



GYANCITY RESEARCH CONSULTANCY PVT. LTD.

Monday, October 7, 2019

To whom it may concern

Dr. Jason Levy has plans to travel to India from Friday Dec 6, 2019 -Tuesday December 16, 2019 to carry out field research in India pertaining to disaster management. As the President of Gynacity Research Consultancy Ltd, a leading disaster risk reduction consultancy firm, I am writing to note that Gynacity Research-associated faculty and staff will be providing research support in order for him to complete specific disaster research for a publishable research paper entitled "Advances in Social Vulnerability and Community Disaster Resilience in New Delhi and Visakhapatnam, India". Our organization will be opening its archives and databases to Dr. Levy in order to carry out this joint research.

In particular, our research associates and graduate students in India will facilitate in person interviews and other field work and help with transcribing our conversations with community groups from Hindi (and other regional Indian languages) to English. In this manner we have established a robust plan to support Dr. Levy's disaster risk reduction and community resilience field work including informal vulnerability interviews, direct observations, participation in the life of the group, collective discussions, analyses of personal documents produced within the group, case studies and life-histories.

There are two areas of analysis for this research. The first research site visit will be to New Delhi, the urban district of Delhi which serves as the capital of India and seat of all three branches of the Government of India; colloquially the northern cities of Delhi and New Delhi are used interchangeably to refer to the National Capital Territory of Delhi (NCT). In Delhi we will also provide local drivers and translators to accompany Dr. Levy to several libraries and research institutions throughout India. Dr. Levy and our team will visit the National Disaster Management Authority (NDMA), an agency of the Ministry of Home Affairs whose primary purpose is to coordinate response to natural or man-made disasters and for capacity-building in disaster resiliency and crisis response. NDMA is operationally organized into the following divisions: Policy & Planning; Mitigation; Operations & Communications; Administration; and Capacity Building. At NDMA Dr. Levy will meet with the board which consists of members nominated based on their expertise in areas such as planning, infrastructure management, communications, meteorology, and natural sciences.

The second site visit takes place in the city of Visakhapatnam, the largest city (and the financial capital) of the Indian state of Andhra Pradesh. Dr. Levy will study the disaster impacts of Cyclones Fani and Hudhud on communities in the city. Cyclone Fani, the first severe cyclonic storm of the 2019 North Indian Ocean cyclone season, originated from a tropical depression that formed west of Sumatra in the Indian Ocean on April 26, 2019. Fani rapidly intensified into an



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extremely severe cyclonic storm and reached its peak intensity on May 2, 2019 as a high-end extremely severe cyclonic storm—the equivalent of a high-end Category 4 major hurricane. Fani killed at least 89 people in eastern India and Bangladesh. Fani caused about US\$8.1 billion in damages in both India and Bangladesh, mostly in India. Prior to Fani's landfall, authorities in India and Bangladesh moved at least a million people each from areas within Fani's projected path onto higher ground, and into cyclone shelters.

We will work with Dr. Levy to carry out in person interviews to compare and contrast the disaster response of Cyclone Fani with tropical cyclone Hudhud. The latter caused extensive damage and loss of life in eastern India during October 2014. Shortly before landfall near Visakhapatnam, Andhra Pradesh, on October 12, Hudhud reached its peak strength with three-minute wind speeds of 185 km/h (115 mph) and a minimum central pressure of 960 mbar (28.35 inHg). The system then drifted northwards towards Uttar Pradesh, causing widespread rain. Hudhud caused extensive damage to the city of Visakhapatnam and the neighboring districts of Vizianagaram and Srikakulam of Andhra Pradesh. Damages were estimated to be US\$3.58 billion. At least 124 deaths have been confirmed due to Hudhud, a majority of them from Andhra Pradesh and Nepal.

Visakhapatnam is also an important area for us to visit since it constitutes the state headquarters of Indian Coast Guard which carries out numerous disaster search and rescue functions. It is the most populous city in the state of Andhra Pradesh and the ninth-most populous metropolitan area in India. With an output of \$43.5 billion, Visakhapatnam is the ninth-largest contributor to India's overall gross domestic product as of 2016. The city is also the administrative headquarters of Visakhapatnam district and is located along the coast of the Bay of Bengal.

As evidence of our recent collaboration we have carried our previous collaboration with Dr. Levy includes the following publications:

Levy, J. and Pandey, B. (2019 , in press) Intelligent Disaster Management and Green Computing in the Big Data Era: Policies, Perspectives, and Prospects, 3C Tecnologia.

Pandey, B., Hussain, D.M.A. and Levy, J., AI and FPGA Based IoT Architectures , Models, and Platforms for Smart City Applications (2019). In Bhawani Shankar Chowdhry , Faisal Karim Shaikh, aeem Ahmed Mahoto (Eds). IoT Architectures, Models , and Platforms for Smart City Applications, IGI Global, 2019. ISBN: 1799812537.



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Pandey, B., Jain, A., Kumar, P., Hussain, A., Levy, J. & Chowdhry, B. S. (2019). Energy Efficient and High-Performance FIR Filter Design on Spartan-6 FPGA. 3C Tecnologfa. Special Edition, May 2019, pp. 12-43. doi: <http://dx.doi.org/10.17993/3ctecno.2019>.

J. Levy and B. Pandey (2019, in press) Combining the Ethics and Science of Disaster Management: Key Issues, Policy Considerations and Best Practices 3C Tecnologia .

Pandey, B., Das, B. Hutto, A., Bano, A., Levy, J., Abubaker Y. Al-Abiary, M. (2019, in press). Technologies for Effective Disaster Management Systems: A State of the Art Survey of Current Challenges and Opportunities. 3C Tecnologia.

Based on the evidence and our experience, we expect that Dr. Levy will carry out field work in India to reduce social vulnerability and increase disaster resilience. His previous experience carrying out disaster field work in developing nations has taught Dr. Levy how to carry out leading field work in difficult terrain and instilled in Dr. Levy the values of personal sacrifice, high quality research, determination, community service and hard work. His fieldwork in India should provide the foundation of key data that can enhance collaboration with other researchers, agencies, and organizations to effectively plan and execute disaster risk reduction scenarios in India.

Dr. Levy has brought distinction to his career, university, and country and my colleagues and I are confident that Jason, given his outstanding research background and individual merits, will continue to make a valuable contribution to the people of the Indian subcontinent and the state of Hawaii.

Sincerely,

Dr. Biswajeet Pandey

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DIRECTOR



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