Sang-il Oum (엄상일)

Discrete Mathematics Group
Institute for Basic Science (IBS)
55 Expo-ro, Yuseong-gu, Daejeon 34126
Republic of Korea
Tel: +82-42-878-9200

기초과학연구원(IBS) 이산수학그룹
대전광역시 유성구 엑스포로 55 (우)34126
Office: B321, sangil@ibs.re.kr
https://dimag.ibs.re.kr/home/sangil/

Current positions

12/2018– Distinguished Research Fellow (수석연구위원, since Aug. 2024) and CI (Chief Investigator)
Discrete Mathematics Group, Center for Mathematical and Computational Sciences, **IBS** (Institute for Basic Science), Daejeon, Korea. https://dimag.ibs.re.kr/

09/2025– Adjunct Professor (겸직교수), Department of Mathematical Sciences, **KAIST**.

Research Areas

Combinatorics, discrete mathematics, graph theory, matroid theory.

In particular, structural graph theory and related problems.

Employment History

01/2008–07/2024 Assistant Professor (01/2008–02/2011), Associate Professor (03/2011–08/2016), Professor (09/2016–07/2024), Department of Mathematical Sciences, **KAIST**, Daejeon, Korea (tenured Sep. 2013).

09/2015–11/2018 Affiliate Professor.
School of Mathematics, **KIAS** (Korea Institute for Advanced Study), Seoul, Korea.

01/2007–12/2007 Postdoctoral Fellow.
Department of Combinatorics & Optimization, Faculty of Mathematics, **University of Waterloo**, Waterloo, Ontario, Canada.

08/2005–12/2006 Visiting Assistant Professor.
School of Mathematics, **Georgia Institute of Technology**, Atlanta, Georgia, USA.

Editor

01/2025– Graphs and Combinatorics (Principal Editor).

01/2024– SIAM Journal on Computing (Associate Editor).

01/2011– Journal of the Korean Mathematical Society.

2016–2017 Discrete Applied Mathematics. Guest Editor for the Special Issue on Graph Classes, Width Parameters, and Optimization.

2012–2013 Discrete Applied Mathematics. Guest Editor for the Special Issue on Graph Classes, Width Parameters, and Optimization.

Education

09/2001–06/2005 **Princeton University**, Princeton, NJ USA.

Ph.D. in Applied and Computational Mathematics, May 2005
Thesis title: *Graphs of Bounded Rank-width.* Thesis advisor: **Paul Seymour**.

M.A. in Applied and Computational Mathematics, Nov. 2003.

03/1994–02/1998 **Korea Advanced Institute of Science and Technology (KAIST)**, Daejeon, Korea.

B.S. in Mathematics with *Magna Cum Laude*.

03/1992–02/1994 Daegu Science High School (대구과학고등학교), Daegu, Korea.

Honors and Awards

Mar. 1, 2023 **KAIST Endowed Chair Professor (KAIST 지정석좌교수)**, KAIST.

Dec. 13, 2022 **Choi Seok-Jeong Award of the Year (올해의 최석정상)**, Minister of Science and ICT of Korea.

Mar. 10, 2021 *Excellent Teaching Award*, College of Natural Sciences, KAIST. (자연과학대학 우수강의상)

Feb. 24, 2017 A founding member of *Y-KAST* (한국차세대과학기술한림원, Young Korean Academy of Science and Technology).

Oct. 24, 2015 *Special Contribution Award* (특별공로상), Korean Mathematical Society.

Feb. 28, 2015 *Excellent Teaching Award*, College of Natural Sciences, KAIST. (자연과학대학 우수강의상)

Dec. 5, 2013 *Hanrim Leading Scientist* (한림선도과학자), The Korean Academy of Science and Technology (한국과학기술한림원).

Dec. 21, 2012 **Young Scientist Award (젊은과학자상)**, President of Korea.

May 2011–April 2016 **Excellent Young Researcher Research Award (우수신진연구자)**, National Research Foundation.

Oct. 15, 2010 **EWon Assistant Professorship (이원조교수)**, KAIST.

2010 Journal of Combinatorial Theory Series B Top Cited Article 2005–2010 Award, Elsevier, The Netherlands.

Apr. 24, 2010 **KMS Excellent Research Paper Award (대한수학회논문상)**, Korean Mathematical Society.

Nov. 25, 2009 **TJ Park Junior Faculty Fellowship (청암신진교수펠로)**, POSCO TJ Park Foundation (포스코청암재단).

Mar. 2007 CanaDAM Conference travel support.

May 2005 APGA (Association of Princeton Graduate Alumni/ae) Summer Travel Fellowship.

Sep. 2001 Princeton University Fellowship.

Nov. 1996 First place in *1996 National Undergraduate Mathematics Competition*, Korean Mathematical Society.

Nov. 1993 Gold Medal in *1993 National Personal Computer Programming Competition*, Ministry of Science and Technology, Korea.

Dec. 1992 Gold Medal in *1992 Korean Mathematical Olympiad*, Korean Mathematical Society.

Submitted Papers / Preprints

1. Jungho Ahn, Kevin Hendrey, O-Joung Kwon, and **Sang-il Oum**. “Unavoidable pivot-minors in graphs of large rank-depth”. Submitted, arXiv:2507.12697. 2025.
2. Rutger Campbell, J. Pascal Gollin, Meike Hatzel, O-joung Kwon, Rose McCarty, and **Sang-il Oum**. “The Erdős-Pósa property for circle graphs as vertex-minors”. arXiv:2506.03973. 2025.

3. Maria Chudnovsky, Linda Cook, James Davies, **Sang-il Oum**, and Jane Tan. "Colouring t-perfect graphs". arXiv:2412.17735. Dec. 2024.
4. J. Pascal Gollin, Kevin Hendrey, Hao Huang, Tony Huynh, Bojan Mohar, **Sang-il Oum**, Ningyuan Yang, Wei-Hsau Yu, and Xuding Zhu. "Sharing tea on a graph". Submitted, arXiv:2405.15353. 2024.
5. Konrad K. Dabrowski, François Dross, Jisu Jeong, Mamadou Moustapha Kanté, O-joung Kwon, **Sang-il Oum**, and Daniël Paulusma. "Computing pivot-minors". Submitted, arXiv:2311.04656. 2023.
6. Dong Yeap Kang, Mihyun Kang, Jaehoon Kim, and **Sang-il Oum**. "Fragile minor-monotone parameters under random edge perturbation". Submitted, arXiv:2005.09897. 2020.

Papers

7. Maria Chudnovsky, Linda Cook, James Davies, and **Sang-il Oum**. "Reuniting χ-boundedness with polynomial χ-boundedness". In: *J. Combin. Theory Ser. B* 176 (2026), pp. 30–73. DOI: 10.1016/j.jctb.2025.08.002.
8. Jungho Ahn, Debsoumya Chakraborti, Kevin Hendrey, and **Sang-il Oum**. "Twin-width of subdivisions of multigraphs". In: *SIAM J. Discrete Math.* 39.2 (2025), pp. 607–862. DOI: 10.1137/23M1621514.
9. Jungho Ahn, Seonghyuk Im, and **Sang-il Oum**. "The proper conflict-free k-coloring problem and the odd k-coloring problem are NP-complete on bipartite graphs". In: *Discrete Appl. Math.* 377 (2025), pp. 10–17. DOI: 10.1016/j.dam.2025.06.026.
10. Benjamin Bergougnoux, Vera Chekan, Robert Ganian, Mamadou Moustapha Kanté, Matthias Mnich, **Sang-il Oum**, Michał Pilipczuk, and Erik Jan van Leeuwen. "Space-efficient parameterized algorithms on graphs of low shrubdepth". In: *ACM Trans. Comput. Theory* 17.3 (2025), pp. 1–42. DOI: 10.1145/3723880.
11. J. Pascal Gollin, Kevin Hendrey, O-joung Kwon, **Sang-il Oum**, and Youngho Yoo. "A unified Erdős-Pósa theorem for cycles in graphs labelled by multiple abelian groups". In: *Math. Ann.* (2025). DOI: 10.1007/s00208-025-03293-5.
12. J. Pascal Gollin, Kevin Hendrey, **Sang-il Oum**, and Bruce Reed. "Linear bounds on treewidth in terms of excluded planar minors". In: *Electron. J. Combin.* (2025). Accepted, arXiv:2402.17255.
13. Robert Hickingbotham, Dong Yeap Kang, **Sang-il Oum**, Raphael Steiner, and David R. Wood. "Clustered Colouring of Odd-$\boldsymbol{H}$-Minor-Free Graphs". In: *2023 MATRIX annals*. Vol. 6. MATRIX Book Ser. Springer, Cham, 2025, pp. 73–80. DOI: 10.1007/978-3-031-76738-8_4.
14. Donggyu Kim and **Sang-il Oum**. "Note on Hamiltonicity of basis graphs of even delta-matroids". In: *J. Graph Theory* 109.4 (2025), pp. 446–453. DOI: 10.1002/jgt.23237.
15. Jungho Ahn, Debsoumya Chakraborti, Kevin Hendrey, Donggyu Kim, and **Sang-il Oum**. "Twin-width of random graphs". In: *Random Structures Algorithms* 65.4 (2024), pp. 794–831. DOI: 10.1002/rsa.21247.
16. J. Pascal Gollin, Kevin Hendrey, Ken-ichi Kawarabayashi, O-joung Kwon, and **Sang-il Oum**. "A unified half-integral Erdős-Pósa theorem for cycles in graphs labelled by multiple abelian groups". In: *J. Lond. Math. Soc.* 109.1 (2024), e12858. DOI: 10.1112/jlms.12858.
17. Donggyu Kim and **Sang-il Oum**. "Prime vertex-minors of a prime graph". In: *European J. Combin.* 118 (2024), Paper No. 103871. DOI: 10.1016/j.ejc.2023.103871.
18. Donggyu Kim and **Sang-il Oum**. "Vertex-minors of graphs: A survey". In: *Discrete Appl. Math.* 351 (2024), pp. 54–73. DOI: 10.1016/j.dam.2024.03.011.

19. Jungho Ahn, Eduard Eiben, O-joung Kwon, and **Sang-il Oum**. "A polynomial kernel for 3-leaf power deletion". In: *Algorithmica* 85.10 (2023), pp. 3058–3087. DOI: 10.1007/s00453-023-01129-9.
20. Eun-Kyung Cho, Jinha Kim, Minki Kim, and **Sang-il Oum**. "Independent domination of graphs with bounded maximum degree". In: *J. Combin. Theory Ser. B* 158.part 2 (2023), pp. 341–352. DOI: 10.1016/j.jctb.2022.10.004.
21. Mamadou Moustapha Kanté, Eun Jung Kim, O-joung Kwon, and **Sang-il Oum**. "Obstructions for matroids of path-width at most k and graphs of linear rank-width at most k". In: *J. Combin. Theory Ser. B* 160 (2023), pp. 15–35. DOI: 10.1016/j.jctb.2022.12.004.
22. Donggyu Kim, Duksang Lee, and **Sang-il Oum**. "Γ-graphic delta-matroids and their applications". In: *Combinatorica* 43.5 (2023), pp. 963–983. DOI: 10.1007/s00493-023-00043-6.
23. Duksang Lee and **Sang-il Oum**. "A chain theorem for sequentially 3-rank-connected graphs with respect to vertex-minors". In: *European J. Combin.* 113 (2023), Paper No. 103761. DOI: 10.1016/j.ejc.2023.103761.
24. Duksang Lee and **Sang-il Oum**. "Intertwining connectivities for vertex-minors and pivot-minors". In: *SIAM J. Discrete Math.* 37.1 (2023), pp. 304–314. DOI: 10.1137/22M1485073.
25. **Sang-il Oum**. "Rank connectivity and pivot-minors of graphs". In: *European J. Combin.* 108 (2023), p. 103634. DOI: 10.1016/j.ejc.2022.103634.
26. Jungho Ahn, Kevin Hendrey, Donggyu Kim, and **Sang-il Oum**. "Bounds for the twin-width of graphs". In: *SIAM J. Discrete Math.* 36.3 (2022), pp. 2352–2366. DOI: 10.1137/21M1452834.
27. Yangyan Gu, H. A. Kierstead, **Sang-il Oum**, Hao Qi, and Xuding Zhu. "3-degenerate induced subgraphs of a planar graph". In: *J. Graph Theory* 99.2 (2022), pp. 251–277. DOI: 10.1002/jgt.22740.
28. Ringi Kim, Sergey Norin, and **Sang-il Oum**. "Obstructions for partitioning into forests and outerplanar graphs". In: *Discrete Appl. Math.* 312 (2022), pp. 15–28. DOI: 10.1016/j.dam.2020.09.006.
29. Duksang Lee and **Sang-il Oum**. "Characterizing matroids whose bases form graphic delta-matroids". In: *European J. Combin.* 101.103476 (2022). DOI: 10.1016/j.ejc.2021.103476.
30. Konrad K. Dabrowski, François Dross, Jisu Jeong, Mamadou Moustapha Kanté, O-joung Kwon, **Sang-il Oum**, and Daniël Paulusma. "Tree pivot-minors and linear rank-width". In: *SIAM J. Discrete Math.* 35.4 (2021), pp. 2922–2945. DOI: 10.1137/21M1402339.
31. Reinhard Diestel and **Sang-il Oum**. "Tangle-tree duality in abstract separation systems". In: *Adv. Math.* 377.107470 (2021). DOI: 10.1016/j.aim.2020.107470.
32. J. Pascal Gollin, Kevin Hendrey, Dillon Mayhew, and **Sang-il Oum**. "Obstructions for bounded branch-depth in matroids". In: *Adv. Comb.* (2021), Paper No. 4, 25. DOI: 10.19086/aic.24227.
33. Jisu Jeong, Eun Jung Kim, and **Sang-il Oum**. "Finding branch-decompositions of matroids, hypergraphs, and more". In: *SIAM J. Discrete Math.* 35.4 (2021), pp. 2544–2617. DOI: 10.1137/19M1285895.
34. Jaehoon Kim and **Sang-il Oum**. "The Erdős-Hajnal property for graphs with no fixed cycle as a pivot-minor". In: *Electron. J. Combin.* 28 (2021), #P2.9. DOI: 10.37236/9536.
35. Ringi Kim, **Sang-il Oum**, and Xin Zhang. "Equitable partition of planar graphs". In: *Discrete Math.* 344.6 (2021), p. 112351. DOI: 10.1016/j.disc.2021.112351.

