

# Material intended for theoretically possible annual reports for the seven years 2007–2013

Christer O. Kiselman

Since the Department of Mathematics of Uppsala University does not give out annual reports after 2003, I collect here material intended for theoretically possible reports for the seven years 2007 through 2013. Since 2014, I am with the Department of Information Technology, and there the Centre for Image Analysis (CBA) publishes ambitious reports every year—see the material for 2014 and later. See also the material for 2003–2006.

The categories are those used in the earlier Annual Reports of the Department of Mathematics, Uppsala University.

Due to this report being prepared several years after the period 2007–2013, some events may be missing.

## 1. Committee assignments

### 1.1. International commissions

Member of the Organizing Committee of the *Nordic-Russian Symposium in honour of Vladimir Maz'ya on the occasion of his 70th birthday*, held at the Royal Institute of Technology, 2008 June 25–27.

University Rector, 64th Session of the *International Congress University*, Copenhagen, 2011.

Member of the Board of the *Center For Research and Documentation on World Language Problems* (CED), 2013 [— July 2019].

### 1.2. Committee assignments at the national level

Member, the Committee for the Ingvar Lindqvist Prize at the Royal Swedish Academy of Sciences, 2006, 2007 and 2008.

Member, the Grading Committee to judge David Jacquet's PhD thesis, defended at Stockholm University, 2008 April 14.

Member, the Grading Committee to judge Salla Franzén's PhD thesis, defended at Stockholm University, 2008 December 19.

### 1.3. Committee assignments within Uppsala University

Member, *Reference Group for Mathematics* at the *International Science Programme* (ISP), 2002 [–2017-12-31].

## 2. Visitors

Lê Hai Khôi, Singapore, visited Uppsala University 2008 February 22 — March 01.

Jean Serra visited Uppsala and Stockholm, 2008 February 28 — March 08.

Research visit by Juhani Karhumäki, February 2010, supported by the Royal Academy of Arts and Sciences.

Research visit by Remi Malgouyres, May 2010, supported by the Royal Academy of Arts and Sciences.

Jean Serra visited Uppsala University in May 2011.

Hiroshi Yamaguchi visited Uppsala and Kiruna, 2012 May 08–17.

Alfred Marcel Bruckstein, Haifa, was invited to Uppsala University, the Department of Information Technology, 2012 June 18–22. His visit was financially supported by a grant from the Royal Academy of Arts and Sciences.

HAM Karim, MAM Mareth and SEAM Ngonn, Royal University of Phnom Penh, visited Uppsala University of behalf of the International Science Programme, 2012 August 31 — September 29.

Adama Arouna Koné visited the Department of Mathematics of Uppsala University the first time 2012 November 20 — December 17; the second time 2013 March 31 — May 30. [Then again in 2014 and 2015.]

## 3. Publications

### 3.1. Research articles

- 07-1. Enkonduko al distribucioj. *Acta Sanmarinensia*, vol. VI, No. 4, pp.105–132. Academiae Internationalis Scientiarum (AIS). Göttingen: Leins Verlag, 2007.
- 07-2. Division of mappings between complete lattices. **In:** Banon, G. J. F.; Barrera, J.; de Mendonça Braga-Neto, U. Eds. 2007. *Mathematical Morphology and its Applications to Signal and Image Processing. Proceedings of the 8<sup>th</sup> International Symposium on Mathematical Morphology, Rio de Janeiro, RJ, Brazil, October 10–13, 2007*, pp.27–38. São José dos Campos, SP: MCT/INPE.
- 07-3. Urban Cegrells matematik [Urban Cegrell’s mathematics]. **In:** *Nordan Sju*, p.10. Abstracts from *Nordan 7*, held in Visby 2003-05-23–25, 17 pp. [Stockholm: Stockholm University 2007.]
- 08-1. Minima locaux, fonctions marginales et hyperplans séparants dans l’optimisation discrète. *Comptes Rendus de l’Académie des Sciences Paris, Sér. I* **346**, 49–52.

