The PhD research aims to critically analyze the documentation procedures, including various methods of survey and diagnosis of built heritage, taking as its object of study the monument-building that houses the "Museu Paulista" and specifically the results obtained through 3D laser scanning, carried out in 2017. The comparison of these methods, starting from the prerogative that they are essential for any intervention in cultural heritage, is of paramount importance to understand the effectiveness of the procedures, their contributions and their limits. As a critical process, the analysis proposed by the research seeks to provide inputs for historiography, as a source of clarification, from the inquiry of documents, bibliography and the object of study itself.

The main goals is to discuss the method of 3D laser scanning and its potentialities when applied in the field of preservation of built heritage. Also, the thesis intends to identify and discuss the possibilities of using the point cloud as a tool for historiographic clarification, and not only as an automatic procedure for obtaining general information about a particular object and the environment in which it is inserted.

**3D LASER SCANNING**

The process of documenting cultural assets often includes - or should include - architectural metric surveys, providing inputs for future interventions or maintenance guidelines that will ensure their conservation over time. Within the scope of PhD research under development, the main focus of the investigations deals with the metric-architectural survey based on the 3D laser scanning technique, its limits and potentialities. The university's postgraduate program has an academic agreement between the colleges of São Paulo and Ferrara, in Italy, which allowed two-step training to learn the handling of the point cloud.

Besides work meetings between the researchers from both universities; presentations aimed at the general public; and a seminar focused on the formation of FAU-USP team to work with the point cloud of Museu Paulista. The cloud was acquired by means of 3D laser scanning of the whole museum made with DIAPReM-Ferrara, allowing to obtain the precise geometry of the building and the morphology of its degradations. The whole process was associated with discussion on theoretical and methodological matters, critical analyzes of the scanning process, its characteristics, results, applications, limits and potential.