36. O-joung Kwon, Rose McCarty, **Sang-il Oum**, and Paul Wollan. "Obstructions for bounded shrub-depth and rank-depth". In: *J. Combin. Theory Ser. B* 149 (2021), pp. 76–91. DOI: 10.1016/j.jctb.2021.01.005.
37. O-joung Kwon and **Sang-il Oum**. "Graphs of bounded depth-2 rank-brittleness". In: *J. Graph Theory* 96 (2021), pp. 361–378. DOI: 10.1002/jgt.22619.
38. Matt DeVos, O-joung Kwon, and **Sang-il Oum**. "Branch-depth: Generalizing tree-depth of graphs". In: *European J. Combin.* 90 (2020), Article 103186. DOI: 10.1016/j.ejc.2020.103186.
39. Ringi Kim, O-joung Kwon, **Sang-il Oum**, and Vaidy Sivaraman. "Classes of graphs with no long cycle as a vertex-minor are polynomially χ-bounded". In: *J. Combin. Theory Ser. B* 140 (2020), pp. 372–386. DOI: 10.1016/j.jctb.2019.06.001.
40. O-joung Kwon and **Sang-il Oum**. "Scattered classes of graphs". In: *SIAM J. Discrete Math.* 34.1 (2020), pp. 972–999. DOI: 10.1137/19M1293776.
41. Huy-Tung Nguyen and **Sang-il Oum**. "The average cut-rank of graphs". In: *European J. Combin.* 90 (2020), Article 103183. DOI: 10.1016/j.ejc.2020.103183.
42. Robert Brignall, Hojin Choi, Jisu Jeong, and **Sang-il Oum**. "Deciding whether there are infinitely many prime graphs with forbidden induced subgraphs". In: *Discrete Appl. Math.* 257 (2019), pp. 60–66. DOI: 10.1016/j.dam.2018.10.030.
43. Hojin Choi, Ilkyoo Choi, **Sang-il Oum**, and Jisu Jeong. "Online Ramsey theory for a triangle on F-free graphs". In: *J. Graph Theory* 92.2 (2019), pp. 152–171. DOI: 10.1002/jgt.22445.
44. Hojin Choi, O-joung Kwon, **Sang-il Oum**, and Paul Wollan. "Chi-boundedness of graph classes excluding wheel vertex-minors". In: *J. Combin. Theory Ser. B* 135 (2019), pp. 319–348. DOI: 10.1016/j.jctb.2018.08.009.
45. Reinhard Diestel and **Sang-il Oum**. "Tangle-tree duality: in graphs, matroids and beyond". In: *Combinatorica* 39.4 (2019), pp. 879–910. DOI: 10.1007/s00493-019-3798-5.
46. Dong Yeap Kang and **Sang-il Oum**. "Improper colouring of graphs with no odd clique minor". In: *Combin. Probab. Comput.* 28.5 (2019), pp. 740–754. DOI: 10.1017/S0963548318000548.
47. Patrice Ossona De Mendez, **Sang-il Oum**, and David R. Wood. "Defective colouring of graphs excluding a subgraph or minor". In: *Combinatorica* 39.2 (2019), pp. 377–410. DOI: 10.1007/s00493-018-3733-1.
48. Ilkyoo Choi, Chun-Hung Liu, and **Sang-il Oum**. "Characterization of cycle obstruction sets for improper coloring planar graphs". In: *SIAM J. Discrete Math.* 32.2 (2018), pp. 1209–1228. DOI: 10.1137/16M1106882.
49. Maria Chudnovsky and **Sang-il Oum**. "Vertex-minors and the Erdős-Hajnal conjecture". In: *Discrete Math.* 341.12 (2018), pp. 3498–3499. DOI: 10.1016/j.disc.2018.09.007.
50. Eun Jung Kim, **Sang-il Oum**, Christophe Paul, Ignasi Sau, and Dimitrios M. Thilikos. "An FPT 2-approximation for tree-cut decomposition". In: *Algorithmica* 80.1 (2018), pp. 116–135. DOI: 10.1007/s00453-016-0245-5.
51. Chun-Hung Liu and **Sang-il Oum**. "Partitioning H-minor-free graphs into three subgraphs with no large components". In: *J. Combin. Theory Ser. B* 128 (2018), pp. 114–133. DOI: 10.1016/j.jctb.2017.08.003.
52. **Sang-il Oum** and Sounggun Wee. "A remark on the paper "properties of intersecting families of ordered sets" by O. Einstein". In: *Combinatorica* 38.5 (2018), pp. 1279–1284. DOI: 10.1007/s00493-018-3812-3.
53. Ilkyoo Choi, O-joung Kwon, and **Sang-il Oum**. "Coloring graphs without fan vertex-minors and graphs without cycle pivot-minors". In: *J. Combin. Theory Ser. B* 123 (2017), pp. 126–147. DOI: 10.1016/j.jctb.2016.11.007.

54. Suyoung Choi, Miyaki Masuda, and **Sang-il Oum**. "Classification of real Bott manifolds and acyclic digraphs". In: *Trans. Amer. Math. Soc.* 369.4 (2017), pp. 2987–3011. DOI: 10.1090/tran/6896.
55. Tony Huynh, Andrew D. King, **Sang-il Oum**, and Maryam Verdian-Rizi. "Strongly even-cycle decomposable graphs". In: *J. Graph Theory* 84.2 (2017), pp. 158–175. DOI: 10.1002/jgt.22018.
56. Tony Huynh, **Sang-il Oum**, and Maryam Verdian-Rizi. "Even-cycle decompositions of graphs with no odd-K_4-minor". In: *European J. Combin.* 65 (2017), pp. 1–14. DOI: 10.1016/j.ejc.2017.04.010.
57. Jisu Jeong, Eun Jung Kim, and **Sang-il Oum**. "The "art of trellis decoding" is fixed-parameter tractable". In: *IEEE Trans. Inform. Theory* 63.11 (2017), pp. 7178–7205. DOI: 10.1109/TIT.2017.2740283.
58. Stephan Kreutzer, **Sang-il Oum**, Paul Seymour, Dominic van der Zypen, and David R. Wood. "Majority colouring of digraphs". In: *Electron. J. Combin.* 24 (2017), #P2.25. DOI: 10.37236/6410.
59. **Sang-il Oum**. "Rank-width: algorithmic and structural results". In: *Discrete Appl. Math.* 231 (2017), pp. 15–24. DOI: 10.1016/j.dam.2016.08.006.
60. Maria Chudnovsky, Ringi Kim, **Sang-il Oum**, and Paul Seymour. "Unavoidable induced subgraphs in large graphs with no homogeneous sets". In: *J. Combin. Theory Ser. B* 118 (2016), pp. 1–12. DOI: 10.1016/j.jctb.2016.01.008.
61. Younjin Kim, **Sang-il Oum**, and Sang June Lee. "Dynamic coloring of graph having no K_5 minor". In: *Discrete Appl. Math.* 206 (2016), pp. 81–89. DOI: 10.1016/j.dam.2016.01.022.
62. Katherine Edwards, Dong Yeap Kang, Jaehoon Kim, **Sang-il Oum**, and Paul Seymour. "A relative of Hadwiger's conjecture". In: *SIAM J. Discrete Math.* 29.4 (2015), pp. 2385–2388. DOI: 10.1137/141002177.
63. Choongbum Lee and **Sang-il Oum**. "Number of cliques in graphs with a forbidden subdivision". In: *SIAM J. Discrete Math.* 29.4 (2015), pp. 1999–2005. DOI: 10.1137/140979988.
64. Jisu Jeong, O-joung Kwon, and **Sang-il Oum**. "Excluded vertex-minors for graphs of linear rank-width at most k". In: *European J. Combin.* 41 (2014), pp. 242–257. DOI: 10.1016/j.ejc.2014.04.010.
65. Sang-hyun Kim and **Sang-il Oum**. "Hyperbolic surface subgroups of one-ended doubles of free groups". In: *J. Topology* 7.4 (2014), pp. 927–947. DOI: 10.1112/jtopol/jtu004.
66. O-joung Kwon and **Sang-il Oum**. "Graphs of small rank-width are pivot-minors of graphs of small tree-width". In: *Discrete Appl. Math.* 168 (2014), pp. 108–118. DOI: 10.1016/j.dam.2013.01.007.
67. O-joung Kwon and **Sang-il Oum**. "Unavoidable vertex-minors in large prime graphs". In: *European J. Combin.* 41 (2014), pp. 100–127. DOI: 10.1016/j.ejc.2014.03.013.
68. **Sang-il Oum**, Sigve Hortemo Sæther, and Martin Vatshelle. "Faster algorithms for vertex partitioning problems parameterized by clique-width". In: *Theoret. Comput. Sci.* 535 (2014), pp. 16–24. DOI: 10.1016/j.tcs.2014.03.024.
69. Maria Chudnovsky, **Sang-il Oum**, and Paul Seymour. "Finding minimum clique capacity". In: *Combinatorica* 32.3 (2012), pp. 283–287. DOI: 10.1007/s00493-012-2891-9.
70. Choongbum Lee, Joonkyung Lee, and **Sang-il Oum**. "Rank-width of random graphs". In: *J. Graph Theory* 70.3 (2012), pp. 339–347. DOI: 10.1002/jgt.20620.
71. **Sang-il Oum**. "Rank-width and well-quasi-ordering of skew-symmetric or symmetric matrices". In: *Linear Algebra Appl.* 436.7 (2012), pp. 2008–2036. DOI: 10.1016/j.laa.2011.09.027.

72. **Sang-il Oum**. "Perfect matchings in claw-free cubic graphs". In: *Electron. J. Combin.* 18.1 (2011), #62 (pp. 6). DOI: 10.37236/549.
73. Fedor V. Fomin, **Sang-il Oum**, and Dimitrios M. Thilikos. "Rank-width and tree-width of H-minor-free graphs". In: *European J. Combin.* 31.7 (2010), pp. 1617–1628. DOI: 10.1016/j.ejc.2010.05.003.
74. Jim Geelen and **Sang-il Oum**. "Circle graph obstructions under pivoting". In: *J. Graph Theory* 61.1 (2009), pp. 1–11. DOI: 10.1002/jgt.20363.
75. **Sang-il Oum**. "Computing rank-width exactly". In: *Inform. Process. Lett.* 109.13 (2009), pp. 745–748. DOI: 10.1016/j.ipl.2009.03.018.
76. **Sang-il Oum**. "Excluding a bipartite circle graph from line graphs". In: *J. Graph Theory* 60.3 (2009), pp. 183–203. DOI: 10.1002/jgt.20353.
77. Petr Hliněný and **Sang-il Oum**. "Finding branch-decompositions and rank-decompositions". In: *SIAM J. Comput.* 38.3 (2008), pp. 1012–1032. DOI: 10.1137/070685920.
78. Petr Hliněný, **Sang-il Oum**, Detlef Seese, and Georg Gottlob. "Width parameters beyond tree-width and their applications". In: *The Computer Journal* 51.3 (2008), pp. 326–362. DOI: 10.1093/comjnl/bxm052.
79. **Sang-il Oum**. "Approximating rank-width and clique-width quickly". In: *ACM Trans. Algorithms* 5.1 (2008), Art. 10, 20. DOI: 10.1145/1435375.1435385.
80. **Sang-il Oum**. "Rank-width and well-quasi-ordering". In: *SIAM J. Discrete Math.* 22.2 (2008), pp. 666–682. DOI: 10.1137/050629616.
81. **Sang-il Oum**. "Rank-width is less than or equal to branch-width". In: *J. Graph Theory* 57.3 (2008), pp. 239–244. DOI: 10.1002/jgt.20280.
82. Bruno Courcelle and **Sang-il Oum**. "Vertex-minors, monadic second-order logic, and a conjecture by Seese". In: *J. Combin. Theory Ser. B* 97.1 (2007), pp. 91–126. DOI: 10.1016/j.jctb.2006.04.003.
83. **Sang-il Oum** and Paul Seymour. "Testing branch-width". In: *J. Combin. Theory Ser. B* 97.3 (2007), pp. 385–393. DOI: 10.1016/j.jctb.2006.06.006.
84. **Sang-il Oum** and Paul Seymour. "Approximating clique-width and branch-width". In: *J. Combin. Theory Ser. B* 96.4 (2006), pp. 514–528. DOI: 10.1016/j.jctb.2005.10.006.
85. **Sang-il Oum**. "Rank-width and vertex-minors". In: *J. Combin. Theory Ser. B* 95.1 (2005), pp. 79–100. DOI: 10.1016/j.jctb.2005.03.003.