- 08-2. Datorskärmens geometri [The geometry of the computer screen]. **In:** Helenius, Ola; Wallby, Karin, Eds. 2008. *Människor och matematik – läsebok för nyfikna* [*People and Mathematics—Reading for the Curious*], pp. 211–229. Göteborg: Nationellt centrum för matematikutbildning, NCM. 390 pp. ISBN 978-91-85143-08-5.
- 08-3. Functions on discrete sets holomorphic in the sense of Ferrand, or monodiffic functions of the second kind. *Science in China, Series A, Mathematics*, April 2008, **51**, No. 4, 604–619.
- 08-4. Matematikens två språk [The two languages of mathematics]. **In:** Lennerstad, Håkan; Bergsten, Christer, Eds. 2008. *Matematiska språk. Sju essäer om symbolspråkets roll i matematiken* [*Mathematical Languages. Seven Essays on the Role of Symbolic Language in Mathematics*], pp. 19–42. Stockholm: Santérus Förlag. 142 pp. ISBN 978-91-7359-018-1.
- 09-1. Vyacheslav Zakharyuta’s complex analysis. **In:** Aytuna, Aydın et al., Eds. 2009. *Functional Analysis and Complex Analysis: International Conference on Functional Analysis and Complex Analysis, September 17–21, 2007, Sabanci University, İstanbul*, pp. 1–15. Contemporary Mathematics 481. Providence, RI: American Mathematical Society.
- 09-2. Frozen history: Reconstructing the climate of the past. **In:** Cialdea, Alberto; Lanzara, Flavia; Ricci, Paolo Emilio, Eds. 2009. *Analysis, Partial Differential Equations and Applications. The Vladimir Maz'ya Anniversary Volume*, pp. 97–114. Series: Operator Theory, Advances and Applications, volume 193. Basel; Boston; Berlin: Birkhäuser.
- 10-1. Characterizing digital straightness by means of difference operators. **In:** Luengo, Cris; Gavrilovic, Milan, Eds. 2010. *Proceedings SSBA 2010. Symposium on Image Analysis, Uppsala, March 11–12, 2010*, pp. 15–18. ISSN 1100-6641.
- 10-2. Inverses and quotients of mappings between ordered sets. *Image and Vision Computing* **28** (2010), 1429–1442.
- 10-3. Local minima, marginal functions, and separating hyperplanes in discrete optimization. **In:** Bhatia, Rajendra, Ed. 2010. *Abstracts: Short communications; Posters*. International Congress of Mathematicians, Hyderabad, August 19–27, 2010, pp. 572–573.
- 10-4. Kiselman, Christer O.; Samieinia, Shiva. Convexity of marginal functions in the discrete case. **In:** Samieinia, Shiva. 2010. *Digital Geometry, Combinatorics, and Discrete Optimization*. (Published on 2010 December 15. PhD Thesis defended at Stockholm University on 2011 January 21.)
- 11-1. Characterizing digital straightness and digital convexity by means of difference operators. *Mathematika* **57** (2011), 355–380.
- 11-2. Les mathématiques de Nguyen Thanh Van. *Actes du colloque «Analyse Complexe et Applications» en l'honneur de Nguyen Thanh Van. Annales de la Faculté des Sciences de Toulouse, Mathématiques*, (6), **20**, Fascicule Spécial, 19–32.

- 11-3. Analytic continuation of fundamental solutions to differential equations with constant coefficients. *Actes du colloque « Analyse Complexe et Applications » en l'honneur de Nguyen Thanh Van. Annales de la Faculté des Sciences de Toulouse, Mathématiques*, (6), **20**, Fascicule Spécial, 153–182.
- 12-1. Questions inspired by Mikael Passare's mathematics. Accepted on 2012-08-20 for publication in *Afrika Matematika*. Published online 2012-10-27, 17 pp.
- 12-2. Diskreta kaj reela optimumado. *Prelegaro, Parto II. Internacia Simpozio "Apliko de Esperanto en la profesia agado" (AEPA) 2012*, pp. 72–84. Karlovo: Akademio Internacia de la Sciencoj. (Text based on a lecture in Karlovo in June 2009.)

### 3.2. Other publications

- 08-a. Esperanto: its origins and early history. **In:** Pelczar, Andrzej, Ed. 2008. *Prace Komisji Spraw Europejskich PAU*. Tom II, pp. 39–56. Kraków: Polska Akademia Umiejętności, 79 pp.
- 08-b. Kiselman, Christer; Mouwitz, Lars. 2008. *Matematiktermer för skolan [Mathematical Terms for School Use]*. Göteborg: Göteborg University, National Center for Mathematics Education. 312 pp.
- 08-c. Språkens rikedomar och terminologins problem [The treasures of languages and the problems of terminology]. **In:** Kiselman, Christer; Mouwitz, Lars. 2008. *Matematiktermer för skolan [Mathematical Terms for School Use]*, pp. 287–292. Göteborg: Göteborg University, National Center for Mathematics Education.
- 08-i. Inledning [Introduction]. **In:** Helenius, Ola; Wallby, Karin, Eds. 2008. *Människor och matematik – läsebok för nyfikna [People and Mathematics—Reading for the Curious]*, pp. 1–6. Göteborg: Nationellt centrum för matematikutbildning, NCM. ISBN 978-91-85143-08-5, 390 pp.
- 08-ii. Ploriga, la prelego plej bela. *Heroldo de Esperanto*, No. 10 (2125), 2008 July 13 – August 3, p. 4. (Report on a lecture on Vincent van Gogh by Katalin Kováts, Rotterdam, 2008 July 22.)
- 09-i. Antaŭparolo. **In:** Corsetti, Renato, Ed. 2009. *Vojoj de interlingvistiko: de Bruno Migliorini al la nuna tempo. Aktoj de la studtago en la universitato de Florenco, 26a de julio 2006*, pp. 7–8. Akademio de Esperanto. Pisa: Edistudio. Published in 2009; formal year of publication 2008. 127 pp.
- 10-i. Hilelismo, homaranismo kaj neŭtrale-homa religio. **In:** Blanke, Detlev; Lins, Ulrich, Eds. 2010. *La arto labori kune. Festlibro por Humphrey Tonkin*, pp. 401–414. Rotterdam: Universala Esperanto-Asocio.
- 10-ii. La evoluo de la pensado de Zamenhof pri religioj kaj la rolo de lingvoj. **In:** *Homarane* **1**, January 2010, 41–73. ISSN 1663-8484.
- 10-iii. La evoluo de la pensado de Zamenhof pri religioj kaj la rolo de lingvoj. **In:** Kiselman, Christer, Ed. 2010. *Religiaj kaj filozofiaj ideoj de Zamenhof: kultura kaj socia fono*, pp. 41–63. Rotterdam: Universala Esperanto-Asocio.

