Kick-off: Dutch Seminar on Optimization

It is our great pleasure to announce the

Dutch Seminar on Optimization
https://event.cwi.nl/dutch-optimization-seminar

as a new initiative to bring together researchers from the Netherlands and beyond.

The goal of this initiative is to establish a new forum for the Dutch optimization community to come together, to help provide a spotlight for up and coming local talent, and to bring in high quality international speakers. The topics of the seminar are centered around Optimization in a broad sense, but with a focus on (though not limited to) the theoretical foundations of discrete and continuous optimization. The seminar will be run once a month.

The kick-off event will be on

Wednesday, December 16, 16:00–17:00

It is our great pleasure to announce that Laura Sanita (TU Eindhoven) will start the new seminar series; see below for the details of her talk. Please help us to distribute this announcement!

We would like to invite all researchers, especially also PhD students, who are working on related topics to join the events. Please contact Sven Polak (polak@cwi.nl) if you want to be added to the mailing list of the seminar to receive future announcements.

We hope to see you all on December 16.

Best regards,
Guido Schäfer

(on behalf of the Organization Committee)

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Speaker: Laura Sanita (TU Eindhoven)

Title: On the diameter and the circuit-diameter of polytopes

Date: December 16, 2020, 16:00–17:00

Zoom link:
https://cwi-nl.zoom.us/j/84909645595?pwd=b1M4QnNKVzNMdmNSVFNaZUJmR1kvUT09
(Meeting ID: 849 0964 5595, Passcode: 772448)

Abstract:
The diameter of a polytope P is the maximum length of a shortest path between a pair of vertices of P, when one is allowed to walk on the edges (1-dimensional faces) of P. Despite decades of studies, it is still not known whether the diameter of a d-dimensional polytope with n facets can be bounded by a polynomial function of n and d. This is a fundamental open question in discrete mathematics, motivated by the (still unknown) existence of a polynomial pivot rule for the Simplex method for solving Linear Programs.
A generalized notion of diameter, recently introduced in the literature, is that of circuit-diameter, defined as the maximum length of a shortest path between two vertices of P, where the path can use all edge directions (called circuits) that can arise by translating some of the facets of P.
In this talk, I will discuss some algorithmic and complexity results related to the diameter and the circuit-diameter of polytopes, highlighting important open questions.