Curriculum Vitae

Jakobus (Jaap) van Oosten

February 2015

1 Personal Details

Born December 19, 1957, Klundert, the Netherlands. Dutch nationality. Married July 4, 1994 to Christina Johanna Otteline (Tine) Blankenstein. No children.

2 Education

1963–1969	Primary school	Leusden–Amersfoort
1969–1975	Secondary education Gymnasium B	Amersfoort
1976–1980	Study Dutch Language and Literature	University of Amsterdam Bachelor Diploma 1981
1981–1986	Study Mathematics	University of Amsterdam Bachelor Diploma 1983 Master Diploma (Cum Laude) 1987
1987–1991	Ph.D. studentship	University of Amsterdam Ph.D. degree March 1991

3 Professional Career

1991 (March–June)	Università di Parma, Italy	Research visit with NWO-CNR grant
1991–1993	Utrecht University	Post-doc
1993 (Sept.–Dec.)	University of Amsterdam	Guest Researcher
1994–1996	Århus University, Denmark	Post-doc
1996–2000	Utrecht University	Post-doc
2000–Now	Utrecht University	Lecturer

4 Teaching Activities

4.1 Courses in the General Mathematics Curriculum

What is Mathematics? (freshmen course), *Topology*, *Multi-variable Calculus*, *Concrete Geometry*, *Mathematics in Society* (second-year courses).

4.2 Courses in Logic

In the Department of Mathematics I am responsible for the curriculum in Logic. Every year I teach the introductory course *Foundations of Mathematics* (third-year bachelor course which I developed together with I. Moerdijk, see **??**, 6. These notes are also in use at other universities: at RU, in Ghent and in Palermo), one student seminar on master level (see **??**) and one of the more advanced master level courses *Computability Theory*, *Model Theory*, *Set Theory*, *Proof Theory*, *Type Theory*, *Gödel's Incompleteness Theorems*, *Category Theory*, *Topos Theory* and *Intuitionism*. Most of these courses I have designed myself, developing my own lecture notes (see section **??**); only for Model Theory, Set Theory and Proof Theory I now prefer other sources.

From 2010 on, Logic is incorporated in the national program *Mastermath*, a collaboration of Dutch universities which aims at making master-level courses (taught at central places) available to all Dutch students. Since then, I teach my master-level courses (apart from the seminars) in the framework of this program. See also section **??**.

4.3 Student Seminars

In a Student Seminar, master-level students learn to present material from research papers or specialized research monographs. Typically, a student presentation is 2x45 minutes (in English), and in a seminar every student presents twice. The aim is twofold: get thorough understanding of a mathematical topic, and develop presentation skills (explaining, blackboard use, interaction with the audience and time management).
From 2012 on, participation in at least one seminar is mandatory for master students in Utrecht.
I have organized student seminars in the following topics: Coherence Problems in Category Theory, the Effective Topos, Domain Theory, Topology of Rewrite Systems, Algebra and Model Theory, Higher-dimensional Category Theory, Homotopy Type Theory, Hilbert's Tenth Problem, O-minimality.

4.4 Supervision of Student Theses

Since 2000, I have supervised roughly 2 bachelor theses and 2 master theses per year. See Appendix A for a list of all master theses supervised by me, and Appendix B for a list of supervised Bachelor theses. At this moment, 4

of my students are pursuing a Ph.D. abroad, at CMU (Pittsburgh, USA) and Cambridge.

4.5 Ph.D. Students

I have supervised 4 Ph.D. students: Pieter Hofstra, Claire Kouwenhoven, Bram Arens and Wouter Stekelenburg. Hofstra (Completions in Realizability, 2003) and Stekelenburg (Realizability Categories, 2013) completed a thesis. Kouwenhoven and Arens left for personal reasons.

I have also actively participated in the supervision of other Ph.D. students: Sjoerd Crans, Dorette Pronk, Carsten Butz, Quintijn Puite, Benno van den Berg and Ittay Weiss.

4.6 Development of Courses and Teaching Material

I have written an array of Lecture Notes, see **??**.

4.7 Membership of Ph.D. Defence Committees

I have been in the Ph.D. Committee of at least 8 Dutch candidates, in Utrecht and other Dutch universities, in Mathematics and Computer Science. I have also been in such committees abroad (Edinburgh, Genua, Paris, Warsaw). See Appendix C for a list of the candidates and their Ph.D. theses.

