

2016 Annual Report

Dare to be first in disaster research.



Disaster
Research Center



message from **THE DIRECTORS**

We are so pleased to present to you our 2016 Annual Report. 2016 pushed our faculty, staff and students to new levels of engagement and academic excellence. From graduating students to new collaborations; from timely research studies to seminal publications, DRC has had an exciting year!

Our researchers, yet again, made incredible strides in disseminating information around the country and across the globe. The 4th International Committee on Urban Disaster Reduction was a particular highlight for many of us. In addition to our strong presence at academic meetings, DRC shared insights with practitioners and community stakeholders, such as local elementary schools, community centers, the American Red Cross, the Department of Health and Human Services, the Federal Emergency Management Agency, and state emergency management agencies. At the summer Natural Hazards Workshop, a large number of students was able to share their work with leaders in scholarship and practice, in large part thanks to generous donations that support student activities. But the workshop was also site of our inaugural DRC alumni event. It was a wonderful opportunity for our current cohort of students to meet and foster connections with former students and faculty. The value of the DRC experience was evident in many of the conversations that took place.

DRC, of course, is known for its long history of conducting quick response field research, and 2016 was an active year. Student researchers traveled internationally – such as to Colombia – and domestically – following Hurricane Matthew – to gather perishable data in the aftermath of these events. Other research projects continued in full force, with sociologists working with computer scientists, geographers working with public health scholars, and civil engineers working with atmospheric scientists. Interdisciplinary describes so much of what takes place at the Disaster Research Center, but at its core is an effort to understand and solve complex social problems associated with disasters.

Our student organization, IAEM@UD, was active with its speaker series and outreach efforts, including community day. Of particular note was our first workshop for the Bill Anderson Fund (BAF) Fellows. We encourage you to read more in this report about this exciting organization – founded in honor of a dear DRC alumnus – and the fantastic students who are supported by this effort. DRC was thrilled to partner with the BAF for this two-day event.

Throughout this report, you'll find just a sampling of the activities in research, education, and dissemination: the main elements of DRC's mission. We are grateful to DRC's expanding family of students, alumni, and friends who have supported us and who continue, in their diverse occupations, to advance the cause of disaster science and disaster management practice.

Best wishes,
Tricia Wachtendorf & James Kendra



DRC Directors Tricia Wachtendorf and James Kendra

DRC FACULTY & STAFF

Core Faculty

James Kendra, Director

School of Public Policy and Administration

Benigno Aguirre

Department of Sociology & Criminal Justice

Earl “Rusty” Lee

Department of Civil & Environmental Engineering

Joanne Nigg

Department of Sociology & Criminal Justice

Russell Dynes

Professor Emeritus & Co-Founder of DRC

Affiliate Faculty

Victor Perez

Department of Sociology & Criminal Justice, University of Delaware

Lauren Clay

Health Services Administration, D’Youville College

Eric Stern

College of Emergency Preparedness, Homeland Security and Cyber Security,
University of Albany-SUNY

Staff

Victoria Becker

Business Administrator

Gail Kracyla

Administrative Assistant

Pat Young

Resource Collection Coordinator

Tricia Wachtendorf, Director

Department of Sociology & Criminal Justice

Rachel Davidson

Department of Civil & Environmental Engineering

Sue McNeil

Department of Civil & Environmental Engineering

Joseph Trainor

School of Public Policy and Administration

Enrico L. Quarantelli

Professor Emeritus & Co-Founder of DRC

Deborah Alvarez

Department of English, University of Delaware

Scott Knowles

Department of History, Drexel University

Andrea Sarzynski

School of Public Policy and Administration, University of Delaware

Sarah DeYoung

Post-Doctoral Researcher

Jennifer Trivedi

Post-Doctoral Researcher

Caroline Palmer

Administrative Staff

about the DISASTER RESEARCH CENTER

First in the World Devoted to the Social Scientific Study of Disasters

The Disaster Research Center was founded in 1963 and now, over fifty years later, DRC continues to celebrate success in research, training, and service to the disaster community.

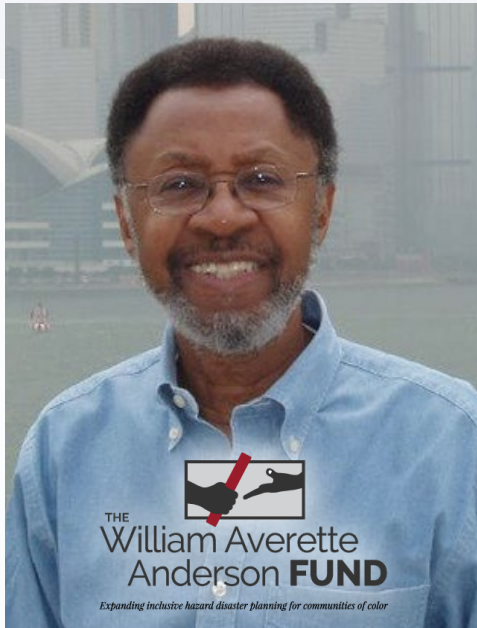
While much of the research at DRC has been interdisciplinary throughout its existence, DRC has embarked on a new era as the Center builds on and maintains its foundation in social science while broadening its activities to embrace more explicitly interdisciplinary, multidisciplinary and cross-disciplinary research.



Debris left after severe flooding impacts the Baton Rouge, LA area in 2016 | Photo by J.T. Blatty/FEMA

BAF@UD 2016

The Disaster Research Center (DRC) welcomed students and faculty from the Bill Anderson Fund to the University of Delaware. The workshop, “BAF@UD,” was held at multiple locations on the University of Delaware campus from November 10 through 12. Seventeen students from across the nation traveled to attend the workshop. Auburn University, Virginia Tech, Georgia State University, Texas A &M, Morgan State University and the University of Nebraska-Lincoln were just some of the universities represented at the workshop. Nineteen invited speakers, representing nine universities and organizations, facilitated six sessions that engaged the scholars in discussion about professional development and interdisciplinary research.



BAF Fellows were engaged by a panel presentation by local practitioners, who shared opportunities in the applied field as well as strategies for scholars to connect with the emergency management and public health communities. Presenters included representatives from the Delaware Emergency Management Agency, Delaware Division of Public Health, and U.S. Health and Human Services, Office of the Assistant Secretary for Preparedness and Response. Erick Jones from the National Science Foundation (NSF) and University of Delaware graduate student, TaLisa Carter, discussed the NSF graduate fellows program. Researchers shared insights on interdisciplinary collaboration, and

mentors led a discussion about turning a paper into a publishable article. Roundtable discussions centered on the academic market, getting the most out of internships, and student engagement. All this, plus an evening out at the theatre. BAF Fellows also presented their ongoing research during a Friday poster session and attended a Saturday oral presentation session.

The workshop was co-sponsored by the Disaster Research Center, the School of Public Policy and Administration, the Department of Geography, and the College of Arts and Sciences.

Fondly called the Bill Anderson Fund, the William Averette Anderson Fund was founded in honor of William Averette Anderson, who for 50 years was a hazard and disaster mitigation

scholar, researcher and policy developer. Bill Anderson spent his career understanding and taking actions to mitigate the causes and consequences of hazards risk, and, in particular, to understand and address the extent to which marginalized groups suffer the worst consequences when disasters do strike. The fund was established by the family of this revered DRC alumnus to carry on his ambition of increasing the number of students in the disaster field. Bill Anderson, his friends, and colleagues have long recognized the need for this greater involvement of underrepresented students who will move into faculty positions and policymaking roles at all levels.

EVENTS INCLUDED tours of the Disaster Research Center including the E.L. Quarantelli Resource Collection, quick response training, plenaries, roundtable discussions, a poster session, a presentation about funding opportunities at the National Science Foundation, and a night out to see UD’s Resident Ensemble Players’ performance of Clybourne Park.

1

Over a dozen students from around the country attended the BAF@UD workshop.

2

Attendees listen to a panel on collaboration in interdisciplinary research. Panelists included Terri Norton, Joseph Trainor, Rachel Davidson and Kim Gill.

3

BAF Fellows engaged in quick response training during their stay, a method of research DRC helped to pioneer.

4

Pictured are (from left) UD BAF fellows April Davison, Asia Dowtin and Cynthia Rivas with Norma Anderson, who founded the Bill Anderson Fund in her husband’s memory.



THE DRC EXPERIENCE

The Disaster Research Center is committed to...



In December, Qiuxi Li successfully defended her thesis, "The Myth of the Sichuan Earthquake: A fieldwork observation and examination of the news coverage of the Qiang ethnic group" after completing field work in China.

Advancing the state of the art in disaster research and its scientifically guided practice



Ph.D. students and DRC graduate research assistants Maggie Nelan and Ashley Farmer at graduation in 2016.

Educating the next generation of disaster science scholars & informed practitioners in the fields of disaster mitigation, preparedness, response & recovery



Newark Community Day 2016.

Creating, gathering and disseminating disaster knowledge in a dynamic and responsive way

In doing so, we create the "DRC experience" – one in which students advance as scientists and project managers and prepare for responsible positions in academia and in the policy and practice sectors.

As part of this experience, graduate students are collaborators and contributors on research projects, papers and presentations. They travel throughout the US and internationally to present their research at conferences and workshops. They gain tremendous field experience through quick response and field research deployments. Often, their work on field deployments sets the stage for future dissertation projects that make valuable contributions to science and practice.

Students have access to a continuously growing resource collection, providing them with vital, unique, and current research resources. They utilize this world-renowned collection to complete course assignments, expand their understanding of emergency management and disaster related concepts and theories, and develop personal areas of interest.

Students are mentored one-on-one by faculty

and build networks of supportive, professional relationships within the field because of their experiences at DRC. They graduate from UD and leave DRC with comprehensive knowledge of the field and invaluable connections formed around the world. Our students have gone on to take academic positions at universities around the world; start their own consulting businesses; joined the private sector with PriceWaterhouseCoopers and Innovative Emergency Management; and join agencies such as the State Oceanic Administration of China, the American Red Cross, the United Nations, the Center for Disease Control and Prevention, the Federal Emergency Management Agency, the U.S. Army Health Facility Planning Agency, and county and state level emergency management agencies.



Ph.D. student Juan Sanchez Gil with DRC Director Tricia Wachtendorf at graduation in 2016.

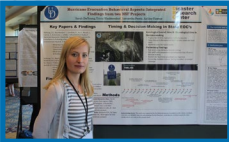
DRC'S GLOBAL REACH

DRC has a global reach. Our students come from the United States, Argentina, Brazil, China, Colombia, Ghana, Italy, Jordan, Portugal, Saudi Arabia, Taiwan, and Trinidad. Researchers conducted field studies in two countries and gave presentations in six countries. Our visiting scholars came from Pakistan, China, Japan, Sweden, and the United States of America.

PRESENTATIONS

Montreal, Québec, Canada
Vancouver, Canada

PRESENTATIONS



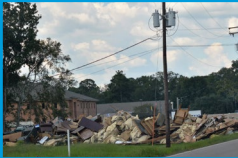
Broomfield, CO

PRESENTATIONS



Dallas, TX

FIELD RESEARCH



Baton Rouge, LA

PRESENTATIONS



Philadelphia, PA

PRESENTATIONS



Washington, D.C.

PRESENTATIONS

Atlanta, GA	Portland, OR
Denver, CO	San Diego, CA
Minneapolis, MN	Seattle, WA
New York City, NY	Smyrna, DE
Newark, DE	St. Paul, MN
Norfolk, VA	Washington, D.C.

