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**Title: Visibility Problems in Discrete Geometry**

**Abstract:**

In discrete geometry, the statement of a visibility problem usually reads as follows: "Fix a positive number ε, a point set Y in the d-dimensional Euclidean space and a family of lines L. Do all the lines of L come ε-close to the point set Y?" For these problems to be of interest, conditions such as Y being a discrete set have to be imposed.

In view of this setup, a dense forest is a point-set F in the Euclidean space such that, for every fixed ε>0, F comes ε-close to sufficiently long line segments. The weaker notion of an orchard is defined in the same way but concerns only line segments which contain the origin. The quality in the distribution of the points of a dense forest (resp. of an orchard) is being quantified in terms of a visibility function.

In this talk we will discuss new approaches for the construction of orchards with optimal visibility bounds and a method which yields the construction of a dense forest with the best visibility bound known in the literature. Our approach involves the study of structured point-sets from discrete geometry such as spirals and Peres-type forests. This is joint work with Faustin Adiceam.