Papers are available on https://dimag.ibs.re.kr/home/sangil/papers/.

Refereed Conference Papers

86. Rutger Campbell, J. Pascal Gollin, Meike Hatzel, O-joung Kwon, Rose McCarty, and **Sang-il Oum**. "The Erdős-Pósa property for circle graphs as vertex-minors". In: *Proceedings of the 2026 Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*. 2026.
87. Mamadou Moustapha Kanté, Bruno Guillon, Eun Jung Kim, **Sang-il Oum**, and Rutger Campbell. "Recognisability Equals Definability for Finitely Representable Matroids of Bounded Path-Width". In: *Proc. 40th Annual ACM-IEEE Symposium on Logic in Computer SCience (LICS 2025, Singapore, June 23–26, 2025)*. 2025, pp. 678–690. DOI: 10.1109/LICS65433.2025.00057.
88. Benjamin Bergougnoux, Vera Chekan, Robert Ganian, Mamadou Moustapha Kanté, Matthias Mnich, **Sang-il Oum**, Michał Pilipczuk, and Erik Jan van Leeuwen. "Space-efficient parameterized algorithms on graphs of low shrubdepth". In: *31st annual European Symposium on Algorithms*. Vol. 274. LIPIcs. Leibniz Int. Proc. Inform. Schloss Dagstuhl. Leibniz-Zent. Inform., Wadern, 2023, Art. No. 18, 18. DOI: 10.4230/lipics.esa.2023.18.

89. Mamadou Moustapha Kanté, Eun Jung Kim, O-joung Kwon, and **Sang-il Oum**. "Obstructions for matroids of path-width at most k and graphs of linear rank-width at most k". In: *Proceedings of the Thirty Nineth International Symposium on Theoretical Aspects of Computer Science* (*STACS2022, Marseille, March 15–18, 2022*). Ed. by Petra Berenbrink and Benjamin Monmege. Vol. 219. LIPIcs. Leibniz Int. Proc. Inform. 8. Dagstuhl, Germany: Schloss Dagstuhl – Leibniz-Zentrum für Informatik, 2022, 8:1–8:14. DOI: 10.4230/LIPIcs.STACS.2022.8.

90. Donggyu Kim, Duksang Lee, and **Sang-il Oum**. "Γ-graphic delta-matroids and their applications". In: *Proceedings of the 32nd International Symposium on Algorithms and Computation* (*ISAAC2021, December 6–8, 2021, Fukuoka, Japan*). Ed. by Hee-Kap Ahn and Kunihiko Sadakane. Vol. 212. Dagstuhl, Germany: Schloss Dagstuhl – Leibniz-Zentrum für Informatik, 2021, 70:1–70:13. DOI: 10.4230/LIPIcs.ISAAC.2021.70.

91. Jungho Ahn, Eduard Eiben, O-joung Kwon, and **Sang-il Oum**. "A polynomial kernel for 3-leaf power deletion". In: *45th International Symposium on Mathematical Foundations of Computer Science*. Vol. 170. LIPIcs. Leibniz Int. Proc. Inform. Schloss Dagstuhl. Leibniz-Zent. Inform., Wadern, 2020, Art. No. 5, 14. DOI: https://doi.org/10.4230/LIPIcs.MFCS.2020.5.

92. Konrad K. Dabrowski, François Dross, Jisu Jeong, Mamadou Moustapha Kanté, O-joung Kwon, **Sang-il Oum**, and Daniël Paulusma. "Computing small pivot-minors". In: *Graph-theoretic concepts in computer science*. Vol. 11159. Lecture Notes in Comput. Sci. Springer, Cham, 2018, pp. 125–138. DOI: 10.1007/978-3-030-00256-5_11.

93. Jisu Jeong, Eun Jung Kim, and **Sang-il Oum**. "Finding branch-decompositions of matroids, hypergraphs, and more". In: *Proc. 45th Int. Coll. on Automata, Languages and Programming* (*ICALP 2018*). Vol. 80:1–80:14. 2018. DOI: 10.4230/LIPIcs.ICALP.2018.80.

94. Jisu Jeong, Eun Jung Kim, and **Sang-il Oum**. "Constructive algorithm for path-width of matroids". In: *Proceedings of the Twenty-Seventh Annual ACM-SIAM Symposium on Discrete Algorithms* (*SODA 2016*). Arlington, VA: Society for Industrial and Applied Mathematics, 2016, pp. 1695–1704. DOI: 10.1137/1.9781611974331.ch116.

95. Eun Jung Kim, **Sang-il Oum**, Christophe Paul, Ignasi Sau, and Dimitrios M. Thilikos. "An FPT 2-approximation for tree-cut decomposition". In: *Proc. 13th Workshop on Approximation and Online Algorithms* (*WAOA 2015*). 2016, pp. 35–46. DOI: 10.1007/978-3-319-28684-6_4.

96. Jisu Jeong, O-joung Kwon, and **Sang-il Oum**. "Excluded vertex-minors for graphs of linear rank-width at most k". In: *30th International Symposium on Theoretical Aspects of Computer Science* (*STACS 2013*). Ed. by Natacha Portier and Thomas Wilke. Vol. 20. Leibniz International Proceedings in Informatics (LIPIcs). Kiel, Germany: Schloss Dagstuhl. Leibniz-Zent. Inform., 2013, pp. 221–232. DOI: 10.4230/LIPIcs.STACS.2013.221.

97. Tomáš Gavenčiak, Daniel Král', and **Sang-il Oum**. "Deciding first order logic properties of matroids". In: *Proc. 39th Int. Coll. on Automata, Languages and Programming* (*ICALP 2012*). Vol. 7392. Lecture Notes in Comput. Sci. Springer, 2012, pp. 239–250. DOI: 10.1007/978-3-642-31585-5_24.

98. Petr Hliněný and **Sang-il Oum**. "Finding branch-decompositions and rank-decompositions". In: *15th Annual European Symposium, Eilat, Israel, October 8–10, 2007*. Vol. 4698. Lecture Notes in Comput. Sci. Springer, 2007, pp. 163–174. DOI: 10.1007/978-3-540-75520-3_16.

99. **Sang-il Oum** and Paul Seymour. "Certifying large branch-width". In: *Proceedings of the Seventeenth Annual ACM-SIAM Symposium on Discrete Algorithms* (*Miami, FL, 2006*). New York: ACM, 2006, pp. 810–813. DOI: 10.1145/1109557.1109646.

100. **Sang-il Oum**. "Approximating rank-width and clique-width quickly". In: *Graph-theoretic concepts in computer science* (*Metz, 2005*). Vol. 3787. Lecture Notes in Comput. Sci. Springer, 2005, pp. 49–58. DOI: 10.1007/11604686_5.

Other Refereed Articles

101. Illya V. Hicks and **Sang-il Oum**. "Branch-width and tangles". In: *Wiley Encyclopedia of Operations Research and Management Science*. Wiley, 2011. DOI: 10.1002/9780470400531.eorms0121.

Research Talks

Sep. 23, 2025 — The Erdős-Pósa property for circle graphs as vertex-minors", *Discrete Analysis Seminar*, Yonsei University, Seoul, Korea. (Invited)

Aug. 29, 2025 — The Erdős-Pósa property for circle graphs as vertex-minors", *Discrete Math Seminar*, IBS Discrete Mathematics Group, Daejeon, Korea.

June 27, 2025 — Coloring t-perfect graphs, *2025 Youngnam Mathematical Society-Chungcheong Mathematical Society joint annual meeting* (June 26–28), Kyungpook National University, Daegu, Korea. (Invited)

June 21, 2025 — Coloring t-perfect graphs, *Symposium on Directed and Undirected Graphs* (June 20–25), Nankai University, Tianjin, China. (Invited)

May 1, 2025 — Coloring t-perfect graphs, *Colloquium: Challenging Mathematical Problems*, KIAS, Seoul, Korea.

May 1, 2025 — Stories on perfect graphs, *Lecture*, Seoul Science High School, Seoul, Korea.

Mar. 13, 2025 — Coloring t-perfect graphs, *Colloquium*, Department of Mathematics, Chungbuk National University, Cheongju, Korea.

Jan. 15, 2025 — Linear bounds on treewidth in terms of excluded planar minors, *Theoretical Computer Science Seminar*, Jagiellonian University, Kraków, Poland.

Jan. 9, 2025 — Bounding the chromatic number of t-perfect graphs, *Oberwolfach Workshop Graph Theory* (January 5–10), Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany.

Dec. 11, 2024 — Bounding the chromatic number of t-perfect graphs, *Joint Meeting of the NZMS, AustMS and AMS* (December 8–13), University of Auckland, Auckland, New Zealand.

Oct. 2, 2024 — Bounding the chromatic number of t-perfect graphs, *New Perspectives in Colouring and Structure workshop* (September 29–October 4), Banff International Research Station, Banff, Alberta, Canada.

Sep. 25, 2024 — Bounding the chromatic number of t-perfect graphs, *Combinatorics Seminar*, Hanyang University, Seoul, Korea.

July 11, 2024 — Reuniting χ-Boundedness with Polynomial χ-Boundedness, *SIAM Conference on Discrete Mathematics* (*DM24*) (July 8–11), Spokane Convention Center, Spokane, Washington, USA.

June 24, 2024 — Linear bounds on treewidth in terms of excluded planar minors, *3rd Korea-China Young Scholar's Symposium on Discrete Mathematics* (June 24–27), Utop Ubless Hotel Jeju, Jeju, Korea.

Nov. 16, 2023 — Survey on vertex-minor obstructions and related parameters of graphs, *2nd Workshop on Logic, Graphs, and Algorithms* (*LoGAlg 2023*) (November 15–17), University of Warsaw, Warsaw, Poland.

Oct. 16, 2023 Survey on vertex-minors, *2023 Vertex-Minor Workshop* (October 15–20), SONO Belle Jeju, Jeju, Korea.

Sep. 8, 2023 Γ-graphic delta-matroids and their applications on variants of maximum spanning tree problems, *East-Asia Workshop on Operations Research, Combinatorial Optimization and Algorithms* (September 8–10), National Tsing Hua University, Hsinchu, Taiwan.

Aug. 9, 2023 Reuniting χ-boundedness with polynomial χ-boundedness, *28th KIAS Combinatorics Workshop*, KIAS, Seoul, Korea.

Mar. 30, 2023 Building the hierarchy of graph classes, *Colloquium, Department of Mathematics, Kyunghee University*, Seoul, Korea.

Jan. 28, 2023 Improper colorings regarding Hadwiger's conjecture, *Workshop on Graph Coloring and Related Topics* (January 28–29), Konkuk University, Seoul, Korea.

Dec. 19, 2022 Γ-graphic delta-matroids and their applications, *2022 BrainLink - Combinatorial Algebraic Geometry* (*2022* 우수연구자교류지원 기술교류회 - 조합 대수기하학 국제교류회), Korean Federation of Science and Technology Societies (한국과학기술단체총연합회), Sheraton Grand Incheon Hotel, Incheon, Korea.

Dec. 2, 2022 Γ-graphic delta-matroids and their applications, *International Conference on Matrix Theory with Applications to Combinatorics, Optimization and Data Science* (December 1–5), Seogwipo KAL Hotel Jeju, Jeju, Korea.

Dec. 1, 2022 Building the hierarchy of graph classes, *Colloquium*, Department of Mathematics, Hanyang University, Seoul, Korea.

Nov. 11, 2022 Building the hierarchy of graph classes, *Combinatorics Today Series 2022*, Institut Teknologi Bandung, Online, Indonesia.

Oct. 20, 2022 Building the hierarchy of graph classes, *2022 Global KMS International Conference* (October 18–21), Seoul, Korea.

Aug. 19, 2022 Building the hierarchy of graph classes, *Workshop on Graph Theory and Combinatorics in Memory of Robin Thomas* (August 19–21), Georgia Institute of Technology, Atlanta, USA.

July 25, 2022 Building the hierarchy of graph classes, *8th Czech-Slovak International Symposium on Graph Theory, Combinatorics, Algorithms and Applications Dedicated to the Memory of Robin Thomas* (July 25–29), Charles University, Prague, Czech Republic.

July 23, 2022 Independent domination of graphs with bounded maximum degree, *Seymour 70+x workshop* (June 20–24), ENS de Lyon, Lyon, France.

May 31, 2022 Building the hierarchy of graph classes, *Korea-Taiwan-Vietnam Joint Seminar in Combinatorics and Analysis*, Online, Vietnam.

May 18, 2022 Obstructions for matroids of path-width at most k and graphs of linear rank-width at most k, *39th International Symposium on Theoretical Aspects of Computer Science* (STACS 2022) (March 15–18), Online, Marseille, France.

Mar. 8, 2022 Obstructions for matroids of path-width at most k and graphs of linear rank-width at most k, *Graphs and Matroids Seminar*, The Matroid Union, Online.

Feb. 28, 2022 Obstructions for matroids of path-width at most k and graphs of linear rank-width at most k, *Discrete Math Seminar*, IBS Discrete Mathematics Group, Daejeon.

Feb. 25, 2022 Independent domination of graphs with bounded maximum degree, *SCMS Combinatorics Seminar*, Shanghai Center for Mathematical Sciences, Fudan University, Shanghai, China.

