

Matias Korman

+81 22-795-4747 • +81 22-795-4747 • mati@dais.is.tohoku.ac.jp
http://www.dais.is.tohoku.ac.jp/~mati/index_e.html

WORK EXPERIENCE

Assistant professor <i>Tohoku University, Sendai (Japan)</i>	June 2015 - present day
Research assistant professor <i>National Institute of Informatics, Tokyo (Japan)</i>	Dec 2013 - May 2015
Postdoctoral researcher <i>Universitat Politècnica de Catalunya, Barcelona (Spain)</i> Part of the EU-funded project Post-doctoral programme <i>Beatriu de Pinos</i>	Jan 2012 - Nov 2013
Postdoctoral researcher <i>Université Libre de Bruxelles, Brussels (Belgium)</i> - Financed by <i>Fonds de la Recherche Scientifique</i> and <i>Actions de Recherche Concertées</i> . - Position included $\approx 8000\text{€}$ /year in travel expenses for attending conferences and research stays.	Oct 2009 - Dec 2011
Undergraduate researcher <i>Canon Inc., Atsugi-shi (Japan)</i> - Developed a numerical methods library at Canon research headquarters. - Part of the <i>Vulcanus in Japan</i> exchange program.	Jan 2004 - Aug 2004
Undergraduate researcher <i>Universitat Politècnica de Catalunya, Barcelona (Spain)</i> - Designed a prediction algorithm for improving the running time of operative systems. - Financed by the Spanish ministry of culture.	Oct 2002 - Jun 2003

EDUCATION

Tohoku University <i>Ph. D. in computer science</i>	Sendai (Japan) 2006 - 2009
Universitat Politècnica de Catalunya <i>Degree (extended diploma) in mathematics</i>	Barcelona (Spain) 2000 - 2005
Universitat Politècnica de Catalunya <i>Degree (extended diploma) in computer science</i>	Barcelona (Spain) 1998 - 2006

SCHOLARSHIPS AND AWARDS

Geometric Algorithms for Portable Devices <i>Wakate (B) (Research grant for Japanese young researchers)</i>	2017-2021 $\approx 25.000\text{€}$
Theory and applications of non-deterministic kinetic computational geometry <i>Shingakujutsu Ryoiki.</i> Partially responsible (main researcher: Prof. Takeshi Tokuyama)	2015-2020 $\approx 3.000\text{€}/\text{year}$
Space-time trade-off algorithms for sensor networks <i>Shingakujutsu Ryoiki (Research Grant for research on innovative areas)</i> Highlighted as one of the best young researchers of the ELC project	2015-2017 $\approx 20.000\text{€}$
Bourse de Sejour Scientifique (IN) <i>Research grant for a medium-length research stay (up to 3 months) in Belgium</i>	2013 $\approx 1.300\text{€}/\text{month}$

Marie Curie fellowship <i>Research grant for postdoctoral researchers</i> Part of the EU-funded project Post-doctoral programme Beatriu de Pinos	2012-2013 ≈ 73.000€
Juan de la Cierva fellowship <i>Research grant for postdoctoral researchers (declined)</i> Financed by the Spanish ministry of science and innovation	2011 ≈ 98.100€
Monbukagakusho <i>Japanese scholarship for graduate foreign students to obtain a Ph.D.</i> Financed by the Japanese ministry of education, culture, sports, science, and technology.	2006-2009 ≈ 63.000€
Vulcanus in Japan <i>Japanese exchange program for undergraduate students</i>	2003-2004 ≈ 15.000€
Beca d'investigació <i>Research scholarship for undergraduate students</i>	2002-2003 ≈ 2.000€

TEACHING ACTIVITIES

Invited speaker in the 9th Winter School of Computational Geometry <i>Six one hour lectures introducing different computational geometry topics</i>	Feb 2017 <i>Theory (1h/talk)</i>
An Introduction to Information Science <i>Master level introductory course to computer science</i>	2015 - 2016 <i>Theory (90min/week)</i>
Differential Equations <i>Bachelor level introductory course (sporadic substitutions)</i>	2013 - 2014 <i>Exercises (2h/week)</i>
Analysis II <i>Bachelor level multivariate analysis course</i>	2012 - 2013 <i>Theory (2h/week)</i>
Introduction to Language Theory and Compilation <i>Formal language theory oriented towards compilers (master level course)</i>	2011 - 2012 <i>Exercises (2h/week)</i>
Computational Geometry <i>Master level introductory course to the topic (sporadic substitutions)</i>	2010 - 2011 <i>Theory (2h/week)</i>

