CURRICULUM VITAE

Hans Schoutens	New York City College of Technology
	300 Jay St, Brooklyn, NY 11201
	CUNY Graduate Center
	365 Fifth Avenue, New York, NY 10016 USA
Full Professor	Department of Mathematics

Born	February 22, 1961 (Leuven, Belgium).
Home address	20 Pine Street #1106, NY, NY 10005 (US)

Higher Education

A. Degrees

Institution	Dates Attended	Degree & Major	Date Conferred
Catholic Univ. of Leuven	1979-1983	B.A. Math.	07/04/1983
Catholic Univ. of Leuven	1983-1991	Ph.D. Math.	06/27/1991

B. Additional Higher Education

Institution	Dates Attended	Degree & Major	Date Conferred
Catholic Univ. of Leuven	1981-1983	Math. Ed.	07/04/1983

Experience

A. Teaching

Institution	Dates	Rank
University of Leuven (Belgium)	Spring 2017	Visiting Professor
NYC College of Technology (CUNY)	Sep 2013–	Full Professor
NYC College of Technology (CUNY)	2009–2013	Associate Professor
NYC College of Technology (CUNY)	2003–2008	Assistant Professor
Ohio State University, OH	2001–2003	Visiting Assistant Professor
Rutgers University, NJ	1999–2001	Assistant Professor
Wesleyan University, CT	1997–1999	Visiting Assistant Professor
McMaster University, Canada	Spring 1997	Visiting Fellow
University of Bordeaux, France	Spring 1993	Maître des Conférences
Catholic University of Leuven, Belgium	1983–1991	Teaching Assistant.

B. Research

Institution	Dates	Title
University of Leuven, Belgium	Spring 2017	Visiting Professor
Catholic University of Leuven, Belgium	Summer 2010	Visiting Professor
Ohio State University	2009-2010	Visiting Professor
Ohio State University	Spring 2006	Visiting Professor
CUNY Graduate Center	2005–	Faculty member
Ecole Normale Superieure Paris	Summer 2002	Visiting Professor
University Paris VII	June 2002	Visiting Professor
Catholic University of Leuven	Summer 2000	Visiting Professor
MSRI	May 1998	Visiting Fellow
IHES	Summer 1997	Visiting Fellow
University of Oxford	1994–1996	EPSRC Research Fellow
Catholic University of Leuven	Dec. 1996	Visiting Professor
Ecole Normale Superieure Paris	Fall 1993	Visiting Fellow
Columbia University	1992–1993	Fulbright Fellow

Publications

Books

[1] "The Use of Ultraproducts in Commutative Algebra", Lecture Notes in Mathematics, **1999**, Springer (2010), 209pp.

Peer reviewed journals

[2] Russell Miller, Bjorn Poonen, Alexandra Shlapentokh and Hans Schoutens, *A computable functor from graphs to fields*, J. Symb. Log. **83** (2018), no. 1, 326348.

[3] Bruce Olberding, William Heinzer, Matt Toeniskotter, Alan Loper and Hans Schoutens, *Ideal theory of infinite directed unions of local quadratic transforms*, Journal of Algebra **474**, 213-239 (online 2017).

[4] Hans Schoutens, *The motivic Igusa zeta series of some hypersurfaces non-degenerated with respect to their Newton polyhedron*, Annales Mathematicae Silesianae **30** (online 2016), 143-179.

[5] Hans Schoutens, *The theory of ordinal length*, Beiträge zur Algebra und Geometrie **57** (2016), 67-118.

[6] Charles Li and Hans Schoutens, *Poincare Series of non-divisorial valuations on two-dimensional function fields*, JP Journal of Algebra, Number Theory and Applications **36** (2015).

[7] Hans Schoutens, *Hochster's small MCM conjecture for three-dimensional weakly F-split rings*, Communications in Algebra **45** (2017), 262-274.

[8] Hans Schoutens, *O-minimalism*, Journal of Symbolic Logic **79** (2014), 355-409.

[9] Hans Schoutens, *Dimension and singularity theory for local rings of finite embedding dimension*, Journal of Algebra **386** (2013), 1-60.

