Growing Convergence Research and Toolbox Dialogue Initiative April 22, 2021

CONVERGE: Coming Together to Advance Hazards and Disaster Research

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Post-Disaster Research: Progress, Pitfalls, and Possibilities with Convergence as Our Guide Post-disaster research can be classified and categorized as early reconnaissance (days to ~2 weeks), emergency response and early recovery (days to ~3 months), short-term recovery (3 months to ~2 years) and longerterm recovery and reconstruction (2 to ~10 years) –NRC, 2006. Post-disaster research can be classified and categorized as <u>early reconnaissance</u> (days to ~2 weeks), <u>emergency response and early</u> <u>recovery (days to ~3 months)</u>, <u>short-term</u> recovery (3 months to ~2 years) and longerterm recovery and reconstruction (2 to ~10 years) – NRC, 2006.

Post-Disaster

Reconnaissance

Quick Response Research

> Rapid Research

Common Goal: Collect Perishable Data 1627 M = 6.8 earthquake in Southeastern Italy

1755 Lisbon earthquake

1857 Neapolitan earthquake

1920 Study of the Halifax Explosion, *Catastrophe and Social Change*

Source: Spence, R. 2014. "The Full-Scale Laboratory: The Practice of Post-Earthquake Reconnaissance Missions and Their Contribution to Earthquake Engineering." *Perspectives on European Earthquake Engineering and Seismology.*



Earthquake engineering reconnaissance and social science quick response research began in earnest in the mid-20th century.

"It is increasingly apparent that the site of a damaging earthquake is undoubtedly **a full-scale laboratory,** in which significant discoveries can be made by keen observers seismologists, geologists, engineers, sociologists, and economists" (Nicholas Ambraseys, 1988). Disasters "break the cake of custom" of the pre-disaster form of life, rendering social processes more visible and social problems more apparent (Charles Fritz, 1961).

- 70+ years of engineering reconnaissance and social science research has led to knowledge breakthroughs and a robust body of research evidence
 - Characteristics of natural hazards
 - Performance of engineered and non-engineered structures
 - ✓ Causes of deaths and injuries
 - Protective action decision-making and other human and organizational behavior under conditions of extreme duress
 - ✓Loss estimation for future events

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 ✓ Additional focus on especially vulnerable structures and potentially vulnerable populations

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- 3. This research, often funded through the NSF or other team-based field study mechanisms, has helped to develop multiple generations of the hazards and disaster workforce





ABOUT US PUBLICATIONS TRAINING WORKSHOP AWARD PROGRAMS RESEARCH RESOURCES



Quick Response Research Award News History Program Guidelines Report Submission Guidelines Frequently Asked Questions Recently Funded Quick Response Reports CONVERGE Training and Resources Data and Instrument Publication Subscribe

Quick Response Research Award Program

With the support of the National Science Foundation, the Natural Hazards Center Quick Response Research Award Program provides funds and training for eligible researchers to collect data in the aftermath of extreme events to document disaster before memories fade and physical evidence is erased.

Funded researchers recieve editorial support to publish brief abstracts and reports on the Natural Hazards Center website that make preliminary analyses of recent events available to the Center's multidisciplinary network of researchers, practitioners, and educators. The program promotes social science and interdisciplinary innovation in disaster research, prioritizes novel areas of study that require the collection of ephemeral data, and provides training and mentoring for conducting ethical and rigorous hazards and disaster research. Graduate students and other researchers new to the field are encouraged to apply.

To submit a proposal, carefully read the Program Guidelines. The link to submit a proposal can be found at the bottom of the page. Please contact Jennifer Tobin at haz.research.awards@colorado.edu with any questions.

To receive news about the Program, special calls for proposals, and training resources, please subscribe to the Natural Hazards Center Research Award Program Updates and CONVERGE initiative.

Social scientists should sign up for the SSEER network to receive additional information and to connect to other researchers.



