1158-90-210   **Amelia E Musselman** (`musselman5@llnl.gov`), 7000 East Avenue, L-053, Livermore, CA 94550, **Robin L Wong** (`wong133@llnl.gov`), 7000 East Avenue, L-053, Livermore, CA 94550, and **Carol A Meyers*** (`meyers14@llnl.gov`), 7000 East Avenue, L-053, Livermore, CA 94550. *Laboratory Throughput Modeling: Using Operations Research to Optimize the Workplace.*

We discuss the efforts of our team at Lawrence Livermore National Laboratory to identify chokepoints in infrastructure, people, and processes across our workplace. We describe the variety of techniques that our group has used to study laboratory throughput, and we present an example using mathematical programming to identify capacity-limiting resources in the manufacturing and fielding of large experiments. We discuss the challenges with obtaining data to populate such models, and the iterative process required to make models useful. Ultimately the models built by our group influence tens of millions of dollars of infrastructure funding decisions at our site. (Received March 02, 2020)

1