PRESENTATIONS



Trois-Rivières, Québec, Canada

PRESENTATIONS



Pisa, Italy

PRESENTATIONS



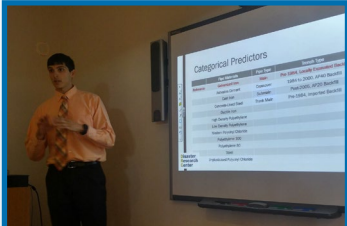
Addis Ababa, Ethiopia

PRESENTATIONS



Wellington, New Zealand

PRESENTATIONS



Christchurch, New Zealand

PRESENTATIONS



Mexico City, Mexico

FIELD RESEARCH



Colombia

FIELD RESEARCH

Beaufort, SC	Raleigh, NC
Darien, GA	Richmond Hill, GA
Denham Springs, LA	Savannah, GA
Dublin, GA	Statesboro, GA
Fayetteville, NC	Tybee Island, GA
Fort Bragg, SC	Walker, LA
Hamer, SC	Watson, LA
Hampton, GA	Whitemarsh Island, GA
Hutchinson Island, GA	Wilmington Island, GA
Lafayette, LA	Youngsville, LA
Lewes, DE	
New York City, NY	
Opelousas, LA	

Lessons from Evacuation Decision Making

In 2016 several disasters affected wide swaths of the American southeast. Historic flooding inundated parts of Louisiana, while Hurricane Matthew affected parts of Florida, Georgia, and South Carolina with related inland flooding impacting North Carolina. Both disasters were still ongoing when post-doctoral researcher Jennifer Trivedi conducted rapid response fieldwork. This fieldwork included 54 interviews with affected residents and observations made in affected communities and both Good Samaritan and American Red Cross shelters.

For two weeks in August and September, Trivedi traveled to areas of Louisiana around Baton Rouge, Lafayette, Opelousas, and Youngsville to speak with people affected by the flooding. She interviewed evacuees about their decision making in the evacuation process and the timing of those decisions, as well as where and from whom they obtained useful evacuation information and what the process was like for them.

Jennifer Trivedi again deployed to conduct quick response research for two weeks in October. She interviewed evacuees from the Georgia and South Carolina coasts who had moved inland in advance of Hurricane Matthew or who had chosen to ride out the storm but were later forced out by the hurricane's destruction. She also traveled north to interview evacuees in North Carolina who were affected by inland flooding caused by Matthew. Through this research she was able to make observations about how the coastal evacuation and inland flooding situations were different, as well as how they compared with non-hurricane caused flooding in Louisiana, such as how communities were affected, where shelters were located, how they were organized and spoken about, and residents' evacuation decisions. This field work was supported by a National Science Foundation Science, Engineering, and Education for Sustainability (SEES) grant on Dynamic Integration of Natural, Human, and Infrastructure Systems for Hurricane Evacuation and Sheltering. Trivedi, as well as DRC faculty members Rachel Davidson and Tricia Wachtendorf, are working with social, engineering, and atmospheric scientists from universities around the country, leading to 2016 publications in such journals as *Journal of Contingencies and Crisis Management*, *Transportation Research Part A: Policy and Practice*, and *Environmental Hazards*. Lessons learned from this fieldwork were also shared with federal, state and American Red Cross partners in impacted regions.



Lumberton, NC
Photo by Jocelyn Augustino/FEMA



Advancing the State of the Art in Disaster Research and its Scientifically Guided Practice

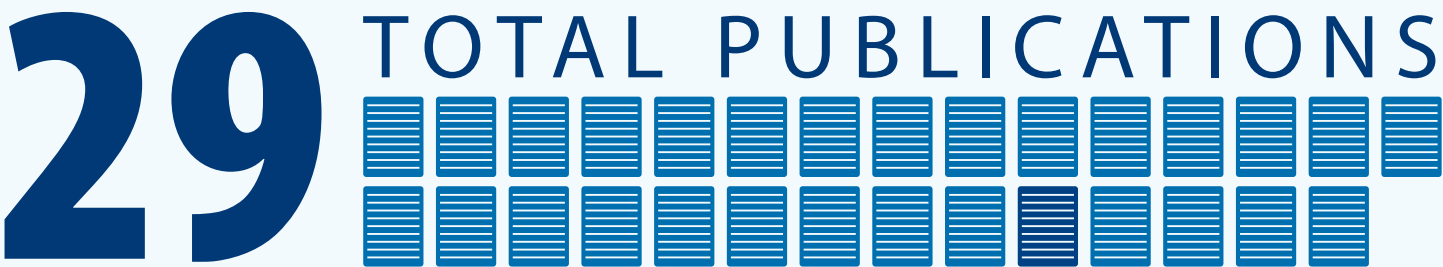
DRC has a well-established research tradition, built on a strong foundation in the social sciences, rich cross-disciplinary research, a capacity for quick response field research, and a culture of collaboration among faculty, staff, and graduate and undergraduate students. Building on this rich history, DRC continuously enhances its research activities as an innovative center for interdisciplinary thinking by leveraging the interests and capacities of many disciplines on campus and by partnering with other universities.

DRC post-doctoral researcher Jennifer Trivedi, pictured in Denham Springs, Louisiana, researching historic flooding in the area while on field deployment.

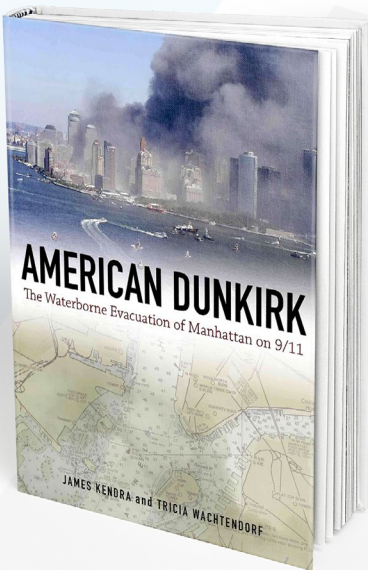
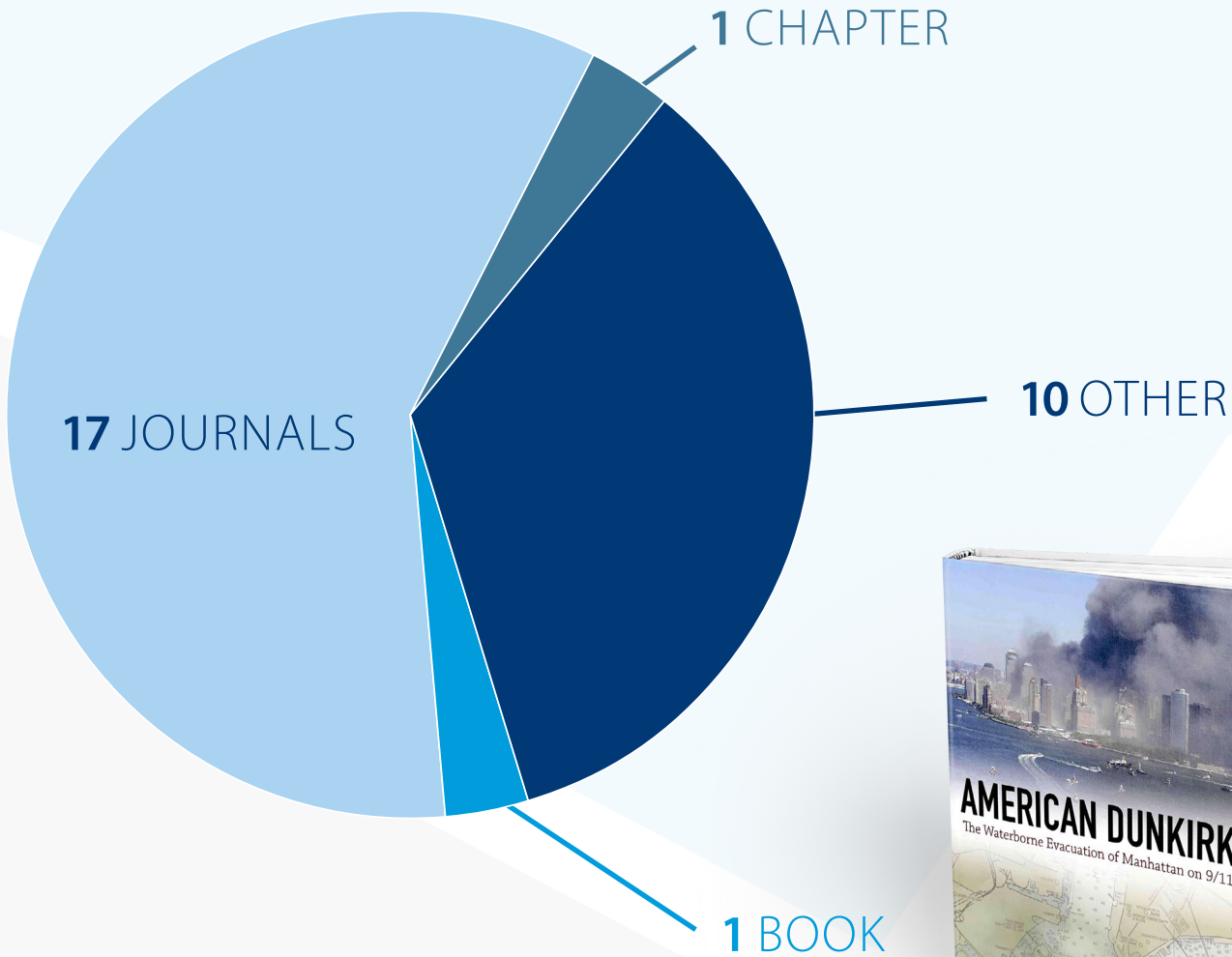
INFRASTRUCTURE
modeling
INSURANCE
resilience
decision-making
DIVERSITY IN
RESEARCH
EMERGENT GROUPS
convergence
PUBLIC HEALTH
RISK MANAGEMENT
warning
donations
STIGMA
response
EVACUATION
protective action
LOGISTICS
NGOs

DRC PUBLICATIONS

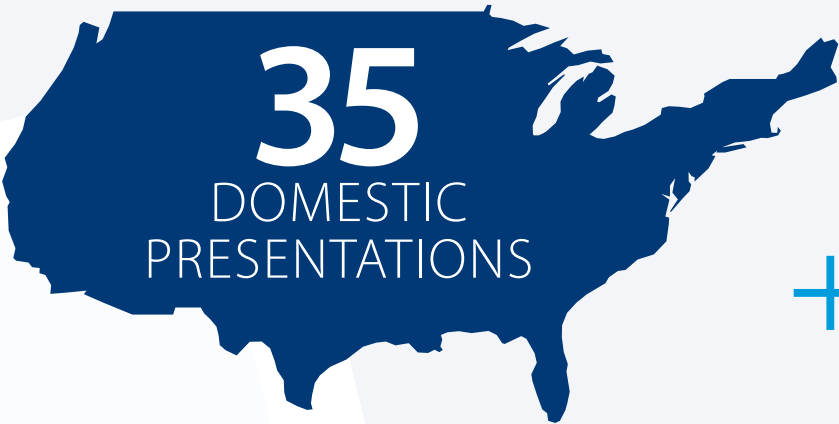
DRC researchers publish in a variety of peer-reviewed journals, representing the diversity of DRC’s expertise. In 2016, publications were featured in such outlets as the *International Journal of Mass Emergencies & Disasters*, *Sociological Forum*, *Environmental Hazards*, and *National Institute of Standards and Technology Report*.