SUPERVISING/ADVISING ACTIVITIES

Yago Diez <i>Assistant professor for the impACT project.</i>	<i>Oct 2015 - present day</i>
Man-Kwun Chiu <i>Postdoctoral researcher for the Kawarabayashi Large Graph Project.</i>	<i>Jun 2015 - present day</i>
Jean-François Baffier <i>Postdoctoral researcher for the Kawarabayashi Large Graph Project.</i>	<i>May 2015 - present day</i>
André van Renssen <i>Research assistant professor for the Kawarabayashi Large Graph Project.</i>	<i>Sep 2014 - present day</i>
Marcel Roeloffzen <i>Research assistant professor for the Kawarabayashi Large Graph Project.</i>	<i>Aug 2014 - present day</i>
Samir Mahmalat <i>Supervised master student's research project.</i>	<i>Sep 2014 - Mar 2015</i>

COMMUNITY ACTIVITIES

Editorial work for journals

Journal of Information Processing (**Guest Editor**). Special Issue on *Discrete and Computational Geometry, Graphs, and Games* (2017).

Conference organizing committee

CG Week: Multimedia exposition (CG-ME): 2017 (**Chair**).

ICALP: young researchers' forum (ICALP-YR): 2015 (**Chair**).

European Workshop on Computational Geometry (EuroCG): 2016.

Conference program committee

CG Week: Multimedia exposition (CG-ME): 2017 (**Chair**).

ICALP: young researchers' forum (ICALP-YR): 2015 (**Chair**).

Canadian Conference on Computational Geometry (CCCG): 2015 and 2017.

CG Week: Young researchers forum (CG-YRF): 2015.

CG Week: Multimedia exposition (CG-ME): 2015.

European Workshop on Computational Geometry (EuroCG): 2016 and 2017.

International Symposium on Algorithms and Experiments for Wireless Sensor Networks (Algosensors): 2015.

International Symposium on Computational Geometry (SoCG): 2016.

Japan Conference on Discrete and Computational Geometry and Graphs (JCDCG³): 2015 and 2017.

Research workshops organized

27th April - 3rd May 2016: Dutch-Japanese bilateral seminar on kinetic geometric networks, Zao (Japan). 32 participants. Supported by the **JSPS and NWO Bilateral Joint Research Project**

14-20th June 2014: Sendai Workshop on Discrete and Computational Geometry, Sendai (Japan). 7 participants.

25-29th November 2013: TU Graz-UPC Workshop on Computational Geometry, Barcelona (Spain). 8 participants.

Selected invited talks

Mar 2017: An introduction to Computational Geometry. Presented at the *9th Winter School of Computational Geometry* (see Teaching Activities), Amirkabir University (Iran). Hosted by Prof. Ali Mohades.

Jun 2014: Placing Polyominoes on the Grid. Presented at the *Geometric Puzzles and Games* workshop in the *30th Annual Symposium on Computational Geometry*, Kyoto (Japan). Hosted by Prof. Hiro Ito.

Jun 2014: Constant Workspace: How to do a lot with little. Presented at the *2nd Swiss-Japan Workshop*, Kyoto (Japan). Hosted by Prof. Sonoko Moriyama.

Oct 2016: Time-Space Trade-offs for Computing (High Order) Voronoi Diagrams. Presented at *ETH Zurich* University, Zurich (Switzerland). Hosted by Prof. Michael Hoffmann.

May 2016: An Introduction to Biplane Graphs. Presented at *National Chi Nan University*, Taichung (Taiwan). Hosted by Prof. Yijung Chen.

PUBLICATIONS

Chapters in Books

[1] M. Korman. Memory-constrained algorithms. In M.-Y. Kao, editor, *Encyclopedia of Algorithms*, pages 1260–1264. Springer, 2016.