[10] Russell Miller and Hans Schoutens, *Computably categorical fields via Fermats Last Theorem*, Computability **2** (2013), 51-65.

[11] Hans Schoutens, *Classifying singularities up to analytic extensions of scalars is smooth*, Annals of Pure and Applied Logic **162** (2011), 836–852.

[12] Hans Schoutens, *Characteristic p methods in characteristic zero via ultraproducts*, in "Recent Developments in Commutative Algebra", Editors: M. Fontana, S. Kabbaj, B. Olberding and I. Swanson, 387-420, Springer (2010).

[13] Hans Schoutens, *Pure subrings of regular rings are pseudo-rational*, Transactions of the American Mathematical Society **360** (2008), 609–627.

[14] Matthias Aschenbrenner and Hans Schoutens, *Lefschetz extensions, tight closure, and big Cohen-Macaulay algebras*, Israel Journal of Mathematics **161** (2007), 221–310.

[15] Hans Schoutens, *Bounds in polynomial rings over Artinian local rings*, Monatshefte für Mathematik **150** (2007), 249–261.

[16] Hans Schoutens, *A local flatness criterion for complete modules*, Communications in Algebra **35** (2007), 289-311.

[17] Hans Schoutens, *Asymptotic homological conjectures in mixed characteristic*, Pacific Journal of Mathematics **230** (2007), 427–468.

[18] Hans Schoutens, *Absolute bounds on the number of generators of Cohen-Macaulay ideals of height at most two*, Bulletin of the Belgium Mathematical Society **13** (2006), 719-732.

[19] Hans Schoutens, *Constructible Invariants*, Journal of Algebra **304** (2006), 1059–1089.

[20] Hans Schoutens, *Log-terminal singularities and vanishing theorems via non-standard tight closure*, Journal of Algebraic Geometry **14** (2005), 357–390.

[21] Hans Schoutens, *On the vanishing of Tor for the absolute integral closure*, Journal of Algebra **275** (2004), 567–574.

[22] Hans Schoutens, *Canonical big Cohen-Macaulay algebras and rational singularities*, Illinois Journal of Mathematics **48** (2004), 131–150.

[23] Hans Schoutens, *Lefschetz principle applied to symbolic powers*, Journal of Algebra and its Applications **2** (2003), 177–187.

[24] Hans Schoutens, *Non-standard tight closure for affine C-algebras*, Manuscripta Mathematica **111** (2003), 379–412.

[25] Hans Schoutens, *Projective dimension and the singular locus*, Communications in Algebra **31** (2003), 217–239.

[26] Hans Schoutens, *Mixed characteristic homological theorems in low degrees*, Comptes Rendues de l'Academie Scientifique **336** (2003), 463–466.

[27] Hans Schoutens, *Calculating the exact number of generators defining an affine curve ideal-theoretically*, Journal of Pure and Applied Algebra **177** (2003), 95–101.

[28] Hans Schoutens, *Number of generators of a Cohen-Macaulay ideal*, Journal of Algebra **259** (2003), 235–242.

[29] Hans Schoutens, *A non-standard proof of the Briançon-Skoda theorem*, Proceedings of the American Mathematical Society **131** (2003), 103–112.

[30] Jan Denef and Hans Schoutens, *On the decidability of the existential theory of $\mathbb{F}_p[[t]]$*, Valuation Theory and its Applications, Vol. 2 (Saskatoon, 1999), 43–60, Fields Inst. Commun., 33, AMS, 2003.

[31] Tim Gardener and Hans Schoutens, *Rigid subanalytic sets*, Valuation Theory and its Applications, Vol. 1 (Saskatoon, 1999), 141–150, Fields Inst. Commun., 32, AMS, 2002.

[32] Hans Schoutens, *Recursive sequences and flatness*, Rocky Mountain Journal of Mathematics **31** (2001), 1423–1427.

[33] Tim Gardener and Hans Schoutens, *Flattening and subanalytic sets in rigid analytic geometry*, Proceedings of the London Mathematical Society **83** (2001), 681-707.

