

## Publications Department of Mathematics

West Virginia University  
January 1, 2017 - December 31, 2017

- Celikbas, O., Holm, H. (2017). Equivalences from tilting theory and commutative algebra from the adjoint functor point of view. *New York Journal of Mathematics*, 23, 1697-1721.
- Celikbas, O., Christensen, L. W., Liang, L., Piepmeyer, G. (2017). Stable homology over associative rings. *Transactions of the American Mathematical Society*, 369(11), 8061–8086.
- Celikbas, O., Christensen, L. W., Liang, L., Piepmeyer, G. (2017). Complete homology over associative rings. *Israel Journal of Mathematics*.
- Celikbas, O., Liang, L., Sadeghi, A. (2017). Vanishing of Relative Homology and Depth of Tensor Products. *Journal of Algebra*, 478, 382-396.
- Ciesielska, M., Ciesielski, K. (2017). Differentiable extension theorem; a lost proof of V. Jarnik. *J. Math. Anal. Appl.*, 454(2), 883-890.
- Ciesielski, K., Miller, D. (2017). On a Genocchi-Peano example. *College Math. J.*, 48(3), 205-213.
- Ciesielski, K., Gamez-Merino, J. L., Mazza, L., Seoane-Sepulveda, J. B. (2017). Cardinal coefficients related to surjectivity, Darboux, and Sierpinski-Zygmund maps. *Proc. Amer. Math. Soc.*, 145(3), 1041-1052. <http://dx.doi.org/10.1090/proc/13294>.
- Tong, Y., Udupa, J. K., Ciesielski, K., Wu, C., McDonough, J. M., Mong, D. A., Campbell, Jr, R. M. (2017). Retrospective 4D MR image construction from free-breathing slice Acquisitions: A novel graph-based approach. *Medical image analysis*, 35, 345-359.
- Ciesielski, K. (2017). Monsters in calculus. *American Mathematical Monthly*.  
<http://www.math.wvu.edu/~kcies/prepF/131.DifferentiableMonsterForCalc.pdf>
- Strand, R., Ciesielski, K., Malmborg, F., Saha, P. K. (2017). The Minimum Barrier Distance: A Summary of Recent Advances. *W.G. Kropatsch et al. (Eds.): DGCI 2017, LNCS 10502 (2017)*, Springer, Cham (vol. 10502, pp. 57-68). *DGCI 2017, LNCS 10502*, Springer.
- Darrah, M. A. (2017). *Optimized 3D Mapping of a Large Area with Structures Using Multiple Multirotors* (pp. 716-722). IEEE. <http://ieeexplore.ieee.org/abstract/document/7991414/>
- Deshler, J. M. (2017). (Chinese Translation of) Professional Development in Teaching for Mathematics Graduate Students. *Advances in Translation*(4), 340-347.
- Deshler, J. M. (2017). Mixing Babies and Graduate School: Don't Undermine the Success of Women in the Academy Before They Enter It: A Letter to Graduate Advisers. *MAA FOCUS: Newsmagazine of the Mathematical Association of America*, 37(1), 23-25.
- Barnes, J., Collins, B. V., Deshler, J. M., Ernstberger, J. (2017). Section NExT as a Model for Professional Development Opportunities. *Mathematical Association of America FOCUS*, 37(5), 22-24.
- Wu, X., Deshler, J. M., Fuller Jr., E. J., Mera Trujillo, M. (2017). *Career Decision Making Strategies of Calculus and Developmental Mathematics Students*. Conference on Research in Undergraduate Mathematics Proceedings.

Speer, N., Deshler, J. M., Ellis, J. (2017). *Evaluation of Graduate Student Professional Development and Instruction by Mathematics Departments: Results from a National Survey*. Conference on Research in Undergraduate Mathematics Proceedings.