Publications in international journals

- [1] H.-K. Ahn, S. W. Bae, E. D. Demaine, M. L. Demaine, S.-S. Kim, M. Korman, I. Reinbacher, and W. Son. Covering points by disjoint boxes with outliers. *Computational Geometry: Theory and Applications*, 44(3):178–190, 2011.
- [2] H.-K. Ahn, L. Barba, P. Bose, J.-L. De Carufel, M. Korman, and E. Oh. A linear-time algorithm for the geodesic center of a simple polygon. *Discrete & Computational Geometry*, 56(4):836–859, 2016.
- [3] O. Aichholzer, S. W. Bae, L. Barba, P. Bose, M. Korman, A. van Renssen, P. Taslakian, and S. Verdonschot. Theta-3 is connected. *Computational Geometry: Theory and Applications*, 47(9):910 – 917, 2014. Special issue of selected papers from the 24th Canadian Conference on Computational Geometry (CCCG'13).
- [4] O. Aichholzer, J. Cardinal, T. Hackl, F. Hurtado, M. Korman, A. Pilz, R. I. Silveira, R. Uehara, B. Vogtenhuber, and E. Welzl. Cell-paths in mono- and bichromatic line arrangements in the plane. *Discrete Mathematics And Theoretical Computer Science*, 16(3):317–332, 2014.
- [5] O. Aichholzer, T. Hackl, M. Korman, A. Pilz, and B. Vogtenhuber. Geodesic-preserving polygon simplification. *International Journal of Computational Geometry and Applications*, 24(04):307–323, 2014. Special issue of selected papers from the 24th International Symposium on Algorithms and Computation (ISAAC'13).
- [6] O. Aichholzer, T. Hackl, M. Korman, M. J. van Kreveld, M. Löffler, A. Pilz, B. Speckmann, and E. Welzl. Packing plane spanning trees and paths in complete geometric graphs. *Information Processing Letters*, 124:35–41, 2017.
- [7] O. Aichholzer, M. Korman, A. Pilz, and B. Vogtenhuber. Geodesic order types. *Algorithmica*, 70(1):112–128, 2014. Special issue of selected papers from the 18th International Conference on Computing and Combinatorics (COCOON'12).
- [8] G. Aloupis, J. Cardinal, S. Collette, S. Imahori, M. Korman, S. Langerman, O. Schwartz, S. Smorodinsky, and P. Taslakian. Colorful strips. *Graphs & Combinatorics*, 27(3):1–13, 2011. Special issue of selected papers from the 7th Japan Conference on Computational Geometry and Graphs (JCCGG'10).
- [9] G. Aloupis, M. Damian, R. Flatland, M. Korman, O. Özkan, D. Rappaport, and S. Wührer. Establishing strong connectivity using optimal radius half-disk antennas. *Computational Geometry: Theory and Applications*, 46(3):328–339, 2013.
- [10] S. Anzai, J. Chun, R. Kasai, M. Korman, and T. Tokuyama. Effect of corner information in simultaneous placement of k rectangles and tableaux. *Discrete Mathematics, Algorithms and Applications*, 2(4):527–537, 2010. Special issue of selected papers from the 16th International Conference on Computing and Combinatorics (COCOON'10).
- [11] B. Aronov, M. Korman, S. Pratt, A. van Renssen, and M. Roeloffzen. Time-space trade-offs for triangulating a simple polygon. *Journal of Computational Geometry*, 8(1):105 – 124, 2017.
- [12] T. Asano, K. Buchin, M. Buchin, M. Korman, W. Mulzer, G. Rote, and A. Schulz. Memory-constrained algorithms for simple polygons. *Computational Geometry: Theory and Applications*, 46(8):959–969, 2012. Special issue of selected papers from the 28th European Workshop on Computational Geometry.
- [13] S. W. Bae, M. Korman, J. S. B. Mitchell, Y. Okamoto, V. Polishchuk, and H. Wang. Computing the L1 geodesic diameter and center of a polygonal domain. *Discrete & Computational Geometry*, 57(3):674–701, 2017.