25 FACULTY 4 FACULTY/GRAD CO-AUTHORED



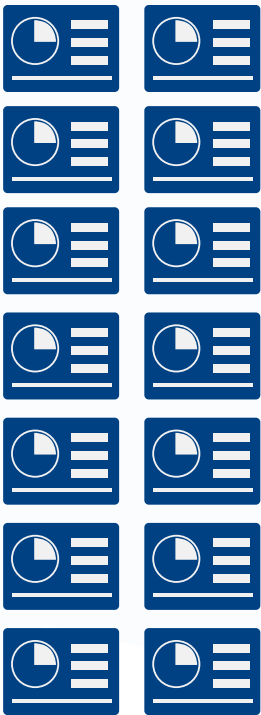
DRC PRESENTATIONS



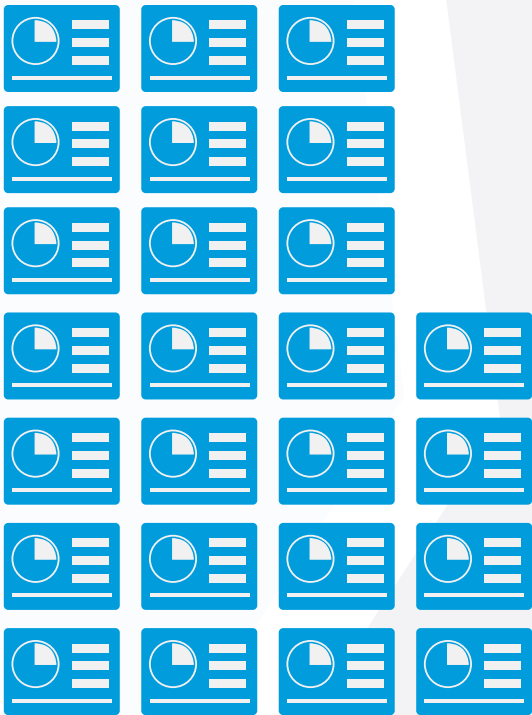
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48 TOTAL PRESENTATIONS