Deshler, J. M., Ellis Hagman, J. (2017). International Similarities and Differences in the Experiences and Preparation of Post-Graduate Mathematics Students as Tertiary Instructors. *Proceedings of the 13th International Congress on Mathematical Education; ICME-13*. Springer International Publisher: International Congress of Mathematical Education. [https://link.springer.com/chapter/10.1007/978-3-319-62597-3\\_120](https://link.springer.com/chapter/10.1007/978-3-319-62597-3_120)

Deshler, J. M., Barnes, J., Ernstberger, J. (2017). *Professional Development at the Section Level* (Spring 2017 ed., pp. 2-3). Intersection: The Newsletter for MAA Section Officers.

Kelly, B. J., Baker, J. G., Etienne, Z., Giacomazzo, B., Schnittman, J. (2017). Prompt electromagnetic transients from binary black hole mergers. *Phys. Rev. D*, 96(12), 123003. <https://link.aps.org/doi/10.1103/PhysRevD.96.123003>

The LIGO-Virgo Scientific Collaborations, Etienne, Z., Knowles, T., McWilliams, S. (2017). Search for Post-merger Gravitational Waves from the Remnant of the Binary Neutron Star Merger GW170817. *The Astrophysical Journal, Letters*, 851, L16.

The LIGO/Virgo Scientific Collaborations, Etienne, Z., Knowles, T. D., McWilliams, S., The 1M2H Collaboration, The Dark energy Camera GW-em Collaboration and the DES Collaboration, The DLT40 Collaboration, The Las Cumbres Observatory Collaboration, The VINROUGE Collaboration, The MASTER Collaboration (2017). A gravitational-wave standard siren measurement of the Hubble constant. *Nature*, 551(7678), 85-88.

The LIGO/Virgo Scientific Collaborations, Devine, R. C., Etienne, Z., McWilliams, S. (2017). All-sky Search for Periodic Gravitational Waves in the O1 LIGO Data. *Phys. Rev.*, D96(6), 062002.

The LIGO/Virgo Scientific Collaborations, Devine, R. C., Etienne, Z., McWilliams, S. (2017). All-sky search for short gravitational-wave bursts in the first Advanced LIGO run. *Phys. Rev.*, D95(4), 042003.

The LIGO/Virgo Scientific Collaborations, Devine, R. C., Etienne, Z., McWilliams, S. (2017). Directional Limits on Persistent Gravitational Waves from Advanced LIGO's First Observing Run. *Phys. Rev. Lett.*, 118(12), 121102.

The LIGO/Virgo Scientific Collaborations, Devine, R. C., Etienne, Z., McWilliams, S. (2017). Effects of waveform model systematics on the interpretation of GW150914. *Class. Quant. Grav.*, 34(10), 104002.

The LIGO/Virgo Scientific Collaborations, Etienne, Z., Knowles, T. D., McWilliams, S. (2017). Estimating the Contribution of Dynamical Ejecta in the Kilonova Associated with GW170817. *Astrophys. J.*, 850(2), L39.

The LIGO/Virgo Scientific Collaborations, Devine, R. C., Etienne, Z., McWilliams, S. (2017). First search for gravitational waves from known pulsars with Advanced LIGO. *Astrophys. J.*, 839(1), 12.

The LIGO/Virgo Scientific Collaborations, Devine, R. C., Etienne, Z., McWilliams, S. (2017). GW170104: Observation of a 50-Solar-Mass Binary Black Hole Coalescence at Redshift 0.2. *Phys. Rev. Lett.*, 118(22), 221101.

The LIGO/Virgo Scientific Collaborations, Etienne, Z., Knowles, T. D., McWilliams, S. (2017). GW170814: A Three-Detector Observation of Gravitational Waves from a Binary Black Hole Coalescence. *Phys. Rev. Lett.*, 119(14), 141101.

The LIGO/Virgo Scientific Collaborations, Etienne, Z., Knowles, T. D., McWilliams, S. (2017). On the Progenitor of Binary Neutron Star Merger GW170817. *Astrophys. J.*, 850(2), L40.