- [14] S. W. Bae, M. Korman, and Y. Okamoto. Computing the geodesic centers of a polygonal domain. *Computational Geometry: Theory and Applications*. Special issue of selected papers from the 26th Canadian Conference on Computational Geometry (CCCG'14). In press.
- [15] S. W. Bae, M. Korman, and Y. Okamoto. The geodesic diameter of polygonal domains. *Discrete and Computational Geometry*, 50(2):306–329, 2013.
- [16] S. W. Bae, M. Korman, Y. Okamoto, and H. Wang. Computing the L_1 geodesic diameter and center of a simple polygon in linear time. *Computational Geometry: Theory and Applications*, 48(6):495–505, 2015.
- [17] J. Baffier, M. Chiu, Y. Diez, M. Korman, V. Mitsou, A. van Renssen, M. Roeloffzen, and Y. Uno. Hanabi is NP-hard, even for cheaters who look at their cards. *Theoretical Computer Science*, 675:43–55, 2017.
- [18] L. Barba, M. Korman, S. Langerman, K. Sadakane, and R. Silveira. Space-time trade-offs for stack-based algorithms. *Algorithmica*, 72(4):1097–1129, 2015.
- [19] L. Barba, M. Korman, S. Langerman, and R. Silveira. Computing the visibility polygon using few variables. *Computational Geometry: Theory and Applications*, 47(9):918 – 926, 2013.
- [20] S. Bereg, F. Hurtado, M. Kano, M. Korman, D. Lara, C. Seara, R. I. Silveira, J. Urrutia, and K. Verbeek. Balanced partitions of 3-colored geometric sets in the plane. *Discrete Applied Mathematics*, pages 21–32, 2015.
- [21] P. Bose, J. Cardinal, S. Collette, F. Hurtado, M. Korman, S. Langerman, and P. Taslakian. Coloring and guarding line arrangements. *Discrete Mathematics And Theoretical Computer Science*, 15(3):139–154, 2013.
- [22] P. Bose, S. Collette, F. Hurtado, M. Korman, S. Langerman, V. Sacristan, and M. Saumell. Some properties of higher order delaunay and gabriel graphs. *Computational Geometry: Theory and Applications*, 46(2):131–139, 2013. Special issue of selected papers from the 22nd Canadian Conference on Computational Geometry (CCCG'11).
- [23] J. Cardinal, S. Collette, H. Ito, H. Sakaidani, M. Korman, S. Langerman, and P. Taslakian. Cannibal animal games: A new variant of tic-tac-toe. *Journal of Information Processing*, 23(3):265–271, 2015. JIP Specially Selected Paper Award.
- [24] J. Cardinal, H. Ito, M. Korman, and S. Langerman. Helly numbers of polyominoes. *Graphs & Combinatorics*, 29(5):1221–1234, 2013.
- [25] J. Cardinal and M. Korman. Coloring planar homothets and three-dimensional hypergraphs. *Computational Geometry: Theory and Applications*, 46(9):1027–1035, 2013.
- [26] J. Chun, N. Kaothanthong, R. Kasai, M. Korman, M. Nöllenburg, and T. Tokuyama. Algorithms for computing the maximum weight region decomposable into elementary shapes. *Computer Vision and Image Understanding*, 116(7):803–814, 2012.
- [27] J. Chun, M. Korman, M. Nöllenburg, and T. Tokuyama. Consistent digital rays. *Discrete and Computational Geometry*, 42(3):359–378, 2009. Special issue of selected papers from the 24th Symposium on Computational geometry (SoCG'08).
- [28] M. Claverol, D. Garijo, M. Korman, C. Seara, and R. Silveira. Stabbing segments with rectilinear objects. *Applied Mathematics and Computation*, 309:359 – 373, 2017.

