

**OVERVIEW OF THE ASTROINFORMATICS
LABORATORY ACTIVITIES AT THE CENTER FOR
MATHEMATICAL MODELING (CMM) OF THE
UNIVERSITY OF CHILE**

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ABSTRACT. This presentation will give an overview of the Astroinformatics Laboratory recently established at the Center for Mathematical Modeling (CMM) to consolidate an interdisciplinary effort started in 2009, to develop software tools and human capacities to support the development of frontier astronomy. As astronomy becomes a science of large volumes of data, the analysis and understanding of these data requires interdisciplinary research in mathematical modeling, data mining, statistics, image processing, visualization data in many dimensions, processing and data storage, among others. At the Astroinformatics Lab we are tackling this challenge by working on automated detection and classification of astronomical objects, analysis and classification of transient events, reconstruction of interferometric images, and handling and modelling of astronomical data. To a large extent all these projects have been defined by the scientific and technological requirements of the next generation observatories (such as ALMA, LSST and SKA) and they are being developed in strong collaboration with academic groups from other universities in Chile and abroad.

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