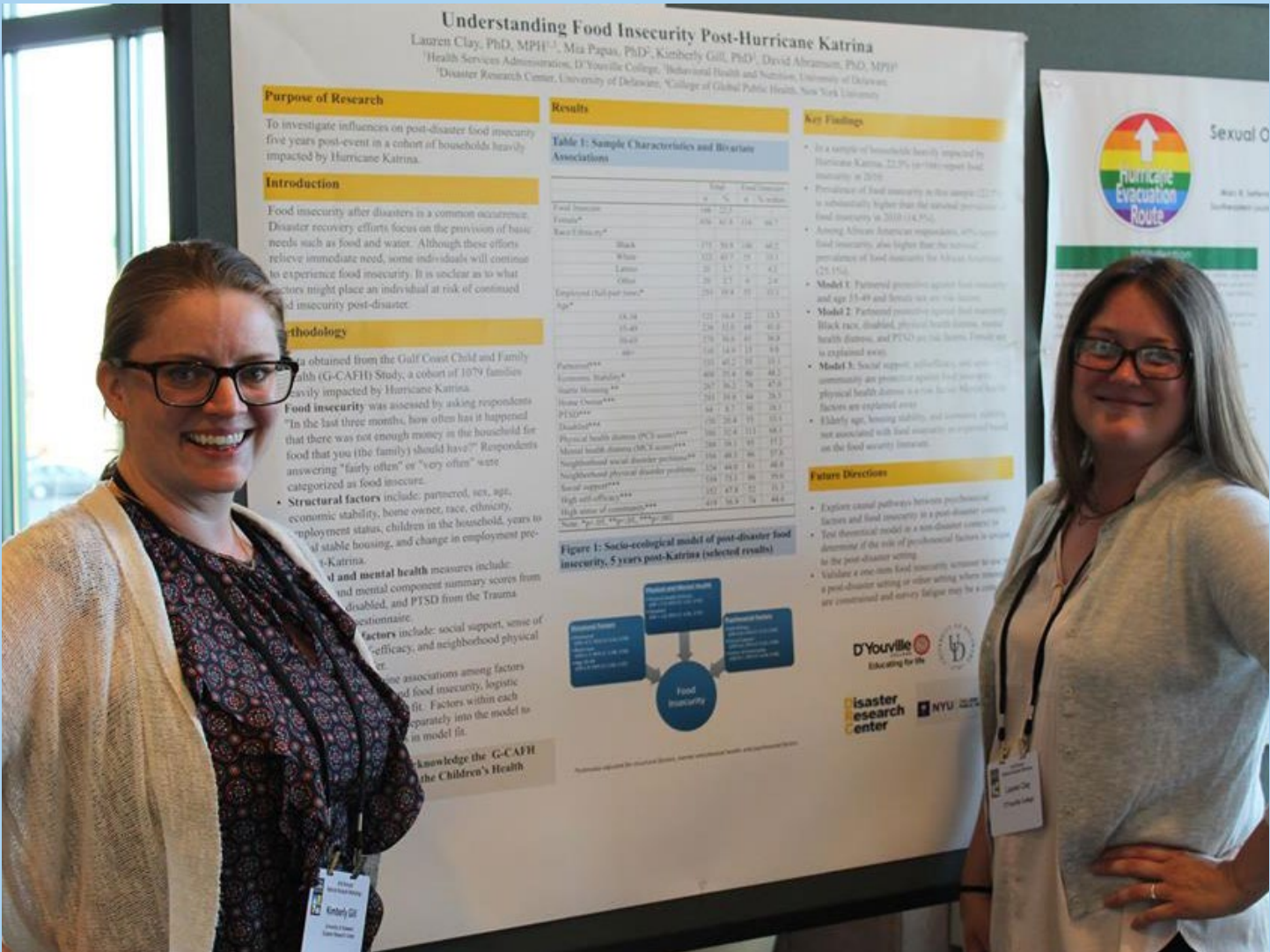
14 GRAD



25 FACULTY/STAFF

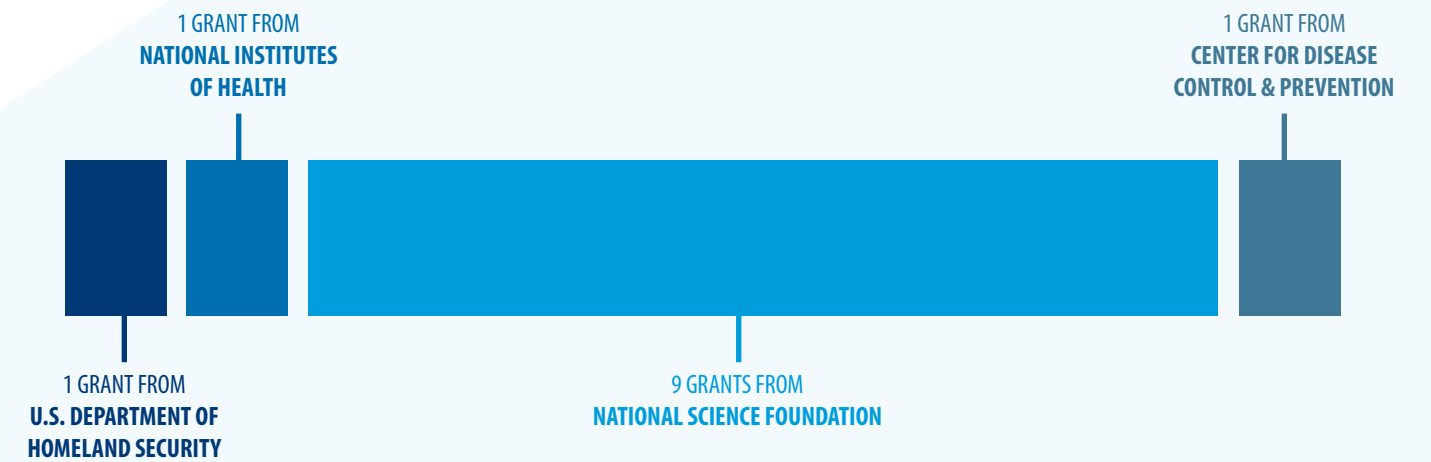


9 FACULTY/GRAD CO-PRESENTED

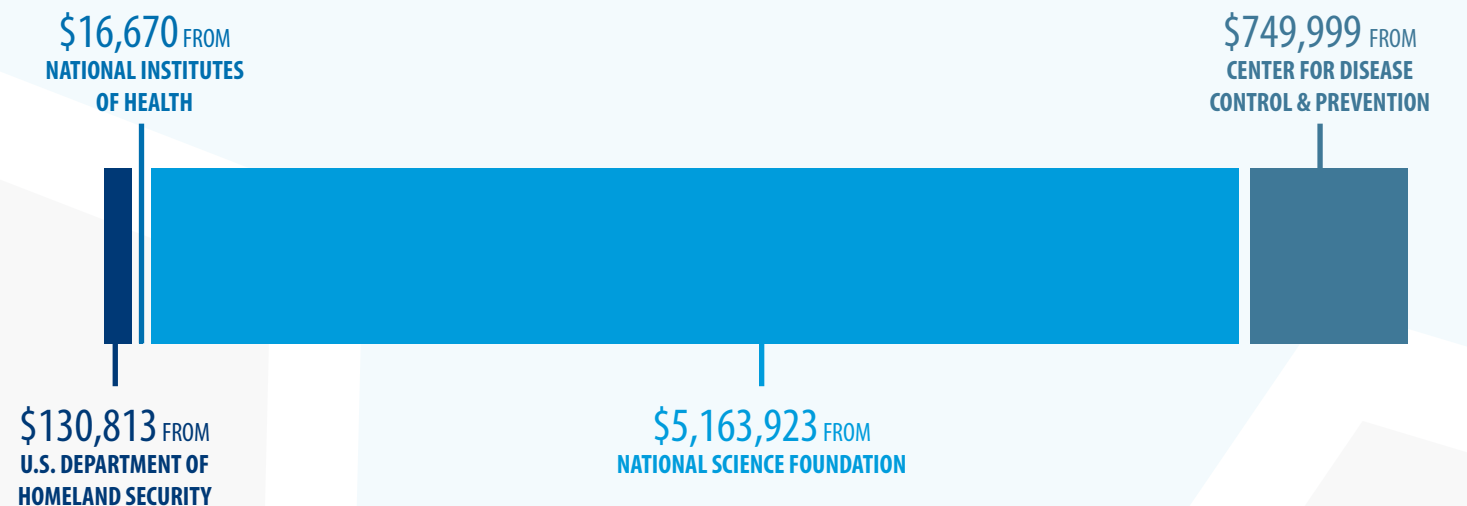




ACTIVE RESEARCH GRANTS



12 TOTAL ACTIVE GRANTS AT DRC IN 2016



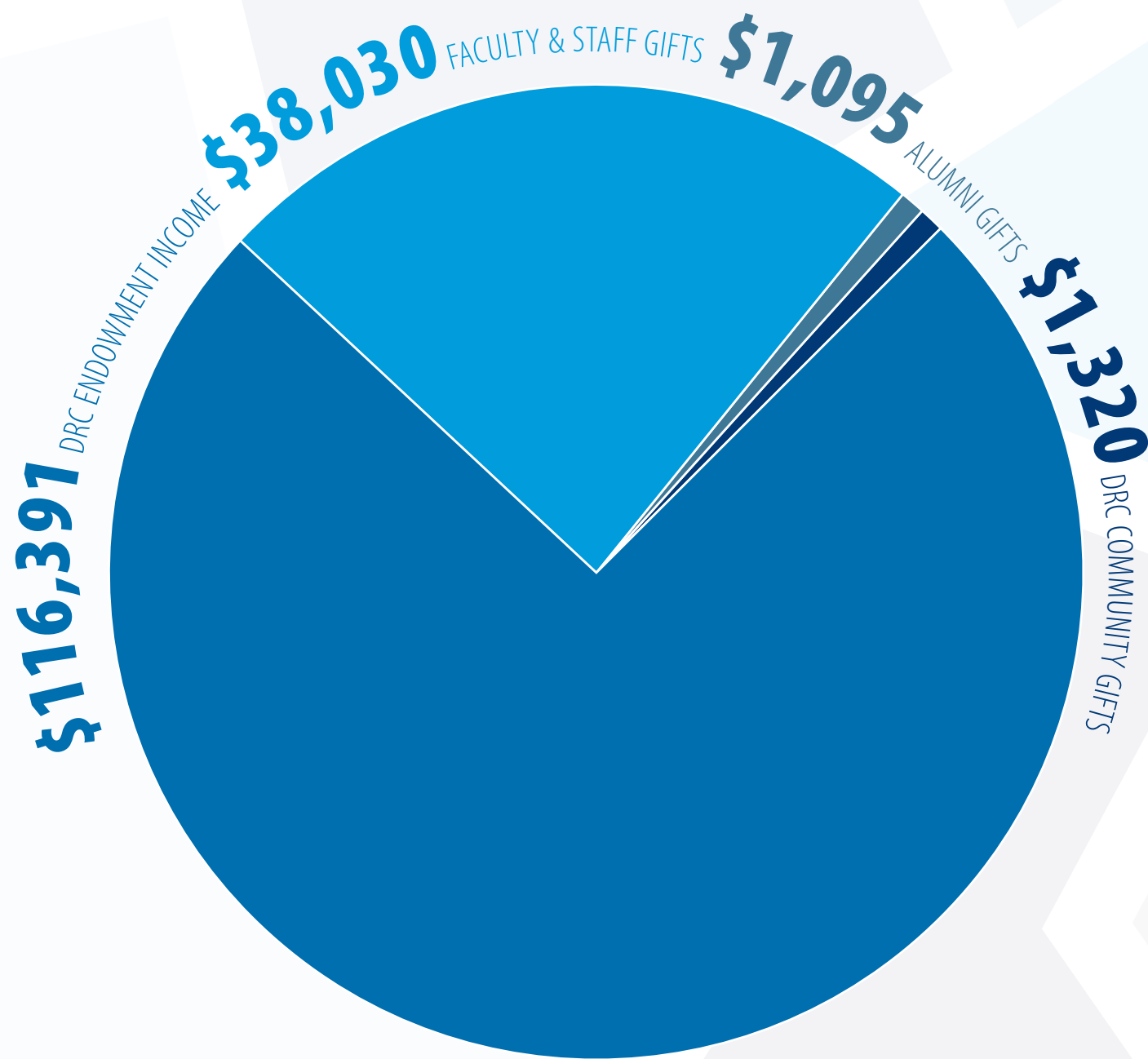
\$6,061,405

TOTAL VALUE OF ACTIVE GRANTS AT DRC IN 2016

DRC engages with institutional partners to conduct cutting-edge, multidisciplinary research. Our contribution resulted in \$16.8 million in active grants, \$6 million of which supported activities at the Center.

GIFTS AND ENDOWMENT SUPPORT

As a result of generosity to the mission of the DRC, our endowment totaled \$2.5 million in 2016.



TOTAL: **\$1,568,836**

SUPPORTING STUDENT PROFESSIONAL GROWTH

DRC believes that students are essential to the Center’s mission and provides opportunities for student professional growth. In May and June 2015, students Samantha Penta and Daryl Yoder-Bontrager and post-doctoral researcher Sarah DeYoung headed to Nepal to conduct quick response fieldwork following the devastating earthquake. In 2016, DeYoung, who went on to take a tenure-track faculty appointment at the University of Georgia, edited a special

issue of the International Journal of Mass Emergencies and Disasters, showcasing some of the important work to emerge after this disaster. Penta, Yoder-Bontrager, and DeYoung’s own research appeared in the special issues. “Trauma, Victims, Time, Changing Organizations and the Nepal 2015 Earthquake” highlighted important findings such as the transition of activities and organizational structures for responding agencies, differing perceptions of who was seen as victims deserving of aid, and the evolving nature of the issues confronting survivors and relief agencies over time.

DeYoung’s research was also highlighted in the 2016 publication “When Environmental Justice Meets Social Justice: The Case of Maternal and Infant Vulnerability after the Nepal Earthquake” in the Global Journal of Community Psychology Practice. These activities demonstrate the long term outcomes of student research activity, starting with field research and developing into dissemination of critical findings throughout the student’s time at DRC.



Researcher Sarah DeYoung spoke with residents of Nepal and gathered information about the 2015 earthquake.

DRC supports the broader mission

of UD’s expertise in disaster education. In the summer of 2016, UD undergraduate students Celine Robinson and Robert Watchilla joined undergraduates Irenia Ball and Taralyn Rowell from Tougaloo College to work with DRC core faculty Rachel Davidson and Joseph Trainor. These students had the opportunity to work closely with faculty and graduate students on projects related to disaster mitigation and insurance, building their research skills, learning more about academic pathways to success, and strengthening their networks in the disaster field.



Pictured left to right are Irenia Ball-Tougaloo College, Taralyn Rowell-Tougaloo College, Celine Robinson-UD, and Robert Watchilla-UD.

DISASTER EDUCATION AT THE UNIVERSITY OF DELAWARE

Undergraduate Program Graduate Programs

BA Sociology, Emergency & Environmental Management

MS & PhD Disaster Science and Management

MCE & PhD Civil Infrastructure Systems

MA & PhD Sociology w/ Specialization in Disasters & Environment

MPA Emergency Management

MA & PhD Urban Affairs & Public Policy

24 Faculty Courses Taught at UD

26 SPRING COURSES

21 FALL COURSES



Educating the Next Generation of Disaster Science Scholars and Informed Practitioners

DRC Faculty members play an important role in graduate and undergraduate education at the University of Delaware. Faculty teach classes as part of the University of Delaware. Faculty teach classes as part of their responsibilities in their home department, serve in the governance of academic programs, coordinate and oversee disaster related internships, and provide instruction and advisement through six disaster related degree programs offered at UD.

DISA MS student Christine Beste spent the summer of 2016 as an Infrastructure and Planning Fellow for the Office of Emergency Management in Philadelphia, PA, which included serving as the EOC activation and logistical data management for the Democratic National Convention.



GRADUATE SUCCESS

DRC students and fellows leave UD prepared to take leadership roles in research, education, and practice, enhancing our networks across the country and around the world.



Anthony Cario, M.S. Disaster Science & Management

Thesis: "Risk Communication in Local Television News"

Emergency Management Specialist (Recovery), FEMA in Washington D.C.



Ashley Farmer, Ph.D Criminology

Dissertation: "Copwatchers: Citizen Journalism and the Changing Police-Community Dynamic"

Assistant Professor, Department of Criminal Justice Sciences, Illinois State University

"Something that has continued to benefit me in my career is the hands-on research experience I had at the DRC. DRC sees the value in showing graduate students how to do research and including them in the experience so they can leave with a wealth of knowledge about disaster research."



Paige Fitzgerald, M.S. in Disaster Science & Management

Internship: Sussex County Emergency Management

Supervisor Terrorism and Technological Hazards Planner, Delaware Emergency Management Agency



Hans Louis-Charles, Ph.D. in Disaster Science & Management

Dissertation: "Sovereignty and Natural Hazards: A Study on the Legacy of the United Kingdom's Imperial Practices and Disaster Management Activities of Their Island Possessions"

Assistant Professor, Emergency Service Program, University of Nebraska Omaha

"The DRC has amazing faculty that are always ready and willing to provide assistance. My experience at DRC was most impacted by the amazing research faculty members and staff, and in particular, my advisor and dissertation chair Dr. Benigno Aguirre. His dedication - not only to his position at DRC, but to his students - is something I strive to replicate as a professor."



Sarah DeYoung, Post-Doctoral Research Fellow

Assistant Professor, Institute for Disaster Management, University of Georgia

"During my time at DRC, my experiences included top-notch fieldwork training, networking opportunities, and a true sense of community. My time at DRC not only propelled by academic career forward, it equipped me with leadership skills and confidence to pursue large scale research projects. As a first generation scholar and tenure track female, these experiences were critical for enabling my success."



Mary Nelan, Ph. D. Sociology

Dissertation: "The Social Construction of Disaster Donations: Agility, Adaptability, and Alignment as Success Determinants in Relief Supply Chains"

Assistant Professor, Department of Emergency Management and Disaster Science, University of North Texas

"One thing that I have taken with me from DRC is an extensive network of individuals who work in all different aspects of emergency management and disasters. Friends and colleagues that I have met through DRC go on to work in the private sector, government positions, NGOs and non-profits, and academia. Having those connections is an invaluable resource."



Juan Camilo Sánchez Gil, Ph.D. Disaster Science & Management

Dissertation: "Food Aid Distribution during Disaster Response and Short-term Recovery: Enhancing Performance of Heterogeneous Humanitarian Logistics Structures"

Assistant Professor, Industrial Engineering, University of Antioquia, Columbia

"When I first aimed to be a PhD student at the DRC, my expectations weren't beyond grounding my background as a logistician on the humanitarian field. However, I never pictured the potential dimensions of the positive impact that such a unique doctoral education is already having on my career, my local academic network, my hometown and my country."



Lucia Velotti, Ph.D. Disaster Science & Management

Dissertation: "Accountability in Decision Making Processes for Vertical Evacuation Adoption"

Assistant Professor, Department of Security, Fire, and Emergency Management, John Jay College of Criminal Justice



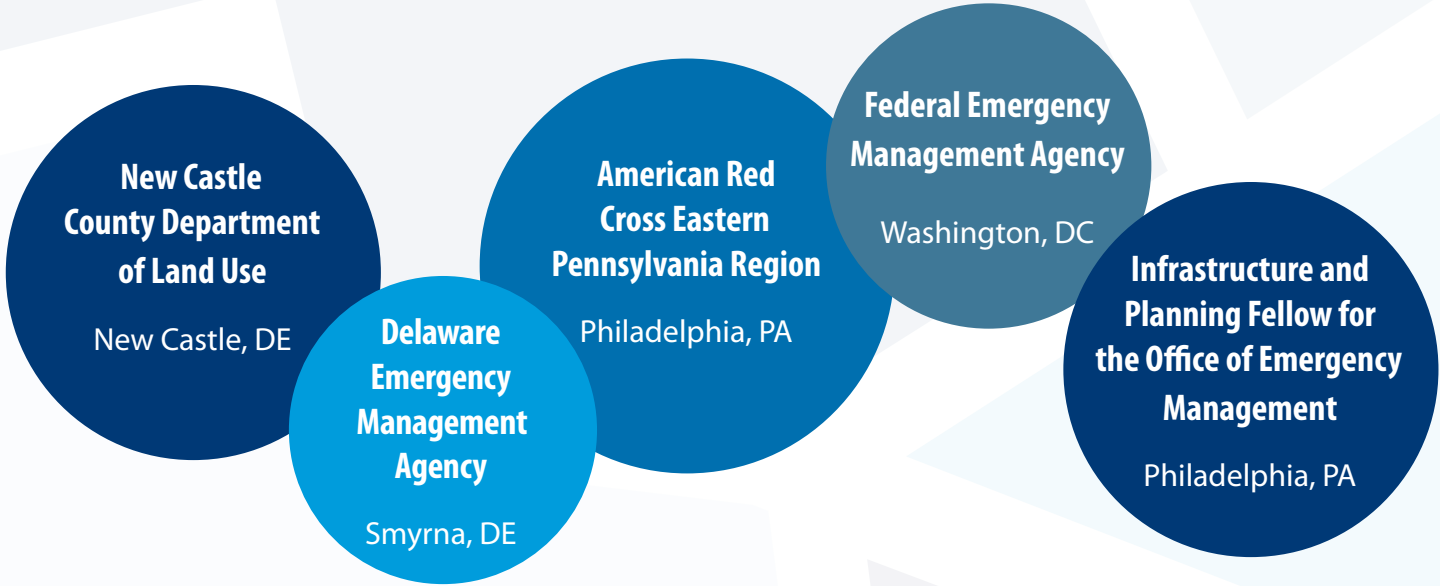
Ben Wallace, M.S. Disaster Science & Management