- [29] J.-L. De Carufel, M. J. Katz, M. Korman, A. van Renssen, M. Roeloffzen, and S. Smorodinsky. On interference among moving sensors and related problems. *Journal of Computational Geometry*, 8(1):32 – 46, 2017.
- [30] J. M. Díaz-Báñez, M. Korman, P. Pérez-Lantero, A. Pilz, C. Seara, and R. I. Silveira. New results on stabbing segments with a polygon. *Computational Geometry: Theory and Applications*, 48(1):14 – 29, 2015.
- [31] J. M. Díaz-Báñez, M. Korman, P. Pérez-Lantero, and I. Ventura. The 1-median and 1-highway problem. *European Journal of Operational Research*, 225(3):552–557, 2013.
- [32] J. M. Díaz-Báñez, M. Korman, P. Pérez-Lantero, and I. Ventura. Locating a single facility and a high-speed line. *European Journal of Operational Research*, 236(1):69 – 77, 2014.
- [33] J. M. Díaz-Báñez, M. Korman, P. Pérez-Lantero, and I. Ventura. The 1-center and 1-highway problem revisited. *Annals of Operations Research*, 246(1-2):167–179, 2016.
- [34] A. García, F. Hurtado, M. Korman, I. Matos, M. Saumell, R. Silveira, J. Tejel, and C. D. Tóth. Geometric biplane graphs I: Maximal graphs. *Graphs & Combinatorics*, 31(2):407–425, 2015. Special issue of selected papers from the Mexican Conference on Discrete Mathematics and Computational Geometry (2013).
- [35] A. García, F. Hurtado, M. Korman, I. Matos, M. Saumell, R. Silveira, J. Tejel, and C. D. Tóth. Geometric biplane graphs II: Graph augmentation. *Graphs & Combinatorics*, 31(2):427–452, 2015. Special issue of selected papers from the Mexican Conference on Discrete Mathematics and Computational Geometry (2013).
- [36] F. Hurtado, M. Korman, M. V. Kreveld, M. Löffler, V. Sacristan, R. Silveira, A. Shioura, B. Speckmann, and T. Tokuyama. Colored spanning graphs for set visualization. *Computational Geometry: Theory and Applications*. Special Issue in Memoriam: Ferran Hurtado. In press.
- [37] M. Korman. Minimizing interference in ad-hoc networks with bounded communication radius. *Information Processing Letters*, 112(19):748–752, 2012.
- [38] M. Korman, S. Langerman, W. Mulzer, A. Pilz, and B. Vogtenhuber. Minimum dual diameter triangulations. *Computational Geometry: Theory and Applications*. Special Issue in Memoriam: Ferran Hurtado. In press.
- [39] M. Korman, W. Mulzer, A. v. Renssen, M. Roeloffzen, P. Seiferth, and Y. Stein. Time-space trade-offs for triangulations and voronoi diagrams. *Computational Geometry: Theory and Applications*. Special issue of selected papers from the 31st European Workshop on Computational Geometry. In press.

Publications in refereed conferences

- [1] H. K. Ahn, S. W. Bae, S. S. Kim, M. Korman, I. Reinbacher, and W. Son. Square and rectangle covering with outliers. In *Proc. of the 3rd Frontiers of Algorithmics Workshop (FAW'09)*, pages 132–140, 2009.
- [2] H.-K. Ahn, L. Barba, P. Bose, J.-L. De Carufel, M. Korman, and E. Oh. A linear-time algorithm for the geodesic center of a simple polygon. In *Proc. of the 31st Symposium on Computational geometry (SoCG'15)*, pages 209–233, 2015.
- [3] O. Aichholzer, T. Hackl, M. Korman, A. Pilz, G. Rote, A. van Renssen, M. Roeloffzen, and B. Vogtenhuber. Packing short plane spanning trees in complete geometric graphs. In *Proc. of the 27th*

International Symposium on Algorithms and Computation (ISAAC'16), volume 64 of *LIPICs*, pages 9:1–9:12, 2016.

