Call for Papers
Optimization in Distance Geometry

Journal of Global Optimization

Distance Geometry (DG) has a rich mathematical history, rooted in Heron's theorem for computing the area of a triangle from the lengths of its sides. DG was further developed in the 1800s and 1900s by Cayley, Maxwell, Menger, and Isaac Schoenberg, who gave, among other things, an algebraic proof of the equivalence between distance matrices and Gram matrices. The essence of Schoenberg's proof is now used to show the validity of the well-known Multidimensional Scaling technique.

DG today is a research area bridging mathematics and computer science with applicability to practical problems in a wide range of disciplines. While the classical DG applications arise in the field of bioinformatics and telecommunications, there exist several other applications that can be formulated as a DG, or where DG can represent an important sub-problem. Although the natural formulation of DG is as a constraint satisfaction problem, most DG solution methods are based on a formulation as an optimization problem. Depending on the instance at hand, a semidefinite programming (SDP) formulation can be supplied, or a combinatorial formulation, just to cite two examples. This shows the strong relationship between DG and optimization.

The aim of this special issue is to collect extended and detailed versions of the contributions presented at the DIMACS workshop on Optimization in Distance Geometry

`http://dimacs.rutgers.edu/events/details?eID=322`

held in Piscataway (NJ) on June $26^{th} - 28^{th}$, 2019. All submissions should be performed via the Springer Editorial Manager, at the web address:

`https://www.editorialmanager.com/jogo`

When submitting, please make sure that the proper article type (SI: DGTA19) is selected.

Submission deadline: December 31^{st}, 2019.

We are looking forward to receiving your contribution.

The Guest Editors
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