App State Multidisciplinary Research Projects to address COVID-19-related issues

1. Factors contributing to the spread of COVID-19 in Nursing Homes

*Determinations of nursing home characteristics are the best predictors of the spread of COVID-19 in nursing homes in the southeast United States.*

*Research findings can assist policymakers, emergency management agencies, public health, regional, state and county health leaders as well as nursing home organizations in their prevention planning and mitigation strategies.*

(Sandi Lane, PhD, associate professor of nutrition and healthcare management, and her team)

2. Social Distancing and Physical Activity on Greenways and Rail Trails

*Assessment of the social distancing practices and physical activities of trail users on the Boone, NC greenway and Morgantown, WV rail trail during the COVID-19 pandemic.*

*The project will also be evaluating the effectiveness of a health education campaign on social distancing practices of trail users during the COVID-19 pandemic.*

*The results of the project will inform local health departments and trail land managers to promote social distancing practices among trail users in their communities during COVID-19 and to plan for future pandemics.*

(Richard Christiana, PhD, assistant professor of public health, and his team are)

3. A spatiotemporal investigation of crisis events among adolescents and young adults following the COVID-19 pandemic in Rural Environments

*Examining Crisis Text Line (CTL) data to identify high-risk geographic cluster and crisis events (e.g., stress, anxiety) among adolescents with a focus on rural environments.*

*And development of more effective preventive and early intervention crisis service delivery to mitigate the psychological distress and provide for targeted youth interventions during and after the COVID-19 pandemic.*

(Maggie Sugg, PhD, assistant professor of geography and planning, and her team)
4. **Assessing and Mapping the Socioeconomic Determinants of COVID-19 Risk**

*Examining the underlying disparities in COVID-19 risk factors at a sub-county level to produce a series of maps highlighting populations particularly vulnerable to COVID-19, which will enable targeted interventions and resource allocations across North Carolina.*

(Lauren Andersen, Geographic Information System (GIS) lab supervisor and instructor of geography and planning, and her team)

5. **Modeling the Spread of COVID-19 at a University Situated in a Seasonally Variable Community**

*Developing a model of disease spread in the Watauga County area which can predict the likelihood of an outbreak on the App State campus and/or within the community*

*Determining the effectiveness of different potential interventions in the event of an outbreak.*

(Quinn Morris, PhD, assistant professor in the department of mathematical sciences, and his team)

6. **Integrative Physiologic Consequences of COVID-19**

*Investigation of the long-term health consequences of contracting COVID-19 on pulmonary, autonomic, and vascular function during recovery from COVID-19.*

(Stephen Ratchford, PhD, assistant professor in the department of health & exercise science - human bioenergetics, and his team)

7. **Preparing for High-Impact Research by Appalachian State University Scholars through Stakeholder Consultation and Participatory Health Systems Modeling**

*Developing a comprehensive and accurate system maps/models, which can effectively identify health services gaps, unintended consequences, and system vulnerabilities, in consultation with health officials, representatives of business and agricultural sectors, as well as vulnerable groups.*

(Brian Burke, PhD, associate professor of sustainable development, with a background in anthropology, and his team)