- [4] O. Aichholzer, T. Hackl, M. Korman, A. Pilz, and B. Vogtenhuber. Geodesic-preserving polygon simplification. In *Proc. of the 24th International Symposium on Algorithms and Computation (ISAAC'13)*, volume 8283, pages 11–21, 2013.
- [5] O. Aichholzer, M. Korman, A. Pilz, and B. Vogtenhuber. Geodesic order types. In *Proc. of the 18th International Conference on Computing and Combinatorics (COCOON'12)*, pages 216–227, 2012.
- [6] G. Aloupis, J. Cardinal, S. Collette, S. Imahori, M. Korman, S. Langerman, O. Schwartz, S. Smorodinsky, and P. Taslakian. Colorful strips. In *Proc. of the 8th Latin American Theoretical Informatics (LATIN'10)*, pages 2–13, 2010.
- [7] S. Anzai, J. Chun, R. Kasai, M. Korman, and T. Tokuyama. Effect of corner information in simultaneous placement of k rectangles and tableaux. In *Proc. of the 16th International Conference on Computing and Combinatorics (COCOON'10)*, pages 235–243, 2010.
- [8] B. Aronov, M. Korman, S. Pratt, A. van Renssen, and M. Roeloffzen. Time-space trade-offs for triangulating a simple polygon. In *Proc. of the 15th Scandinavian Symposium and Workshops on Algorithm Theory (SWAT'16)*, pages 30:1–30:12, 2016.
- [9] S. W. Bae, J.-F. Baffier, J. Chun, P. Eades, K. Eickmeyer, L. Grilli, S.-H. Hong, M. Korman, F. Montecchiani, I. Rutter, and C. D. Tóth. Gap-planar graphs. In *To appear in the Proc. of the 25th International Symposium on Graph Drawing (GD'17)*, 2017.
- [10] S. W. Bae, M. Korman, J. S. B. Mitchell, Y. Okamoto, V. Polishchuk, and H. Wang. Computing the L_1 geodesic diameter and center of a polygonal domain. In *Proc. of the 33rd Symposium on Theoretical Aspects of Computer Science (STACS'16)*, volume 47, pages 14:1–14:14, 2016.
- [11] S. W. Bae, M. Korman, and Y. Okamoto. The geodesic diameter of polygonal domains. In *Proc. of the 18th European Symposium on Algorithms (ESA'10)*, pages 500–511, 2010.
- [12] S. W. Bae, M. Korman, Y. Okamoto, and H. Wang. Computing the L_1 geodesic diameter and center of a simple polygon in linear time. In *Proc. of the 11th Latin American Theoretical Informatics (LATIN'14)*, pages 120–131, 2014.
- [13] S. W. Bae, M. Korman, and T. Tokuyama. All farthest neighbors in the presence of highways and obstacles. In *Proc. of the 3rd International Workshop on Algorithms and Computation (WALCOM'09)*, pages 71–82, 2009.
- [14] J. Baffier, M. Chiu, Y. Diez, M. Korman, V. Mitsou, A. van Renssen, M. Roeloffzen, and Y. Uno. Hanabi is NP-complete, even for cheaters who look at their cards. In *Proc. of the 8th International Conference on Fun with Algorithms (FUN'16)*, volume 49 of *LIPICs*, pages 4:1–4:17, 2016.
- [15] B. Banyassady, M. Korman, W. Mulzer, A. v. Renssen, M. Roeloffzen, P. Seiferth, and Y. Stein. Improved time-space trade-offs for computing voronoi diagrams. In *Proc. of the 34th Symposium on Theoretical Aspects of Computer Science (STACS'17)*, volume 66, pages 9:1–9:14, 2017.
- [16] L. Barba, J. Cardinal, M. Korman, S. Langerman, A. v. Renssen, M. Roeloffzen, and S. Verdonschot. Dynamic graph coloring. In *Proc. of the 16th Algorithms and Data Structures Symposium (WADS'17)*, pages 97–108, 2017.
- [17] L. Barba, J.-L. De Carufel, O. Cheong, M. Dobbins, R. Fleischer, A. Kawamura, M. Korman, Y. Okamoto, J. Pach, Y. Tang, T. Tokuyama, S. Verdonschot, and T. Wang. Weight balancing on