[34] Hans Schoutens, *Bounds in cohomology*, Israel Journal of Mathematics **116** (2000), 125-169.

[35] Hans Schoutens, *Uniform bounds in algebraic geometry and commutative algebra*, Connections between Model Theory and Algebraic and Analytic Geometry (A. Macintyre, ed.), Quaderni di Mathematica, vol. 6, 2000, pp. 43-93.

[36] Hans Schoutens, *Artin approximation via the model theory of Cohen-Macaulay rings*, Logic Colloquium 98: proceedings of the 1998 ASL Meeting held in Prague, Czech Republic (S. Buss, P. Hájek and P. Pudlák) Lecture Notes in Logic, vol. 13, 2000, pp. 409-425.

[37] Hans Schoutens, *Existentially closed models of the theory of Artinian local rings*, Journal of Symbolic Logic **64** (1999), 825-845.

[38] Hans Schoutens, *Embedded resolution of singularities in rigid analytic geometry*, Annales Scientifiques de Toulouse **VIII** (1999), 297-330.

[39] Hans Schoutens, *Rigid analytic flatificators*, Quarterly Journal of Mathematics **50** (1999), 321–353.

[40] Hans Schoutens, *The closure of rigid semianalytic sets*, Journal of Algebra **198** (1997), 120–134.

[41] Hans Schoutens, *Blowing up in rigid analytic geometry*, Bulletin of the Belgium Mathematical Society **2** (1994), 401–419.

[42] Hans Schoutens, *Rigid subanalytic sets in the plane*, Journal of Algebra **170** (1994), no. 1, 266–276.

[43] Hans Schoutens, *Rigid subanalytic sets*, Compositio Mathematica **94** (1994), 269–295.

[44] Hans Schoutens, *Uniformization of rigid subanalytic sets*, Compositio Mathematica **94** (1994), 227–245.

[45] Hans Schoutens, *Approximation properties for some non-Noetherian local rings*, Pacific Journal of Mathematics **131** (1988), 331–359.

Invited Talks (last 5 years)

2018

- CUNY Logic Workshop (NY, NY 2018), *Towards a theory of Weyl algebras*.

- CUNY Commutative Algebra and Algebraic Geometry Seminar (NY, NY 2018), *Total blow-up ring along a valuation*.

- Vienna Summer School, mini-course on 'Ultraproducts at the cross-roads of model-theory, algebra and geometry' (Austria, 2018).

- Regional AMS meeting, special session on 'Special Session on Multiplicative Ideal Theory and Factorization at Columbus (OH, 2018), *Singular valuations, ideal chains and arrangements*.

- Regional AMS meeting, special session on 'Homological Commutative Algebra at Boston (MA, 2018), *Ordinal length and local cohomology*.

2017

- Algebra and Number Theory (KUleuven, Belgium 2017), *Homological conjectures in mixed characteristic, Witt closure and locally toric rings*.

- CUNY Logic Workshop (NY, NY 2017), *The model theory of (non-standard) polynomials*.

2016

- Regional AMS meeting, special session on 'Special Session on Homological Methods in Commutative Algebra at Raleigh (NC, 2016), *Balanced depth and pseudo-canonical modules*.

- Regional AMS meeting, special session on 'Special Session on Commutative Ring Theory at Raleigh (NC, 2016), *Extended dimensions and the spectrum of ultraproducts of Noetherian local rings*.

- CUNY Commutative Algebra and Algebraic Geometry Seminar (NY, NY 2016) *Invariants of locally nilpotent derivations a la Makar-Limanov and problems in affine geometry*.

- Conference on Rings and Polynomials (TU, Graz, AU 2016), *Use of Ultraproducts in Commutative Algebra*.

- Regional AMS meeting, special session on 'Commutative Ring Theory at Stony Brook (NY, 2016), *Big Cohen-Macaulay algebras in mixed characteristic via Witt vectors*.

- CUNY Logic Workshop (NY, NY 2016), *A model theory of affine n-space via differential algebra.*

- CUNY Commutative Algebra and Algebraic Geometry Seminar (NY, NY 2015), *Differential algebra NOT a la Grothendieck*.