The Quick Response Research Award Program is supported by the National Science Foundation (NSF Award #1635593). Any opinions, findings, conclusions, or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the NSF or the Natural Hazards Center.

hazards.colorado.edu/research/quick-response-report/archives

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- 4. There is more demand than ever before to integrate science & technology with disaster response to make evidence informed decisions
- 5. Quick response research data is often leveraged to support longerterm studies of recovery and resilience

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EERI Learning from Earthquakes Program, Tōhoku Earthquake and Tsunami

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Source: Peek, L. et al., 2020. "A Framework for Convergence Research." Frontiers in Built Environment. https://www.frontiersin.org/articles/10.3389/fbuil.2020.00110/full

* The Challenges of Quick Response Research

- There is no universal definition of ethical behavior and conduct for disaster researchers
- ✓ Only a few countries have guidelines for conducting ethical post-disaster research
- ✓ Justice-or principles of moral rightness, fairness, and equality-is rarely considered as a guiding frame in post-disaster research

* The Challenges of Quick Response Research



- Duplicative efforts
- Additional participant burden
- Challenges for locally-affected researchers
- Outside researchers may have limited knowledge of affected areas
- Outside researchers and teams may have lack the time to gain background knowledge and develop cultural competence
- Increasing disasters, more need for a coherent agenda to guide who, what, when, why of disaster research
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A Framework and Support for Ethical, Rigorous, and Coordinated Convergence Research







1. Identifying Researchers



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2. Educating and Training Researchers



converge.colorado.edu/resources

2. Educating and Training Researchers



CONVERGE Training Modules



Extreme Events Research Check Sheets



Webinars, Workshops, and Event-Specific Resources

converge.colorado.edu/resources









SOCIAL VULNERABILITY AND DISASTERS



RESEARCH NETWORKS

DISASTER MENTAL HEALTH



COMMUNICATIONS

CULTURAL COMPETENCE IN HAZARDS AND DISASTER RESEARCH



INSTITUTIONAL REVIEW BOARD (IRB) PROCEDURES AND EXTREME EVENTS RESEARCH





ABOUT

CONDUCTING EMOTIONALLY CHALLENGING RESEARCH



RESOURCES

DATA

UNDERSTANDING AND ENDING GENDER-BASED VIOLENCE IN FIELDWORK



CONTACT

BROADER ETHICAL CONSIDERATIONS FOR HAZARDS AND DISASTER RESEARCHERS

- ★ Free!
- ★ Online
- ★ 30-60 minutes to complete
- ★ 2,936 registrants to date!

3. Setting a Research Agenda





COVID-19 Working Groups – Application Requirements

- Have a clear focus area
- Led by public health or social, behavioral, or economic sciences researcher
- Have a diverse team to encourage convergence research
 - Minimum of 3 disciplines
 - Preference for groups with commitment to underrepresented groups, students
- Identify status
 - Formed and open, Formed and closed, In formation and recruiting
- Budget and budget justification for \$1,000 award



Application Form

GENERAL INFORMATION

FULL NAME		
STREET ADDRESS		
CITY	BIRTH DAY	
EMAIL ADDRESS		
HOME PHONE		
CALL PHONE		
OTHER PHONE		

124 applications received

90 funded

COVID-19 Working Groups

- Population Groups, Organizations, and Social Institutions
- Issues, Impacts, and Recovery
- Compound Hazards and Cascading Disasters



CONVERGE

ABOUT RESEARCH NETWORKS RESOURCES DATA COMMUNICATIONS CONTACT

HAZARDS

COVID-19 Working Groups for Public Health and Social Sciences Research

Due to the outpouring of interest from the research community and our mission to advance convergence research for the benefit of humanity, CONVERGE and the Social Science Extreme Events Research (SSEER) Network have funded 90 COVID-19 Working Groups for Public Health and Social Sciences Research. The Working Groups focus on a variety of issues and advancements in methods, ethics, and empirical topics related to the COVID-19 pandemic. Each group is led by a public health researcher or a researcher in the social, behavioral, or economic sciences, and includes researchers from at least three different disciplines to encourage convergent approaches.