Feb. 22, 2022 Building the hierarchy of graph classes, *24th KIAS Combinatorics Workshop* (February 22–24), Shilla Stay Haeundae, Busan, Korea.

Feb. 17, 2022 Building the hierarchy of graph classes, *Industrial Mathematics Colloquium* (산업수학콜로퀴움), NIMS ICIM, Suwon, Korea.

Jan. 6, 2022 Obstructions for matroids of path-width at most k and graphs of linear rank-width at most k, *Oberwolfach workshop on Graph Theory* (January 2–8), Mathematisches Forschungsinstitut Oberwolfach (MFO), Oberwolfach, Germany.

Nov. 11, 2021 Obstructions for graphs of linear rank-width at most k, *2021 China-Korea Young Scholars' Symposium on Discrete Mathematics, Statistics and Optimization*, Tianjin-SIAM / Nankai University / The State University of New York, Korea / Tianjin Science and Technology Association, Online, Korea & China.

Nov. 4, 2021 Obstructions for matroids of path-width at most k and graphs of linear rank-width at most k, *AlGCo Seminar*, Département Informatique, LIRMM, Montpellier, France.

Oct. 8, 2021 Obstructions for graphs of linear rank-width at most k, *Graz Combinatorics Seminar*, Technical University of Graz, Graz, Austria. Online.

July 22, 2021 Obstructions for bounded shrub-depth and rank-depth of graphs, Minisymposium on Graph Structure, *SIAM Conference on Discrete Mathematics*, Online, Spokane, USA.

Apr. 20, 2021 What is an isotropic system?, *Discrete Math Seminar*, IBS Discrete Mathematics Group, Daejeon.

Apr. 9, 2021 A unified half-integral Erdős-Pósa theorem for cycles in graphs labelled by multiple abelian groups, *Bordeaux Graph Seminar*, LaBRI, Bordeaux, France.

Dec. 14, 2020 How to decompose a graph into a tree-like structure, *The 31st International Symposium on Algorithms and Computation* (*ISAAC' 20*), Online, Hong Kong. (December 14–18).

Nov. 5, 2020 Obstructions for bounded shrub-depth and rank-depth of graphs, *Séminaire virtuel de théorie des graphes et combinatoire en Rhône-Alpes et Auvergne*, France. (Online).

Apr. 21, 2020 Survey on vertex-minors, *Discrete Math Seminar*, IBS Discrete Mathematics Group, Daejeon.

Mar. 19, 2020 3-degenerate induced subgraphs of a planar graph, *New perspectives in colouring and structures*, Banff International Research Station, Banff, Canada. (Online, March 15–19)

Oct. 27, 2019 The Erdős-Hajnal property of graphs with no fixed cycle as a pivot-minor, *2019 KMS Annual Meeting*, Hongik University, Seoul.

Sep. 24, 2019 Branch-depth: Generalizing tree-depth of graphs, *The 9th Workshop on Graph Classes, Optimization, and Width Parameters* (*GROW2019*), TU Wien, Vienna.

Aug. 1, 2019 Branch-depth: Generalizing tree-depth of graphs, *2019 IBS Summer Research Program on Algorithms and Complexity in Discrete Structures*, IBS Discrete Mathematics Group, Daejeon.

July 4, 2019 The Erdős-Hajnal property of graphs with no fixed cycle as a pivot-minor, *Graph Colouring: from Structure to Algorithms*, Dagstuhl Workshop, Dagstuhl, Germany.

June 6, 2019 Survey on vertex-minors, *International Conference on Network Games, Tropical Geometry, and Quantum Communication*, Berlin Mathematical Research Center MATH+, Zuse Institute of Berlin, Berlin, Germany.

May 28, 2019 The Erdős-Hajnal property of graphs with no fixed cycle as a pivot-minor, *Minisymposium* "*structural graph theory*", CanaDAM 2019, Vancouver, Canada.

May 1, 2019 Branch-depth: Generalizing tree-depth of graphs, *Structural Graph Theory and Graph Coloring*, Tsinghua Sanya International Mathematics Forum, Sanya, China.

Apr. 20, 2019	How to decompose a graph into a tree-like structure, Plenary lecture, *2019 KMS Spring Meeting*, Kangwon National University, Chuncheon.
Apr. 16, 2019	How to decompose a graph into a tree-like structure, *PCS Seminar*, Center for Theoretical Physics of Complex Systems, Institute for Basic Science, Daejeon.
Mar. 31, 2019	Branch-depth: Generalizing tree-depth of graphs, *2019 Spring Jinhua Workshop on Graph Theory*, Zhejiang Normal University, Jinhua, China.
Mar. 22, 2019	Classes of graphs with no long cycle as a vertex-minor are polynomially χ-bounded, *Special session on structural graph theory*, AMS Spring Central and Western Joint Sectional Meeting, University of Hawai'i at Mānoa, Hawaii, USA.
Feb. 21, 2019	Classes of graphs with no long cycle as a vertex-minor are polynomially χ-bounded, *Taipei International Workshop on Combinatorics and Graph Theory*, Institute of Mathematics, Academia Sinica, Taipei, Taiwan.
Dec. 1, 2018	Classes of graphs with no long cycle as a vertex-minor are polynomially χ-bounded, *2018 SCMS Workshop on Extremal and Structural Graph Theory*, Shanghai Center for Mathematical Sciences, Fudan University, Shanghai, China.
Nov. 24, 2018	Vertex-minors and pivot-minors of graphs, *2018 Pohang Mathematics Workshop*, The Ocean Resort, Yeosu
Nov. 3, 2018	Classes of graphs with no long cycle as a vertex-minor are polynomially χ-bounded, *KSIAM 2018 Annual Meeting*, Ramada Hotel, Jeju.
Aug. 20–23, 2018	Introduction to Graph Theory, *KIAS-AORC Joint Workshop* (*21st KIAS Combinatorics Workshop*), Elysian Gangchon, Chuncheon.
Aug. 6, 2018	Survey on vertex-minors and pivot-minors of graphs, *2018 IBS Symposium on Combinatorics*, Chung-Ang University, Seoul.
June 5, 2018	Scattered classes of graphs, *Mini-symposium* "*Graph Structure Theory*", SIAM Conference on Discrete Mathematics, Denver, CO, USA.
Apr. 19, 2018	Finding branch-decompositions of matroids, hypergraphs, and more, *Princeton Discrete Math Seminar*, Princeton University, Princeton, NJ, USA.
Jan. 5, 2018	Properties of intersecting families of ordered sets: revisited, *2018 International Workshop on Graph Theory*, Ewha Womans University, Seoul.
Dec. 18, 2017	Finding branch-decompositions of matroids, hypergraphs, and more, *KIAS Combinatorics Workshop*, Novotel, Busan.
Dec. 16, 2017	Properties of intersecting families of ordered sets: revisited, *2017 Korea-China International Conference on Matrix Theory with Applications*, Sungkyunkwan University, Suwon.
Oct. 12, 2017	Chi-boundedness of graph classes excluding wheel vertex-minors, *GROW2017: Workshop on Graph Classes, Optimization, and Width Parameters*, Fields Institute, Toronto, Canada.
Aug. 21, 2017	Chi-boundedness of graph classes excluding wheel vertex-minors, *Geometric and Structural Graph Theory*, BIRS, Banff, Canada.
Aug. 16, 2017	Chi-boundedness of graph classes excluding wheel vertex-minors, *2017 Combinatorics Workshop*, Sungkyunkwan University, Suwon.
June 2, 2017	On the slice rank method, *KIAS Combinatorics Workshop*, KIAS, Seoul.
Apr. 14, 2017	Unavoidable induced subgraphs in large graphs with no homogeneous sets, *2017 KMS Spring Meeting*, Chosun University, Gwangju.
Nov. 11, 2016	Defective coloring of graphs with excluded subgraphs, *KSIAM 2016 Annual Conference*, Seogwipo KAL Hotel, Jeju.

Oct. 28, 2016 Rank-width: Algorithmic and Structural Results, *AORC Group 1 Colloquium*, Department of Mathematics, Sungkyunkwan University, Suwon.

Sep. 26, 2016 Defective coloring of graphs with excluded subgraphs, *The Southern Italian Workshop on Algorithms and Graphs*, Italy.

Jun. 16, 2016 Variants of Hadwiger's conjecture, *Workshop on Probabilistic and Extremal Combinatorics Downunder*, Monash University, Australia.

Apr. 7, 2016 4색 정리를 포함하는 Hadwiger의 추측의 변형에 관하여, *Colloquium*, Department of Mathematics, Yonsei University, Seoul.

Mar. 24, 2016 4색 정리를 포함하는 Hadwiger의 추측의 변형에 관하여, *Colloquium*, Department of Mathematics, Ewha Womans University, Seoul.

Feb. 19, 2016 Variants of Hadwiger's conjecture, *2016 International Workshop on Graph Theory and Combinatorics*, Ewha Womans University, Seoul.

Jan. 19, 2016 Variants of Hadwiger's conjecture, "*Distributed algorithms and graphs*" *Seminar*, Laboratoire d' Informatique Algorithmique: Fondements et Applications (LIAFA), Université Paris Diderot, Paris, France.

Dec. 15, 2015 Variants of Hadwiger's conjecture, *Séminaires*, Laboratoire d' Informatique, de Modélisation et d' Optimisation des Systèmes, ISIMA (Institut Supérieur d' Informatique, de Modélisation et de leurs Applications), Université Blaise Pascal, Aubiere, France.

Dec. 7, 2015 Improper coloring and the odd Hadwiger' s conjecture, *Graph Theory in the Andes*, Los Andes, Chile.

Oct. 27, 2015 4색 정리를 포함하는 Hadwiger의 추측의 변형에 관하여, *Colloquium*, Department of Mathematics, Choongnam National University, Daejeon.

Oct. 13, 2015 Constructive algorithm for path-width of matroids, *GROW 2015: the 7th workshop on Graph Classes, Optimization, and Width Parameters* (*Oct. 11–15*), Aussois, France.

Aug. 26, 2015 Counting cliques in graphs with a forbidden subdivision, *1st Korean Workshop on Graph Theory*, KAIST.

Aug. 10, 2015 Counting cliques in graphs with a forbidden subdivision, *Extremal Combinatorics, Probabilistic Combinatorics, and their applications*, The 8th International Congress on Industrial and Applied Mathematics (ICIAM 2015), Beijing, China.

July 13, 2015 Strongly even-cycle decomposable graphs, *2015 Combinatorics Workshop*, NIMS, Daejeon.

June 17, 2015 Constructive algorithm for rank-width of graphs and path-width/branch-width of matroids, *Algorithmic Graph Theory on the Adriatic Coast* (*16–19 June 2015*), *Faculty of Mathematics, Natural Sciences and Information Technologies*, University of Primorska, Koper, Slovenia.

May 14, 2015 4색 정리를 포함하는 Hadwiger의 추측의 변형에 관하여, *Colloquium*, Department of Mathematical Sciences, Seoul National University, Seoul.

Mar. 13, 2015 Partitioning $\boldsymbol{H}$-minor-free graphs into three subgraphs with no large components, *7th KIAS Combinatorics Workshop*, KIAS, Seoul.

Jan. 19, 2015 Constructive algorithm for path-width and branch-width of matroids and rank-width of graphs, *International Workshop on Graph Decomposition*, CIRM, Luminy, France.

Nov. 27, 2014 From the Four Color Theorem to Hadwiger's Conjecture, *Colloquium*, Department of Mathematics, Duksung Women's University, Seoul.

Nov. 18, 2014 Ramsey-type theorem for graphs without splits, *Colloquium*, Department of Mathematics, Korea University, Seoul.

July 21, 2014 Constructive algorithm for path-width and branch-width of matroids, *2014 International Workshop on Structure in Graphs and Matroids*, Princeton University, Princeton, NJ, USA.

June 27, 2014 An algorithm for path-width and branch-width of matroids, *KMRS Seminar*, Department of Mathematical Sciences, KAIST, Daejeon.

June 16, 2014 Unavoidable vertex-minors in large prime graphs, *Minisymposium* "*Graph Structure*", SIAM Conference on Discrete Mathematics, Minneapolis, MN, USA.

Apr. 18, 2014 Ramsey-type theorem for graphs without splits, *Colloquium*, Department of Mathematics, POSTECH, Pohang.

Mar. 13, 2014 Ramsey-type theorem for graphs without splits, *Colloquium*, Department of Mathematics, Sogang University, Seoul.

Mar. 8, 2014 Unifying duality theorems for width parameters, *3rd KIAS Combinatorics Workshop*, KIAS, Seoul.

Jan. 28, 2014 Unifying duality theorem for width parameters in finite graphs (with *Reinhard Diestel*), *Working Group Seminar*, University of Hamburg, Hamburg, Germany.

Jan. 14, 2014 Hyperbolic surface subgroups of one-ended doubles of free groups, *Working Group Seminar*, University of Hamburg, Hamburg, Germany.

Dec. 16, 2013 Vertex-minors and split decompositions of graphs, *Monday Lecture*, Technical University of Berlin, Berlin, Germany.

Nov. 14, 2013 Vertex-minors of graphs, *Colloquium*, University of Rostock, Rostock, Germany.

Oct. 1, 2013 Vertex-minors of graphs, *DIMAP Seminar*, University of Warwick, UK.