4.8 Coaching of Junior Teachers

I was involved in the coaching of starting teachers such as Andreas Weiermann (now Full Professor in Ghent), Federico de Marchi, Benno van den Berg (now Associate Professor at UvA), Ittay Weiss (now Associate Professor in Fiji).

4.9 Organization of Teaching

In the Department of Mathematics I am responsible for the Mathematical Logic Specialization in the master programme. A student who specializes in Logic typically takes 4 master-level Logic courses (including one student seminar) and writes a master thesis in Logic. There is room for a second focus, so really the student specializes in Logic and Number Theory, Logic and Geometry, or another combination.

I am involved in the *Mastermath* program: a collaboration of Dutch universities for teaching master-level courses to students from several universities. Together with logicians from Nijmegen and Amsterdam, I decide which courses are offered and who teaches them.

Twice, in 1998–1999 and 2006–2007, I have organized an 'MRI Masterclass' in Logic. These masterclasses were an intensive, one-year program for selected advanced students (both Dutch and foreign; there were scholarships for foreign students) with the aim of preparing them for a Ph.D. career. Almost all participants obtained a Ph.D. studentship after completing the masterclass.

4.10 Activities in Teaching Management

I am a member of the teaching Advisory Committee (OAC), a body consisting of lecturers and students, which reviews and discusses the teaching a number of times per year. I have done this some 10 years now.

I have been member of the Examination Board in Mathematics from 2006 to 2014, being Secretary from 2007 to 2014.

In 2009 I was member of the hiring committee for a lecturer position in Logic at Radboud University, Nijmegen.

4.11 Tutoring

Yearly, I advise some 15 students on matters concerning study and life.

4.12 Qualifications

I have both the basic and senior Teaching Qualifications (BKO and SKO)

5 Publications

5.1 Thesis

Title: Exercises in Realizability. Supervisor: Prof. dr. A.S. Troelstra. Amsterdam, 1991.

5.2 Book

Jaap van Oosten. *Realizability: an Introduction to its Categorical Side*, Studies in Logic 152, Elsevier, 2008.

5.3 Research papers

1. Jaap van Oosten.
   Lifschitz' Realizability, *Journal of Symbolic Logic*, vol. **55**, n. 2, pp 805–821, 1990.

2. Jaap van Oosten.
   Extension of Lifschitz' realizability to Higher Order Arithmetic, and a solution to a problem of F. Richman, *Journal of Symbolic Logic*, vol. **56**, n. 3, pp 964–973, 1991.

3. Jaap van Oosten.
   A semantical proof of De Jongh's Theorem, *Archives for Mathematical Logic*, vol. **31**, pp 105–114, 1991.

4. Jaap van Oosten.
   Axiomatizing Higher Order Kleene Realizability, *Annals of Pure and Applied Logic*, vol. **70**, pp 87–111, 1994.

5. JAAP VAN OOSTEN.
Two remarks on the Lifschitz realizability topos, *Journal of Symbolic Logic*, vol. **61**, n. 1, pp 70–79, 1996.

6. JAAP VAN OOSTEN.
Extensional realizability, *Annals of Pure and Applied Logic*, vol. **84**, pp 317–349, 1997.

7. JAAP VAN OOSTEN.
The Modified Realizability Topos, *Journal of Pure and Applied Algebra*, vol. **116**, pp 273–289, 1997.

8. JAAP VAN OOSTEN.
Fibrations and Calculi of Fractions, *Journal of Pure and Applied Algebra*, vol. **146**, pp 77–102, 2000.

9. JAAP VAN OOSTEN.
Topological Aspects of Traces. BRICS Report Series RS-95-57, 1995. In: *Applications and Theory of Petri Nets 1996*, Springer LNCS 1091, pp 480–496.

10. JAAP VAN OOSTEN.
A Combinatory Algebra for Sequential Functionals of Finite Type. In: *Models and Computability*, Invited papers from the 1997 Logic Colloquium in Leeds, LMS Lecture Series in Mathematics 259, Cambridge University Press 1999, pp. 389–406

11. JAAP VAN OOSTEN AND ALEX K. SIMPSON.
Axioms and (Counter)examples in Synthetic Domain Theory, *Annals of Pure and Applied Logic*, vol. **104**, pp 233–278, 2000.

