

## **Abstract**

**Title** – The Santa Maria del Fiore Dome: Filippo Brunelleschi Construction Methods

**Program of Study** – Interior Design

**Presentation Type** – Physical Poster

**Subtype** – Creative and Artistic

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**Abstract:** This paper examines the method of construction of the Santa Maria del Fiore Dome by Filippo Brunelleschi in the fifteenth century. This was the most significant dome project that Europe had experienced in thousands of years and possibly the most innovative and complex project of the Renaissance era. Today, it still stands as the largest brick dome ever built. In order to achieve what seemed technically impossible at the time, Filippo Brunelleschi revolutionized architecture with his methods and created new ground-breaking building techniques. Every structure has a story to tell; it is even said that a structure reflects the qualities of its designer. The dome of the Santa Maria del Fiore is a genius edifice, whose design methods have been unsolved for centuries. Just like its designer, the dome is an astonishing mystery that was ahead of its time. Filippo Brunelleschi, the dome's architect, was one of the most elusive and enigmatic geniuses this world has known; he inspired the renaissance with his reinvention of architecture. Many architects have made it their life's work to solve the mystery of the dome. Filippo Brunelleschi was a suspicious and secretive man who left behind nothing of his genius plans, but there are some known building methods that Brunelleschi used. One of the secrets to the dome's success is the brick laying method that Brunelleschi invented. Out of all the construction theories, Massimo Ricci's theory is the most widely accepted amongst experts because it is sound and supports all of the known aspects of the dome's construction. He has even created his own model dome to further reinforce his theory. Ricci believed the answer was

in the primary building technologies of the time, rope lines. The intention of this research is to further prove Massimo's construction theory in building a model that also demonstrates the practicality of a radial methodology that Massimo Ricci had proposed earlier as a theoretical solution. What was not realized at the time was that this undertaking would lead to discoveries which appeared to link the radial methodology, used to build the model, and the actual methodology used by Brunelleschi.