June 24, 2013 Unavoidable vertex-minors in large prime graphs, *the Second Pacific Rim Mathematical Association Congress* (*PRIMA*), June 24–28, Shanghai Jiao Tong University, Shanghai, China. (invited special session speaker)

July 1, 2013 Excluded vertex-minors for graphs of linear rank-width at most k, Special Session on Combinatorics and Graph Theory, *AMC2013* (*The Asian Mathematical Conference 2013*), Pusan, Korea.

May 14, 2013 Even cycle decompositions of graphs with no odd $\boldsymbol{K}_4$ minor, *Discrete Math and Optimization Seminar*, Technical University of Graz, Graz, Austria.

Mar. 20, 2013 Forbidden vertex-minors for graphs of linear rank-width at most k, *Dagstuhl workshop* "*Bidimensional Structures: Algorithms, Combinatorics and Logic*" (*March 17–22*), Schloss Dagstuhl, Dagstuhl, Germany.

Jan. 30, 2013 Well-quasi-ordering conjecture for pivot-minors, *Graph Network Theory and Optimization Group Seminar*, National Institute of Informatics, Tokyo, Japan.

Oct. 27, 2012 Even cycle decomposition of graphs with no odd $\boldsymbol{K}_4$ minor, *2012 International Conference on Graph Theory, Combinatorics and Applications*, Zhejiang Normal University, Jinhua, China.

Oct. 18, 2012 Even cycle decomposition of graphs with no odd $\boldsymbol{K}_4$ minor, *Discrete Convexity and Optimization*, RIMS, Kyoto, Japan.

Oct. 5, 2012 Even cycle decomposition of graphs with no odd $\boldsymbol{K}_4$ minor, *2012 KMS Fall Meeting*, Daejeon, Korea.

Aug. 20, 2012 Vertex-minors and pivot-minors of graphs, *Invited session on structural graph theory and methods*, 21st International Symposium on Mathematical Programming, Berlin, Germany.

Aug. 3, 2012 Even cycle decomposition of graphs with no odd $\boldsymbol{K}_4$ minor, *Third workshop on graphs and matroids*, Maastricht, The Netherlands.

June 19, 2012 Rank-width and well-quasi-ordering of skew-symmetric or symmetric matrices, *SIAM Conference on Discrete Mathematics*, Dalhousie University, Halifax, Nova Scotia, Canada.

June 1–7, 2012 *Mini-school on Widths-Minors-Matroids*, Department of Informatics, University of Bergen, Bergen, Norway.

- June 1: Relation of rank-width with clique-width
- June 4: Rank-width and vertex-minors; their relations to binary matroid minors
- June 5: Branch-width of symmetric submodular functions and their recognition algorithms
- June 6: Excluded pivot-minors for rank-width
- June 7: Isotropic systems and vertex-minors; how to write C_2MS logic formula for testing vertex-minors

May 9, 2012 Graphs of small rank-width is a pivot-minor of graphs of small tree-width, *Graph Theory @ Georgia Tech, Conference Honoring the 50th Birthday of Robin Thomas* (*May 7–11*), Georgia Tech, Atlanta, USA.

Apr. 12, 2012 Surveys on vertex-minors and pivot-minors, *Colloquium*, Department of Mathematics, Chonbuk National University, Jeonju, Korea.

Dec. 14, 2011 Rank-width and well-quasi-ordering of skew-symmetric or symmetric matrices, *The Second Bertinoro Workshop on Algorithms and Graphs*, Italy.

Nov. 8, 2011 Rank-width and well-quasi-ordering of skew-symmetric or symmetric matrices, *Robin Thomas Fest*, Charles University, Prague, Czech.

Oct. 18, 2011 Vertex-minors, monadic second-order logic, and a conjecture by Seese, *Department Seminar*, Department of Computer Science and Engineering, Seoul National University, Seoul.

Sep. 2, 2011 Rank-width and well-quasi-ordering of skew-symmetric or symmetric matrices, *European Conference on Combinatorics, Graph Theory, and Applications* (*Eurocomb*), Budapest, Hungary.

Aug. 18, 2011 Computing rank-width exactly, *Combinatorics Workshop*, Kangwon National University, Chuncheon.

June 28, 2011 Vertex-minors and pivot-minors of graphs, *Noon lecture*, Department of Applied Mathematics (KAM), Charles University, Prague.

June 10, 2011 A survey on vertex-minors and pivot-minors, *Special Department Seminar*, Department of Mathematics, Yeungnam University, Kyoungsan.

Apr. 29, 2011 Rank-width and well-quasi-ordering of skew-symmetric or symmetric matrices, *Special session on graph theory*, Korean Mathematical Society Spring Meeting, Korea University, Seoul.

Feb. 16, 2011 Rank-width and well-quasi-ordering of skew-symmetric or symmetric matrices, *Graph Algorithm and Combinatorial Optimization*, NII Shonan Meeting, Shonan Village Center, Japan.

Nov. 17, 2010 Hyperbolic surface subgroups of doubles of free groups, *Kyoto Prize Satellite Workshop in Tokyo in honor of Professor László Lovász*, Tokyo Institute of Technology, Tokyo.

Sep. 9, 2010 Hyperbolic surface subgroups of doubles of free groups, *New trends on structural graph theory*, Banff Workshop, Banff, Canada.

Aug. 20, 2010 Hyperbolic surface subgroups of doubles of free groups, Invited Lecture, *2010 Combinatorics Workshop*, Yeungnam University, Gyeongsan.

June 21, 2010 Well-quasi-ordering conjecture for pivot-minors, *40th Algebraic Combinatorics Seminar*, Kyungpook National University, Daegu, Korea.

June 16, 2010 Perfect matchings in claw-free cubic graphs, *Minisymposium on structural graph theory*, SIAM Conference on Discrete Mathematics, Austin, Texas, USA.

Apr. 24, 2010 Vertex-minors, monadic second-order logic, and a conjecture by Seese, *Spring Meeting*, Korean Mathematical Society, Choongnam National University, Daejeon.

Apr. 17, 2010 Computing rank-width exactly, *The 3rd Annual Meeting of the Asian Association for Algorithms and Computations* (*AAAC2010*), POSTECH, Pohang.

Mar. 24, 2010 Rank-width of random graphs, *Invited Seminar*, National Institute of Mathematical Sciences (NIMS), Daejeon, Korea.

Feb. 15, 2010 Testing branch-width at most k or non-fixed k, *One-Week Workshop on New Development of Discrete Algorithms*, Tokyo Institute of Technology, Tokyo, Japan.

Jan. 12–13, 2010 Two talks at *Winter School on Algorithms and Combinatorics*, Jochiwon, Korea.

- Parameterized Complexity
- Width Parameters of Graphs

Dec. 19, 2009 Perfect matchings in claw-free cubic graphs, *Special session on combinatorial matrix theory*, Joint Meeting of the Korean Mathematical Society and the American Mathematical Society, Ewha Woman's University, Seoul.

Dec. 17, 2009 Algorithms on Rank-width, *Parameterized complexity and approximation algorithms*, Dagstuhl seminar, Dagstuhl, Germany.

Dec. 10, 2009 Perfect matchings in claw-free cubic graphs, *Bertinoro Workshop on Graphs and Algorithms*, Bertinoro, Italy.

Oct. 20, 2009 Maximum number of complete subgraphs in a certain graph, *Informatics Colloquium*, Faculty of Informatics, Masaryk University, Brno, Czech Republic.

Oct. 16, 2009 Computing rank-width exactly, *Fourth Workshop on Graph Classes, Optimization, and Width Parameters* (*GROW2009*), Bergen, Norway.

Sep. 17, 2009 Vertex-minors and pivot-minors of graphs, *Colloquium*, Department of Mathematics, Sungkyunkwan University, Suwon, Korea.

May 9, 2009 A survey on vertex-minors and pivot-minors, *DIMACS workshop on graph colouring and structure*, Princeton University.

Apr. 25, 2009 Maximum number of complete subgraphs in a certain graph, *2009* 대한수학회 봄 연구발표회, Ajou University, Suwon, Korea.

Feb. 4, 2009 Maximum number of complete subgraphs in a certain graph, *KAIST Combinatorics Seminar*, KAIST.

Jan. 9, 2009 Maximum number of complete subgraphs in a certain graph, *Seminar*, Department of Informatics, University of Bergen, Bergen, Norway.

Jan. 8, 2009 Introduction to rank-width, *Department Seminar*, Department of Informatics, University of Bergen, Bergen, Norway.

Dec. 22, 2008 Survey on rank-width and clique-width, *Kyoto RIMS Winter School on Graphs and Algorithms*, RIMS, Kyoto, Japan.

Oct. 16, 2008 Seese's conjecture on the decidability of the monadic second-order theory, *Colloquium*, Department of Mathematics, Ajou University, Suwon, Korea.

Sep. 30, 2008 Tree-width and rank-width of $\boldsymbol{H}$-minor-free graphs, *Graph minors*, Banff International Research Station, Banff, Canada.

Aug. 7, 2008	Finding branch-decompositions and rank-decompositions, *2008 Combinatorics Workshop*, Sungkyungkwan University, Suwon, Korea.
July 20, 2008	Graphic delta-matroids, *The Netherlands Workshop on Graphs and Matroids*, Sittard, the Netherlands.
June 24, 2008	Chain theorems for 4-prime graphs, *Fudan-KAIST Workshop on Applied Mathematics*, School of Mathematical Sciences, Fudan University, Shanghai, China.
June 16, 2008	Chain theorems for 4-prime graphs, *SIAM Conference on Discrete Mathematics*, University of Vermont, Burlington, Vermont, USA.
June 12, 2008	Graphic delta-matroids, *Kyoto RIMS Workshop on Combinatorial Optimization and Discrete Algorithms*, RIMS, Kyoto, Japan.
Apr. 7, 2008	Finding branch-decompositions and rank-decompositions, *Workshop on Graph Decompositions: Theoretical, Algorithmic and Logical Aspects*, CIRM, Luminy, France. (planery talk)
Apr. 3, 2008	Line graphs of large rank-width, *Combinatorics Seminar,* LaBRI, Bordeaux, France.
Mar. 28, 2008	Chain theorems for 4-prime graphs, *Special session on Structural graph theory*, AMS sectional meeting, Baton Rouge, Lousiana, USA.
Feb. 1, 2008	Well-quasi-ordering of skew-symmetric matrices of bounded rank-width, *Fourth Korea-Japan Workshop on Algebra and Combinatorics*, POSTECH, Pohang, Korea.
Dec. 3, 2007	Introduction to Rank-width, *Colloquium*, Department of Computational and Applied Mathematics, Rice University, Houston, Texas, USA.
Nov. 27, 2007	Finding branch-decompositions and rank-decompositions, *Combinatorial Optimization Seminar*, University of Waterloo.
Nov. 16, 2007	Introduction to Rank-width, *Joint Combinatorics - Theory Seminar*, University of Toronto, Toronto, Canada.
Aug. 6–8, 2007	Three talks at *2007 Combinatorics Workshop*, KAIST, Daejeon, Korea. (plenary talks) • Circle graphs obstructions under pivoting. • Excluding a bipartite circle graph from line graphs. • Rank-width and well-quasi-ordering.
July 25, 2007	Finding branch-decompositions and rank-decompositions, *Structure Theory and FPT Algorithms for Graphs, Digraphs and Hypergraphs,* Dagstuhl workshop 07281, Germany.
May 28, 2007	Circle graph obstructions under pivoting, *1st Canadian Discrete and Algorithmic Mathematics Conference* (*CanaDAM 2007*), Banff, Alberta, Canada.
May 10, 2007	Survey on rank-width and clique-width, *Colloquium*, Department of Mathematics, Yonsei University, Seoul, Korea.
May 8, 2007	Survey on rank-width and clique-width, *Special Lecture*, Department of Mathematics, POSTECH, Pohang, Korea.
May 2, 2007	Survey on rank-width and clique-width, *Colloquium*, Department of Mathematical Sciences, KAIST, Daejeon, Korea.
Mar. 28, 2007	Excluded pivot-minor characterization of circle graphs, Workshop "*Graph Theory*", Oberwolfach, Germany.
Jan. 23, 2007	Circle graph obstructions under pivoting, *Combinatorial Optimization Seminar*, University of Waterloo, Canada.