12. JAAP VAN OOSTEN.
History and Developments: the first 40 years. In: *Preliminary Proceedings of the Tutorial Workshop on Realizability Semantics and Applications*, Electronical Notes in Theoretical Computer Science 23,
`http://www.elsevier.nl/locate/entcs`, 1999

13. JAAP VAN OOSTEN.
Realizability: a historical essay, *Mathematical Structures in Computer Science*, vol. **12**, pp 239–263, 2002

14. LARS BIRKEDAL AND JAAP VAN OOSTEN.
Relative and modified relative realizability, *Annals of Pure and Applied Logic*, vol. **118**, pp 115–132, 2002.

15. PIETER HOFSTRA AND JAAP VAN OOSTEN.
Ordered partial combinatory algebras, *Mathematical Proceedings of the Cambridge Phil. Soc.*, vol. **134**, pp 445–463, 2003.

16. JAAP VAN OOSTEN.
    A partial analysis of modified realizability, *Journal of Symbolic Logic*, vol. **69** (2004), pp 421–429

17. MARTIN HOFFMAN, JAAP VAN OOSTEN AND THOMAS STREICHER.
    Well-foundedness in realizability, *Archive for Mathematical Logic*, vol. **45** (2006), pp 795-805.

18. JAAP VAN OOSTEN.
    Filtered Colimits in the Effective Topos, *Journal of Pure and Applied Algebra*, vol. **205** (2006), pp 446-451.

19. CLAIRE KOUWENHOVEN-GENTIL AND JAAP VAN OOSTEN.
    Algebraic Set Theory and the Effective Topos, *Journal of Symbolic Logic*, vol. **70**-3 (2005), pp 879–890.

20. JAAP VAN OOSTEN.
    A general form of relative recursion, *Notre Dame Journal of Formal Logic*, vol. **47** (2006), nr. 3, pp 311-318.

21. JAAP VAN OOSTEN.
    Partial Combinatory Algebras of Functions, *Notre Dame Journal of Formal Logic*, vol. **52** (2011), nr. 4,pp. 431-448.

22. JAAP VAN OOSTEN.
    A Notion of Homotopy for the Effective Topos, *Mathematical Structures in Computer Science*, published online 17 November 2014. Available at
    `http://journals.cambridge.org/abstract_S096012951400053X`

23. BENNO VAN DEN BERG AND JAAP VAN OOSTEN.
    Arithmetic is Categorical, May 2011, revised September 2014. Submitted to *Journal of Symbolic Logic*. Available at
    `http://www.staff.science.uu.nl/~ooste110/realizability/arithcatsubmit.pdf`

24. SORI LEE AND JAAP VAN OOSTEN.
    Basic Subtoposes of the Effective Topos, *Annals of Pure and Applied Logic*, vol. **164** (2013),pp. 866–883

25. JAAP VAN OOSTEN.
    Realizability with a Local Operator of A.M. Pitts, *Theoretical Computer Science*, vol. **546** (2014),pp. 237–243

26. ERIC FABER AND JAAP VAN OOSTEN.
    Effective Operations of Type 2 in Pcas, August 2014. Submitted to *Computability*. Available at
    `http://www.staff.science.uu.nl/~ooste110/realizability/effoperplain.pdf`

27. ERIC FABER AND JAAP VAN OOSTEN.
    More on Geometric Morphisms between Realizability Toposes, August 2014. *Theory and Applications of Categories*, vol. 29, no. 30 (2014),pp. 874–895.

Comment on my research activity 2006–2011. There is, *prima facie*, a gap in my publication record, between 2006 and 2011. This is due to the following factors:

1. My book appeared March 2008, very soon after I had completed the manuscript. Between 2006 and 2008, my research activity was directed towards the book.

2. In 2006, I started my work for the Examination Board (taking over the job of Secretary of this Board in 2007), which was time consuming.

3. Publication 21 was written in the beginning of 2009 (and also submitted in that spring) but appeared not before 2011. Publication 22 was written in the first months of 2010, but not submitted before 2012. Publication 23 was written in Spring 2011 but not submitted until 2014.

As this point is meant to make clear, the gap in *publications* does mean a *stand-still in research activity*.