Thesis: "Disaster Risk Reduction and Climate Change Adaptation Planning"

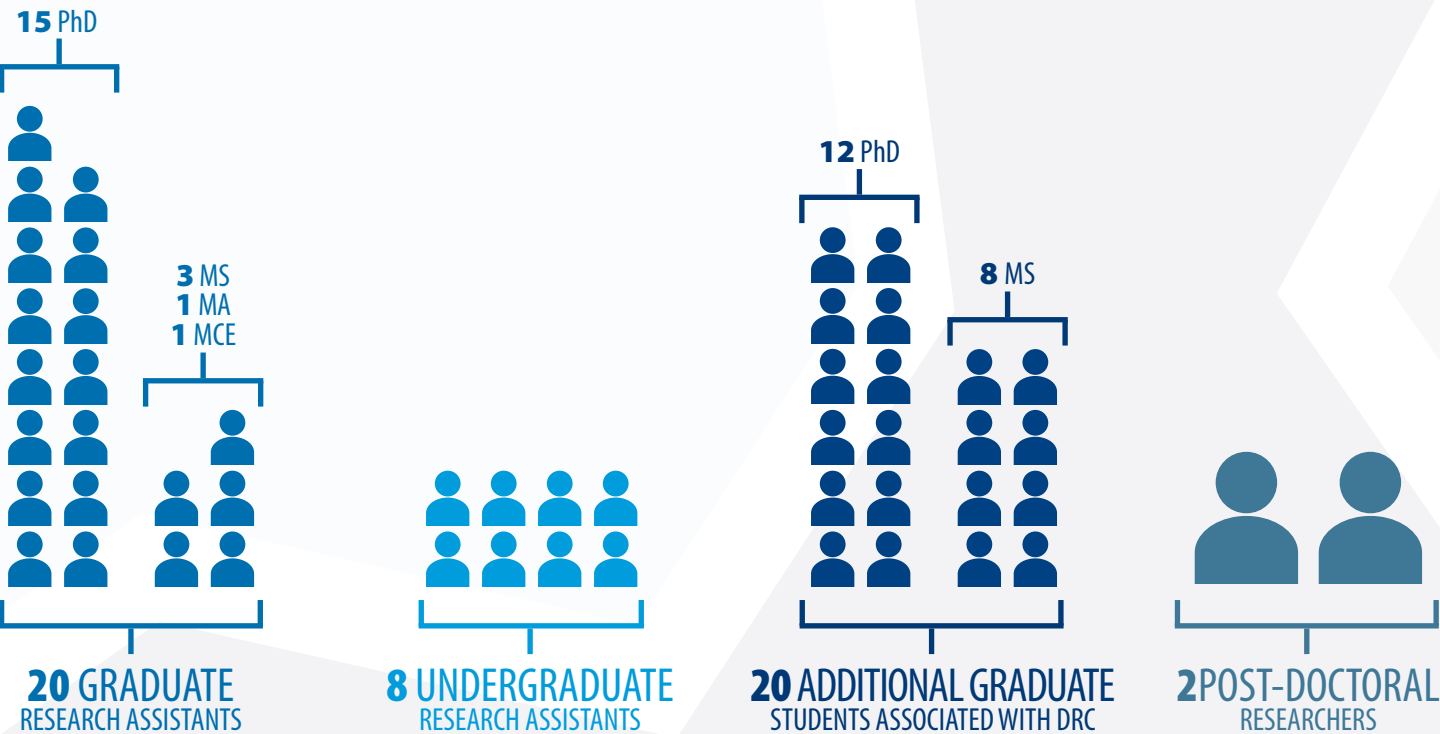
Junior Analyst, Armada Ltd.

INTERNSHIPS COORDINATED

UD students gain a wealth of experience through internships. In 2016, three undergraduate student in the Emergency and Environmental Management concentration and two Disaster Science and Management students enjoyed these opportunities.



DRC SUPPORT FOR UNDERGRAD & GRADUATE STUDENTS



Undergraduate Sociology student Melisa Soysal completes her internship with New Castle County, which included attending construction and planning meetings, working with water management agreements, and construction site visits with agency engineers.



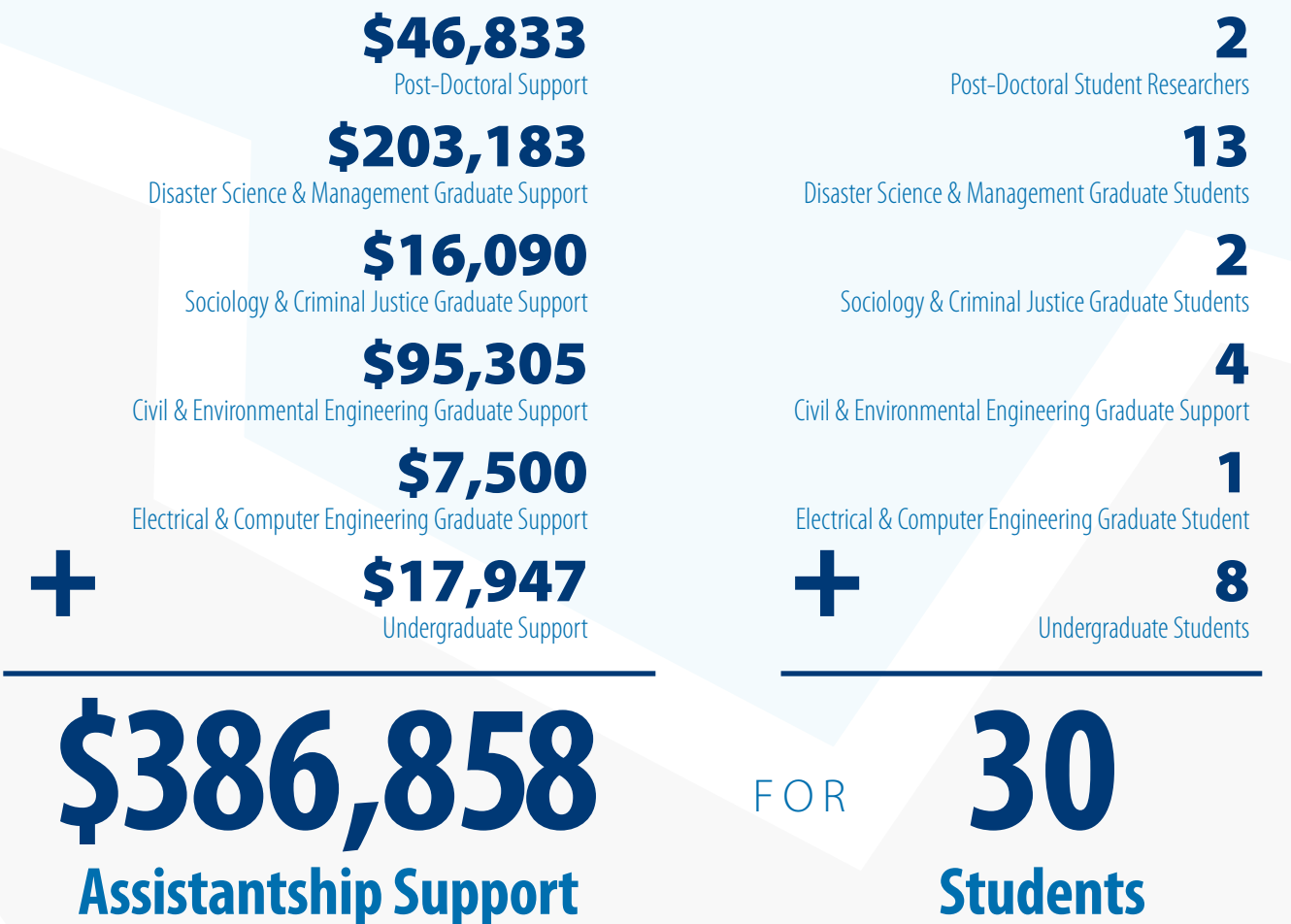
DRC faculty and students attended the 4th International Conference on Urban Disaster Reduction in New Zealand. While there, they presented to the Wellington Emergency Management Agency and participated in field-study tour of areas impacted by the 2011 Christchurch earthquake, including a memorial by Peter Majendie that includes 185 white chairs to represent the 185 lives lost during the disaster.

OUT IN THE WORLD

DRC supports students to engage in fieldwork on exciting research projects or to disseminate their findings to broad audiences.



FUNDING FOR THE NEXT GENERATION OF DISASTER RESEARCHERS



OUTREACH AND DISSEMINATION

Creating, gathering and disseminating disaster knowledge in dynamic and responsive ways.

DRC is devoted to promoting community engagement activities through outreach, partnership, curricular engagement, and engaged scholarship. This includes advancing “hands-on” applications of DRC research to the community. Presentations to the community generate impact and disseminate the knowledge gathered by researchers. Additionally, students and professors continuously strive to deepen DRC’s engagement with a supportive network of alumni and friends, fostering lifelong connections within our global disaster community.



(top left) Undergraduate student Jeremy Washington presented his work with the American Red Cross. Jeremy’s practicum included teaching children about fire safety and disaster preparedness; (bottom left) DRC faculty, students, and alumni ran the 2nd Annual Disaster Dash 5k in support of the Bill Anderson Fund; (right) DRC faculty Rachel Davidson presented “An integrated scenario ensemble-based hurricane evacuation modeling framework” as part of an invited seminar at Old Dominion University’s Resilience Collaborative and Center for Coastal Physical Oceanography, in Norfolk, VA.

Service to the Community and Profession

DRC researchers and staff devote significant time throughout the year to engage in professional service to their respective disciplines, by consulting with public and community organizations, serving on boards and committees, and responding to media inquiries.



Sharing with Stakeholders

In 2016, DRC faculty, students and staff shared findings with local stakeholders such as the Delaware Emergency Management Agency and the Medical Reserve Corps, with national organizations such as the U.S. Department of Homeland Security Maritime Operation Threat Response and the Federal Emergency Management Agency, and with internationally based groups like the Wellington Emergency Management Agency in New Zealand. From the American Red Cross and the South Street Seaport Museum to presentations in local elementary schools: Our researchers are drawn into the field to advance science and to have an impact in the lives of those affected by disaster.



Presentation to the Center for Architecture and the Design for Risk and Reconstruction working meeting in New York City.

Be it to the university, to the profession, or the community – When asked to serve, we serve!

