

# Drawing Trees in a Streaming Model

时间：2010年7月23日(星期五) 上午10:00 **Prof. Maurizio Patrignani**

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## Abstract

We introduce a data stream model of computation for Graph Drawing, where a source produces a graph one edge at a time. When an edge is produced, it is immediately drawn and its drawing can not be altered. The drawing has an image persistence, that controls the lifetime of edges. If the persistence is  $k$ , an edge remains in the drawing for the time spent by the source to generate  $k$  edges, then it fades away.

In this model we study the area requirement of planar straight-line grid drawings of trees, with different streaming orders, layout models, and quality criteria. We assess the output quality of the presented algorithms by computing the competitive ratio with respect to the best known offline algorithms.

Join work with Binucci, Brandes, Di Battista, Didimo, Gaertler, Palladino, Symvonis, and Zweig.



**Maurizio Patrignani received the "Laurea" degree in Electronic Engineering at the University of Rome "La Sapienza" in 1996 and a Ph.D. in Computer Science from the same institution in 2001. He is currently Associate Professor at the Department of Computer Science and Automation of the Roma Tre University. He published more than fifty technical papers in international journals and conferences on**

**Computer Networks, Information Visualization, and Computational Geometry.**

10:00 a.m. Friday July 23, 2010

Room 1801, Science Building No. 1, Peking University