The LIGO/Virgo Scientific Collaborations, Devine, R. C., Etienne, Z., McWilliams, S. (2017). Search for Gravitational Waves Associated with Gamma-Ray Bursts During the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B. *Astrophys. J.*, 841(2), 89.

The LIGO/Virgo Scientific Collaborations, Devine, R. C., Etienne, Z., McWilliams, S. (2017). Search for gravitational waves from Scorpius X-1 in the first Advanced LIGO observing run with a hidden Markov model. *Phys. Rev.*, D95(12), 122003.

ANTARES Collaboration, IceCube Collaboration, The Pierre Auger Collaboration, The LIGO/Virgo Scientific Collaborations, Etienne, Z., Knowles, T. D., McWilliams, S. (2017). Search for High-energy Neutrinos from Binary Neutron Star Merger GW170817 with ANTARES, IceCube, and the Pierre Auger Observatory. *Astrophys. J.*, 850(2), L35.

ANTARES Collaboration, IceCube Collaboration, The LIGO/Virgo Scientific Collaborations, Devine, R. C., Etienne, Z., McWilliams, S. (2017). Search for High-energy Neutrinos from Gravitational Wave Event GW151226 and Candidate LVT151012 with ANTARES and IceCube. *Phys. Rev.*, D96(2), 022005.

*Journal Article (Published)*

The LIGO/Virgo Scientific Collaborations, Devine, R. C., Etienne, Z., McWilliams, S. (2017). Search for intermediate mass black hole binaries in the first observing run of Advanced LIGO. *Phys. Rev.*, D96(2), 022001.

The LIGO/Virgo Scientific Collaborations, Devine, R. C., Etienne, Z., McWilliams, S. (2017). Upper Limits on the Stochastic Gravitational-Wave Background from Advanced LIGO's First Observing Run. *Phys. Rev. Lett.*, 118(12), 121101.

Etienne, Z., Wan, M.-B., Babiuc, M. C., McWilliams, S., Choudhary, A. (2017). GiRaFFE: An Open-Source General Relativistic Force-Free Electrodynamics Code. *Class. Quant. Grav.*, 34(21), 215001.

Qi, X., Song, H., Wu, J., Fuller Jr., E. J., Luo, R., Zhang, C.-Q. (2017). Eb&D: A new clustering approach for signed social networks based on both edge-betweenness centrality and density of subgraphs. *PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS*, 482, 147-157.

Lawrie, G., Marquis, E., Fuller Jr., E. J., Newman, T., Qiu, M., Nomikoudis, M., Roelofs, F., Van Dam, L. (2017). Moving Towards Inclusive Learning and Teaching: A Synthesis of Recent Literature. *Teaching & Learning Inquiry*.

GINGOLD, H., Solomon, D. (2017). Celestial mechanics solutions that escape. *Journal of Differential Equations*, 263, 1813-1842. [www.sciencedirect.com](http://www.sciencedirect.com)

Goldwasser, J., T. P., M. Y. (2017). LIGHTS OUT! on Cartesian products. *Electronic Journal of Linear Algebra*, 32, 464-474.

Halász, Á. M., Pryor, M. M., Wilson, B. S., Edwards, J. S. (2017). Spatiotemporal Modeling of Membrane Receptors. In F. Graw (Ed.), *Modeling Cellular Systems* (vol. 11 in the Contributions in Mathematical and Computational Sciences series, pp. 1-37). Springer International Publishing.