- boundaries and skeletons. In *Proc. of the 30th Symposium on Computational geometry (SoCG'14)*, pages 436–443, 2014.
- [18] L. Barba, M. Korman, S. Langerman, K. Sadakane, and R. Silveira. Space-time trade-offs for stack-based algorithms. In *Proc. of the 30th Symposium on Theoretical Aspects of Computer Science (STACS'13)*, pages 281–292, 2013.
- [19] L. Barba, M. Korman, S. Langerman, and R. Silveira. Computing the visibility polygon using few variables. In *Proc. of the 22nd International Symposium on Algorithms and Computation (ISAAC'11)*, pages 70–79, 2011.
- [20] J. Cardinal and M. Korman. Coloring planar homothets and three-dimensional hypergraphs. In *Proc. of the 10th Latin American Theoretical Informatics (LATIN'12)*, pages 121–132, 2012.
- [21] P. Carmi, M. Chiu, M. Katz, M. Korman, Y. Okamoto, A. van Renssen, M. Roeloffzen, T. Shiitada, and S. Smorodinsky. Balanced line separators of unit disk graphs. In *Proc. of the 16th Algorithms and Data Structures Symposium (WADS'17)*, pages 241–252, 2017.
- [22] M. Chiu and M. Korman. High dimensional consistent digital segments. In *Proc. of the 33rd Symposium on Computational geometry (SoCG'17)*, volume 77 of *LIPICs*, pages 31:1–31:15, 2017.
- [23] J. Chun, M. Korman, M. Nöllenburg, and T. Tokuyama. Consistent digital rays. In *Proc. of the 24th Symposium on Computational geometry (SoCG'08)*, pages 355–364, 2008.
- [24] J. Chun, K. Ryosei, M. Korman, and T. Tokuyama. Algorithms for computing the maximum weight region decomposable into elementary shapes. In *Proc. of the 20th International Symposium on Algorithms and Computation (ISAAC'09)*, pages 1166–1174, 2009.
- [25] M. Claverol, D. Garijo, M. Korman, C. Seara, and R. Silveira. Stabbing segments with rectilinear objects. In *Proc. of the 20th Symposium on Fundamentals of Computation Theory (FCT'15)*, pages 53–64, 2015.
- [26] J.-L. De Carufel, M. J. Katz, M. Korman, A. van Renssen, M. Roeloffzen, and S. Smorodinsky. On interference among moving sensors and related problems. In *Proc. of the 24th European Symposium on Algorithms (ESA'16)*, volume 57 of *LIPICs*, pages 34:1–34:11, 2016.
- [27] E. D. Demaine, M. Korman, J. S. Ku, J. S. B. Mitchell, Y. Otachi, A. van Renssen, M. Roeloffzen, R. Uehara, and Y. Uno. Symmetric assembly puzzles are hard, beyond a few pieces. In *Proc. of the 18th Discrete and Computational Geometry and Graphs (JCDCGG 2015), Revised Selected Papers*, pages 180–192, 2016.
- [28] J. M. Díaz-Báñez, M. Korman, P. Pérez-Lantero, A. Pilz, C. Seara, and R. I. Silveira. New results on stabbing segments with a polygon. In *Proc. of the 8th International Conference on Algorithms and Complexity (CIAC'13)*, pages 146–157, 2013.
- [29] J. M. Díaz-Báñez, M. Korman, P. Pérez-Lantero, and I. Ventura. The 1-center and 1-highway problem. In *LNCS special festschrift issue of selected papers from the 14th Spanish Meeting on Computational Geometry (EGC'11)*, pages 155–165, 2012.
- [30] J. M. Díaz-Báñez, M. Korman, P. Pérez-Lantero, and I. Ventura. Locating a service facility and a rapid transit line. In *LNCS special festschrift issue of selected papers from the 14th Spanish Meeting on Computational Geometry (EGC'11)*, pages 126–137, 2012.

- [31] F. Hurtado, M. Korman, M. V. Kreveld, M. Löffler, V. Sacristan, R. Silveira, and B. Speckmann. Colored spanning graphs for set visualization. In *Proc. of the 21st International Symposium on Graph Drawing (GD'13)*, pages 280–291, 2013.
- [32] M. Korman. Minimizing interference in ad-hoc networks with bounded communication radius. In *Proc. of the 22nd International Symposium on Algorithms and Computation (ISAAC'11)*, pages 80–89, 2011.
- [33] M. Korman, M. Löffler, R. I. Silveira, and D. Strash. On the complexity of barrier resilience for fat regions. In *Proc. of the 8th International Symposium on Algorithms and Experiments for Sensor Systems, Wireless Networks and Distributed Robotics (ALGOSENSORS'13)*, pages 201–216, 2013.
- [34] M. Korman, W. Mulzer, A. v. Renssen, M. Roeloffzen, P. Seiferth, and Y. Stein. Time-space trade-offs for triangulations and voronoi diagrams. In *Proc. of the 14th Algorithms and Data Structures Symposium (WADS'15)*, pages 482–494, 2015.
- [35] M. Korman and T. Tokuyama. Optimal insertion of a segment highway in a city metric. In *Proc. of the 14th International Conference on Computing and Combinatorics (COCOON'08)*, pages 611–620, 2008.
- [36] A. v. R. Prosenjit Bose, Matias Korman and S. Verdonschot. Constrained routing between non-visible vertices. In *To appear in the Proc. of the 23rd International Conference on Computing and Combinatorics (COCOON'17)*, 2017.