- 11-a. Variantoj de esperanto iniciatitaj de Zamenhof. *Esperantologio / Esperanto Studies* 5, 79–149. Published electronically 2011-06-24; on paper 2011-07-23. Also published in Kiselman, Christer, Ed. 2011. *Esperanto, komenco, aktualo kaj estonteco. Aktoj de la 33-a Esperantologia Konferenco en la 95-a Universala Kongreso de Esperanto, Havano 2010*, pp. 45–107. Rotterdam: Universala Esperanto-Asocio.
- 11-i. Andersson, Mats; Berndtsson, Bo; Britton, Tom; Kiselman, Christer; Laptev, Ari. Mikael Passare [Obituary in Swedish]. *Dagens Nyheter*, 2011-10-14, Section Culture, p. 39; correction 2011-10-15, Section Culture, p. 28.
- 11-ii. Andersson, Mats; Berndtsson, Bo; Britton, Tom; Kiselman, Christer; Laptev, Ari. Mikael Passare [Obituary in Swedish]. *Svenska Dagbladet*, 2011-10-16, p. 30.
- 11-iii. Mikael Passare 1959–2011. *Medlemsutskicket från Svenska Matematikersamfundet*, October 2011, pp. 17–35. (Obituary in Swedish, published by the Swedish Mathematical Society 2011-10-25.)
- 11-iv. Pierre Lelong 1912–2011. *Svenska Matematikersamfundet, SMS-bulletinen*, No. 1, December 2011, pp. 7–17. (Obituary in Swedish, published by the Swedish Mathematical Society 2011-12-08.)
- 12-i. Mikael Passare 1959–2011. *The Newsletter of the European Mathematical Society*, June 2012, Issue 84, 12–15.
- 12-ii. Paul Neergaard: sempatologo kaj esperantologo. **In:** Blanke, Detlev, Ed. 2012. *Pioniroj de la Internacia Lingvo. Aktoj de la 34-a Esperantologia Konferenco en la 96-a Universala Kongreso de Esperanto, Kopenhago 2011*, pp. 19–33. Rotterdam: Universala Esperanto-Asocio. ISBN 978 92 9017 117 1.
- 13-i. Lars Hörmander — några minnen [Lars Hörmander—some memories]. *SMS bulletinen*, No. 6, 2013 February, pp. 13–19. (Text in Swedish published in the *Bulletin* of the Swedish Mathematical Society.)

#### 4. Reports, lecture notes, etc.

- 07-A. *Trois problèmes en convexité digitale: minima locaux, fonctions marginales et hyperplans séparants*. Lecture at *GeoNet VI*, Porto-Novo, 2007-06-12, 10 pp.

#### 5. Editorial work

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| Editor, <i>Esperantologio / Esperanto Studies</i> , Issue No. 4 (2009).  | 2006–2009 |
| Editor, <i>Religiaj kaj filozofiaj ideoj de Zamenhof: kultura kaj socia fono</i> .<br>Rotterdam: Universala Esperanto-Asocio, 2010.      | 2009–2010 |
| Editor, <i>Regional and Interregional Cooperation to Strengthen Basic Sciences in Developing Countries</i> , Proceedings of a conference |           |

organized by the International Science Programme, 2009 September 01–04 in Addis Ababa. Uppsala University 2011.	2009–2010
Editor, <i>Esperantologio / Esperanto Studies</i> , Issue No. 5 (2011).	2010–2011
Editor, <i>Esperanto: komenco, aktualo kaj estonteco. Aktoj de la 33-a Esperantologia Konferenco en la 95-a Universala Kongreso de Esperanto, Havano 2010</i> . Rotterdam: Universala Esperanto-Asocio 2011.	2010–2011
Editor with Mélanie Maradan of <i>Leksikologio, frazeologio, historio, semantiko kaj terminologio: du kontinentoj renkontiĝas en Hanojo. Aktoj de la 35-a Esperantologia Konferenco en la 97-a Universala Kongreso de Esperanto, Hanojo 2012</i> . Rotterdam: Universala Esperanto-Asocio 2013.	2012–2013
Editor, <i>Esperantologio / Esperanto Studies</i> , Issue No. 6 (2013).	2011–2013

## 6. Memberships in academies

Member, Royal Academy of Arts and Sciences, Uppsala, 1983 — present.