2015

- CUNY Logic Workshop (NY, NY 2015), *Categories turned models: taming the finite.*

- CUNY Commutative Algebra and Algebraic Geometry Seminar (NY, NY 2015), *An axiomatic treatment of Cartier crystals.*

- Structures algébriques ordonnées et leurs interactions (CIRM, Luminy, FR 2015), *O-minimalism: the first-order theory of o-minimal structures.*

- Artin Approximation and Infinite Dimensional Geometry (CIRM, Luminy, FR 2015), *The synergy between ultraproducts and Artin approximation.*

2014

- CUNY Logic Workshop (NY, NY 2014), *Towards a model theory of Zariski-Riemann spaces of valuations.*

- CUNY Commutative Algebra and Algebraic Geometry Seminar (NY, NY 2014), *Big Cohen-Macaulay modules in mixed characteristic for complete toric rings.*

- Oberwolfach Valuation Theory Meeting (Oberwolfach, Germany 2014), *The total blow-up along a valuation.*

- CUNY Commutative Algebra and Algebraic Geometry Seminar (NY, NY 2014), *Higher canonical modules and some applications.*

- Regional AMS meeting, special session 'Interactions in Commutative Algebra at Univ. of New Mexico, Albuquerque, (NM, 2014), *Towards small CM modules in dimension three*.

2013

- CUNY Logic Workshop (NY, NY 2013), *Why model-theorists shouldn't think that ACF is easy.*

- IECMSA (Sarajevo, Bosnia-Herzegovina 2013), *Ordinal length.*

- MATHFEST, Special session in Commutative Algebra (Hartford, CT 2013), *Going to great lengths...*

- CUNY Commutative Algebra and Algebraic Geometry Seminar (NY, NY 2013), *An application of Fermat's last theorem (?): computably categorical fields of infinite transcendence degree.*

- CUNY Commutative Algebra and Algebraic Geometry Seminar (NY, NY 2013), *Signal degradation in circuits caused by associated primes.*

- OU-OSU Ring Theory Seminar (OSU, OH 2013), *Condense modules, ordinal length, and the Goldie dimension.*

- OSU Logic Seminar (Columbus, OH 2013), *An application of Fermat's last theorem (?): computably categorical fields of infinite transcendence degree.*

2012

- Field Arithmetic Seminar, Tel-Aviv University (Israel, 2012), *Categorical Computability via Fermat's Last Theorem*.

- CUNY Logic Workshop (NY, NY 2012), *Transfinite linear algebra*.

- Einstein Institute Logic Seminar (Jerusalem, Israel 2012), *Smooth classification problems in algebraic geometry*.

- Regional AMS meeting, special session 'Singularities in Commutative Algebra and Algebraic Geometry at Kansas Univ. Lawrence, KS 2012), *Classifying singularities up to analytic extensions*.

- Rutgers Logic Seminar (New Brunswick, NJ 2012), *O-minimalism*.

- CUNY Commutative Algebra and Algebraic Geometry Seminar (NY, NY 2012), *Ordinal-valued invariants*.

Academic and Professional Honors/Awards

Awards

- Scholar-on-Campus 2009-2010, (NYC College of Technology).

Grants

- PSC-CUNY grant #61511-00 49 (2018-2019). Award: $4,530.

- PSC-CUNY grant #69592-00 47 (2016-2018). Award: $4,470.

- PSC-CUNY grant #67523-00 45 (2014-2015). Award: $4,248.

- PSC-CUNY grant #66512-00 44 (2013-2014). Award: $3,990.

- PSC-CUNY grant TRADB-42-48 (2011-2012). Award: $3,990.

- PSC-CUNY grant #62247-00 40 (2009-2010). Award: $2,960.

- PSC-CUNY grant #61085-00 39 (2008-2009). Award: $3,525.

- PSC-CUNY grant #69135-00 38 (2007-2008). Award: $3,990.

- PSC-CUNY grant #68093-00 37 (2006-2007). Award: $2,992.

- NSF Research Grant #0500835 (2005-2008). Award: $71,994.

- PSC-CUNY grant #67195-00 36 (2005-2006). Award: $3,311.

