

Minki Kim

Curriculum Vitae

IBS Discrete Mathematics Group
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Research Interests

- Discrete geometry, topological combinatorics, and graph theory

Positions

- 2020.09 – **Postdoctoral Research Fellow**
present **IBS Discrete Mathematics Group**, Daejeon, South Korea
- 2018.09 – **Postdoctoral Fellow** (hosted by Ron Aharoni)
- 2020.08 **Technion – Israel Institute of Technology**, Haifa, Israel

Education

Korea Advanced Institute of Science and Technology (KAIST),
Daejeon, South Korea

- 2014 – 2018 **Ph.D in Mathematical Sciences**
Advisor Andreas Holmsen
Thesis Title On fractional Helly properties in graphs without large complete minors
- 2012 – 2014 **M.S. in Mathematical Sciences**
Advisor Andreas Holmsen
Thesis Title Intersection patterns of subtree families and colorful fractional Helly theorems
- 2008 – 2012 **B.S. in Mathematical Sciences**

Publications

Published

- 2020 [9] I. Choi, W. Joo, and **M. Kim**, “The layer number of α -evenly distributed point sets”, *Discrete Math.*, 343(10):112029, 2020.

- 2019 [8] J. Briggs and **M. Kim**, “Choice functions in the intersection of matroids”, *Electron. J. Combin.*, 26(4):P4.26, 2019.
- 2019 [7] G-S. Cheon, J. Kim, **M. Kim**, and S. Kitaev, “Word-representability of Toeplitz graphs”, *Discrete Appl. Math.*, 270:96–105, 2019.
- 2019 [6] A. Holmsen, **M. Kim**, and S. Lee, “Nerves, minors, and piercing numbers”, *Trans. Amer. Math. Soc.*, 371(12):8755–8779, 2019.
- 2019 [5] G-S. Cheon, J. Kim, **M. Kim**, S. Kitaev, and A. Pyatkin, “On k -11-representable graphs”, *J. Combin.*, 10(3):491-513, 2019.
- 2019 [4] I. Choi, J. Kim, and **M. Kim**, “On operations preserving semi-transitive orientability of graphs”, *J. Comb. Optim.*, 37(4):1351–1366, 2019.
- 2018 [3] **M. Kim**, B. Lidický, T. Masařík, and Florian Pfender, “Notes on complexity of packing coloring”, *Inform. Process. Lett.*, 137:6–10, 2018.
- 2018 [2] I. Choi, J. Jung, and **M. Kim**, “On tiling the integers with 4-sets of the same gap sequence”, *Discrete Math.*, 341(4):957–964, 2018.
- 2017 [1] **M. Kim**, “A note on the colorful fractional Helly theorem”, *Discrete Math.*, 340(1):3167–3170, 2017.

Submitted Manuscripts

- 2020 R. Aharoni, J. Briggs, J. Kim, and **M. Kim**, “Rainbow paths and rainbow matchings in graphs”.
- 2020 J. Kim, **M. Kim** and O. Kwon, “Rainbow independent sets on dense graph classes”.
- 2020 **M. Kim** and A. Lew, “Complexes of graphs with bounded independence number”.
- 2019 J. Kim and **M. Kim**, “Domination numbers and noncover complexes of hypergraphs”.
- 2019 R. Aharoni, J. Briggs, J. Kim, and **M. Kim**, “Rainbow independent sets in certain classes of graphs”.

Talks

Invited Seminar Talks

- 2019/05/16 “Rainbow independent sets in graphs”
Topology and Combinatorics Seminar at Ajou University

Ajou University, Suwon, Republic of Korea

- 2019/04/30 "Rainbow independent sets in certain classes of graphs"
BGU Combinatorics Seminar
Ben-Gurion University, Be'er Sheva, Israel
- 2019/04/08 "The fractional Helly properties of families of non-empty sets"
HU Combinatorics Seminar
Hebrew University, Jerusalem, Israel
- 2018/11/11 "Helly type theorems for open connected sets in the plane"
Bar-Ilan Combinatorics Seminar
Bar-Ilan University, Ramat Gan, Israel
- 2018/10/31 "The fractional Helly properties of graphs without large complete minors"
Technion Combinatorics Seminar
Technion – Israel Institute of Technology, Haifa, Israel
- 2018/06/12 "Helly type theorems in combinatorics"
Incheon combinatorics seminar
Incheon National University, Incheon, Republic of Korea

Invited Talks at Workshops and Conferences

- 2020/07/07 "Complexes of graphs with bounded independence number"
CoSP Workshop and School on Topological Combinatorics
Online
- 2019/07/22 "Rainbow independent sets in graphs"
CoSP Workshop and School on Topological Methods
Charles University, Prague, Czech Republic
- 2018/08/15 "Nerves and minors"
Topological Combinatorics in Shantou
Guangdong Technion – Israel Institute of Technology, Shantou, China
- 2017/04/22 "Nerves and minors"
The 82nd KPPY Combinatorics Workshop
Yeungnam University, Gyeongsan, Republic of Korea
- 2017/02/28 "The layer number of evenly-distributed point sets"
The 15th KIAS Combinatorics Workshop
KIAS, Seoul, Republic of Korea

2016/02/27 “Colorful and fractional Helly theorems”

The 11th KIAS Combinatorics Workshop

KIAS, Seoul, Republic of Korea

2014/02/19 “Intersection patterns of subtree families and colorful fractional Helly theorems”

The 62nd KPPY Combinatorics Workshop

Pusan National University, Pusan, Republic of Korea

■ Teaching Experience

Teaching Assistant at KAIST

2012-2017 College Mathematics, Calculus I, Calculus II, Introduction to Linear Algebra, Linear Algebra, Discrete Mathematics, Differential Equations and Applications.