Member, Royal Society of Sciences, Uppsala, 1984 — present.

Member, Internacia Scienca Akademio Comenius, 1986 — present.

Member, Academy of Esperanto, 1989 [–2007; then reelected].

Member, Royal Swedish Academy of Sciences, 1990 — present.

Member, Polish Academy of Arts and Sciences (Polska Akademia Umiejętności, PAU), 2002 — present.

## 7. Memberships in learned societies

Member, Swedish Astronomical Society, 1954 — present (life member).

Member, Swedish Mathematical Society, 1960s — present (life member).

Member, American Mathematical Society, 1966 — present (life member).

Member, Société Mathématique de France, 1960s — present.

Member, European Mathematical Society, 1990s — present.

Uppsala Humanities Society, 1990s — present.

## 8. Participation in conferences, research visits, talks, etc. at other universities

Invited lecture at Stockholm University, 2007 March 13: *Fundamental solutions to a difference equation analogous to the Cauchy–Riemann equation.*

- Invited lecture at Linnaeus University, Campus Växjö 2007 May 29. Title: *Två fundamentallösningar till en diskret Cauchy–Riemann-ekvation* [Two fundamental solutions to a discrete Cauchy–Riemann equation].
- Invited lecture at an international conference at Porto-Novo, 2007 June 12. Title: *Trois problèmes en convexité digitale : minima locaux, fonctions marginales et hyperplans séparants*.
- Invited lecture in Kyoto, 2007 July 31: *Two fundamental solutions to a discrete Cauchy–Riemann equation*.
- Participated in the *92nd World Congress of Esperanto* in Yokohama, 2007 August 04–11.
- Participated in the *Conference on Esperanto Studies*, a part of the 92nd World Congress of Esperanto, 2007 August 09.
- Invited to give a series of lectures 2007 August 14–17, at the SSBA Summer School in Uppsala. Title: *Digital geometry and mathematical morphology*.
- Lecture in Färjestaden at a meeting of the Graduate School in Mathematics and Modelling: *Tankar om matematisk modellering* [Thoughts on Mathematical Modelling], 2007 August 22.
- Participated in the *International Conference on Functional Analysis and Complex Analysis*, 2007-09-17–21. Lecture September 19 at Karaköy: *Vyacheslav Zakhar'yuta's complex analysis*. Lecture September 20 at Sabancı Üniversitesi: *Three problems in discrete convexity: local minima, marginal functions, and separating hyperplanes*.
- Participated in the *International Symposium for Mathematical Morphology (ISMM 8)* in Rio, 2007 October 11–13. Lecture: *Division of mappings between complete lattices*.
- Meeting of the *International Science Programme (ISP)* in Addis Ababa 2007-10-23. Lecture: *Three problems in discrete optimization*.
- Participated in a meeting of the Board of ALGA, Karlskrona, 2008 April 10–11.
- Participated in the international conference *Discrete Geometry for Computer Imagery (DGCI 14)* in Lyon, 2008 April 16–18, partially supported by the Royal Academy of Arts and Sciences.
- Participated in the Crafoord Prize Ceremony 2008 April 23, and the related symposium the following day.
- Participated in a conference in honor of Sten Kaijser, 2008 May 16.
- Participated in a conference in honor of Oleg Viro in Stockholm, 2008 May 19–25.
- Invited to give a lecture at a conference in Rome in honor of Vladimir Maz'ya, 2008 June 30 — July 03. Title: *Frozen history decoded: Reconstructing the climate of the past*.
- Participated in the *93rd World Congress of Esperanto* in Rotterdam, 2008 July 19–26.
- Participated in the *Conference on Esperanto Studies*, a part of the 93rd World Congress of Esperanto, 2008 July 29.