A Snapshot of a Few of our Service Activities in 2016

Board of Directors for the Siegel Jewish Community Center of Delaware **The Delaware Council on Transportation** *UD Faculty Search Committees*
Department Promotion and Tenure Committees *Panel Reviewer National Science Foundation*
COMPREHENSIVE EXAMINATION CHAIRS **Delaware Environmental Institute Council of Fellows**
Graduate Policy Committee *Emergency & Environmental Management Concentration Coordinator*
Panel Reviewer National Endowment for the Humanities
UD College Promotion and Tenure Committee **DISASTER SCIENCE & MANAGEMENT PROGRAM DIRECTOR**
THE WILLIAM AVERETTE ANDERSON FUND'S STRATEGIC PLANNING COMMITTEE **UD Disaster Mitigation Committee**
Panel Reviewer Commission on Engineering and Technical Systems
Organizing committee for the 3rd International Conference on Urban Disaster Reduction



DRC Director **James Kendra** served as a member of the Best Practices Working Group for the Development of Special Considerations for Institutional Review Board Review of Disaster and Emergency Related Public Health Research, organized by the Department of Health and Human Services and National Institute of Environmental Health Sciences.



Rachel Davidson was a Learning Community Advisor for the Executive Leadership in Academic Technology and Engineering group and served as both Interim Associate Dean for Faculty Affairs and appointed Associate Dean for Diversity in the College of Engineering.



Community Day 2016

Serving Our Community

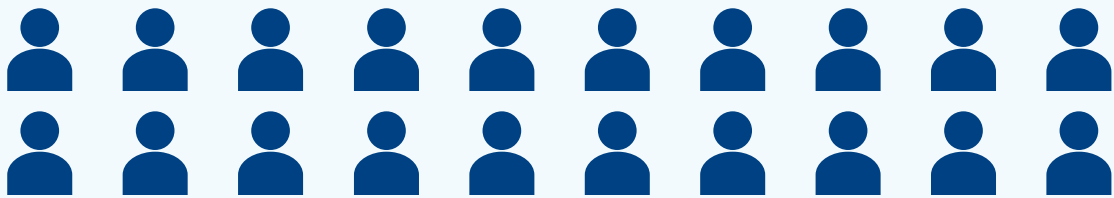
IAEM@UD is the University of Delaware’s student chapter of the International Association of Emergency Managers. IAEM@UD student members undertake a number of educational and service-oriented activities in four main categories: contributions to the profession, student education and professional development, contributions to the national organization, and community service. DRC faculty advise and participate in IAEM@UD activities, while DRC staff support the group administratively. DRC support of IAEM@UD enabled the student group to host seven speakers as participants in their Speaker Series, participate in a publishing toolkit workshop, organize a day long quick response training session for over 30 participants, and engage with our local community at Newark Community Day 2016 about disaster misconceptions and how best to prepare for disasters.

To offer different learning settings related to emergency management and field research, IAEM@UD, together with DRC, sponsored a trip to New York City. Students had an emotional and insightful visit to the 9/11 Museum and Memorial, had a chance to visit locations associated with the 9/11 boat evacuation, and heard from former firefighters at the Fire Fighter Museum of New York about their experiences after the disaster and the impact to the agency.



IAEM@UD

SPEAKER SERIES



20 GRADUATE STUDENT MEMBERS IN 2016



7 INVITED GUEST SPEAKERS IN 2016

The IAEM@UD speaker series brings in practitioners and researchers from the private, nonprofit, academic, and government sectors to engage with students on issues in emergency management – a chapter initiative that supplements members’ coursework and offers opportunities for networking. Some of the invited speakers came from agencies and organizations such as, Delaware Emergency Management Agency, International Disaster Reduction at the United Nations, and Lenape Indian Tribe of Delaware.

Fostering Collaborative Partnerships

When given the opportunity to collaborate with other organizations, faculty and staff often pursue innovative projects that would not be possible on campus.

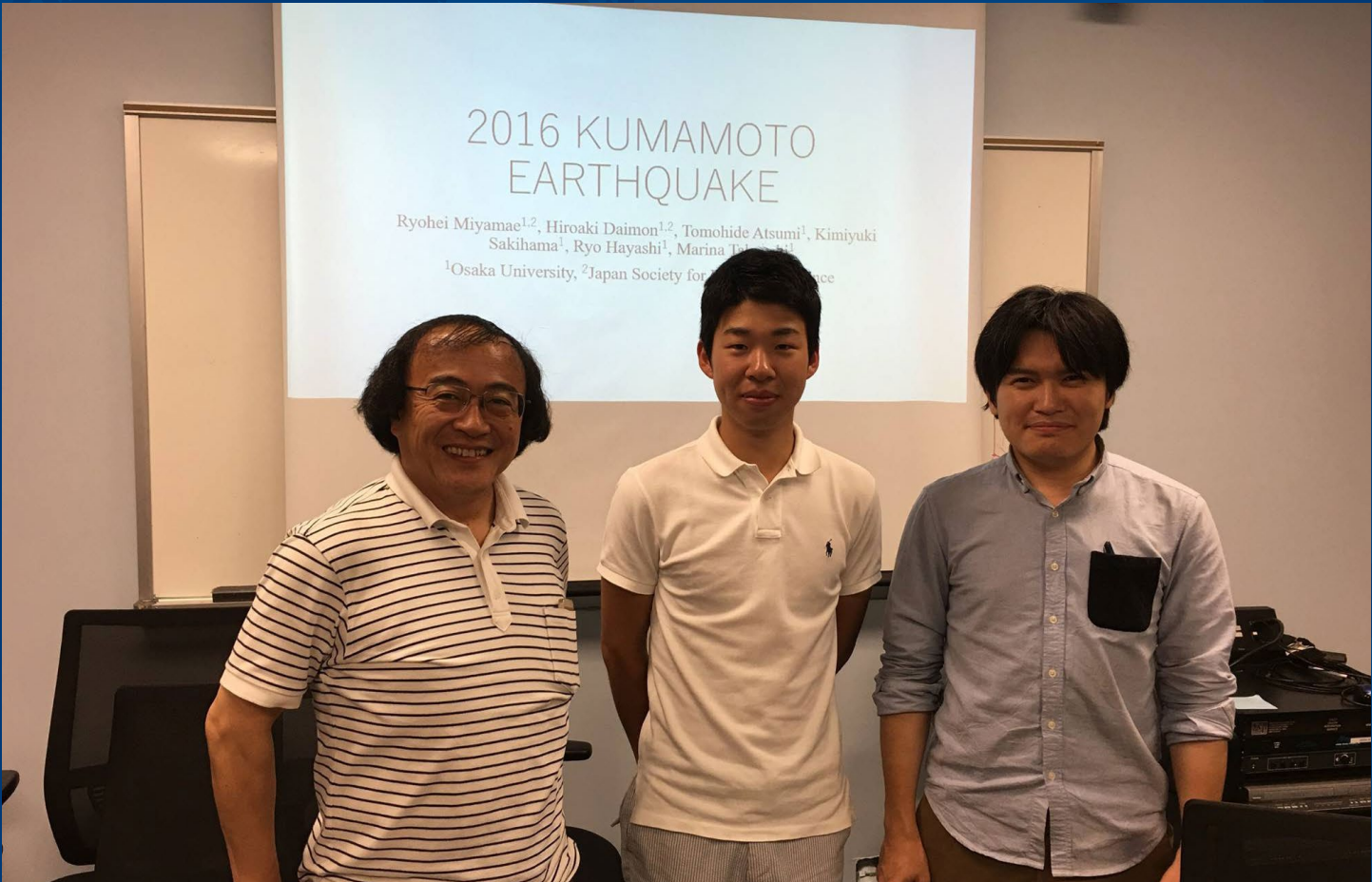
For example, DRC resource coordinator Patricia Young took advantage of an opportunity to enter a partnership with the Delaware Disaster Assistance Team (DDAT) and the Air Mobility Command Museum in Dover, Delaware, to establish a supply pod for its members. Young negotiated the establishment of the pod and worked closely with other DDAT board members to get the project up and running. The supply pod contains a cache of supplies that will supplement those at member sites for collection response and recovery. Supplies included environmental control and clean-up resources as well as personal protective equipment, which can be accessed 24 hours a day and 365 days a year, as needed. She was also able to educate DDAT members on accessing and using the supply pod. It is through these kinds of community engagement initiatives that DRC makes an applied impact the in state and reaches those stakeholders most likely to implement the findings of our research studies. These relationships foster connections before a disaster happens, strengthening our networks and our ability to share information when it is needed most.



Faculty and students also strive to foster connections with those abroad. In June, 2016, DRC Director Tricia Wachtendorf traveled to Mexico City to give a keynote presentation on differential experience in disasters. As one of the only social scientists presenting at the International Symposium on Critical Infrastructure, this was an opportunity for her to connect with leading engineering researchers from around the world, highlighting the value DRC places on interdisciplinarity and global reach. In addition to learning more about the innovative work underway in Mexico, she and other speakers had the opportunity to visit a new wind tunnel facility at the LemAT Centro de Formación e Innovación. Such connections often draw students and scholars to DRC, or provide opportunities for our students and faculty.

DRC Cross-Cultural Collaboration

One of the elements that makes the DRC a vibrant center of research is our frequent hosting of visiting students, scholars and practitioners, and our partnerships with institutions around the world.



Researchers travel to DRC to interact with faculty researchers and graduate students, and more often than not, to utilize the publicly accessible E. L. Quarantelli Resource Collection. Visiting researchers stay at DRC for varying lengths of time ranging from one day or a semester to as long as a year. In 2016, DRC welcomed Tomohide Atsumi, Hiroaki Daimon, and Ryohei Miyamae from Osaka University. The visiting scholars presented on their ongoing work in Noda Village following the 2011 tsunami as well as their work in Kumamoto after the April 2016 earthquakes.



PRESERVING OF DISASTER KNOWLEDGE

The Enrico L. Quarantelli Resource Collection at DRC

The Disaster Research Center serves as a repository for materials relating to the field of disaster research and produced by a wide range of institutions and researchers. The center’s specialized library contains the world’s most complete collection on the social and behavioral aspects of disasters. The E.L. Quarantelli Resource Collection now numbers more than 72,000 items and is open to both interested scholars and agencies involved in emergency management. This premier collection includes documents and publications not readily available elsewhere. In 2016, the E.L. Quarantelli Resource Collection provided vital and unique research resources to over seventy international scholars, both digitally and in person. The collection also supported the studies of over forty University of Delaware students from multiple disciplines, including Disaster Science and Management, Sociology, Public Policy and Administration, and Geography.

Information Chain Support for Disaster Mitigation, Preparedness, Response, and Recovery Project

Through an innovative collaborative partnership with computer engineering, DRC began developing a new way to enable first responders, researchers, and others interested in cutting-edge disaster related information to access its vast Resource Collection. DRC Resource Collection Coordinator Pat Young is working with University of Delaware Computer Information Science Associate Professor Hui Fang to design a new search engine tailored to DRC’s unique and substantial collection. The new project will be used for practical application in the emergency management information environment. The anticipated end result will be a new type of search engine that will have broad application beyond the area of emergency management.