5.4 Lecture Notes

1) JAAP VAN OOSTEN.
   Recursietheorie [Dutch].
   Lecture Notes (71 pp). University of Utrecht, Preprint 802, June 1993, revised 2001.
   Available at `http://www.staff.science.uu.nl/~ooste110/syllabi/recmoeder.pdf`

2) JAAP VAN OOSTEN.
   Basic Category Theory.
   Lecture Notes (83 pp). BRICS Lecture Series LS-95-01, 1995, revised 2002.
   Available at `http://www.staff.science.uu.nl/~ooste110/syllabi/catsmoeder.pdf`

3) JAAP VAN OOSTEN.
   Intuitionism.
   Mini-course material (15 pp), Aarhus 1995, revised 1996.
   Available at `http://www.staff.science.uu.nl/~ooste110/syllabi/intuitionism.pdf`

4) JAAP VAN OOSTEN.
   Introduction to Peano Arithmetic: Gödel Incompleteness and Nonstandard Models.
   Lecture Notes (60 pp). Utrecht, May 1999. *Communications of the Mathematical Institute*, vol. **21−1999**, Utrecht University.
   Available at `http://www.staff.science.uu.nl/~ooste110/syllabi/peanomoeder.pdf`

5) JAAP VAN OOSTEN.
   Model Theory.
   Lecture Notes (62 pp). University of Utrecht, 2000.
   Available at `http://www.staff.science.uu.nl/~ooste110/syllabi/modelthmoeder.pdf`

6) IEKE MOERDIJK AND JAAP VAN OOSTEN.
   Sets, Models and Proofs.
   Lecture Notes (97 pp). University of Utrecht, 2000, revised 2014.
   Available at `http://www.staff.science.uu.nl/~ooste110/syllabi/setsproofs14.pdf`

7) IEKE MOERDIJK AND JAAP VAN OOSTEN.
Topos Theory.
Lecture Notes (71 pp). University of Utrecht, 2007.
Available at http://www.staff.science.uu.nl/∼ooste110/syllabi/toposmoeder.pdf

8) JAAP VAN OOSTEN.
Computability Theory.
Lecture Notes (71 pp). University of Utrecht, 2013.
Available at
http://www.staff.science.uu.nl/∼ooste110/syllabi/compthmoeder.pdf

5.5 Reviews and Editorial Work

a) JAAP VAN OOSTEN.
Review of *Gödel's Incompleteness Theorems* by Raymond M. Smullyan. [*Dutch*]
Mededelingen van het Wiskundig Genootschap, vol. **36**, nr. 7 (1993), pp. 356–357

b) JAAP VAN OOSTEN AND HAROLD SCHELLINX.
Preface, to special issue *Constructivism in Mathematics and Computing*, Invited Papers from a Symposium in honour of Anne S. Troelstra on the occasion of his 60th birthday, *Annals of Pure and Applied Logic*, vol **114**, (2002), p. 1–2.

c) JAAP VAN OOSTEN.
Review of *Sheaves, Games and Model Completions* by S. Ghilardi and M. Zawadowski.
Bulletin of Symbolic Logic, vol. **10** (2004),2,pp 216–217

d) JAAP VAN OOSTEN.
Review of *Reuniting the Antipodes* by P. Schuster et al (eds). [*Dutch*]
Nieuw Archief voor Wiskunde, ser. 5, vol. **7**, nr. 2 (june 2006), pp. 135–136

e) JAAP VAN OOSTEN.
Review of *Nonstandard Analysis* by J. Ponstein. [*Dutch*]
Nieuw Archief voor Wiskunde, ser. 5, vol. **7**, nr. 3 (september 2006), p. 218

f) JAAP VAN OOSTEN
Review of *From Sets and Types to Topology and Analysis*, edited by Crosilla and Schuster *Bulletin of Symbolic Logic*, vol. **12** (2006), nr. 4, pp. 611-612

g) JAAP VAN OOSTEN
Review of *Subsystems of Second Order Arithmetic*, by Stephen Simpson. [*Dutch*]
Nieuw Archief voor Wiskunde, ser. 5, vol. **12**, nr. 3 (september 2011), p. 219

h) JULIETTE KENNEDY AND JAAP VAN OOSTEN.
Preface, to special issue *Set Theory, Classical and Constructive, Annals of Pure and Applied Logic*, vol **163**, nr. **10** (2012), p. 1359.