- McCarty, T. S., Infante, N. E. (2017). *Student Gesture Use When Explaining the Second - Derivative Test and Optimization*. San Diego, CA: Conference on Research on Undergraduate Mathematics Education.
- Li, H., Lai, H.-J. (2017). 3-dynamic coloring and list 3-dynamic coloring of K1,3-free graphs. *Discrete Appl. Math.*, 222, 166–171.
- Hong, Y., Liu, Q., Lai, H.-J. (2017). Characterization of digraphic sequences with strongly connected realizations. *J. Graph Theory*, 84, 191–201.
- Zhang, Z., Lai, H.-J. (2017). Characterizations of k-cutwidth critical trees. *J. of Comb. Optim.*, 34, 233-244.
- Li, J., Lai, H.-J., Luo, R. (2017). Group Connectivity, Strongly  $Z_m$ -Connectivity, and Edge Disjoint Spanning Trees. *SIAM J. Discrete Math.*, 31, 1909–1922.
- Chen, Z.-H., Lai, H.-J., Xiong, L. (2017). Minimum degree conditions for the Hamiltonicity of 3-connected claw-free graphs. *Journal of Combinatorial Theory, Series B*, 122, 167-186.
- Anderson, J., Lai, H.-J., Lin, X., Xu, M. (2017). On k-maximal strength digraphs. *J. Graph Theory*, 84, 17–25.
- Lai, H.-J., Li, H., Wu, Y., Zhu, S. (2017). Panconnected index of graphs. *Discrete Math.*, 340, 1092–1097.
- Chen, Z.-H., Lai, H.-J., Zhang, M. (2017). Spanning trails with variations of Chvátal–Erdős conditions. *Discrete Mathematics*, 340, 243-251.
- Liu, M., Das, K. C., Lai, H.-J. (2017). The (signless) Laplacian spectral radii of c-cyclic. *Linear Multilinear Algebra*, 65, 869–881.
- Han, M., Lai, H.-J., Shao, Y. (2017). The index problem of group connectivity. *Journal of Combinatorics*, 2, 305-321.
- Li, D., Chen, S. (2017). Generalised Riemann Problem for Euler System. *Science China, Mathematics*, 60, 581-592.
- Lu, Y., Li, J., Luo, R., Miao, Z. (2017). Adjacent vertex distinguishing total coloring of graphs with maximum degree 4. *Discrete Mathematics*, 340, 119-123.
- Qi, X., Song, H., Wu, J., Fuller, E., Luo, R., Zhang, C.-Q. (2017). Eb&D: A new clustering approach for signed social networks based on both edge-betweenness centrality and density of subgraphs. *Physica A*.
- Luo, R., Horcek, K., Miao, Z., Zhao, Y. (2017). Finding  $\Delta(\Sigma)$  for a surface  $\Sigma$  of characteristic -6 and -7. *Graphs and Combinatorics*, 33, 929-944.
- Li, J., H.-J., Luo, R. (2017). GROUP CONNECTIVITY, STRONGLY  $Z_m$ -CONNECTIVITY, AND EDGE DISJOINT SPANNING TREES. *SIAM J. DISCRETE MATH.*
- Hu, X., Chen, Y., Luo, R., Miao, Z. (2017). Neighbor sum distinguishing edge colorings of 2-degenerate graphs. *Journal of Combinatorial Optimization*, 34, 798-809.
- Milans, K. (2017). Montone Paths in Dense Edge-Ordered Graphs. *Journal of Combinatorics*, 8(no. 3, special ed., in honor of Ron Graham's 80th birthday), 423--437.  
<https://www.intlpress.com/site/pub/pages/journals/items/joc/content/vols/0008/0003/a002/index.html>

