JÜRGEN REINGRUBER, Ecole Normale Superieure
Monitoring and predicting the Covid-19 epidemic and its implications for hospitals

The world and France are strongly impacted by the SARS-COV-2 epidemic. Finding appropriate measures that effectively contain the epidemic without putting severe pressure on social and economic life is a major challenge for predictive approaches. We developed an modeling framework to monitor and predict the spread of the epidemic together with its impact on the health care system. The current implementation accounts for interactions between five age-stratified population groups, and predicts disease progression and hospitalization status using eight different categories such as infected, hospitalized, occupancy of intensive care units, deceased, recovered from hospitalization and more. We use a variety of public health care data for France to calibrate the model and to predict the implications for hospitals.