1163-34-435 **Anca Radulescu** (radulesa@newpaltz.edu), **Cassandra Williams*** (williamc18@hawkmail.newpaltz.edu) and **Kieran Cavanagh**. *Management strategies in a SEIR-type model of COVID-19 community spread.*

The 2019 Novel Corona virus infection (COVID-19) is an ongoing public health emergency of international focus. Significant gaps persist in our knowledge of COVID-19 epidemiology, transmission dynamics, investigation tools and management, despite (or possibly because of) the fact that the outbreak is an unprecedented global threat. On the positive side, enough is currently known about the epidemic process to permit the construction of mathematical predictive models. We construct and analyze here one first step: that of adapting a traditional SEIR epidemic model to the specific dynamic compartments and epidemic parameters of COVID-19, as it spreads in an age-heterogeneous community. We analyze management strategies of the epidemic course (as they were implemented through lockdown and reopening procedures in many of the US states and countries worldwide); however, to more clearly illustrate ideas, we focus on the example of a small scale college town community. We generate predictions, and assess the efficiency of these control measures (closures, mobility restrictions, social distancing), in a sustainability context. (Received September 06, 2020)