- Participated in a conference at Stockholm University in honor of Jan Boman, 2008 August 12–15.
- Invited to lecture at the *Fifth Southeast Conference on Mathematics* in Växjö, 2008 August 22. Title: *Frozen history decoded: Reconstructing the climate of the past.*
- Invited to lecture at an international conference in honor of Nguyen Thanh Van, 2008 October 16–19. Titles: *Les mathématiques de Nguyen Thanh Van; Prolongement analytique des solutions fondamentales des équations différentielles à coefficients constants.*
- Invited to lecture at the international conference *Apliko de Esperanto en la profesia agado* (AEPA), 2009 in Karlovo. Host: Boĵidar Leonov. Lecture on June 30: *Diskreta kaj reela optimumado.*
- Participated in the *94th World Congress of Esperanto* in Białystok, 2009 July 25 — August 01.
- Participated as organizer and speaker in the *Conference on Esperanto Studies*, a part of the 94th World Congress of Esperanto, on 2009 July 30. Lecture: *Hilelismo kaj homaranismo. La religiaj kaj filozofiaj ideoj de Zamenhof.*
- Invited lecturer at a conference in La Chaux-de-Fonds, 2009 August 16–21.
- Participated in the conference *Regional and Interregional Cooperation to Strengthen Basic Sciences in Developing Countries*, organized by the International Science Programme in Addis Ababa, 2009 September 01–04.
- Participated in the *Fifteenth conference on Discrete Geometry for Computer Imagery* (DGCI 15) in Montréal, 2009 September 30 — October 02.
- Invited lecture at the Combinatorics Seminar at the Royal Institute of Technology 2009-12-09. Title: *Characterizing digital straightness using the chord property, word combinatorics, Diophantine inequalities, and difference operators.*
- Invited speaker at the celebration of Jean Serra with a presentation of him on 2010 April 02: *Jean Serra, créateur d'une science.*
- Participated as an invited lecturer at the international seminar *Apliko de Esperanto en la profesia agado* (AEPA), organized by Boĵidar Leonov, Karlovo 2010 June 11–14. Title: *Kiel rekoni rektojn kaj strekojn inter ĉiuj kurboj kaj aliaj bildoj sur la komputila ekrano?*
- Participated in the *95th World Congress of Esperanto* in Havana, 2010 July 17–24.
- Organizer and lecturer, *Conference on Esperanto Studies*, a part of the World Congress of Esperanto, 2010 July 22. Title: *Variaĵoj de esperanto iniciatitaj de Zamenhof.*
- Participated in the International Congress of Mathematicians in Hyderabad (at the time in the state of Andhra Pradesh), 2010 August 19–27. Contributed lecture: *Local minima, marginal functions, and separating hyperplanes in discrete optimization.* Private visits to Patna (Bihar) and Thiruvananthapuram (Kerala).
- Guest researcher and invited lecturer at the Indian Statistical Institute, Bangalore, 2010 August 30 — September 02. Host: Behara Seshadri Daya Sagar.



- Visits on behalf of the International Science Programme (ISP) to Nairobi, 2010 September 25–29, and to Dar es-Salam, September 29 — October 02.
- Invited speaker at *Khayyâm's Day* at Stockholm University 2010 November 27:  
*Kayyâm, astronom och kalendermakare.*
- Guest professor at Nanyang Technical University, Singapore, 2011 February 19 — March 01. Colloquium talk: *To search for the best. Optimization in real and discrete variables.* Host: Bernhard Schmidt.
- Participated in the 16th international conference *Discrete Geometry for Computer Imagery* (DGCI 16) in Nancy, 2011 April 06–08.
- Participated in the fourteenth international conference *International Workshop for Computerized Image Analysis* (IWCIA 14) in Madrid, 2011 May 23–25
- Participated in an international conference in honor of Józef Siciak in Kraków, 2011 July 04–08
- Participated in an international conference of the *Internacia Ligo de Esperantistaj Instruistoj* (ILEI) at Copenhagen University, 2011 July 22–23.
- Participated in the *96th World Congress of Esperanto* in Copenhagen, 2011 July 24–30.
- Invited speaker at the international *Conference on Esperanto Studies*, a part of the 96th World Congress of Esperanto, 2011 July 28. Title: *Paul Neergaard, sempatologo kaj esperantologo.*
- Invited speaker at the *Terminologia Forumo*, a part of the 96th World Congress of Esperanto, 2011 July 29. Title: *Streĉiteco inter planlingvo kaj ĉiutaga lingvo. Spertoj el la Sekcio pri faka lingvo de la Akademio de Esperanto.*
- Participated in a meeting of the *International Science Programme* (ISP) in Ouagadougou, 2011 August 14–17.
- Participated in a meeting of the *International Science Programme* (ISP) in Bamako, 2011 August 17–19. Invited lecture: *Chercher le meilleur : optimisation en variables réelles et discrètes.*
- Participated in the conference of *Svenska Sällskapet för Automatiserad Bildanalys*; the *Swedish Society for Automated Image Analysis* (SSBA) at the Royal Institute of Technology, 2012 March 08–09.
- Participated as organizer and speaker at *Mikael Passare's Day* at Stockholm University, 2012 September 14. Title: *Mikael Passare 1959–2011.*
- Invited speaker at a conference organized by Sabancı Üniversitesi, Karaköy, İstanbul, 2012 April 02–07. Title: *Asymptotic properties of the Delannoy numbers and similar arrays.*
- Invited lecturer at the international conference *Nordan 16* in Kiruna 2012 may 11–13. Title: *Questions inspired by Mikael Passare's mathematics.*
- Invited to lecture at the international conference *Apliko de Esperanto en la profesia agado* (AEPA) 2012 in Karlovo, 2012 June 14–17 Host: Bojidar Leonov. Lecture on June 16: *Kiel plej bone faldi triangulon.*
- Participated in the *European Congress of Mathematics*, Kraków, 2012 July 02–06.

