

## Seminario Aleatorio

*Sesión 404*

# Tree-Based Aggregation in Statistical Learning

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### Abstract

In many fields, data are routinely being collected at finer resolutions than would previously have been possible. While in principle higher resolution data should always be preferred, it can lead to a mismatch between the level of measurement and the level of scientific relevance. Researchers are therefore confronted with the challenge of choosing the appropriate resolution level for data analysis. On the one hand, naively applying data analysis methods at the fine scale of measurement may make it hard to detect scientifically relevant phenomena if they occur at coarser levels. On the other hand, coarsening the data before data analysis risks missing out on fine-scale phenomena should they exist. In this talk, we propose data-adaptive tree-structured aggregation as a framework for addressing this challenge. We consider this problem in multiple contexts, including regression, Gaussian graphical models, and multiple hypothesis testing.

The works described include collaborations with Xiaohan Yan, Christian Müller, Ines Wilms, Adel Javanmard, Simeng Shao, and Léo Simpson.

**Viernes 10 de marzo de 2023,  
13:00 horas de CDMX,**

<https://itam.zoom.us/j/93376502463?pwd=Mk5sbnpYMT1hFMFINMWxCOTIUY3JnQT09>

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El Seminario Aleatorio del Departamento de Estadística del ITAM está destinado tanto a profesores como a estudiantes, por lo que se agradece a los profesores que colaboren invitando a sus alumnos a estas sesiones.