The funded Working Groups are organized according to four focal areas of study: 1) population groups, organizations, and social institutions; 2) issues, impacts, and recovery; 3) compound hazards and cascading disasters; and 4) research networks, methods, and ethics. Many of the groups focus on cross-cutting issues. All groups submitted a Research Agenda Setting Paper which is available in the box below as well as on each Working Group's specific webpage.



https://converge.colorado.edu/resources/covid-19/working-groups

COVID-19 Working Groups



- There are 1,300 researchers involved in the 90 COVID-19 Working Groups.
 - Size: Groups range in size from 3 participants to 82 participants. The average group has 11 members.
 - Affiliations: Most with academic institutions, although representatives from local, state, and federal government, the private sector, and the non-profit sector are involved as well.
 - Career Stage: Working Group members range from undergraduate students to seasoned veterans.
 - **Disciplines:** Dozens of academic disciplines are represented, including public health and the social sciences, engineering, biomedical sciences, and beyond.
 - **Diversity:** About an equal number of men and women are involved as Working Group leads and members. Group leaders and members also include members of historically underrepresented groups including African Americans, Latinos, Asian Americans, Indigenous persons, and persons from developing countries.
 - **Geography:** Most (~70) of the leads are based at universities in the U.S.; other leads and members located throughout Africa, Asia, Europe, Latin America and the Caribbean, Oceania, and the rest of North America as well.

COVID-19 Working Groups – Group Requirement

 Submit a research agenda setting paper by June 19, 2020 

CONVERGE COVID-19 Working Groups for Public Health and Social Sciences Research

Research Agenda-Setting Paper

This paper was written to help advance convergence-oriented research in the hazards and disaster field. It highlights areas where additional research could contribute new knowledge to the response to and recovery from the pandemic and other disasters yet to come. Questions about the research topics and ethical and methodological issues highlighted here should be directed to the authors who contributed to this paper.

Working Group Name:

Cumulative Effects of Successive Disasters

Working Group Description:

This Working Group is motivated by the belief that research can actively contribute to the reduction of unnecessary suffering during and after disasters. In enacting this research, our purpose will be to understand how successive disasters change awareness and capacities for people across various domains of life and work (such as their awareness of organizations, preparedness behaviors, resources, potential roadbocks, etc.). We will approach this overarching goal through an integrative, ethnographic methodology for studying past experiences of disaster and present experiences of COVID-19. Our research will focus on learning from survivors, civic actors, disaster response professionals, and other agents of recovery whose roles may overlap.

Priority Research Topics and Specific Research Questions:

We propose to address empirical gaps in disaster studies using a research framework organized around the investigation of (1) how changes in awareness are brought about by past disaster experiences; (2) how new awareness may or may not lead to new capacities, strategies, and skills; (3) how these new capacities, strategies, or skills do or do not translate into responses to the current pandemic; and (4) how civic actors, disaster response professionals, and other agents of recovery understand their own roles and are aware of the roles of other groups. The work will proceed in two phases, ultimately informing comparisons across communities, across cumulative disaster experiences, and across types of actors.

Phase One of our research agenda, therefore, involves generating a COVID-19 Question Bank and Research Protocols that will provide researchers with a well-considered path for investigating individuals' experiences with the pandemic in relation to their experiences with prior disasters. *Phase Two* involves data collection. We will interview participants using questions from the COVID-19 Question Bank in accordance with the associated Research Protocols (see Outcomes below).

Institute of Behavioral Science

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https://converge.colorado.edu/resources/covid-19/workinggroups/research-agendas

COVID-19 Working Groups



4. Connecting and Coordinating Researchers





5. Funding Convergence Research

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	Resources > COVID-19 > Working Groups				
C S	CVID-19 Working Group Ciences Research	ps for Public He	ealth and So	cial	
POPULATION CROUPS, ORGANIZATIONS, AND SOCIAL	ISUES, IMPACTS, AND RECOVERY		HAZARDS AND CASCADIN	C DISASTERS	
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Enabling Conditions

- A generous, educated, motivated, dedicated hazards and disaster research workforce
- NSF support for CONVERGE and federal agency support for the Natural Hazards Center which has helped to create a social infrastructure for training and convening researchers and supporting and funding convergent research



Please sign up for updates and information for the Natural Hazards Center and CONVERGE:



hazards.colorado.edu/signup converge.colorado.edu/signup



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