Participated in the *97th World Congress of Esperanto* in Hanoi, 2012 July 29 — August 04.

Organizer with Mélanie Maradan of the *Conference on Esperanto Studies*, a part of the 97th World Congress of Esperanto, on 2012 August 02.

Participated as an invited speaker in the *Twentieth International Conference on Finite or Infinite Dimensional Complex Analysis and Applications*, 20<sup>th</sup> (ICFIDCA) in Hanoi, 2012 July 30 — August 03. Lecture on August 01: *Analytic continuation of fundamental solutions to differential equations with constant coefficients*.

Research visit to the Royal University of Phnom-Penh on behalf of the *International Science Programme*, 2012 August 05–09.

Participated as an invited speaker in the EAUMP conference in Arusha, 2012 August 22–24. Title: *Asymptotic properties of the Delannoy numbers and similar arrays*.

Invited lecturer at Linnaeus University, Campus Växjö, 2012 November 27. Title: *Convolution equations on the set of points with integer coordinates, the Fourier transformation, and its tropical counterpart, the Fenchel transformation*.

Invited to the *Memorial Day for Lars Hörmander* at Lund University 2013 February 02. Title: *Lars Hörmander — några minnen* [Lars Hörmander—some memories].

Participated in the international conference *Discrete Geometry for Computer Imagery* (DGCI 17) in Sevilla, 2013 March 20–22. (Private visits to Granada and Córdoba.)

Invited to lecture at the Bulgarian Academy of Sciences, 2013 June 27: *Weak lineal convexity*. Hosts: Nikola Nikolov and Petar Popivanov.

Invited speaker at the conference *Facets of Geometry*, Stockholm University, 2013 June 03–07: *Mikael Passare In Memoriam*.

Invited to lecture at the international conference *Apliko de Esperanto en la profesia agado* (AEPA) in Karlovo. Host: Bojidar Leonov. Lecture on 2013 June 30: *La rektoj de Eŭklido*.

Participated with a short presentation in the international Nitobe Conference *Languages and Internationalization in Higher Education: Ideologies, Practices, Alternatives*, organized by the *Center for Research and Documentation on World Language Problems* (CED), 2013 July 18–20. Title: *Language choice at Uppsala University, 1477–2013*.

Participated in the *98th World Congress of Esperanto* in Reykjavík, 2013 July 20–27.

Organizer with Mélanie Maradan of the *Conference on Esperanto Studies*, a part of the World Congress of Esperanto, 2013 July 25.

Research visit to the University of Iceland, 2013 July 28 — August 04. Host: Ragnar Sigurdsson.

Invited lecture at the *Mikael Passare's Day*, Stockholm University, 2013 September 12. Title: *Lineal convexity*.

Visit to Uganda and Rwanda on behalf of *International Science Programme* (ISP), 2013 September 23–30.

Invited speaker at Andrei Khrennikov’s Seminar, Linnaeus University, Campus Växjö, 2013 November 20: *Weak lineal convexity*

Invited speaker at Börje Nilsson’s Round Table, Linnaeus University, Campus Växjö, 2013 November 20: *Thoughts on mathematics and other fields of knowledge*.

Invited by Chong Chi Tat, Director of the *Institute for Mathematical Sciences* at the National University of Singapore (NUS), as researcher and lecturer, 2013 November 24 — December 08, to participate in the *Program on Inverse Moment Problems: The Crossroads of Analysis, Algebra, Discrete Geometry and Combinatorics*. Lecture: *Discrete convolution operators, the Fourier transformation, and its tropical counterpart: the Fenchel transformation*.

Invited to lecture at a conference in Liverpool, *Analysis of Partial Differential Equations. Symposium in honour of Prof. Valdimir Mazya on the occasion of his 75<sup>th</sup> Birthday*, 2013 December 16–17. Title: *Discrete convolution operators, the Fourier transformation, and its tropical counterpart: the Fenchel transformation*.

## 9. Professional service outside Uppsala University

Visit to Blekinge Institute of Technology 2007-03-22–23 to participate in the meeting of the Reference Group (Steering Group) for the Graduate School in *Mathematics and Modelling*, Academy Southeast.

Expert for the promotion of Associate Professor Laurent Najman to the rank of Full Professor at *École Supérieure d’Ingénieurs en Électronique et Électrotechnique* (ESIEE), Val-de-Marne. Report sent 2007-04-18.

