

## Selected Publications:

93. I. Sciriha. Connected Sum of Graphs as Molecular Electronic Devices, submitted.
92. I. Sciriha and J. L. Borg. Reconstruction from one labelled card and more. *Linear Algebra and its Applications*. <https://doi.org/10.1016/j.laa.2023.08.009>
91. I. Sciriha and Z. Stanic. The polynomial reconstruction problem: The first 50 years. *Discrete Mathematics*, 346(6), 113349, 1-15, 2023.
90. I. Sciriha and L. Collins. The walks and CDC of graphs with the same main eigenspace. *Discussiones Mathematicae Graph Theory*, 43(2):507-532, 2023.
89. I. Sciriha. The fibre-sum of graphs. *The Art of Discrete and Applied Mathematics-ADAM*, in the press, 2023.
88. T. Pisanski N. Basic, P. W. Fowler and I. Sciriha. On singular signed graphs with nullspace spanned by a full vector: signed nut graphs. *Discussiones Mathematicae Graph Theory*, 42:1351-1382, 2022.
87. I. Sciriha. Joining forces for reconstruction inverse problems. *Symmetry*, MDPI, 13(9), 2021. <https://doi.org/>
86. I. Sciriha and A. Farrugia. Book; From Nut Graphs to Molecular Structure and Conductivity. *Mathematical Chemistry Monographs*, University of Kragujevac, 2021.
85. J. B. Gauci, T. Pisanski, and I. Sciriha. Existence of regular nut graphs and the Fowler construction. *Applicable Analysis and Discrete Mathematics*, Accepted 2020.
84. J. Briffa and I. Sciriha. On the displacement of eigenvalues when removing a twin vertex. *Discussiones Mathematicae. Graph Theory*, 402:435-450, 2020.
83. I. Sciriha, X. Mifsud, and J.L. Borg. Nullspace vertex partition in graphs. *J. Comb*, 42:310-326, 2020.
82. L. Mitchell and I. Sciriha. A reduction procedure for the Colin de Verdière number of a graph. *Linear Algebra and its Applications*, 596:36-48, 2020.
81. P.W. Fowler, J.B. Gauci, J. Goedgebeur, T. Pisanski, and I. Sciriha. Existence of regular nut graphs for degree at most 11. *Discussiones Mathematicae Graph Theory* 40:533–557, 2020. doi:10.7151/dmgt.2283
80. I. Sciriha and L. Collins. Two-graphs and NSSDs: An algebraic approach. *Discrete Applied Mathematics*, 266:92-102, 2019. The Second Malta Conference in Graph Theory and Combinatorics 2MCGTC2017.
79. Irene Sciriha, Didar A. Ali, John Baptist Gauci and Khidir R. Sharaf. The conductivity of superimposed key-graphs with a common one-dimensional adjacency nullspace. *Ars Mathematica Contemporanea (AMC)*, 16(1):141-155, 2019.
78. P.W. Fowler, M. Borg, B.T. Pickup, and I. Sciriha. Molecular graphs and molecular conduction: the  $d$ -omni-conductors. *Phys. Chem. Chem. Phys.*, 22(3):1349-1358, 2019.
77. I. Sciriha, J. Briffa, and M. Debono. Fast algorithms for indices of nested split graphs approximating real complex networks. *Discrete Applied Mathematics*, 247:152-164, 2018.
76. P.W. Fowler, B.T. Pickup, and I. Sciriha. Spectra and structural polynomials of graphs of relevance to the theory of molecular conduction. *Ars Mathematica Contemporanea*, 13:379-408, 2017.
75. A. Farrugia and I. Sciriha. Triangles in inverse NSSD graphs. *Linear and Multilinear Algebra*, 2017.
74. P.W. Fowler, I. Sciriha, M. Borg, V.E. Seville, and B.T. Pickup. Near omni-conductors and insulators: Alternant hydrocarbons in the SSP model of ballistic conduction. *The Journal of Chemical Physics*, 147(16), 2017.

73. A. Farrugia, J.B. Gauci, and I. Sciriha. Complete graphs with zero diagonal inverse. *ARS Mathematica Contemporanea*, 11(2):231-245, 2016.
72. B.T. Pickup, P.W. Fowler, and I. Sciriha. A Hückel source-sink-potential theory of Pauli spin blockade in molecular electronic devices. *The Journal of Chemical Physics*, 145:204113, 2016.
71. A. Farrugia, J.B. Gauci, and I. Sciriha. Non-singular graphs with a singular deck. *Discrete Applied Mathematics*, 202:50-57, 2016.
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69. D.A. Ali, J.B. Gauci, I. Sciriha, and K.R. Sharaf. Nullity of a graph with a cut-edge. *MATCH Commun. Math. Comput. Chem.*, 76(3):771-791, 2016.
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67. I. Gutman, B. Furtula, A. Farrugia, and I. Sciriha. Constructing NSSD molecular graphs. *Croatica Chemica Acta*, 89(4):449-454, 2016.
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65. F. Belardo, I. Sciriha, and S. K. Simić. On eigenspaces of some compound signed graphs. *Linear Algebra and its Applications*, 509(2):19-39, 2016.
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63. K. Meagher and I. Sciriha. Graphs that have a weighted adjacency matrix with spectrum  $\{\lambda^{(n-2)}, \lambda^2\}$  arXiv:1504.04178, 2015.
62. A. Farrugia and I. Sciriha. On the main eigenvalues of universal adjacency matrices and U-controllable graphs. *Electronic Journal of Linear Algebra*, 30:812-826, 2015.
61. P.W. Fowler, B.T. Pickup, T.Z. Todorova, M. Borg, and I. Sciriha. Omni-conducting and omni-insulating molecules. *The Journal of Chemical Physics*, 140(5), 2014.
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