- Kostochka, V., Milans, K. (in press). Coloring clean and K4-free circle graphs. In J. Pach (Ed.), *Thirty Essays in Geometric Graph Theory*. Springer.
- Ciesielski, K. C., Miller, D. A. (2017). On a Genocchi-Peano Example. *The College Mathematics Journal/MAA*, 48(3), 205-213.
- Miller, D. A., Infante, N., Weber, K. (2017). How mathematicians assign points to student proofs. *Journal of Mathematical Behavior*. <https://www.sciencedirect.com/science/article/pii/S0732312316301687>
- Moseley, J. (2017). The Discrete Agglomeration Model: The Fixed Problem with Application to the Quadratic Kernel. *Far East Journal of Applied Mathematics*, 96(5), 245-265.
- Ogden, L., Shambaugh, N. (2017). Professional Development for Teaching College Mathematics Using an Integrated Flipped Classroom. *Handbook of Research on Pedagogical Models for Next-Generation Teaching and Learning* (pp. 154-176). Hershey, Pennsylvania: IGI Global.
- Pantea, C., Mohamed, F., Tudorascu, A. (2017). Chemical reaction-diffusion networks: convergence of the method of lines in chemical systems and diffusely connected ODEs: a case study of convergence, preprint, 2016. *Journal of Mathematical Chemistry*. <https://doi.org/10.1007/s10910-017-0779-z>
- Priselac, N., Priselac, S., Conely, M., Pyzdrowski, L., Pyzdrowski, A. (2017). *The Power of STEM in Maker Spaces: Inspiring Students by Using the Process of Inquiry and Design to Innovate and Create*. Honolulu, Hawaii: 15th Annual Hawaii International Conference on Education. <http://hicducation.org/conference-proceedings/>
- McCarty, T., Sealey, V. L. (2017). *Experts' Varied Concept Images of the Symbol dx in Integrals and Differential Equations* (pp. 1317-1323). Proceedings of the 20th Annual Conference on Research in Undergraduate Mathematics Education. <http://sigmaa.maa.org/rume/Site/Proceedings.html>
- Toth, Sealey, V. L. (2017). *Student Understanding of the Product Layer of the Integral in Volume Problems* (pp. 1546-1547). Proceedings of the 20th Annual Conference on Research in Undergraduate Mathematics Education. <http://sigmaa.maa.org/rume/Site/Proceedings.html>
- Kim, E. H., Tsikkou, C. (2017). TWO DIMENSIONAL RIEMANN PROBLEMS FOR THE NONLINEAR WAVE SYSTEM: RAREFACTION WAVE INTERACTIONS. *Discrete and Continuous Dynamical Systems*, 37(12), 6257-6289.
- Mohamed, F., Pantea, C., Tudorascu, A. (2017). Chemical reaction-diffusion networks: convergence of the method of lines. *Journal of Mathematical Chemistry*. <https://link.springer.com/article/10.1007/s10910-017-0779-z>
- Feldman, M., Tudorascu, A. (2017). THE SEMI-GEOSTROPHIC SYSTEM: WEAK-STRONG UNIQUENESS UNDER UNIFORM CONVEXITY. *Calculus of Variations and Partial Differential Equations*. <https://doi.org/10.1007/s00526-017-1254-1>
- Zhang, C.-Q., Qi, X., Song, H., Wu, J., Fuller, E., Luo, R. (2017). Eb&D: A new clustering approach for signed social networks based on both edge-betweenness centrality and density of subgraphs,. *Physica A*, 482, 147-157.
- Zhang, C.-Q., Cheng, J., Zhu, B. (2017). Even Factors of Graphs. *Journal of Combinatorial Optimization*, 33(4), 1343-1353.
- Wu, Y., Zhang, C.-Q., Zhu, B. (2017). Vertex-coloring 3-edge-weighting of some graphs. *Discrete Mathematics*, 340, 154-159. [http://ac.els-cdn.com/S0012365X16302692/1-s2.0-S0012365X16302692-main.pdf?\\_tid=54809f3e-8c4-11e6-8da7-00000aab0f6b&acdnat=1475868734\\_166146bc7cb9b7b315ab77083c90984b](http://ac.els-cdn.com/S0012365X16302692/1-s2.0-S0012365X16302692-main.pdf?_tid=54809f3e-8c4-11e6-8da7-00000aab0f6b&acdnat=1475868734_166146bc7cb9b7b315ab77083c90984b)