Commissioned by *Högskoleverket*, the Swedish National Authority for Higher Education, to evaluate together with Harald E. Krogstad an application from Malmö University College to award Master Degrees in Applied Mathematics together with Harald Krogstad. Visit to *Högskoleverket* in Stockholm 2007-02-28; to Malmö 2007-04-04. Report filed in May 2007.

Meeting in Göteborg for the *Terminology Project*, 2007-08-28.

Meeting in Göteborg 2007-11-08 for the book project *Människor och matematik – läsning för nyfika* [*People and Mathematics—Reading for the Curious*].

Evaluation of a research application at *King Fahd University of Petroleum and Minerals*, Saudi-Arabia; commission received from the Deanship of Scientific Research. Report submitted 2008-12-30.

Expert appointed to judge Joachim Toft’s application to be promoted to Professor at Växjö University. Report filed 2009-02-28.

Expert to judge applications for research funds at Linnaeus University for the years 2011–2013. Report filed 2010-09-24.

Expert appointed by *Agence nationale de recherche* (ANR) to report on the project Bézout (LABEX). Report submitted 2011-01-30.

Appointed by Linnaeus University to judge Torsten Lindström’s competence to be promoted to Professor. Report filed 2011-04-03.

Expert appointed by *Île de France* 2011-03 to judge research applications. Report submitted 2011-04-15.

Invited Speakers' Chair for the *International Symposium for Mathematical Morphology* (ISMM 11) at Uppsala University.

Expert for an evaluation of research at Blekinge Institute of Technology, Karlskrona, 2013. Visit October 02–04.

External expert for the evaluation of applications at Linnaeus University, Campus Växjö, for the year 2014. Report sent in October 2013.

## 10. Seminars and conferences at Uppsala University

Lecture on 2009-01-28 at the *Naturvetarseminariet*, Uppsala University: *Diskret optimering*.

Organizer of a *Mini-Conference on Digital Geometry*, 2009 September 24. The invited speakers were Isabelle Debled-Rennesson, Petter Brändén, Damien Jamet, Rikard Bøgvad, and Anders Heyden.

Participated in the *Symposium on Image Analysis, Uppsala, March 11–12, 2010*. Title of talk on March 11: *Characterizing digital straightness by means of difference operators*.

Invited lecturer at the Mathematical Society of Uppsala, 2010 December 01: *Att söka det bästa. Optimering med reella och diskreta variabler* [*To search for the best. Optimization with real and discrete variables*].

Invited on 2011 March 10 to talk at *Naturvetarseminariet*, organized by Seidon Alsaody: *Hur kan man känna igen en rät linje på datorskärmen? (Digital geometri är inte euklidisk)* [*How can one recognize a straight line on the computer screen? (Digital geometry is not Euclidean)*].

Participant in the *International Conference on Iranian Linguistics* (ICIL 4) at Uppsala University, 2011 June 17–19.

Invited to speak at Vera Koponen's Seminar at the Department of Mathematics, Uppsala University, 2012 March 01: *Asymptotic properties of the Delannoy numbers*.

## 11. Graduate education

*Digital Geometry*. A course at the *Summer School in Digital Geometry and Mathematical Morphology* of the Swedish Society for Automated Image Analysis (SSBA) in Uppsala 2007 August 14–17, presented together with Pierre Soille.

## 12. Thesis advising

### 12.1. Shiva Samieinia 2007

Shiva Samieinia presented her Licentiate Thesis at Stockholm University on 2007 September 25 with Damien Jamet as the opponent.

### 12.2. Erik Melin 2008

Erik Melin defended his doctoral theses entitled *Digital Geometry and Khalimsky Spaces* on 2008 February 29 at Uppsala University. Opponent: Jean Serra. (Gunilla Borgefors and Mikael Passare were assistant advisors.) Grading Committee: Rikard Bøgvad, Gunnar Sparr, Stina Svensson; deputy member Ingela Nyström.

The Royal Society of Sciences at Uppsala awarded him a Benzelius prize on 2008 September 02.

### 12.3. Robin Strand 2008

Robin Strand defended his PhD thesis *Distance Functions and Image Processing on Point-Lattices* on 2008 November 07 at Uppsala University. Opponent: David Coeurjolly. He was a graduate student in computerized image processing. Gunilla Borgefors was his principal advisor, Stina Svensson his second; I was his third.

### 12.4. Hania Uscka-Wehlou 2009

Hania Uscka-Wehlou (at the time Hanna) defended her thesis *Digital lines, Sturmian Words, and Continued Fractions* on 2009 September 25 at Uppsala University. Opponent: Damien Jamet. Grading Committee: Petter Brändén, Rikard Bøgvad, Isabelle Debled-Rennesson, Anders Heyden, Warwick Tucker. Her other advisors were Maciej Klimek, Gunilla Borgefors, and Mikael Passare.