1,636
NEW
ACQUISITIONS

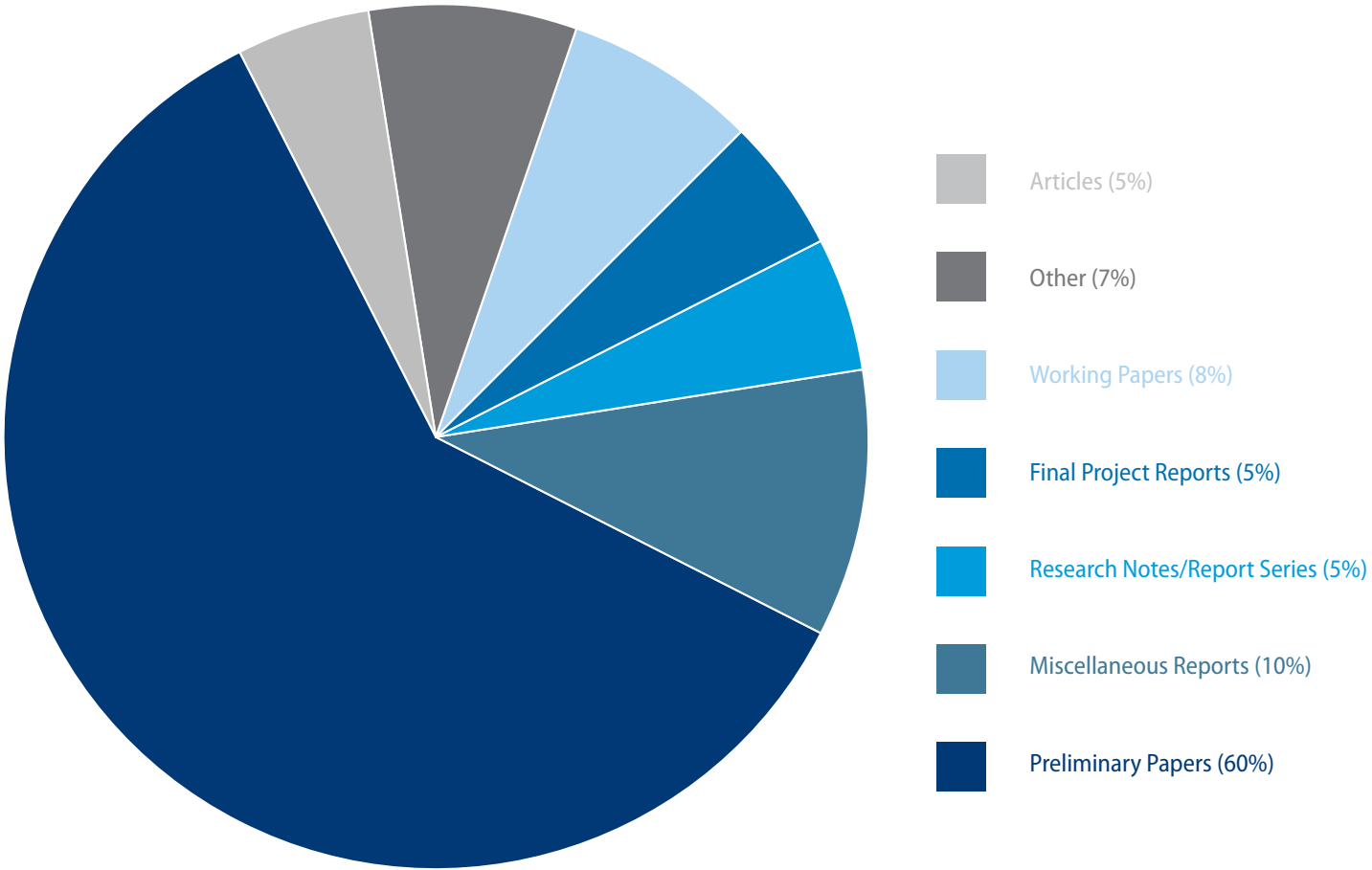
43
STUDENT
USES

213
BOOKS
(LIBRARY OF CONGRESS
SURPLUS BOOK PROGRAM)

OVER
72,000
ITEMS

UD Space

Developed in 2001, DRC was invited to be one of the six original pilot units on UDSpace. The purpose of the repository was to provide open access to information and resources developed by faculty and staff at UD. DRC currently has twelve different collections of documents in the repository comprising one of the largest total collections of any department or unit at UD. The collection continues to grow as new documents are produced by DRC faculty and graduate research assistants.



OVER
94,417
DOWNLOADS IN **2016**

DRC STUDENTS

UNDERGRADUATE RESEARCH ASSISTANTS

Kelsey Bacon
Alyssa Kinney
Nicole Mandel
Kelsey Mininiger
Michelle Reece
Meredith Simon-Pearson
Madison Swenson
Curtira Williams

GRADUATE RESEARCH ASSISTANTS

Mahmoud Alwidyan
Christine Beste
Ashleigh Bothwell
Anthony Cario
Di Ha
Mei Johnson
Hans Louis-Charles
Valerie Marlowe
Valter (Nuno) Martins
Samatha Penta
Cynthia Rivas
Flavio Lopes Ribeiro
Matthew Saponaro
Rachel Slotter
Carolina Velasquez
Dong Wang
Taylor Williams
Kun Yang
Daryl Yoder-Bontrager
Zeinab Yahyazadeh Jasour

AFFILIATED GRADUATE STUDENTS

Abdulhadi Al Ruwaithi
Adam Bagriacik
Sarah Bailey
Isaac Botchey
Jonathon Bratt
Brandon Bristor
Ashley Farmer
Diego Fernandez Otegui
Paige Fitzgerald
Sarah Gregory
Brian Gildemeyer
Jahan Israt
Qiuxi Li
Shen Chang Lin
Awele Maduka Ezeh
George May
Mary Nelan
Kendra Pospychalla
Juan Sanchez-Gil
Benjamin Wallace

PRESENTATIONS

Domestic

Clay, L.A., Goetschius, J.B., Papas, M.A., Kendra, J.M. (2016). Does Being Prepared Matter? The Influence of Household Preparedness on Disaster Outcomes. Oral Presentation at the 144th American Public Health Association Annual Meeting and Exposition, Denver, CO.

Chiquoine, Rachel. (2016). A Model of Traffic Impacts: Points of Dispensing as a Response to a Biological Outbreak. Natural Hazards Workshop. Broomfield, CO.

Davidson, Rachel. (2016). An integrated scenario ensemble-based hurricane evacuation modeling framework. Invited seminar at Old Dominion University, ODU Resilience Collaborative and Center for Coastal Physical Oceanography. Norfolk, VA.

DeYoung, Sarah. (2016). Disaster Vulnerability Across the Life Course. Natural Hazards Workshop. Broomfield, CO.

DeYoung, Sarah E., Wachtendorf, T., Penta, S., Farmer, A. (2016). Hurricane Evacuation Behavioral Aspects: Findings from Two NSF Projects. Poster presentation at the Natural Hazards Workshop in Broomfield, CO.

Gregory, Sarah and Louis-Charles, Hans. (2016). The Role of Community Based Organizations in Disaster: PoteOrntial and Actual. NJVOAD 2016 Conference. Minneapolis, MN.

Gregory, S. and Kendra, K. (2016). The Effects of Disaster Funding on Long-Term Community Recovery. International Research Committee on Disasters Meeting. Broomfield, CO.

Gregory, S., Kendra, J., and Nigg, J. (2016). Organizational Preparedness: Perspectives of Community-Based Organizations in Post-Sandy NYC. Presentation at the Preparedness Summit, Dallas, TX.

Johnson, Mei. (2016). Safeguarding the Charters of Freedom from Nuclear Attack in 1975: Agency Convergence and Idea Divergence. ARCHIVES*RECORDS 2016: The Joint Annual Meeting of the Council of State Archivists and the Society of American Archivists. Atlanta, GA.

Kendra, J., Martins, V., Louis-Charles, H., Gregory, S., Nigg, J., Clay, L., and Sisco, S. (2016). Before and After: New York City Preparedness and Recovery Around Hurricane Sandy. Memory Survives: History, Psychology, and Disaster Recovery. Philadelphia, PA.

Kendra, K. (2016). Predicting Community Functioning and Resilience after Disasters: Composite of Post-Event Well-Being (CoPE-WELL). Natural Hazards Workshop, Broomfield, CO.

Louis-Charles, H., Martins, V., and Nigg, J. (2016). Household Disaster Preparedness in New York City at the Time of Superstorm Sandy: Lessons Learned. Presentation at the Preparedness Summit, Dallas, TX.

Louis-Charles, Hans. (2016). Volunteerism and Emergent Groups Activities Following Superstorm Sandy. NJVOAD 2016 Conference. Minneapolis, MN.

Louis-Charles, H., Gregory, S., and Sisco, S. (2016). Organization Preparedness- Perspectives of Community Based Organizations in Post-Sandy NYC: The Social and Organizational Aspects of Building Community Resilience Through a New York City-Academic Partnership. Presentation at the Preparedness Summit. Dallas, TX.

Kendra, James. (2016). "I am a volunteer." Stand up! How To Be Part of the Solution After a Disaster. Center for Architecture. New York City, NY.

Kendra, James and Wachtendorf, Tricia. (2016). American Dunkirk: The Waterborne Evacuation of Manhattan on 9/11. South Street Seaport Museum, New York City, NY.

Kendra, James and Wachtendorf, Tricia. (2016). American Dunkirk: The Waterborne Evacuation of Manhattan on 9/11. Pier 25, LILAC, New York City, NY.

Kendra, James, & Wachtendorf, Tricia. (2016). Disaster Research Center: 50 Years of History, Development, and Change. Delaware Emergency Management Agency Seminar. Delaware Emergency Management Agency: Smyrna, DE.

Perez, Victor. (2016). Encouraging Climate Change and Environmental Awareness in Environmental Justice Communities: Increasing Empowerment and Decreasing Maladaptation. Invited guest lecture for SCI 107 course, Delaware Technical Community College. Newark, DE.

Perez, Victor. (2016). Environmental (In)Justice and Environmental Racism. Invited guest lecture for Lambda Pi Chi Sorority, University of Delaware. Newark, DE.

Perez, Victor W. (2016). The (Differential) Pace of Interdisciplinary Environmental Justice Research: Issues for Knowledge Sharing with the Community. Annual meeting of the Society for the Study of Social Problems, Seattle, WA.

Perez, Victor. (2016). Union of Concerned Scientists and the Environmental Justice Health Alliance. Science, Democracy, and Environmental Justice forum working group member. St. Paul, MN.

Penta, S., Marlowe, V., Gill, K. and Kendra, J. (2016). Of Earthquakes and Epidemics: Examining the Applicability of All-Hazards in Contemporary Emergency Management. Natural Hazards Workshop. Broomfield, CO.

Sarzynski, A. (2016). Exploring the Commitment to Act on Climate Change Adaptation in Baltimore. Urban Affairs Association Annual Conference, San Diego, CA.

Trainor, J.E. (2016) Interdisciplinary Research in the Disaster area. Bill Anderson Fund Workshop. Newark, DE.

Trainor, J. E. (2016). Navigating the Future Landscape of Hazards Practice and Research. Natural Hazards Workshop. Broomfield, CO.

Trainor, Joseph and Greer, Alex. (2016). A System Disconnected: Perspectives on Post Disaster Housing Recovery Policy and Programs. 3rd Emergency Management Theory and Research Workshop. Washington, DC.

Wachtendorf, Tricia. (2016). The Layers of Disaster Recovery: Capturing Meaning through the Eyes of Survivors. Invited presentation at the symposium: Memory Survives: History, Psychology, and Disaster Recovery Drexel University, Philadelphia, PA.

Wachtendorf, Tricia. (2016). Inter-organizational Coordination during Disasters. Invited panelist at the Natural Hazards Workshop in Broomfield, CO.

Wachtendorf, Tricia and Kendra, James. (2016). The Disaster Research Center: Current Project and Opportunities. DEMA. Smyrna, DE.

Wang, D., Davidson, R., Trainor, J.E., Nozick, L., Kruse, J. (2016). Modeling homeowner hurricane insurance purchasing behavior. Society for Risk Analysis Annual Meeting. San Diego, CA.

Velasquez, Carolina. (2016). Community Participation to Adapt to Climate Change: San Andres Island, Colombian Caribbean. Natural Hazards Workshop. Broomfield, CO.