Publications in weakly refereed conferences

- [1] O. Aichholzer, S. W. Bae, L. Barba, P. Bose, M. Korman, A. van Renssen, P. Taslakian, and S. Verdonschot. Theta-3 is connected. In *Proc. of the 25nd Canadian Conference on Computational Geometry (CCCG'13)*, 2013.
- [2] O. Aichholzer, T. Hackl, M. Korman, M. van Kreveld, M. Löffler, A. Pilz, B. Speckmann, and E. Welzl. Packing plane spanning trees and paths in complete geometric graphs. In *Proc. of the 26th Canadian Conference on Computational Geometry (CCCG'14)*, 2014.
- [3] G. Aloupis, M. Damian, R. Y. Flatland, M. Korman, Ö. Özkan, D. Rappaport, and S. Wuhrer. Establishing strong connectivity using optimal radius half-disk antennas. In *Proc. of the 23rd Canadian Conference on Computational Geometry (CCCG'11)*, 2011.
- [4] S. W. Bae, M. Korman, and Y. Okamoto. Computing the geodesic centers of a polygonal domain. In *Proc. of the 26th Canadian Conference on Computational Geometry (CCCG'14)*, 2014.
- [5] P. Bose, S. Collette, F. Hurtado, M. Korman, S. Langerman, V. Sacristán, and M. Saumell. Some properties of higher order delaunay and gabriel graphs. In *Proc. of the 22th Canadian Conference on Computational Geometry (CCCG'10)*, pages 13–16, 2010.
- [6] J. Cardinal, T. Hackl, F. Hurtado, M. Korman, A. Pilz, R. I. Silveira, R. Uehara, B. Vogtenhuber, and E. Welzl. Cell-paths in mono- and bichromatic line arrangements in the plane. In *Proc. of the 25th Canadian Conference on Computational Geometry (CCCG'13)*, pages 169–174, 2013.
- [7] J. Cardinal, H. Ito, M. Korman, and S. Langerman. Helly numbers of polyominoes. In *Proc. of the 23rd Canadian Conference on Computational Geometry (CCCG'11)*, 2011.
- [8] J. Chun, M. Korman, Y. Okada, and T. Tokuyama. Trisector curves for lines. In *Proc. of the International Conference on Computational Geometry and Graph Theory (CGGT'07)*, 2007.

- [9] J. Chun, K. Ryosei, M. Korman, and T. Tokuyama. Algorithms for computing the optimal image segmentation of nonintersecting union of base monotone regions (in japanese). In *Proc. of the 8th Forum on Information Technology (FIT'09)*, 2009.
- [10] E. D. Demaine, M. Korman, A. van Renssen, and M. Roeloffzen. Snipperclips: Cutting tools into desired polygons using themselves. In *Proc. of the 29th Canadian Conference on Computational Geometry (CCCG'17)*, pages 56–61, 2017.
- [11] Y. Diez, M. Korman, A. van Renssen, M. Roeloffzen, and F. Staals. Kinetic all-pairs shortest path in a simple polygon. pages 21–24, 2017.
- [12] M. Korman and S. Langerman. On recognizing circle-freeness. In *Proc. of the 14th Japan Conference on Discrete and Computational Geometry (JCDCG'11)*, pages 46–47, 2011.
- [13] M. Korman, W. Mulzer, A. van Renssen, M. Roeloffzen, P. Seiferth, Y. Stein, B. Vogtenhuber, and M. Willert. Routing in simple polygons. *33rd European Workshop on Computational Geometry (EuroCG'17)*, pages 17–20, 2017.
- [14] M. Korman, M. Roeloffzen, and S.-H. Poon. Line segment covering of cells in arrangements. In *Proc. of the 9th Annual International Conference on Combinatorial Optimization and Applications (COCOA'15)*, pages 152–162, 2015.
- [15] M. Korman and T. Tokuyama. An improved algorithm for inserting a highway in a city metric based on quasiconvex optimization techniques. In *Proc. of the 25th European Workshop on Computational Geometry (EuroCG'09)*, 2009.