
- Nastassja Cipriani (October 13, 2017),
  Spacelike submanifolds, their umbilical properties and applications to gravitational physics,
- Anne Wijffels (September 17, 2021),
  Submanifolds of complex quadrics and Gauss maps,
- Marco Usula (September 12, 2022),
  0-elliptic boundary value problems,
- Lars Swijsen (October 21, 2022),
  Tensor decompositions and Riemannian optimization,
- Kristof Dekimpe (October 31, 2023),
  Contributions to the theory of surfaces in almost complex spaces,
- Mateo Anarella (September 13, 2024),
  Submanifolds of the pseudo-nearly Kähler SL(2,R) x SL(2,R)
- Simon Jacobsson (January 21, 2026),
  Numerical analysis in spaces of fixed-rank tensors and other Riemannian manifolds,
- Marie D’haene (ongoing),
- Hang Wang (ongoing),
- Michaël Liefsoens (ongoing),
- Giel Stas (ongoing),
- Andreas Vermeiren (ongoing).

-Member of the examination committees for the following PhDs at KU Leuven: Bilkis Jahanara (2008), Wendy Goemans (2010), Daniel Kowalczyk (2011), Ana-Irina Nistor (2012), Alexander Lemmens (2018), Alfonso Garmendia (2019), Sam Tertooy (2019), Marco Stevens (2019), Tobe Deprez (2019), Leyli Mammadova (2020), Antonio Michele Miti (2021), Haopeng Wang (2021), Karandeep Singh (2023), Lise Wouters (2023), Louise Arno (2023), Nick Dewaele (2024), Thomas Witdouck (2024), Francesca Zaffalon (2024), Javier de la Bodega Domingo-Aldama (2024), and Arno Verduyn (2025).

-Chair of the examination committees for the following PhDs at KU Leuven: Peter Verraedt (2016), Jonas Wahl (2018), Norbert Magyar (2018), Leslie Molag (2020), Siegfried Van Hille (2021), Sofie Reyners (2021),

Bram Verjans (2022), Jolien Ponnet (2022), Naud Potemans (2022), Thomas Dierckx (2022), Veronika Jercic (2023), Anwesha Mahanara (2024), Floris Vermeulen (2024), Soham Chakraborty (2024), Mathias Stout (2025), and Thomas Wolfs (2025).

-Member of the examination committees for the following PhDs at foreign universities: Marilena Moruz (2017) at Université de Valenciennes and Thibaut Grouy (2019) at Université Libre de Bruxelles.

-Reporter for the following PhDs at foreign universities: Irene Ortiz (2016) at Universidad de Murcia, Verónica López Cánova (2018) at Universidad de Murcia and Rodrigo Morón Sanz (2024) at Universidad de Granada

5.6. Supervised postdocs

These postdoctoral researchers worked under my supervision at KU Leuven:

- Francisco Torralbo (2014-2015)
- Bart Dioos (2016-2017)
- Reinier Storm (2017-2020)
- Marilena Moruz (2017-2021)
- Víctor Sanmartín-López (2020-2021)
- Felippe Souares Guimarães (2022-2023)
- Iury Domingos (2023-2024)
- Mateo Anarealla (2024-2025)
- Alberto Rodríguez-Vázquez (2022-2026)
- Diego Artacho de Obeso (2025-…)
- Jihun Kim (2026-…)
- Jan Nienhaus (2026-…)

5.7. Other scientific and administrative activities

-Reviewer for the American Mathematical Society (*MathSciNet)* since 2007.

-Referee for different international scientific journals (e.g. Bulletin of the London Mathematical Society, Journal of Mathematical Analysis and Applications, Journal of Mathematical Physics, Quarterly Journal of Mathematics,...).

-Member of the organizing committee of the conference *Padge2012*, held in Leuven from August 27 until August 30, 2012.

-Co-organizer of the special session "Recent Advances in the Geometry of Submanifolds" during the AMS Central Spring Sectional Meeting, held in East Lansing, Michigan, USA on March 14 and March 15, 2015.

-Member of the scientific committee of the *International Workshop on Theory of Submanifolds*, held in Istanbul from June 2 until June 4, 2016.

-Main organizer of the conference *Padge2017*, held in Leuven from August 21 until August 25, 2017.

-Co-organizer of the special session "Geometry of Submanifolds" during the AMS Central Fall Sectional Meeting, held in Ann Arbor, Michigan, USA on October 20 and October 21, 2018.

-Organizer of the International Mathematical Tournament ("Internationaal Wiskundetoernooi"), a yearly joint initiative for secondary school pupils between the universities of Nijmegen, Bonn, Hannover, Vienna and Leuven.

-Member of the faculty council, the departmental council and the departmental board of the Department of Mathematics of KU Leuven.

-Head of the Geometry Section of the Department of Mathematics of KU Leuven since 2013.

-Chair of the YoungZAP council of the KU Leuven Science and Technology Group of KU Leuven from 2019 until 2022.

-Program director of the KU Leuven Bachelor and Master Mathematics since 2022.

-Main organizer of the conference *Padge2023*, held in Leuven from July 10 until July 14, 2023.

5.7. Research themes

My main research interest is the differential geometry of submanifolds, i.e., the study of immersions of one manifold into another, which can be seen as a generalization of the classical theory of plane curves and of curves and surfaces in Euclidean three-space. The main focus lies on the curvature of these objects. If one starts from an isometric immersion between Riemannian or pseudo-Riemannian manifolds, one can distinguish two types of geometric invariants: intrinsic invariants, which only depend of the submanifold as a (pseudo-)Riemannian manifold itself and extrinsic invariants, which depend on the immersion of the submanifold, i.e., on the shape that it takes in the ambient space. The fundamental examples of these two types of invariants are respectively the Gaussian curvature and the mean curvature of a surface in Euclidean three-space. Intrinsic invariants are based on the metric of the submanifold, also called the first fundamental form, whereas extrinsic invariants are based on the second fundamental form, determined by comparing the Levi-Civita connections of the manifolds. More concretely, my research interests include

- inequalities between intrinsic and extrinsic scalar curvature invariants for submanifolds and the classification of 'ideal' submanifolds, i.e., those submanifolds for which equality holds in such an inequality at every point of the submanifold;
- the study and classification of submanifolds satisfying certain extrinsic symmetry properties, such as total geodesy (the second fundamental form vanishes identically), total umbilicity (the second fundamental form is a multiple of the first fundamental form at every point), parallelism (the second fundamental form is covariantly constant on the submanifold), semi-parallelism, pseudo-parallelism,...;
- submanifolds of homogeneous spaces, for example the study of curves and surfaces in three-dimensional Riemannian and Lorentzian homogeneous spaces, a family including the famous Thurston geometries;
- Lagrangian submanifolds, in particular of complex space forms, nearly Kähler manifolds and the complex (hyperbolic) quadric;
- manifolds with special holonomy groups and calibrated submanifolds, for example Cayley submanifolds of Spin(7)-manifolds;
- surfaces in four-dimensional Lorentzian manifolds (space-times), for example classifications of marginally trapped surfaces, which play an important role in general relativity.