i) JAAP VAN OOSTEN
Review of *Proofs and Computations*, by Helmut Schwichtenberg and Stanley Wainer *Nieuw Archief voor Wiskunde*, ser. 5, vol. **14**, nr. 3 (december 2013), p. 290

j) JAAP VAN OOSTEN
Review of *About Goodman's Theorem*, by Thierry Coquand *Zentralblatt*, Zbl pre06145437, 2014.

k) JAAP VAN OOSTEN
Review of *Homotopy Type Theory*, by The Univalent Foundations Program. *Bulletin of Symbolic Logic*, vol. 20, issue 04 (December 2014), pp. 497–500

6 Invited Lectures and Visits

December 1990	Oberwolfach, Germany	Invited lecture on Meeting Constructivism and Proof Theory
May 1991	Siena, Italy	Invited visit
July 1993	Keele, England	Invited Plenary Lecture at *ASL Logic Colloquium*
February 1995	London, England	Invited visit to Imperial College
December 1996	Warsaw, Poland	Invited Lecture at *Helena Rasiowa Memorial* Conference
July 1997	Leeds, England	Invited Plenary Lecture at *ASL Logic Colloquium*
August 1998	Århus, Denmark	Invites Plenary Lecture at PTAC '98
February 1999	Pittsburgh, USA	Invited visit to CMU
September 2000	Ravello, Italy	Invited Plenary Lecture at XX Incontro di Logica Matematica
April 2002	Oberwolfach, germany	Invited Lecture on Meeting Constructivism and Proof Theory
May–June 2004	Moscow, Russia	Invited Lecture at *Moscow-Vienna Workshop on Proof Theory and Computation*
June 2006	Calgary, Canada	CMS Meeting and Invited Plenary Tutorial at FMCS
September 2006	Copenhagen, Denmark	Invited visit to ITU
June 2007	Genua, Italy	Invited visit
July 2008	Bern, Switzerland	Invited Plenary Lecture at *ASL Logic Colloquium*
September–December 2009	Stockholm, Sweden	Invited Stay at Mittag-Leffler Institute Meeting on Set Theory and Model Theory
June 2010	Chambéry, France	Invited Plenary Tutorial on Meeting on Realizability
February 2011	Oberwolfach, Germany	Invited Visit to Meeting on Homotopy Type Theory
May 2011	Darmstadt, Germany	Invited visit to Technische Universität
May 2011	Ljubljana, Slovenija	Invited visit to University
November 2011	Oberwolfach, Germany	Invited Visit to Meeting Constructivism and Proof Theory
February 2012	Luminy, France	Invited Plenary Lecture at Meeting *Preuves et Programmes*
March 2012	Cambridge, England	Invited Talk at Category Seminar
November 2012	Warsaw, Poland	Invited visit to University
April 2013	Genua, Italy	Invited visit
June 2013	Paris, France	Invited visit to PPS, Paris 7

June–July 2014	Cambridge, England	Invited Plenary Lecture at Category Theory Meeting CT14

The *ASL Logic Colloquium* is the main annual Logic Conference in the world. I was an invited plenary speaker three times.

7 Organizational Activities and Tutorials

7.1 National Events

- *Tutorials on Domain Theory at Schoolweek of the Research School for Logic*
  Together with I. Moerdijk I presented a crash course in Domain Theory, focussing on models for the untyped λ-calculus, in October 1997; in 1998 I was invited again and gave a course on Basic Category Theory.

- *Congress of the Dutch Mathematical Association 1999*
  I coordinated the Logic section.

- *PhD's in Logic*, Tilburg, February 2010
  I gave an Invited Tutorial on Partial Combinatory Algebras.

- *Mathematical Logic in the Netherlands (MLNL)*, two-day meeting of Dutch mathematical logicians, organized by M. Gehrke, J. van Oosten, R. Iemhoff and Y. Venema. Nijmegen (May 2009), Utrecht (May 2010) and Groningen (May 2011).

- *Colloquium on Mathematical Logic*, ongoing seminar, collaboration of the departments of Mathematics and Philosophy at UU, department of Mathematics at RU, and ILLC at UvA. Runs from 2002. For program and abstracts, see
  `http://www.staff.science.uu.nl/`∼`ooste110/seminar.html`

- *Seminar on Homotopy Type Theory*, December 2012–March 2013. I organized this seminar together with Benno van den Berg and Wouter Swierstra.

