## What will be Presented at the 2021 AAG Meeting?

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Building off of an analysis completed for the cancelled in-person portion of the 2020 AAG Annual Meeting, Seong et al. have provided an update on presentation topics in anticipation of the 2021 AAG Annual Meeting.

A total of 2,952 papers and posters (2,648 papers; 304 posters) are scheduled to be presented at the AAG virtual annual meeting in April this year (numbers as of March 1, 2021). To help meeting participants and fellow geographers to find out what will be presented at the meeting, we summarized the AAG 2021 presentation submissions using the keyword network analysis method.

After collecting all keywords from the presentation submissions, raw keywords were cleaned with deletion, concatenation, standardization, normalization, lemmatization, and conversion techniques. A total of 20,550 keywords were split into single-word keywords. Only distinctive words were retrieved in each paper by deleting any duplicate words. A total of 4,145 distinctive keywords were identified from the 20,550 keywords. We used 30 as the keyword frequency threshold during network visualization. As a result, a keyword network diagram was constructed with 124 keywords as shown in Figure 1. In the figure. circle sizes reflect keyword frequencies, edge widths indicate co-occurrences between two keywords, and circle colors indicate cluster memberships.

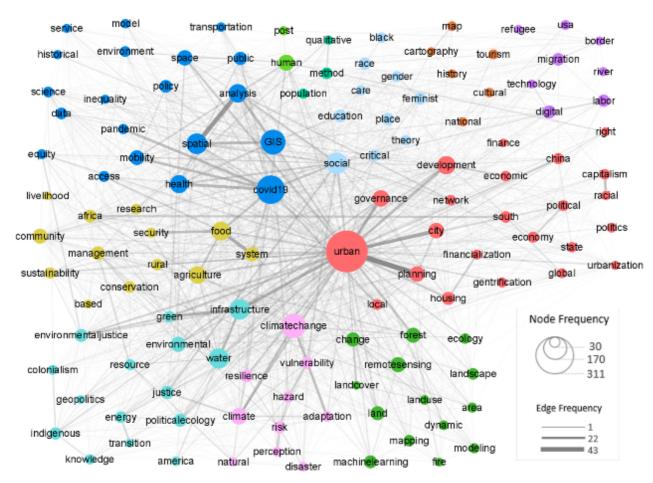


Figure 1. Major keywords and their network clusters.

Urban (311) was identified as the most frequent keyword at the 2021 AAG annual meeting, followed by COVID-19 (199), GIS (167), climate change (163), social (139), spatial (133), infrastructure (130), water (128), food (117), analysis (114), development (112) and health (111). Each number in parentheses indicates the frequency of the keyword. When the Louvain algorithm was applied for grouping keywords, ten (10) topical clusters were identified as shown in Table 1. Even if the Urban keyword appeared most frequently, the **COVID-19** cluster had the largest number (779) of keywords as members. When the influence of each cluster was measured, the **COVID-19** cluster was also most influential in the keyword network with the largest eigenvector centrality amount of 18.20%.

Cluster Name	Count of Members	Percent (%) Influence	Top Five (5) Keywords
COVID-19	779	18.20	covid19, GIS, spatial, analysis, health
Urban	560	16.39	urban, development, governance, city, planning
Land Cover	615	12.36	remote sensing, forest, change, land, machine learning

Climate Change	459	11.51	climate change, climate, resilience, risk, vulnerability
Political Ecology	403	10.78	infrastructure, water, environmental, justice, political ecology
Sustainability	319	10.64	food, agriculture, community, system, management
Critical Geography	335	7.64	social, education, place, feminist, race
Border	272	5.60	digital, migration, labor, usa, river
Mapping	158	2.59	tourism, map, cultural, national, history
Culture	144	2.24	human, post, more, than, animal
Others	101	2.05	method, population, qualitative, violence, culture

Table 1. Major clusters identified from the AAG 2021 presentation keywords.

About 7.5% of papers (i.e., 222 papers among 2952) included COVID-19 or pandemic in their keywords. A further detailed network analysis with the 222 papers identified seven (7) sub-clusters of COVID-19 research as shown in Table 2. Overall, five topics appear to stand out that are (1) spatial analysis of mobility, (2) health and sanitization accessibility, (3) community resilience and policies, (4) lockdown and activity spaces, and (5) online education.

Sub-cluster Name	Count of Members	Percent (%) Influence	Top Five (5) Keywords
Spatial Analysis	87	20.09	mobility, social, analysis, human, spatial
Community Resilience	66	15.30	food, local, system, resilience, agriculture
Public Health	61	11.24	health, public, neighborhood, adult, older

Activity Space	59	10.28	space, risk, livelihood, management, activity
Lockdown Impacts	61	9.01	GIS, lockdown, infrastructure, transportation, behavior
Sanitization Accessibility	41	8.80	access, vulnerability, water, sanitation, adaptation
Urban Policy	39	8.00	urban, policy, density, housing, rural
Online Education and Others	101	17.29	learning, online, education, teaching, city

Table 2. Sub-clusters of COVID-19 research.

The urban keyword was used in 311 papers (10.5% of total papers). Table 3 shows major sub-clusters of urban research. Like the 2020 case, no topic dominates in the urban research when examining the percent influence values that were measured with the eigenvector centrality. It, rather, shows that multiple sub-clusters are competitive each other.

Sub-cluster Name	Count of Members	Percent (%) Influence	Top Five (5) Keywords
Urban Development	99	11.74	development, agriculture, food, social, rural
Vulnerability	70	11.69	governance, resilience, system, climate change, COVID-19
Housing	89	11.40	housing, land, estate, financialization, political
Sustainability	103	11.21	change, sustainability, landscape, machine learning, management
Urban Planning	86	11.12	planning, GIS, human, community, critical
Green Space	69	10.45	infrastructure, green, space, environmental justice, gentrification

Public Access	77	9.44	city, water, public, right, access
Others	250	22.95	china, heat, spatial, urbanization, political ecology

Table 3. Sub-clusters of urban research.

The keyword network analysis suggests a couple of watching points in the 2021 AAG conference presentations. One is the emergence of COVID-19 research as a very influential topic. It may be of great interest to many geographers to see how fellow researchers tackle the global pandemic phenomenon. The other is the integration of GIS and spatial analysis into the **COVID-19** cluster.

The 2021 AAG Conference is held virtually this year. Even if it is heartbreaking that we cannot meet fellow geographers face-to-face, the virtual conference will be an opportunity for us to overcome geographic mobility restrictions. We hope to see you all during the conference.

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