Nov. 16, 2006	Circle graph obstructions under pivoting, *Graph Theory Seminar*, Georgia Institute of Technology, USA.
Aug. 4, 2006	Survey on rank-width and clique-width, *Tutte seminar*, University of Waterloo, Canada.
July 21, 2006	Excluding a bipartite circle graph from line graphs, *Horizon of Combinatorics*, Lake Balaton, Hungary.
July 11, 2006	Excluding a bipartite circle graph from line graphs, *Sixth Czech-Slovak International Symposium on Combinatorics, Graph Theory, Algorithms and Applications*, Prague, Czech Republic.
June 25, 2006	Towards a grid theorem for rank-width and clique-width, *SIAM Conference on Discrete Mathematics*, Victoria, British Columbia, Canada.
May 20, 2006	Towards a grid theorem for rank-width and clique-width, *The XXVIIIth Ohio State-Denison Mathematics Conference*, Columbus, OH, USA.
Apr. 27, 2006	Towards a grid theorem for rank-width and clique-width, *Graph Theory Seminar*, Georgia Institute of Technology, USA.
Feb. 9, 2006	Testing branch-width, *Graph Theory Seminar*, Georgia Institute of Technology, USA.
Jan. 23, 2006	Testing branch-width, *ACM-SIAM Conference on Discrete Algorithms* (*SODA*), Miami, FL, USA.
Dec. 27, 2005	Testing branch-width, *Combinatorics Seminar*, Department of Mathematics, KAIST, Daejeon, Korea.
Nov. 24, 2005	Testing branch-width, *Combinatorics and Optimization Seminar*, University of Waterloo, Waterloo, Canada.
Oct. 18, 2005	Recognizing rank-width quickly, *Workshop on graph classes, width parameters, and optimization*, Prague, Czech Republic.
Oct. 13, 2005	Graphs of bounded rank-width II, *Graph Theory Seminar*, Georgia Institute of Technology, USA.
Oct. 12, 2005	Rank-width and well-quasi-ordering of skew-symmetric matrices, *Combinatorics Seminar*, Georgia Institute of Technology, USA.
Oct. 6, 2005	Graphs of bounded rank-width, *Graph Theory Seminar*, Georgia Institute of Technology, USA.
Sep. 24, 2005	Approximating rank-width and clique-width quickly, *41st Midwest Graph Theory Conference* (*MIGHTY XLI*), Middle Tennessee State University, Murfreesboro, TN, USA.
Sep. 13, 2005	Well-quasi-ordering of skew-symmetric matrices of bounded rank-width by using isotropic systems on arbitrary fields, *7th International Colloquium on Graph Theory* (*ICGT '05*), Hyères, France.
July 26, 2005	Graphs of bounded rank-width, *Exact Algorithms and Fixed-Parameter Tractability*, Dagstuhl seminar No 05301, Germany.
July 3, 2005	Rank-width and well-quasi-ordering of skew-symmetric matrices, *Princeton-Oxford Workshop*, Oxford university, Oxford, UK.
June 23, 2005	Approximating rank-width and clique-width quickly, 31st International Workshop on Graph-Theoretic Concepts in Computer Science, Metz, France.
June 20, 2005	Graphs of bounded rank-width, *Seminar on graphs and logic*, University of Bordeaux 1, Bordeaux, France.
June 16, 2005	Well-quasi-ordering of skew-symmetric matrices of bounded rank-width by using isotropic systems on arbitrary fields, Séminaire de Combinatoire Algébrique et Géométrique, Combinatoire et Optimisation, Université Pierre et Marie Curie, Paris, France.

Jan. 19, 2005 Recognizing rank-width, Workshop "*Graph Theory*", Oberwolfach, Germany.

Dec. 17, 2004 Recognizing graphs of rank-width at most k, Workshop "*Graph and Hypergraph Decompositions — Methods and Applications in Computer Science*", Vienna, Austria.

Nov. 15, 2004 Rank-width and Well-quasi-ordering, *Discrete Mathematics and Optimization Seminar*, McGill University, Montreal, Quebec, Canada.

Oct. 29, 2004 Rank-width and Well-quasi-ordering, *Graph Theory Seminar*, Georgia Institute of Technology, Atlanta, GA.

Oct. 1–2, 2004 Two talks as a *guest speaker* at the Satellite Workshop *Logic, Graph Transformations, Finite and Infinite Structures* of the 2nd International Conference on Graph Transformations, Rome, Italy.

- Rank-width, Clique-width and Vertex-minors.
- An algorithm for recognizing rank-width at most k and the well-quasi-ordering of the vertex-minor relation.

May 25, 2004 Replace Clique-width with Rank-width, *Robust and Approximative Algorithms on Particular Graph Classes*, Dagstuhl seminar No 04221, Germany.

Mar. 10, 2004 From binary matroids to graphs, *Princeton Discrete Mathematics Seminar*, Princeton University.

Feb. 27, 2004 From binary matroids to graphs, *PACM Graduate Student Seminar*, Princeton University.

Dec. 13, 2003 Approximating Clique-width in $O(n^9 \log(n))$ Time, *Advances in Graph and Matroid Theory*, Ohio state university, Columbus, OH, USA.

June 26, 2003 Approximating Clique-width, *Princeton-Oxford Workshop*, Oxford university, Oxford, England.

Mar. 28, 2003 Polynomial-time Approximation Algorithm for the Clique-Width of graphs, *PACM Graduate Student seminar*, Princeton University.

Program Committee

July 2025 *36th International Workshop on Combinatorial Algorithms* (*IWOCA 2025*), Bozeman, MT, USA, July 21–25, 2025.

May 2025 *CanaDAM 2025* (*Canadian Discrete and Algorithmic Mathematics*), Ottawa, Canada, May 26–29, 2024. **(Chair)**

June 2024 *19th Scandinavian Symposium and Workshops on Algorithm Theory* (*SWAT 2024*), Helsinki, Finland, June 12–14, 2024.

Sep. 2023 *24th International Symposium on Fundamentals of Computation Theory* (*FCT 2023*), Trier, Germany, September 18–21, 2023.

Dec. 2022 *33rd International Symposium on Algorithms and Computation* (*ISAAC 2022*), Seoul, December 19–21, 2022.

Aug. 2022 *47th International Symposium on Mathematical Foundations of Computer Science* (*MFCS 2022*), Vienna, Austria.

June 2022 *48th International Workshop on Graph-Theoretic Concepts in Computer Science* (*WG 2022*), Tübingen, Germany.

Dec. 2020 *31st International Symposium on Algorithms and Computation* (*ISAAC 2020*), Hong Kong, China.

June 2020 *46th International Workshop on Graph-Theoretic Concepts in Computer Science* (*WG2020*), Leeds, UK.

Aug. 2019 *WADS*(*Algorithms and Data Structures Symposium*) *2019*, University of Alberta, Calgary, Canada.

May 2019 *11th International Conference on Algorithms and Complexity* (*CIAC 2019*), Rome, Italy.

June 2018 *16th Scandinavian Symposium and Workshops on Algorithm Theory* (*SWAT 2018*), Malmö, Sweden.

Aug. 2018 *13th International Symposium on Parameterized and Exact Computation* (*IPEC2018*), Helsinki, Finland.

June 2017 *43rd International Workshop on Graph-Theoretic Concepts in Computer Science* (*WG2017*), Heeze, the Netherlands.

Dec. 2016 *27th International Symposium on Algorithms and Computation* (*ISAAC 2016*), Sydney, Austrailia.

Sep. 2013 *21st European Symposium on Algorithms* (*ESA2013*), Sophia Antipolis, France.

June 2011 *37th International Workshop on Graph-Theoretic Concepts in Computer Science* (*WG2011*), Czech Republic.

June 2010 *7th Annual Conference on Theory and Applications of Models of Computation* (*TAMC*), Prague, Czech Republic.

June 2009 *35th International Workshop on Graph-Theoretic Concepts in Computer Science* (*WG*), Montpellier, France.

June 2009 *2nd CanaDAM* (*Canadian Discrete and Algorithmic Mathematics Conference*), Montreal, Canada.

Organizing academic events

Aug. 18–20, 2025 Co-organizing the *2025 Combinatorics Workshop*, IBS, Daejeon. https://cw2025.combinatorics.kr

July 14–18, 2025 Co-organizing the *2025 Summer School on Combinatorics and Algorithms*, POSTECH, Pohang. https://combialgo.dimag.kr

Aug. 28–30, 2024 Co-organizing the *2024 Combinatorics Workshop*, Chungbuk National University, Cheongju. https://cw2024.combinatorics.kr

Aug. 19–23, 2024 Co-organizing the *2024 Workshop on* (*Mostly*) *Matroids*, IBS, Daejeon. https://indico.ibs.re.kr/event/652/

July 22–26, 2024 Co-organizing the *2024 Summer School on Combinatorics and Algorithms*, KAIST, Daejeon. https://combialgo.dimag.kr/2024/

July 14–19, 2024 Co-organizing the *IBS-DIMAG Workshop on Combinatorics and Geometric Measure Theory*, IBS, Daejeon. https://cgmt.dimag.kr

Nov. 1–5, 2023 Co-organizing the *The 3rd East Asia Workshop on Extremal and Structural Graph Theory*, Okinawa, Japan.

Oct. 15–20, 2023 Co-organizing the *2023 Vertex-Minor Workshop*, Jeju. https://indico.ibs.re.kr/event/596/

June 5–8, 2023 Organizing an invited minisymposium *Structural Graph Theory* at the CanaDAM 2023 (Canadian Discrete and Algorithmic Mathematics Conference), Winnipeg, Canada with Sebastian Wiederrecht.

Apr. 17–23, 2023 Co-organizing the MATRIX-IBS Workshop *Structural Graph Theory Downunder III*, Creswick, Victoria, Australia with David Wood, Alex Scott, and Liana Yepremyan. https://www.matrix-inst.org.au/events/structural-graph-theory-downunder-iii/

Mar. 20–27, 2022 Co-organizing the MATRIX-IBS Workshop *Structural Graph Theory Downunder II*, Creswick, Victoria, Australia with David Wood, Tony Huynh, Alex Scott, and Liana Yepremyan. https://www.matrix-inst.org.au/events/structural-graph-theory-downunder-l

Dec. 20–22, 2021 Co-organizing *2021 Combinatorics Workshop*, Yangpyeong, Korea. https://cw2021.combinatorics.kr

Aug. 24, 2020 Co-organizing *2020 Combinatorics Workshop*, Online, Korea. https://cw2020.combinatorics.kr

Oct. 31–Nov. 4, 2019 Co-organizing *The 2nd East Asia Workshop on Extremal and Structural Graph Theory*, Jeju. https://dimag.ibs.re.kr/event/2019-east-asia-graph-theory/

Oct. 26–27, 2019 Organizing a *special session on extremal and structural graph theory* at the 2019 Korean Mathematical Society Annual Meeting, Hongik University, Seoul.

Aug. 13–15, 2019 Co-organizing *2019 Combinatorics Workshop*, Songdon, Incheon. https://cw2019.combinatorics.kr

Aug. 12, 2019 Co-organizing *2019-2 IBS One-Day Conference on Extremal Graph Theory*, IBS Discrete Mathematics Group. https://dimag.ibs.re.kr/event/2019-08-12/

Feb. 11–12, 2019 Co-organizing *2019-1 IBS Workshop on Graph Theory*, IBS Discrete Mathematics Group. https://dimag.ibs.re.kr/event/2019-1-graph-theory/

July 21–23, 2016 Co-organizing *2016 Combinatorics Workshop*, KAIST. http://cw2016.combinatorics.kr

Aug. 26–28, 2015 Organizing *1st Korean Workshop on Graph Theory*, KAIST. http://home.kias.re.kr/MKG/h/KWGT2015/

July 6–10, 2015 Co-organizing *27th International Conference on Formal Power Series and Algebraic Combinatorics* (*FPSAC2015*) at KAIST. https://fpsac.combinatorics.kr

Aug. 2014 Co-organizing *ICM2014 Satellite Conference on Extremal and Structural Graph Theory*, Gyeongju, 2014. https://icm2014.combinatorics.kr

Oct. 27–29, 2011 Organizing the 5th workshop on Graph Classes, Optimization, and Width Parameters (GROW2011) at KAIST. https://sangiloum.github.io/grow2011/

Apr. 30, 2011 Co-organizing the special session on graph theory with Seog-Jin Kim at Korean Mathematical Society Spring Meeting 2011.

Apr. 24, 2010 Co-organizing the special session on graph theory with Seog-Jin Kim at Korean Mathematical Society Spring Meeting 2010.

Jan. 2010 Co-organizing the Winter School on Algorithms and Combinatorics with Jeong Han Kim and Kyomin Jung. https://wsac2010.dimag.kr

Aug. 2009 Local Organizing Committee for 2009 Combinatorics Workshop, KAIST, Daejeon, Korea. https://cw2009.combinatorics.kr

Jun. 2008 Organizing the minisymposium on the *graph minors* at SIAM Conference on Discrete Mathematics.

Jan. 2008– Organizing *Discrete Math Seminar* series.

Jun. 2006 Organizing the minisymposium on the *graph structure theory* at SIAM Conference on Discrete Mathematics *with* Robin Thomas.

10/2010–12/2014 Member, **ICM2014 Organizing Committee**. http://www.icm2014.org

Other activities

01/2025–12/2026	A member of the Korean Mathematical Society Newsletter Committee (대한수학회 소식 편집위원회).
07/2019–	A member of the IBS Rules and Regulations Review Committee.
2024–2026	Chair of the sectional committee "Discrete Mathematics" of the Korean Mathematical Society.
2023–2025	A member of the Award Committee for the EATCS-IPEC Nerode Prize.
2022–	A member of the **steering committee of the ACM-SIAM Symposium on Discrete Algorithms (SODA)**.
2020	A member of *2020 Dénes König Prize Selection Committee*, SIAM Activity Group on Discrete Mathematics.
06/2017–11/2018	Editor, KIAS webzine *Horizon*.
01/2011–12/2018	Member, **Korean Mathematical Olympiad Committee**.
10/2016–07/2024	A member of the KAIST Committee for Gifted Education.
July 2018	Deputy Leader of South Korean Team, **the 58th International Mathematical Olympiad**, Cluj-Napoca, Romania, 2018.
July 2012	Deputy Leader of South Korean Team, **the 53rd International Mathematical Olympiad**, Mar del Plata, Argentina, 2012.
01/2017–12/2018	Executive member, **Board of Trustees, Korean Mathematical Society** (대한수학회 사업이사).
01/2011–12/2012	Executive member, **Board of Trustees, Korean Mathematical Society** (대한수학회 사업이사).
03/2009–	Committee member in the sectional committee "Discrete Mathematics" of the Korean Mathematical Society.
01/2005–12/2023	Chair of the activity group for Combinatorics of the KSIAM.
2006–	Reviewer at *Mathematical Reviews*.