7.2 International Meetings

- *Logic Year*
  Project, funded by the Dutch Research Foundation, consisting of a series of invited lectures and tutorials all through the academic year 1992-1993. Invited speakers included J. Bénabou, S. Abramsky, M. Hyland, A. Scedrov, A. Blass. I was co-organizer and gave tutorial lectures and introductory seminars.

- *Peripatetic Seminar in Sheaves and Logic*
  Itinerant seminar, held at different places in Europe, three to four times a year. Has developed into one of the most important series of informal meetings in Category Theory; attracts some 40 participants each time. I was (co-)organizer in March 1993 (Utrecht), December 1994 (Aarhus), October 1996 (Utrecht), May 1998 (Utrecht), June 2003 (Utrecht).

- *Tutorials on Category Theory at CSL conference*
  CSL is the European Association for Computer Science Logic.
  Preceding the CSL conference in Utrecht in September 1996, a weekend course was given and organized by I. Moerdijk, B. Jacobs, guest speaker G. Winskel and me.

- *Workshop on Realizability Semantics*
  Satellite workshop of LICS '99, on initiative of Scott and Rosolini. LICS, Logic In Computer Science, is one of the most authoritative conferences in theoretical Computer Science. It attracts hundreds of participants. I was one of the invited lecturers, co-organizer, and co-editor of the Proceedings, which appeared in *Mathematical Structures in Computer Science*, vol. **12**, 2002.

- *ASL Logic Colloquium 1999*
  I was a member of the Programme Committee. The ASL Logic Colloquium is the most authoritative annual conference in Logic. It attracts some 250–300 participants.

- *Symposium "Constructivism in Mathematics and Computing"*
  Conference in honour of A.S. Troelstra's 60-th birthday, held September 1999. Participants included D. Scott, M. Hyland, U. Kohlenbach, P. Martin-Löf. I was co-organizer and co-editor of the Proceedings (which appeared as special issue of *Annals of Pure and Applied Logic*, vol. **114/1-3**, 2002.

- *Set Theory, Classical and Constructive*, two-day meeting in Amsterdam, May 2010. Invited Speakers included A. Blass, H. Friedman, I. Moerdijk, D. Scott, H. Woodin. I was organizer and member of programme committee, together with Juliette Kennedy. We edited also proceedings of the meeting, which appeared as special issue of *Annals of Pure and Applied Logic*, vol. **163/10**, 2012.

- *Lorentz center workshop on Logic of Random Graphs.*
  International meeting on the interplay between logic and combinatorics. Invited participants include B. Courcelle, M. Vardi, S. Shelah. I am one of the co-organizers of this proposed workshop (together with my colleague Tobias Müller), to be held in the Spring of 2015.

8 Acquisition of Funds

In June 2010 I was awarded a grant from the Dutch research Foundation NWO for a 3-year post-doc position on the project 'The Model Theory of Constructive Proofs', on which project dr. Benno van den Berg was employed from March 2011 to September 2013, and dr. Fabio Pasquali from September 2013 to March 2014.

I have entered 3 other proposals in the Free Competition of NWO, always getting excellent reviews, but without being honoured. My last proposal sought to connect my own research with the very topical "Homotopy Type Theory" of V. Voevodsky.

9 Popularizing Activities

I regularly give a "sample lecture" on days for prospective Math students. I have given a lecture on "Paradoxes" for *parents* of Math students. I have several times contributed to the magazine for Math students, *Vakidioot*.

10 Memberships

I am member of the Royal Dutch Mathematical Association (KWG), the Association for Symbolic Logic (ASL, affiliated to AMS) and the association Computability in Europe.

11 Ambitions

I have the following longer-term ambitions:

- Broaden my research. The fields I am working on to expand the scope of my research are *Pure Topos Theory* and *Homotopy Type Theory*.

- Redouble my efforts to get another Ph.D. student. I find supervision of a starting young researcher one of the most gratifying activities, and even though the current situation in the Netherlands makes it very hard to obtain funding, I want to do my best.

- Write a sequel to my book. By now, there have been enough developments in the field to warrant a second volume.

- Turn some lecture notes into textbooks. Candidates are Lecture Notes 6 and 8.

- Pursue further collaboration (both in teaching and research) hetween departments in UU where technical Logic plays a role: Mathematics, Computer Science, History and Philosophy of Science, Theoretical Philosophy and Linguistics. When we overview activities in Logic at UU, it is clear

that UU possesses the expertise for setting up an interdisciplinary Logic curriculum such as is offered by ILLC in Amsterdam, a very successful program which attracts many foreign students, but also quite a few UU students.

