

## PUBLICATIONS

### Published papers and proceedings (2014 March - present)

29. *Kirchhoff index of simplicial networks* (co-authors: K. Lee)  
Linear Algebra and Its Applications 626 (1 October 2021) 1- 19
28. *Predicting survival in heart failure: a risk score based on machine-learning and change point algorithm* (co-authors: W. Kim, J. Park, D. Choi)  
Clinical Research in Cardiology (published online on 14 July 2021)
27. *Effects of catastrophic financial loss on suicide risk: Evidence from Korean stock market crash in October 2008* (co-authors: W. Kim, H. Park, J. Park)  
Social Psychiatry and Psychiatric Epidemiology (available online 26 May 2021)
26. *Topological Data Analysis of Coronary Plaques Demonstrates the Natural History of Coronary Atherosclerosis* (co-authors: D. Hwang, H. Kijm, S. Lee, S. Lim et al.)  
JACC: Cardiovascular Imaging (available online 13 January 2021)
25. *Tumor spread through air spaces (STAS): prognostic significance of grading in non-small cell lung cancer* (co-authors: J. Jung et al.)  
Modern Pathology 34 (published November 2020; appeared March 2021) 549-561
24. *Investigation of Flash Crash via Topological Data Analysis*  
(co-authors: W. Kim, Y. Kim, G. Lee)  
Topology and Its Applications: Proceedings of the 3rd Pan-Pacific International Conference on Topology and Applications (available online Dec. 15, 2020)
23. *High dimensional networks and spanning forests* (co-author: K. Lee)  
Topology and its Applications: Proceedings of the Second Pan-Pacific International Conference on Topology and Applications 264 (September 2019) 105-114. (accepted: 8 January 2019)
22. *Topological data analysis can extract subgroups with high rates of Type 2 diabetes*  
(co-authors: H. Kim, C. Yi, Y. Kim, U. Park, B. Oh, H. Kim, T. Park)  
International Journal of Data Mining and Bioinformatics 22(1):61-74 (April 2019)
21. *Simplicial networks and effective resistance* (co-author: K. Lee)  
Advances in Applied Mathematics, Volume 100 (September 2018) 71-86
20. *A weighted cellular matrix-tree theorem, with applications to complete colorful and cubical complexes* (co-authors: G. Aalipour, A. Duval, K. Lee, J. Martin)  
Journal of Combinatorial Theory, Series A, Volume 158 (August 2018) 362-386
19. *Möbius coinvariants and bipartite edge-rooted forests* (co-author: K. Lee)  
European Journal of Combinatorics, Volume 71 C (June 2018) 180-193
18. *Harmonic cycles for graphs*, (co-author: Y. Kim)  
Linear and Multilinear Algebra (online February 2018)
17. *Path-Intersection matrices and applications to networks*, (co-authors: D. Kho et al.)  
Linear Algebra and its Applications 524 (July 2017) 278-292
16. A formula for *simplicial tree-numbers of matroid complexes*, (co-author: K. Lee)  
European Journal of Combinatorics, Volume 53 (April 2016) 59-65

15. *Weighted tree numbers of matroid complexes* (co-author: K. Lee),  
Discrete Mathematics and Theoretical Computer Science Proceedings FPSAC' (2015) 709-720
14. *Logarithmic tree-numbers for acyclic complexes* (co-author: H. Kim),  
Electronic Journal of Combinatorics 21(1) #P1.50 (March 10, 2014),
13. *Can knowledge be more accessible in a virtual network?: Collective dynamics of knowledge transfer in a virtual knowledge organization network* (coauthor: S. Shin),  
Decision Support Systems (March 2014),

*First author: 29, 23, 21, 19, 18, 16, 15*

*Corresponding author: 28, 24, 27, 20, 17, 14, 13*

### **Published papers and proceedings (before 2014 March)**

12. *Multicomplex of partially edge-rooted forests*,  
European Journal of Combinatorics 33 (May 2012) 505-509  
doi: 10.1016/j.ejc.2011.11.006
11. *The h-vector of coned graphs*,  
Applied Mathematics Letters, Volume 24, Issue 4 (April 2011) 528-532  
doi: 10.1016/j.aml.2010.11.007
10. *Combinatorial Green's function of a graph and applications to networks*,  
Advances in Applied Mathematics, Volume 46 (Jan. 2011) 417-423  
(Special issue in honour of Dennis Stanton's 60<sup>th</sup> birthday)  
doi:10.1016/j.aam.2010.10.006
9. *Knowledge Transfer in a Multiple Virtual Communities Network* (coauthor: S. Shin)  
Hawaii International Conference on System Sciences, Proceedings, 5-8 Jan. 2010,  
IEEE Computer Society 2010 (ISBN 978-0-7695-3869-3)
8. *Edge-rooted forests and  $\alpha$ -invariant of cone graphs*,  
Discrete Applied Mathematics, Volume 155, Issue 8, (2007) 1071-1075
7. *The homology of the cycle matroid of a coned graph*,  
European Journal of Combinatorics, Volume 28, Issue 3 (2007) 734-741
6. *On the product of log-concave polynomials*,  
Integers: The Electronic Journal of Combinatorial Number Theory 6 (2006), #A40
5. *A formula for an evaluation of the Tutte polynomial of a matroid*,  
Discrete Mathematics 300 (2005) 235-238
4. *Recurrence relations for the spectrum polynomial of a matroid*,  
Discrete Applied Mathematics 143 (2003) 312-317
3. *Combinatorial Laplacians of matroid complexes* (coauthors: V. Reiner and D. Stanton),  
Journal of the American Mathematical Society 13, No. 1, 129-148 (2000)
2. *A convolution formula for the Tutte polynomial* (coauthors: V. Reiner and D. Stanton),  
Journal of Combinatorial Theory, Series B 76, 297-300 (1999)
1. *Categories of acyclic graphs and automorphisms of free groups*,  
Ph.D. Thesis, Stanford University (1997)