- Collaborative Incentive grant (2005-2007), jointly with A. Apter, J. Hamkins, R. Kossak, G. Leibman and R. Miller. Award: $74,922.

- PSC-CUNY Out-of-Cycle award #60097-34 35. Award: $4,400.

- NSF Research Grant #7440011 (2001-2004). Award: $70,000.

- Two grants from MSRI to attend workshops in the special program on Commutative Algebra (2002).

- NATO Fellowship to attend Introductory Workshop at Fields Institute (1996).

- Fulbright Fellowship from the Commission for Educational Exchange between Belgium-Luxembourg and the United States, plus a supporting grant from the Vlaamse Leergangen at the Catholic University of Leuven (1992-1993).

Other

Organizing committees

- Member organizing committee (with Samar ElHitti (CUNY) and Franz-Viktor Kuhlmann (Univ. of Saskatoon and Univ. of Silesia)) of special session on 'Advances in Valuation Theory', 1115th AMS meeting, Rutgers, New Brunswick, Nov 14-15.

- Founding member and organizer of the Model-Theory, Number Theory and Algebraic Geometry Umbrella seminar at CUNY Graduate Center (since 2010).

- Member of the organizing committee (with Laura Ghezzi (CUNY) and Franz-Viktor Kuhlmann (Univ. of Saskatoon)) of the VIIIth Colloquiumfest, CUNY Graduate Center, NY 2009.

- Founding member and co-organizer of the Commutative Algebra and Algebraic Geometry seminar at the CUNY Graduate Center (since 2007).

- Founding member and co-organizer of the Math Seminar Series at NYC College of Technology (since 2007).

- Member of the Scholar-on-Campus committee (since 2011).

- Organizing committee of the School of Arts and Sciences Annual Research Conference (member since 2007, chair 2008-2012).

- Member of the Center for Algebra, Logic and Computation at CityTech (since 2008).

- Founding member and co-director of the CUNY Logic workshop (since 1997) and of the Model-theory seminar (since 2003) at the CUNY Graduate Center.

- Member of the organizing committee of the NYC Logic Conference, NY 2005.

- Organizer of the OSU Algebraic Model Theory Seminar, Columbus OH 2001-2003.

- Member of the organizing committee of the 'Valuation Theory and its applications' conference, Saskatoon 1999.

Doctoral exam committees

- Chair of the oral exam committee of GB. Pignatti, CUNY 2014.

- Chair of the oral exam committee of K. Cha, CUNY 2014.

- Chair of the doctoral committee of A. Stout, CUNY 2014.

- Member of the doctoral committee of N. Miasnikov, CUNY 2014.

- Chair of the oral exam committee of M. Gibson, CUNY 2011.

- Chair of the doctoral committee of L. Charles, CUNY 2012.

- Member of the doctoral committee of J. Funk, CUNY 2012.

- Chair of the oral exam committee of A. Stout, CUNY 2011.

- Member of the oral exam committee of L. Thrall, CUNY 2009.

- Member of the oral exam committee of J. Funk, CUNY 2008.

- Chair of the oral exam committee of S. Hwang, CUNY 2008.

- Chair of the oral exam committee of C. Li, CUNY 2008.

- Member of the oral exam committee of D. Linetsky, CUNY 2007.

- Member of the doctoral committee of E. Shochat, CUNY 2006.

- Member of the qualifying logic exam committee, CUNY 2005 & 2008.

- Member of the oral exam committee of V. Gitman, CUNY 2005.

- Member of the doctoral committee of T.S. Gardener, Oxford 1996.

- Member of the American Mathematical Society

- Member of the editorial board of Annales Mathematicae Silesianae (since 2015).

Editorial work

- Reviewer for Mathematical Reviews.

- Referee for European Journal of Mathematics, Journal of Algebra, Compositio Mathematica, Crelle Journal, American Journal of Math., Proceedings of AMS, Journal of Pure and Applied Algebra, Communications in Algebra, Journal of Logic and Analysis, and Quarterly Journal of Math.

- Editor of City Tech Journal for Faculty and Student Research.