Current graduate students

Seokbeom Kim (김석범) Ph.D. student, July 2022–present.

Mujin Choi (최무진) Ph.D. student, January 2024–present.

Former graduate students

Ph.D.	June 2015	**O-joung Kwon** (권오정). Currently, an associate professor at Department of Mathematics, Hanyang University. Thesis title: On the structural and algorithmic properties of linear rank-width.
	Feb. 2018	**Jisu Jeong** (정지수). Currently a Data Scientist at Naver Corporation. Previously at Watcha and SAMSUNG SDS. Thesis title: Parameterized algorithms for width parameters.
	Feb. 2020	**Dong Yeap Kang** (강동엽). Currently a Young Scientist Fellow (YSF) at the Extremal Combinatorics and Probability Group of the Institute of Basic Science (IBS), Daejeon, Korea. Thesis title: Graph decompositions and related extremal problems.

	Feb. 2023	**Duksang Lee** (이덕상). Currently working at the Institute of Advanced Technology Development of Hyundai Motor Group (현대자동차 선행기술원). Thesis title: Structural results on delta-matroids and connectivities of graph vertex-minors.
	Aug. 2023	**Jungho Ahn** (안정호). Currently, an Assistant Professor at the Department of Computer Engineering, Inha University, Incheon, Korea. Thesis title: Algorithmic and structural aspects of graph parameters.
	Feb. 2025	**Donggyu Kim** (김동규). Currently a Postdoctoral Fellow at Georgia Institute of Technology, Atlanta, GA, USA. Thesis title: Delta-matroids with coefficients and linear spaces equipped with a bilinear form.
M.S.	Sep. 2010	**Ralph Bottesch**. Currently at Department of Computer Science, University of Innsbruck, Austria. Ph.D. from Nanyang Technological University, Singapore, 2016.
	Aug. 2010	**Joohyun Cho** (조주현). SNT1.
	Jan. 2010	**Joonkyung Lee** (이준경). Currently an assistant professor at Yonsei University. Ph.D. from Oxford University, 2017, Advisor: David Conlon.
	Aug. 2010	**Ringi Kim** (김린기). Currently an assistant professor at Inha University. Ph.D. from Princeton University, 2017, Advisor: Paul Seymour.
	Jan. 2012	**Seong-min Ok** (옥성민). Currently a Staff Researcher at SAMSUNG Electronics, Korea. Ph.D. from Technical University of Denmark, Advisor: Carsten Thomassen.
	Feb. 2016	**Geewon Suh** (서기원). Currently a Research Scientist at Spidercore.
	Feb. 2016	**Hojin Choi** (최호진). Currently a Platform Software Engineer at Moreh.
	Feb. 2019	**Yeong Joon Kang** (강영준). Currently at TmaxSoft.

Current postdocs

Semin Yoo (유세민) 2024.4.1–. Ph.D. at University of Rochester, 2022. Advisor: Jonathan Pakianathan. [IBS]

Colin Geniet 2024.9.1–. Ph.D. at ENS de Lyon, 2024. Advisor: Stéphan Thomassé. [IBS]

Maximilian Gorsky 2024.11.1–. Ph.D. at Technische Universität Berlin, 2024. Advisor: Stephan Kreutzer. [IBS]

Roohani Sharma 2025.5.1–. Ph.D. at Institute of Mathematical Sciences, 2021. Advisor: Saket Saurabh. [IBS]

Former postdocs

Tony Huynh 2011.9–2012.8. Ph.D. at University of Waterloo 2009, Advisor: Jim Geelen. [KAIST] (Senior Research Fellow, Discrete Mathematics Group, Institute for Basic Science, Daejeon, Korea)

Maryam Verdian-Rizi 2011.9–2013.8. Ph.D. at Simon Fraser University 2011, Advisor: Luis A. Goddyn. [KAIST] (UC San Diego, USA)

Jaehoon Kim (김재훈) 2014.6–2014.8. Ph.D. at UIUC 2014, Advisor: Alexandr V. Kostochka. [KAIST] (Associate Professor at KAIST, Daejeon, Korea)

Younjin Kim (김연진) 2012.9–2015.8. Ph.D. at UIUC 2011, Advisor: Zoltán Füredi. [KAIST] (POSTECH, Pohang, Korea)

Ilkyoo Choi (최일규) 2014.6–2017.6. Ph.D. at UIUC 2014, Advisor: Alexandr V. Kostochka. [KAIST] (Professor at Hankuk University of Foreign Studies, Yongin, Korea)

Abhishek Methuku 2019.8.1–2020.1.15. Ph.D. at Central European Univ., 2019. Advisor: Gyula O. H. Katona and Ervin Győri. [IBS] (Assistant Professor at UIUC, Urbana-Champaign, USA)

Ringi Kim (김린기) 2017.10–2020.8. Ph.D. at Princeton University, 2016. Advisor: Paul Seymour. [KAIST] (Assistant Professor at Inha University, Incheon, Korea)

Casey Tompkins 2019.9.1–2021.11.30. Ph.D. at Central European Univ., 2015. Advisor: Gyula O. H. Katona. [IBS] (Rényi Institute, Budapest, Hungary)

Minki Kim (김민기) 2020.9.1–2022.1.31. Ph.D. at KAIST, 2018. Advisor: Andreas Holmsen. [IBS] (Assistant Professor at GIST, Gwangju, Korea)

Dabeen Lee (이다빈) 2019.6.16–2022.6.30. Ph.D. at Carnegie Mellon University, 2019. Advisor: Gérard P. Cornuéjols. [IBS] (Assistant Professor at Seoul National University, Seoul, Korea)

Tuan Tran 2020.8.1–2022.6. Ph.D. at Freie Universität Berlin, 2015. Advisor: Tibor Szabó. [IBS] (Associate Professor at USTC, China)

Jinha Kim (김진하) 2020.9.1–2023.8.25. Ph.D. at Seoul National University, 2019. Advisor: Woong Kook. [IBS] (Assistant Professor at Chonnam National University, Korea)

Debsoumya Chakraborti 2020.8.16–2023.8.31. Ph.D. at Carnegie Mellon Univ., 2020. Advisor: Po-Shen Loh. [IBS] (University of Warwick)

J. Pascal Gollin 2019.10.1–2024.7.31. Ph.D. at Universität Hamburg, 2019. Advisor: Reinhard Diestel. [IBS] (University of Primorska)

Linda Cook 2021.8.1–2024.7.31. Ph.D. at Princeton University, 2021. Advisor: Paul Seymour. [IBS] (Assistant Professor at Utrecht University, Utrecht, Netherlands)

Kevin Hendrey 2019.8.16–2024.8.15. Ph.D. at Monash Univ., 2019. Advisor: David R. Wood. [IBS] (Monash University, Melbourne, Australia)

Alexander Clifton 2022.8.1–2024.8.31. Ph.D. at Emory University, 2022. Advisor: Hao Huang. [IBS] (Czech Technical University, Prague, Czech Republic)

Sebastian Wiederrecht 2022.7.16–2024.9.30. Ph.D. at Technische Universität Berlin, 2021. Advisor: Stephan Kreutzer. [IBS] (Assistant Professor at KAIST, Daejeon, Korea)

Ben Lund 2020.8.1–2025.7.31. Ph.D. at Rutgers Univ., 2017. Advisor: Shubhangi Saraf. [IBS] (Specially Appointed Professor at Xidian University, China)

Rutger Campbell 2020.8.16–. Ph.D. at Univ. of Waterloo, 2020. Advisor: Jim Geelen. [IBS] (School of Computing, KAIST, Korea)

Seunghun Lee (이승훈) 2025.7.1–2025.8.22. Ph.D. at KAIST, 2020. Advisor: Andreas Holmsen. [IBS] (Assistant Professor at Keimyung University, Daegu, Korea)

Meike Hatzel 2024.8.1–. Ph.D. at Technische Universität Berlin, 2022. Advisor: Stephan Kreutzer. [IBS] (Assistant Professor at Department of Mathematics, Technical University of Darmstadt, Germany)

Teaching

03/2024–06/2024 Discrete Mathematics (MAS275), *KAIST*.

09/2023–12/2023 Introduction to Graph Theory (MAS477), *KAIST*.

03/2022–06/2022 Discrete Mathematics (MAS275), *KAIST*.

03/2021–06/2021 Combinatorics (MAS575), *KAIST*.

09/2020–12/2020 Introduction to Graph Theory (MAS477), *KAIST*.

09/2019–12/2019 Matroid Theory (MAS480A), *KAIST*.

09/2018–12/2018 Introduction to Graph Theory (MAS477), *KAIST*.

03/2018–06/2018 Discrete Mathematics (MAS275), *KAIST*.

09/2017–12/2017 Introduction to Graph Theory (MAS477), *KAIST*.

03/2017–06/2017 Combinatorics (MAS575), *KAIST*.

09/2016–12/2016 Calculus I (MAS101), *KAIST*.

09/2016–12/2016 Introduction to Linear Algebra (MAS109A), *KAIST*.

03/2016–06/2016 Combinatorial Optimization (MAS583), *KAIST*.

09/2015–12/2015 Introduction to Graph Theory (MAS477), *KAIST*.

09/2015–12/2015 Calculus I (MAS101), *KAIST*

03/2015–06/2015 Matroid Theory (MAS480), *KAIST*.

09/2014–12/2014 Introduction to Graph Theory (MAS477), *KAIST*.

03/2014–06/2014 Fixed-Parameter Algorithms (MAS583B), *KAIST*.

03/2014–06/2014 Calculus I (MAS101), *KAIST*.

09/2012–12/2012 Introduction to Graph Theory (MAS477), *KAIST*.

09/2012–12/2012 Introduction to Linear Algebra (MAS109C), *KAIST*.

02/2012–05/2012 Discrete Mathematics (MAS275), *KAIST*.

09/2011–12/2011 Introduction to Graph Theory (MAS477) / Graph Theory (CS600), *KAIST*.

09/2011–12/2011 Combinatorial Optimization (MAS583A), *KAIST*.

02/2011–05/2011 Discrete Mathematics (MAS275), *KAIST*.

09/2010–12/2010 Introduction to Graph Theory (MAS477/CS492B), *KAIST*.

02/2010–05/2010 Matroid Theory (MAS480A), *KAIST*.

02/2010–05/2010 Calculus I (MAS101), *KAIST*.

09/2009–12/2009 Introduction to Graph Theory (MAS477), *KAIST*.

02/2009–05/2009 Calculus I (MAS101), *KAIST*.

02/2009–05/2009 Combinatorics (MAS575), *KAIST*.

09/2008–12/2008 Introduction to Graph Theory (MAS477), *KAIST*.

02/2008–05/2008 Discrete Mathematics (MAS275), *KAIST*.

09/2007–12/2007 Introduction to Graph Theory (CO 342), *University of Waterloo*.

08/2006–12/2006 Applied Combinatorics (MATH 3012T), *Georgia Institute of Technology*.

01/2006–05/2006 Applied Combinatorics (MATH 3012B), *Georgia Institute of Technology*.

08/2005–12/2005 Applied Combinatorics (MATH 3012C), *Georgia Institute of Technology*.

02/2005–05/2005 Teaching assistant, Graph Theory, *Princeton University*.

02/2004–05/2004 Teaching assistant, PACM certificate seminar, *Princeton University*.

10/1997–12/1997 Instructor, *Center for the Gifted at KAIST*, Korean Advanced Institute of Science and Technology, Daejeon, Korea.

Jan. of 1996–98 Teaching assistant, *Korean Mathematical Olympiad Winter School*, Korean Mathematical Society, Korea.

Aug. of 1995–97 Teaching assistant, *Korean Mathematical Olympiad Summer School*, Korean Mathematical Society, Korea.

Other Talks

Oct. 21, 2024 Mathematical proofs in the age of AI (인공지능시대의 수학증명), *2024 X-STEM* (놀라운 과학: *STEM* 과학 탐험), Daejeon Convention Center, Daejeon, Korea.

Sep. 5, 2024 Mathematical proofs in the age of AI and the internet (AI와 인터넷 시대의 수학 증명), *Math Seminar*, GIST, Gwangju, Korea.

Aug. 22, 2023 Applications of Discrete Mathematics (이산수학의 쓰임새), *Tuesday Special Lecture* (화요특강), *Seoul National University Bundang Hospital*, Seongnam, Korea.

Dec. 5, 2022 과학고에서 대학교수까지, Sejong Academy of Science and Arts (세종과학예술영재학교), Sejong, Korea.

Nov. 4, 2022 *A combinatorial path taken by June E Huh*, Fields Symposium, POSTECH, Pohang, Korea.

July 23, 2022 필즈상 수상 기념 특별 강연, Special Lecture, Busan National Science Museum, Busan, Korea.

Nov. 27, 2020 영재교육경험담, 2020 KEDI Job Training for teachers in charge of gifted education (영재교육 담당교원 전문성강화 직무연수), Daegu, Korea. (Online).