The Royal Society of Sciences at Uppsala awarded her a Benzelius prize on 2010 August 31.

### 12.5. Shiva Samieinia 2011

Shiva Samieinia defended her thesis entitled *Digital Geometry, Combinatorics, and Discrete Optimization* on 2011 January 21 at Stockholm University. Opponent: Rémy Malgouyres. Her other advisors were Julius Borcea up to 2009 April 08 and from that day on Rikard Bøgvad. Grading Committee: Isabelle Debled-Rennesson, Svante Linusson, Jean-Pierre Reveillès.

Shiva received a prize from the *Ruth and Nils-Erik Stenbäck Foundation for Research*, which was handed over at a ceremony in Helsinki on 2016 April 29. The amount of this scholarship is 30 kEUR.

## 12.6. Abtin Daghighi 2012

Abtin Daghighi presented his Licentiate Thesis at Sundsvall University College on 2012 December 18. Jürgen Leiterer was the opponent; Egmont Porten Abtin's first advisor, I his second, and Stefan Borell his third.

## 13. Research cooperation

Research cooperation with Stockholm University: Julius Borcea (2005-09-09 — 2009-04-08), Rikard Bøgvad (2009-04-08 — 2011-01-21), and Shiva Samieinia (since 2005-09-09).

## 14. Forty-Five referee reports 2007–2013

2007.1. *Korean Mathematical Journal*. Report sent 2007-02-15.

2007.2–2007.4. *International Symposium on Mathematical Morphology* (ISMM 8), Rio de Janeiro, October, 2007. Three referee reports sent 2007-04-02.

2007.5. *Discrete Applied Mathematics*. Report sent 2007-07-02.

2007.6–2007.8. *Discrete Geometry for Computer Imagery, DGCI*, Lyon, April, 2008. Three reports sent 2007-11-23.

2008.1. *Computers and Graphics*. Reports sent 2008-08-05 and 2008-10-25,

2008.2. *Pattern Recognition*. Report 2008-09-24.

2008.3. *Hypercomplex analysis*, Series Trends in Mathematics, Birkhäuser, Basel, 2009. Irene Sabadini, Michael Shapiro, Frank Sommen (eds.). Report sent 2008-10-02.

2008.4. *Complex Variables and Elliptic Equations*. Reports sent December 2008 and January 2009.

2008.5. *Image and Vision Computing*. Report sent 2008-12-30.

2009.1–2009.6. Six papers submitted 2009-05-21 to DGCI 2009. Reports sent 2009-07-02.

2010.1. *Information Sciences*. Report sent 2010-02-22.

2010.2. *Complex Variables and Elliptic Equations* (editor Heinrich Begehr). Reports sent 2010-04-10 and 2010-07-07.

2010.3. *Topology Proceedings*. Josef Šlapal asks about a ms. Report sent 2010-04-24.

2010.4. *Scienca revuo*. Hiroshi Nagata and Rüdiger Sachs ask about a ms. Report sent 2010-06-23.

2010.5. *Theoretical Computer Science*. Valentin Brimkov asks about a ms. Report sent 2010-07-29.

2010.6–2010.8. Three manuscripts submitted to DGCI, Nancy 2011. Three reports sent 2010-11-15.

2010.9. A fourth manuscript submitted to DGCI, Nancy 2011. Report sent 2010-11-29.

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- 2010.10. *J. reine angew. Math. (Crelle's journal)*.
- 2011.1. Paul Vojta, *J. reine angew. Math. (Crelle's journal)* asks about a manuscript. Reports 2011-03-22 and 2011-05-29.
- 2011.2. Håkan Hedenmalm asks about a ms. Reports 2011-04-16, 2011-04-36, 2011-05-08.
- 2011.3. Report for the Section of Professional Language, The Esperanto Academy. Report sent 2011-04-16.
- 2011.4. *Journal of Mathematical Analysis and Applications*. Reports 2011-05-26, 2011-05-30 and 2011-12.
- 2011.5. *Topology and its Applications*. Report 2011-07-18.
- 2011.6. *Discrete Applied Mathematics*. Report 2011-11-22.
- 2012.1. *Normat*. Fourth and final report 2012-05-02.
- 2012.2. *Math. Scand.* Report 2012-04-01.
- 2012.3. *Discrete Applied Mathematics*. Report sent 2012-05-19.
- 2012.4. DGCI 2013, Sevilla. María José Jiménez and Rocío González-Díaz ask about a ms.
- 2012.5. DGCI 2013, Sevilla. María José Jiménez and Rocío González-Díaz ask about a ms.
- 2012.6–2012.8. ISMM 2013. Three manuscripts. Three reports sent 2013-01-19.
- 2013.1. ISMM 2013.
- 2013.2. *International Journal of Modern Mathematical Sciences* asks 2013-02-16 for a report. Report 2013-02-18.