1163-97-1031 **David S. Ross***, dsrsma@rit.edu, and **Nathaniel Barlow**. *The logical methodology of mathematical modeling.*

The curriculum of RIT's PhD program in mathematical model trains students to be applied mathematicians, experts in mathematics who use mathematical analysis, computational methods, and logic to solve application field problems. In this talk we will explain how, and why, mathematics proper is secondary to logical methodology in the enterprise of modeling. We will discuss how we teach the logical methodology of modeling in our graduate classes. We will discuss practical examples that we use in the curriculum, and examples of industrial collaborations and how we use them to educate modelers. These will include problems related to immuno-assay chemistry, micro-energy harvesting, cancer treatment, sales projection, cardiopulmonary disease, and contact lens mechanics that have come to us from various industrial firms. (Received September 14, 2020)