1154-AC-2417 **Michelle Lynn Isenhour*** (mlisenho@nps.edu), 1411 Cunningham Rd., GL-263, Monterey, CA 93943. *Time to Leave the Louvre: Student Modeling Approaches.*

Imagine it's Thursday at 5:00 pm. Your boss walks into the office, concerned about the recent terror attacks in Paris, and tells you that he needs you to develop a mathematical model representing the evacuation of the Louvre Museum. You know, just develop the model, analyze the dynamics, and then write a 20-page report complete with policy recommendations. And as if that isn't enough, it needs to be completed before Monday at 8:00 pm! You might think this is crazy and unrealistic, but more than 5,200 teams of undergraduate students provided solutions to this exact problem as part of the 2019 ICM! In this talk, we'll look at the mathematics behind some of these student solutions. We'll showcase at the wide variety of evacuation models used and some of the novel ways in which teams implemented the models. Additionally, we'll see how they applied optimization algorithms, such Dijkstra, ant colony and particle swarm optimization algorithms, and even how many teams implemented simulation software in the development of their solutions. (Received September 17, 2019)