Oct. 19, 2019 잘 다니기: 어떻게 최적인 방법을 찾을까, The 4th IBS-CGP Public Lecture (제4회 IBS 기하학 수리물리 연구단 수학 문화 강연), IBS Center for Geometry and Physics, Pohang.

Mar. 28, 2019 *4*색정리 이야기(*Story on Four Color Theorem*), Colloquium, GIST College, GIST, Gwangju.

Mar. 15, 2019 대구과학고 아카데미 강연, Daegu Science High School, Daegu.

Mar. 24, 2018 잘 칠하기: *4*색 정리, 그래프 이론, 조합적 최적화, Gyeongsangbuk-do Office of Education Science Gifted Education Center, Pohang.

Jan.-Feb., 2015 *KAIST* 명강 *4*기, Seoul.

- Jan. 29: 잘 짝지우기
- Feb. 5: 잘 칠하기
- Feb. 12 잘 다니기

July 5, 2014 수학자의 길에 관한 이야기, 수학골든벨 KAIST 프로그램, KAIST, Daejeon.

July 5, 2014 *Infinite numbers* (무한), Institute of Science Education for the Gifted (과학영재교육원), Choongnam National University, Daejeon.

July 3, 2013 논문 함께 쓰기 도구 *git* (*git: tool to write papers together*), POSCO TJ Park Fellows Workshop, POSCO TJ Park Foundation.

Jan. 22, 2013 짝지우기, 그래프 이론, 수학 (*Matchings, Graph Theory, and Mathematics*), KAIST Global Science Leader Camp (글로벌 사이언스 리더 캠프) (2012학년도 부산광역시 과학영재교육원 겨울집중수업), KAIST 영재교육센터.

Dec. 7, 2012 *KAIST* 선배의 경험담, KAIST 일반전형 창의인성면접자 합격생 워크샵 및 멘토링 프로그램, KAIST.

Nov. 15, 2012 *4*색정리 이야기 (*Story on Four Color Theorem*), 자연과학강좌, College of Natural Science, Chungbuk National University, Cheongju.

July 24, 2012 젊은 지성과의 만남, Korean Sciences and Technology Young Stars Club Forum, KAIST.

Aug. 4, 2011 *4*색정리 이야기 (*Story on Four Color Theorem*), 2011 초등 수학과학 영재교사 직무연수, 충남대학교 과학영재교육원.

Apr. 19, 2011 *4*색정리 이야기 (*Story on Four Color Theorem*), 자연과학대학 대중강연 (Public Lecture of College of Natural Science), KAIST.

Dec. 3, 2010 금요일에 과학터치 강연, 대전교육과학연구원, Daejeon.

Aug. 25, 2010 대구과학고 아카데미 강연, Daegu Science High School, Daegu.

Aug. 23, 2010 *Introduction to Graph Theory*, Robot Vision Research Group Seminar (로봇비전연구회세미나), 생산기술연구소, SAMSUNG Electronics, Suwon.

Aug. 13, 2010 *Mathematics of Matchings* (짝지우기의 수학), Invited Lecture, KAIST 수학문제연구회 영재캠프, KAIST, Daejeon.

Apr. 24, 2010 *Mathematics of Matchings* (짝지우기의 수학), Invited Public Lecture, Korean Women in Mathematical Sciences (한국여성수리과학회), Choongnam National University, Daejeon.

Feb. 10, 2010 Matchings, *The First Wednesday Multidisciplinary Forum* (첫수융합포럼), KAIST.

June 8, 2009 Planar graphs and circle graphs, 첨단과학세미나, Korea Science Academy (한국과학영재학교), Pusan, Korea.

Nov. 5, 2008 Seese's conjecture on the decidability of the monadic second-order theory, *Math Club*, Department of Mathematics, POSTECH.

Nov. 1, 2008 그래프 집합 위에서의 단항이차논리식의 결정가능성에 관한 Seese의 추론 (Seese's conjecture on the decidability of the monadic second-order theory), 수학문제연구회 *20*주년 기념행사 (*20th year anniversary event of KAIST Mathematical Problem Solving Group*), KAIST Mathematical Problem Solving Group, KAIST.

Feb. 21, 2008 Four Color Theorem, *Undergraduate Colloquium* (학부생 콜로퀴엄), Department of Mathematical Sciences, KAIST.

Invited Workshops (participated or will participate)

Jan. 2026 *2025 Barbados Graph Theory Workshop*, Bellairs Research Institute of McGill University, Barbados.

Nov. 2025 *3rd Workshop on Logic, Graphs, and Algorithms*, Vienna, Austria.

Oct. 2025 *Bertinoro Workshop on Algorithms and Graphs* (*BWAG '25*), Bertinoro, Italy.

Mar. 2025 *2025 Barbados Graph Theory Workshop*, Bellairs Research Institute of McGill University, Barbados.

Jan. 2024 *Graph Theory*, Oberwolfach Workshop, Mathematisches Forschungsinstitut Oberwolfach, Germany.

Sep. 2024 *New Perspectives in Coloring and Structure*, Banff International Research Station, Banff, Canada.

Mar. 2024 *2024 Barbados Graph Theory Workshop*, Bellairs Research Institute of McGill University, Barbados.

Nov. 2023 *2nd Workshop on Logic, Graphs, and Algorithms*, University of Warsaw, Warsaw, Poland.

Nov. 2023 *3rd East Asia Workshop on Extremal and Structural Graph Theory*, Okinawa, Japan.

Sep. 2023	*East-Asia Workshop on Operations Research, Combinatorial Optimization and Algorithms*, National Tsinghua University, Hsinchu, Taiwan.
May 2023	*1st Workshop on Twin-Width*, Aussois, France.
Oct. 2022	*Graph Decompositions: Small Width, Big Challenges*, Lorentz Center@Oort, Leiden, The Netherlands.
Sep. 2022	*10th Workshop on Graph Classes, Optimization, and Width Parameters* (*GROW 2022*), Koper, Slovenia.
Jan. 2022	*Graph Theory*, Oberwolfach Workshop, Mathematisches Forschungsinstitut Oberwolfach, Germany.
Nov. 2021	*Graph Product Structure Theory*, Banff International Research Station, Banff, Canada. Online.
Oct. 2021	*New Perspectives in Colouring and Structure*, Banff International Research Station, Banff, Canada. Online.
Sep. 2021	*Sparsity in Algorithms, Combinatorics and Logic*, Dagstuhl workshop, Dagstuhl, Germany.
Mar. 2020	*New perspectives in colouring and structures*, Banff International Research Station, Banff, Canada.
Sep. 2019	*9th Workshop on Graph Classes, Optimization, and Width Parameters* (*GROW 2019*), TU Wien, Vienna, Austria.
June 2019	*Graph colouring: from structure to algorithms*, Dagstuhl workshop, Dagstuhl, Germany.
Apr. 2019	*Structural Graph Theory and Graph Colorings*, Tsinghua Sanya International Forum, Sanya, China.
Apr. 2019	*2019 Barbados Graph Theory Workshop*, Bellairs Research Institute of McGill University, Barbados.
Jan. 2019	*Graph Theory*, Oberwolfach Workshop, Mathematisches Forschungsinstitut Oberwolfach, Germany.
Dec. 2018	*2018 SCMS Workshop on Extremal and Structural Graph Theory*, Shanghai Center for Mathematical Sciences, Fudan University, Shanghai, China.
Apr. 2018	*2018 Barbados Graph Theory Workshop*, Bellairs Research Institute of McGill University, Barbados.
Aug. 2017	*Geometric and Structural Graph Theory*, BIRS, Banff, Canada.
Sep. 2016	*The Southern Italian Workshop on Algorithms and Graphs*, Italy.
Mar. 2016	*2016 Barbados Graph Theory Workshop*, Bellairs Research Institute of McGill University, Barbados.
Oct. 2015	*GROW 2015: the 7th workshop on Graph Classes, Optimization, and Width Parameters*, Aussois, France.
Mar. 2015	*2015 Barbados Graph Theory Workshop*, Bellairs Research Institute of McGill University, Barbados.
Jan. 2015	*International Workshop on Graph Decomposition*, CIRM, Luminy, France.
Jul. 2014	*2014 International Workshop on Structure in Graphs and Matroids*, Princeton University, Princeton, NJ, USA.
Mar. 2014	*2014 Barbados Workshop on Structural Graph Theory*, Bellairs Research Institute of McGill University, Barbados.

Oct. 2013	*6th workshop on graph classes, optimization, and width parameters*, Santorini Island, Greece.
Apr. 2013	*Workshop on Kernelization*, University of Warsaw, Poland.
Mar. 2013	*Workshop on Structural Graph Theory and WVD*, Bellairs Research Institute of McGill University, Barbados.
Mar. 2013	*Bidimensional Structures: Algorithms, Combinatorics and Logic*, Dagstuhl, Germany.
Jan. 2013	*Graph Theory*, Oberwolfach, Germany.
Oct. 2012	*Discrete Convexity and Optimization*, RIMS, Kyoto, Japan.
July 2012	*Third workshop on graphs and matroids*, Maastricht, The Netherlands.
Dec. 2011	*Second Bertinoro Workshop on Algorithms and Graphs*, Italy.
Feb. 2011	*Graph Algorithm and Combinatorial Optimization*, NII Shonan Meeting, Shonan Village Center, Japan.
Sep. 2010	*New trends on structural graph theory*, Banff, Canada.
Feb. 2010	*One-Week workshop on new development of discrete algorithms*, Tokyo Institute of Technology, Tokyo, Japan.
Dec. 2009	*Parametrized complexity and approximation algorithms*, Dagstuhl, Germany.
Dec. 2009	*Bertinoro Workshop on Algorithms and Graphs*, Italy.
Oct. 2009	*4th workshop on Graph Classes, Optimization, and Width Parameters*, Bergen, Norway.
Dec. 2008	*Winter School on Graphs and Algorithms*, RIMS, Kyoto, Japan.
Sep. 2008	*Graph Minors*, Banff, Canada.
June 2008	*Kyoto RIMS Workshop on Combinatorial Optimization and Discrete Algorithms*, RIMS, Kyoto, Japan.
Apr. 2008	*Workshop on Graph Decompositions: Theoretical, Algorithmic, and Logical Aspects*, CIRM, Luminy, Marseille, France.
Mar. 2008	*Special Session on Structural Graph Theory*, 2008 Spring Southeastern Meeting of American Mathematical Society, Baton Rouge, USA.
Feb. 2008	*2nd workshop on Graph Searching, Theory and Applications*, Brazil.
July 2007	*Structure Theory and FPT Algorithms for Graphs, Digraphs and Hypergraphs*, Dagstuhl, Germany.
Mar. 2007	*Graph Theory*, Oberwolfach, Germany.
Oct. 2006	*Topological Graph Theory and Crossing Numbers*, Banff, Canada.
Oct. 2006	*1st workshop on Graph Searching, Theory and Applications*, Crete, Greece.
Oct. 2005	*Workshop on Graph classes, Width parameters, and Optimization*, Prague, Czech Republic.
July 2005	*Exact Algorithms and Fixed-Parameter Tractability*, Dagstuhl, Germany.
July 2005	*Princeton-Oxford Workshop*, Oxford university, Oxford, England.
Jan. 2005	*Graph Theory*, Oberwolfach, Germany.
Dec. 2004	*Graph and Hypergraph Decompositions — Methods and Applications in Computer Science*, Vienna, Austria.

Oct. 2004	*Logic, Graph Transformations, Finite and Infinite Structures*, satellite workshop of the 2nd International Conference on Graph Transformations, Rome, Italy.
May 2004	*Robust and Approximative Algorithms on Particular Graph Classes*, Dagstuhl, Germany.
Sep. 2003	*Structural & Probabilistic Approaches to Graph Colouring*, Banff, Canada.
June 2003	*Princeton-Oxford Workshop*, Oxford university, Oxford, England.

Light articles

102. "2021 아벨상 수상자 로바스 라슬로," Horizon, KIAS, May 2021. https://horizon.kias.re.kr/17681/
103. August 2019–May 2020, Seoul Shinmun (서울신문): Writing a column titled "수학자의 시선" about every month.
104. 수학동아(Math Donga) "따끈따끈한 수학": Writing a monthly article in a mathematics magazine for 4 years.
105. "2012년 아벨상 수상자의 업적 - 헝가리 출신 수학자 세머레디 교수," The Newsletter of KMS, Korean Mathematical Society, vol. 148, pp. 7–9, March 2013.
106. "2012년 국제수학올림피아드(IMO) 참가 보고," The Newsletter of KMS, Korean Mathematical Society, vol. 145, pp. 13–22, Sep. 2012.
107. "[뉴스]'불규칙에서 규칙성 찾은' 수학자, 아벨상 수상자로', 사이언스 온, 한겨레신문(주), March 23, 2012, http://scienceon.hani.co.kr/32752

Other publications

Book	미래과학 (written in Korean) (*with* a few other authors), 반니, Korea, 2018.
Book	세상의 모든 비밀을 푸는 수학 (written in Korean) (*with* Chang-Ock Lee and Sang Geun Hahn), Sciencebooks, Korea, 2016.
Book	한글과 TEX (Hanguel and TEX) (written in Korean) (*with* Prof. Ki Hyoung Ko and his graduate students), Cheongmoongak, Korea, 1995.

Non-academic employment

03/1999–03/2001	Computer Programmer, Daou Tech Inc., Seoul, Korea.
01/1998–02/1999	Computer Programmer, Tions Co., Seoul, Korea.

October 16, 2025