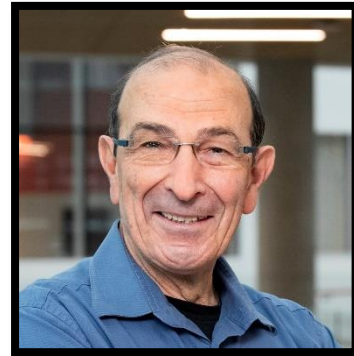


Dyadic Linear Programming

ABSTRACT – A vector is dyadic if each of its entries is a dyadic rational number, i.e. each entry has a finite binary representation. Dyadic numbers are important for numerical computations because they have an exact representation in floating-point arithmetic on a computer. We study the problem of finding a dyadic optimal solution to a linear program, if one exists. We show how to solve dyadic linear programs in polynomial time. We give bounds on the size of the support of a solution as well as on the size of the denominators. This work is joint with Ahmad Abdi, Bertrand Guenin and Levent Tuncel.



Dr. Gerard Cornuejols

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SPEAKER BIO – Gerard Cornuejols is IBM professor of Operations Research, emeritus, at Carnegie Mellon University. His research interests are in integer programming and combinatorial optimization. He received the Lanchester Prize twice (1978 and 2015), the Fulkerson Prize (2000), the Dantzig Prize (2009) and the von Neumann Theory Prize (2011). He is a member of the National Academy of Engineering.

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TUESDAY, OCTOBER 3, 2023

3:30 PM – 4:50 PM

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