Appendix A: Supervised Master Theses

1. Pieter Hofstra, *Realizability*, 1999. Grade: 9. Hofstra went on to do a Ph.D. under my supervision, and graduated in 2003.

2. Peter Verbaan, *Primes and their Residue Rings in models of Open Induction*, 2001. Grade: 8. Verbaan became a Ph.D. student of Professor Jan van Leeuwen, and graduated in 2006.

3. Claire Kouwenhoven, *Classifying topoi for (geometric) theories and some of their model-theoretic properties*, 2001. Grade: 8. Kouwenhoven started a Ph.D. studentship under my supervision, but regrettably quit after two and a half years, for personal reasons.

4. Ruben van den Brink, *Exact Sequences in Non-Abelian Cohomology*, 2003. Grade: 8. Van den Brink became Ph.D. student at RU, but did not complete a thesis.

5. Alfred Jurcka, *Consistency Proofs and Cardinal Characteristics of the Continuum*, 2003. Grade: 8.5.

6. Peter Hannewijk, *n-Dimensional Groupoids and Homotopy n-Types*, 2003. Grade: 8.

7. Florian Pelupessy, *Natural Well-Orders and Model Theory*, 2006. Grade: 8. Pelupessy became Ph.D. student in Ghent and graduated in 2013.

8. Tim Baarslag, *Limitations of Primitive Recursive Algorithms*, 2007. Grade: 9. Baarslag completed a Ph.D. thesis in 2014, at Delft University.

9. Andreas Goetze, *Intuitionistic Set Theory and Realizability*, 2007. Grade: 8.

10. Gideon Wormeester, *Arithmetic, Models and Automorphisms*, 2008. Grade: 8. Wormeester completed a Ph.D. thesis in 2013, at CWI.

11. Wouter Stekelenburg, *Algebraically Compact Categories in the Effective Topos*, 2008. Grade: 9. Stekelenburg completed a Ph.D. thesis under my supervision in 2013.

12. Jeroen Goudsmit, *A Spatial Model of the Lambda Calculus*, 2010. Grade: 8. Goudsmit is at the moment Ph.D. student at the Philosophy Department of UU.

13. Ralph Langendam, *On the characterization of geometric logic*, 2011. Grade: 6.

14. Pim van der Hoorn, *Orthonormal Bases in Inverse Semigroups, a categorical approach*, 2011. Van der Hoorn is at the moment Ph.D. student at UT.

15. Sori Lee, *Subtoposes of the Effective Topos*, 2011. Grade: 9. Lee won a Samsung Scholarship and became Ph.D. student in Cambridge. His master thesis led to the publication 24.

16. Bernhard Pos, *Special Lagrangian submanifolds and non-perturbable Type IIA Superstring Theory*, 2011. Grade: 6.

17. Cas Velzel, *Combinatory Algebras of functions and their modest sets*, 2012. Grade: 8.5.

18. Egbert Rijke, *Homotopy Type Theory*, 2012. Grade: 9. Rijke became Ph.D. student at Carnegie Mellon University (Pittsburgh, USA).

19. Eric Cornet, *The Dillon-Wolfe Function for Cryptography*, 2012. Grade: 8.

20. Floris van Doorn, *Explicit Convertibility Proofs in Pure Type Systems*, 2013. Grade: 9.5. Van Doorn became Ph.D. student at Carnegie Mellon University.

21. Jasper Mulder, *The interplay between Grothendieck topoi and logic*, 2013. Grade: 8.5.

22. Kasper Dokter, *Definability in Global Fields and Finitely Generated Fields*, 2013. Grade: 8.5. Dokter became Ph.D. student at CWI.

23. Amar Hadzihasanovic, *Nonstandard Functional Interpretations and Categorical Models* (thesis at ILLC, UvA), 2013. Grade: 9. Hadzihasanovic became Ph.D. student in Oxford.

24. Lotte van Slooten, *Arithmetical conservativity results, a theory of operations and Goodman's theorem*, 2014. Grade: 7.5.

25. Eric Faber, *Code-free recursion and realizability*, 2014. Grade: 9.5. Faber became Ph.D. student in Cambridge. His master thesis led to publications 26 and 27.