Velasquez, Carolina. (2016). A snapshot of The 2016 Drought in San Andres island, Colombian Caribbean. The Latin America and United States Bridges of Understanding Symposium. New York City, NY.

Velasquez, Carolina. (2016). Community Participation to Adapt to Climate Change: San Andres Island, Colombian Caribbean. Sixth Annual University of Delaware Graduate Research Forum. Newark, DE.

Yang, K., Davidson, R., Nozick, L., Wachtendorf, T., Blanton, B., Colle, B., Kolar, R., DeYoung, S., Dresback, K., and Leonardo, N. (2016). An Integrated Scenario-based Evacuation (ISE) Framework for Hurricane Evacuation Modeling. Society for Risk Analysis Annual Meeting. San Diego, CA.

International

Bagriacik, Adam. (2016). Statistical Modeling of Christchurch Water Pipeline Damage. Christchurch City Council Meeting. Christchurch, New Zealand.

Clay, L.A., Goetschius, J.B., Papas, M.A., Kendra, J.M. (2016). Urban Household Preparedness: Observations on disaster outcomes and mental health in households impacted by Superstorm Sandy in NYC. Lightning presentation at the 4th International Conference on Urban Disaster Reduction, Wellington, New Zealand.

Clay, L.A., & Abramson, D.M. (2016). Mapping Community Social Capital: An exploratory study of community organizations following the 2010 Gulf Coast Oil Spill. Oral presentation at the 4th International Conference on Urban Disaster Reduction, Wellington, New Zealand.

Kendra, J. (2016). Disaster Research: Continuing Needs, Emerging Anxieties, and Growing Moral Panics. Presented at the Fourth International Conference on Urban Disaster Reduction. Wellington, New Zealand.

Kendra, J. (2016). Italy and the United States: Shared Hazards and Opportunities for Partnership. Celebrations in Honor of Mazzei Week. Pisa, Italy.

Marlowe, Valerie. (2016). Documenting Disasters: Post-Disaster Memory Making and the Emergence of New Cultural Heritage. Joint Annual Meeting of the American institute of Conservators and the Canadian Association of Conservators. Montreal, Canada.

Otegui, Diego Fernandez. (2016). Urban Field Disaster Response. A Mixed Coordination Model for Operations in Urban Marginal Settings. 4th World Conference on Humanitarian Studies. Addis Ababa, Ethiopia.

Otegui, Diego Fernandez. (2016). Humanitarian Response and Organized Crime. An exploratory essay on the need for an international regulation to control humanitarian organizations. 4th World Conference on Humanitarian Studies. Addia Ababa, Ethiopia.

Penta, Samantha. (2016). Decisions Beyond Treatment: Creating the Operational Context for Crisis Medical Care. 4th International Conference on Urban Disaster Reduction. Wellington, New Zealand.

Ribeiro, Flavio Lopes. (2016). The usefulness and practical application of the concept of resilience in disaster management. 3rd World Conference on Resilience. Trois-Rivières, Quebec, Canada.

Trivedi, J. (2016). “It’s okay to share knowledge”: The intersection of local knowledge, cultural gaps, and aid work in Biloxi’s Katrina recovery process. Society for Applied Anthropology Annual Meeting. Vancouver, Canada.

Wachtendorf, Tricia. (2016). Differential Experience in Disasters: Is there really too little time to “walk a mile in your shoes”. International Symposium on Critical Infrastructure. Mexico City, Mexico.

Wachtendorf, Tricia. (2016). American Dunkirk: The Waterborne Evacuation of Manhattan on 9/11. Keynote speaker. 4th International Conference on Urban Disaster Reduction, Wellington, New Zealand.

PUBLICATIONS

Books

Kendra, James and Tricia Wachtendorf. 2016. American Dunkirk: The Waterborne Evacuation of Manhattan on 9/11. Temple University Press: Philadelphia, PA.

Book Chapters

Marcotullio, P., Sarzynski, A., Albrecht, J., Schulz, N., & Garcia, J. (2016). “Assessing Urban Greenhouse Gas Emissions in European Medium and Large Cities: Methodological Considerations.” In P. Laconte & C. Gossop (Eds.), Sustainable Cities: Assessing the Performance and Practice of Urban Environments (pp.80100). London: I.B. Tauris.

Peer Reviewed Journal Articles

Aitsi-Selmi, A., Murray, V., Wannous, C., Dickinson, C., Johnston, D., Kawasaki, A., ... & Yeung, T. (2016). Reflections on a science and technology agenda for 21st century disaster risk reduction. International Journal of Disaster Risk Science, 7(1), 1-29.

Anderson, D., Davidson, R. A., Himoto, K., & Scawthorn, C. (2016). Statistical modeling of fire occurrence using data from the Tōhoku, Japan Earthquake and Tsunami. Risk analysis, 36(2), 378-395.

Beiler, M. O., Marroquin, L., & McNeil, S. (2016). State-of-the-practice assessment of climate change adaptation practices across metropolitan planning organizations pre-and post-Hurricane Sandy. Transportation Research Part A: Policy and Practice, 88, 163-174.

DeYoung, S., Wachtendorf, T., Farmer, S., and Penta, S. (2016). NOAA Radios and Neighbourhood Networks: Demographic Factors for Channel Preference for Hurricane Evacuation Information. Journal of Contingencies and Crisis Management. 24(4), 275–285.

DeYoung, S., Wachtendorf, T., Davidson, R., Xu, K., Nozick, L., Farmer, A., and Zelewitz, L. (2016). A Mixed Method Study of Hurricane Evacuation Thresholds: Demographic Predictors for Compliance to Following a Voluntary or Mandatory Order. Environmental Hazards.

DeYoung, Sarah E. (2016). Guest Editor. International Journal of Mass Emergencies and Disasters, 34 (3).

Fang, J., El-Tawil, S., & Aguirre, B. (2016). Leader–follower model for agent based simulation of social collective behavior during egress. Safety Science, 83, 40-47.

Fang, J., El-Tawil, S., & Aguirre, B. (2016). New Agent-Based Egress Model Allowing for Social Relationships. Journal of Computing in Civil Engineering, 30(4), 04015066.

Gao, Y., Nozick, L., Kruse, J., & Davidson, R. (2016). Modeling competition in a market for natural catastrophe insurance. Journal of Insurance Issues, 38-68.

Herrera-Restrepo, O., Triantis, K., Trainor, J., Murray-Tuite, P., & Edara, P. (2016). A multi-perspective dynamic network performance efficiency measurement of an evacuation: A dynamic network-DEA approach. Omega, 60, 45-59.

London, M., & McNeil, S. (2016). Impact evaluation of different types of transportation projects using meta-analysis. Transportation Research Procedia, 25, 3926-3936.

Manzour, H., Davidson, R. A., Horspool, N., & Nozick, L. K. (2016). Seismic Hazard and Loss Analysis for Spatially Distributed Infrastructure in Christchurch, New Zealand. Earthquake Spectra, 32(2), 697-712.

Penta, S., DeYoung, S., Yoder-Bontrager, D., & Suji, M. (2016). Trauma, Victims, Time, Changing Organizations and the Nepal 2015 Earthquake. International Journal of Mass Emergencies & Disasters, 34(3).

Perez, V. W., & Egan, J. (2016, September). Knowledge and Concern for Sea Level Rise in an Urban Environmental Justice Community. In Sociological Forum (Vol. 31, No. S1, pp. 885-907).

Reilly, A. C., Davidson, R. A., Nozick, L. K., Chen, T., & Guikema, S. D. (2016). Using data envelopment analysis to evaluate the performance of post-hurricane electric power restoration activities. Reliability Engineering & System Safety, 152, 197-204.

Shan, X., Peng, J., Kesete, Y., Gao, Y., Kruse, J., Davidson, R. A., & Nozick, L. K. (2016). Market Insurance and Self-Insurance through Retrofit: Analysis of Hurricane Risk in North Carolina. ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering, 3(1), 04016012.

Xu, K., Davidson, R. A., Nozick, L. K., Wachtendorf, T., & DeYoung, S. E. (2016). Hurricane evacuation demand models with a focus on use for prediction in future events. Transportation Research Part A: Policy and Practice, 87, 90-101.

Other Published Material

Burke, Ryan and McNeil, S. (2016). Investigating the Benefits and Drawbacks of Realigning the National Guard Under the Department of Homeland Security. Army War College Carlisle Barracks PA, Strategic Studies Institute.

Clay, L. A., & Abramson, D. M. (2016). Mapping community social capital: An exploratory study of community organizations following the 2010 gulf coast oil spill. Proceedings of the 4th International Conference on Urban Disaster Reduction (4ICUDR), Wellington, New Zealand.

Gong, J., Heaslip, K., McNeil, S., Farzan, F., & Brink, S. (2016). Big Data: Opportunities and Challenges in Asset Management (No. CAIT-UTC-030). Department of Transportation In cooperation with Rutgers, The State University of New Jersey.

Herning, G., Maher, A., & McNeil, S. (2016). Collaborative Proposal: Resilience: Definitions, Measurement, Tools and Research Opportunities.

Kielich, E., Border, K., Weiss, E., & Clay, L. School Nutrition Employee Observations of Student Food Consumption since the Implementation of the Healthy, Hunger-Free Kids Act of 2010. Journal Of The Academy Of Nutrition And Dietetics, 116(Supplement), A58. doi:10.1016/j.jand.2016.06.199

Kwasinski, A., Trainor, J., Wolshon, B., & Lavelle, F. M. (2016). A Conceptual Framework for Assessing Resilience at the Community Scale.

McNeil, S., Trainor, J., Greer, A., Jahan, I., & Mininger, K. (2016). Understanding the relationships between household decisions and infrastructure investment in disaster recovery: cases from Superstorm Sandy. Final Report, Center for Advanced Infrastructure and Transportation, Rutgers University, December.

Roda, A., Maher, A., & McNeil, S. (2016). Life Cycle Cost Reduction Road Map. Final Report, Center for Advanced Infrastructure and Transportation, Rutgers University.

Wachtendorf, Tricia. (2016). Mars, Manhattan, and Lessons about Disasters. Natural Hazards Observer. April. Accessed at <https://hazards.colorado.edu/article/mars-manhattan-and-lessons-about-disasters>

Wachtendorf, Tricia, (2016). Louisiana's Cajun Navy shines light on growing value of boat rescuers. The Conversation. August 22. Accessed at <http://theconversation.com/louisianas-cajun-navy-shines-light-on-growing-value-of-boat-rescuers-64197>

DISSERTATIONS AND THESES

Cario, Anthony. (2016). "Risk Communication in Local Television News".

Farmer, Ashley. (2016). "Copwatchers: Citizen Journalism and the Changing Police-Community Dynamic".

Louis-Charles, Hans. (2016). "Sovereignty and Natural Hazards: A Study on the Legacy of the United Kingdom's Imperial Practices and Disaster Management Activities of Their Island Possessions".

Nelan, Mary. (2016). "The Social Construction of Disaster Donations: Agility, Adaptability, and Alignment as Success Determinants in Relief Supply Chains".

Sánchez Gil, Juan Camilo. (2016). "Food Aid Distribution during Disaster Response and Short-term Recovery: Enhancing Performance of Heterogeneous Humanitarian Logistics Structures".

Velotti, Lucia. (2016). "Accountability in Decisions Making Processes for Vertical Evacuation Adoption".

Wallace, Ben. (2016). "Disaster Risk Reduction and Climate Change Adaptation Planning".

Hurricane Matthew Damage.
Lumberton, North Carolina 2016
Photo by Jocelyn Augustino/FEMA