Appendix B: Supervised Bachelor Theses

1. Ruben van den Brink, *Pierce Sheaves and the Theory of Modules*, 2002. Grade: 8.

2. Alfred Jurcka, *Lineaire ondergrenzen voor complexiteitsmaten op primitief recursief-achtige afleidingen*, 2002. Grade: 8.

3. Remco Crans, *Turing machines over arbitrary rings: the Hilbert Nullstellensatz as an NP-complete problem over the complex numbers*, 2003. Grade: 8.

4. Tammo-Jan Dijkema, *Proof Nets in Java*, 2003. Grade :7.5.

5. Tim Baarslag, *Zorn's Lemma en het Welordeningsprincipe vanuit intuïtionistisch prespectief*, 2004. Grade: 9.

6. Andreas Goetze, *Maximale hiërarchieën*, 2004. Grade: 7.5.

7. Pieter Naaijkens, *Cartesisch gesloten deelcategorieën van Top*, 2005. Grade: 9.5.

8. Stijn Prompers, *Bewijsbaarheidslogica voor Rosserzinnen*, 2006. Grade: 8.

9. Floris Nečas-Niessner, *Towards Quasi-categories*, 2006. Grade: 8.5.

10. Jos Tellings, *Scrutiny of Lawvere's category of categories*, 2007. Grade: 8.

11. Sori Lee, *Set Systems of Finite Character and Equivalents of Boolean Prime Ideal Theorem*, 2008. Grade: 9.

12. Eric Cornet, *Eindige verzamelingen en het keuze-axioma*, 2009. grade: 8.

13. Jules Lamers, *Smooth Infinitesimal Analysis*, 2009. Grade: 9.5.

14. Jeroen Goudsmit, *Equality of Proofs*, 2011. Grade: 9.

15. Eric Faber, *Ordinals, Cardinals and Numerosities*, 2011. Grade: 9.

16. Diana Grooters, *Intuïtionistische logica*, 2012. Grade: 7.5.

17. Saskia van den Hoeven, *The cumulative hierarchy in different axiomatizations of set theory*, 2012. Grade: 8.5.

18. Maarten Roelofsma, *Kwantoreliminatie en amalgamatie in de theorie van modulen*, 2012. Grade: 8.5

19. Niels Havik, *Verzamelingenleer en analyse*, 2012. Grade: 8.

20. Aleid Oosterwijk, *Hilbert's Programme and Gödel's Theorems*, 2013. Grade: 8.5.

21. Yfke Dulek, *Learning paradigms classified by the arithmetical complexity of their learnable language families*, 2013. Grade: 9.

22. Nils Donselaar, *Frege, Numbers and Arithmetic*, 2013. Grade: 8.

23. Nils Donselaar, *Sorting out the Caesar Problem*, 2013. Grade: 8.5. This was a bachelor thesis in Philosophy.

24. Merlijn Koek, *On the complexity of the NNIL fragment*, 2013. grade: 8.

25. Jotte Kuilder, *Finiteness and the Axiom of Choice*, 2014. Grade: 8.5. This was a thesis for Utrecht University College.

26. Martijn den Besten, *Primes in Nonstandard Models of Open Induction*, 2014. Grade: 8.5.

Appendix C: Ph.D. Graduation Committees

1. Carsten Butz, *Logical and Cohomological Aspects of the Space of Points of a Topos*, UU 1996.

2. Matías Menni, *Exact completions and toposes*, University of Edinburgh 2000.

3. Quintijn Puite, *Sequents and Link Graphs*, UU 2001.

4. Bas Spitters, *Constructive and intuitionistic integration theory and functional analysis*, RU 2003.

5. Pieter Hofstra, *Completions in Realizability*, UU 2003.

6. Benno van den Berg, *Predicative topos theory and models for constructive set theory*, UU 2006.

7. Peter Verbaan, *The Computational Complexity of Evolving Systems*, UU (Computer Science) 2006.

8. Ittay Weiss, *Dendroidal Sets*, UU 2007.

9. Wouter Stekelenburg, *Realizability Categories*, UU 2013.

10. Fabio Pasquali, *Quotients in Doctrines, some Applications*, Università di Genova 2013.

11. Jonas Frey, *A Fibrational Study of Realizability Toposes*, Université de Paris 7, 2013.

12. Michal Przybylek, *Analysis and construction of logical systems: a category-theoretic approach*, Warsaw University 2014.