

# Introduction to the Special Issue on Information Systems for Crisis Response and Management in the Asia Pacific Region

Thomas J. Huggins<sup>1,2</sup>,  
Vincent Lemiale<sup>3</sup>,  
Raj Prasanna<sup>4</sup>

<sup>1</sup> Division of Science and Technology, BNU-HKBU United International College, Zhuhai, China.

<sup>2</sup> University of Monterrey, Monterrey, Mexico.

<sup>3</sup> CSIRO, Melbourne, Australia.

<sup>4</sup> Joint Centre for Disaster Research, Massey University, New Zealand.

© The Author(s) 2022. (Copyright notice)

Author correspondence:

Thomas J. Huggins,  
School of Psychology,  
University of Monterrey,  
Monterrey,  
Mexico.

email: [thomas.huggins@udem.edu](mailto:thomas.huggins@udem.edu)

URL: [http://trauma.massey.ac.nz/issues/2022-IS/AJDTS\\_26\\_IS\\_Editorial.pdf](http://trauma.massey.ac.nz/issues/2022-IS/AJDTS_26_IS_Editorial.pdf)

## Abstract

*The current special issue was arranged by Information Systems for Crisis Response and Management, during a point of the COVID-19 pandemic when many contingency plans were being made. It is a collection of the papers with the most positive reviews submitted to a conference organised by the Asia Pacific chapter of this organisation but which needed to be postponed by one calendar year. This special issue includes research papers ranging from the electronic provision of social work services and the adoption of e-learning by university students during the pandemic to relevant challenges faced by tourism supply chains around the world. Other special issue papers cover broader issues such as emergency response capacities and information systems for emergency medical care. Papers on the digitalisation of health care and a framework for studying supply chain resilience take a more conceptual approach to enduring issues, while papers on rescue coordination and traffic accident modelling look at issues affecting our everyday lives. As a whole, this special issue represents a panorama of important research and research-related activity that was being carried out as the pandemic progressed. We are proud to have seen the current set of papers through to publication during such a challenging period.*

**Keywords:** Special issue, Editorial, COVID-19, Information Systems

In the middle of 2021, the Information Systems for Crisis Response and Management (ISCRAM) Asia Pacific chapter was planning to follow up its very successful 2018 conference in Wellington, New Zealand, with an even more high-profile event in Melbourne, Australia. Among other institutions, they had partnered with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) which is based in Melbourne and hoped to run a hybrid conference that would include a main conference hub in the city, with smaller hubs in Auckland, New Zealand and Zhuhai, China.

The conference was scheduled for the end of 2021, but pandemic-related complications meant that it would be very risky to host the conference in Melbourne at that time. It seems timely to highlight that the conference theme was Planning for the Unexpected, at a time when not-so-pleasant surprises had become the norm. The conference was postponed by one year, and the authors of several accepted papers were invited to submit their papers to the current special issue rather than waiting for conference proceedings that would take more than another year to come together.

The publication of this special issue gave us the opportunity to publish leading research on information systems that would still be timely enough to inform responses to and recovery from the COVID-19 pandemic. At this stage, the challenges posed by new variants and vaccine availability mean we cannot guarantee that the virus will be brought under control in every affected part of the world (McIntyre, 2022). We are far from recovering from the aftermath of the virus and perhaps even further away from learning from many mistakes, despite best efforts, made at many points of our response.

## Special Issue Content

As the Guest Editors, we are proud to present a set of special issue papers that can help us learn from the first genuinely pan-lateral emergency faced in the information age. The resulting special issue includes a study into the factors predicting whether students would continue studying online, while cut off from their university campuses (Huggins et al., 2022). Mundane as this may seem, we are beginning to witness the impacts of educational discontinuity around the world, and the toll this has taken on developing minds in most corners of the

globe. The next paper, by Wong et al. (2022) also looked at disruptions and challenges caused by the COVID-19 pandemic, in terms of the way Chinese social workers reconfigured the support provided to residents of Wuhan, China, in the very early stages of the pandemic. Their paper outlines the crucial role played by technological devices and connectivity at a time when physical mobility was so limited.

Other research, by Umar et al. (2022a), broaches COVID-19-related interruptions to tourism supply chains, at a time when the international tourism sector was facing its biggest challenge to date. The next paper by this author (Umar et al., 2022b) provides a framework for identifying potential remedies, for promoting the resilience of supply chains extending well beyond any one industry. It presents the adaptation of a model originally created for analysing elements of road safety. This, together with the wide-ranging scope of Umar's framework, reminds us that the challenges posed by the COVID-19 pandemic did not eliminate pre-existing perils such as traffic accidents. The next special issue paper, by Zhang et al. (2022), focuses on traffic accident modelling and highlights the fact that a wide range of emergency management research continued well into and during the pandemic. Their research provides a validated model for calculating the disruptions caused by motor vehicle accidents.

The subsequent papers outline new technologies for crisis response and management that being developed and piloted at the time of writing. Tijerino et al. (2022) outline their pilot research into innovative incident management software. Their paper finishes with important insights around end users' perceptions of usability. Morand and Rizza (2022) present some of the gains and obstacles encountered while piloting a first aid application designed for the general public. Ongoing development of the same application will include a more detailed analysis of usability and other adoption factors.

The special issue concludes by taking a slightly wider view of the more obvious theme of the day, healthcare. The penultimate paper by Madanian et al. (2022) outlines a new approach to information system architecture, that can be used to help ensure that hospitals, and other medical facilities can continue functioning during a wide range of crises. The importance of these information system architectures cannot be overstated, especially when they help ensure that medical services are not jeopardised at the very time when they are needed most. The final paper, by Magutshwa (2022), critically analyses

and discusses the digitalised healthcare approaches that became much more common during the COVID-19 pandemic. This paper concludes with an agenda for further research that will respond to both recent, and previous, lessons learned.

## Conclusion

We are grateful to each author who contributed to the current special issue. Their patience and perseverance has not only contributed to the continuity of our universities, research and development institutions, government departments, and private and third sector initiatives. Their constructive focus has also helped to make sure we have this short compendium of information systems research, being conducted during the COVID-19 pandemic. We are sure that many readers will appreciate that there is a lot to hope and strive for, even among the more technical milieu of information systems for crisis response and management.

## References

- Huggins, T. J., Tan, M. L., Kuo, Y.-L., Prasanna, R., & Rea, D. D. (2022). Online learning adoption by Chinese university students during the Covid-19 pandemic. *Australasian Journal of Disaster and Trauma Studies*, 26, 147-158. [https://trauma.massey.ac.nz/issues/2022-IS/AJDTs\\_26\\_IS\\_Huggins.pdf](https://trauma.massey.ac.nz/issues/2022-IS/AJDTs_26_IS_Huggins.pdf)
- McIntyre, P. B., Aggarwal, R., Jani, I., Jawad, J., Kochhar, S., MacDonald, N., Madhi, S. A., Mohsni, E., Mulholland, K., Neuzil, K. M., Nohynek, H., Olayinka, F., Pitisuttithum, P., Pollard, A. J., & Cravioto, A. (2022). COVID-19 vaccine strategies must focus on severe disease and global equity. *The Lancet*, 399, 406-410. DOI: 10.1016/S0140-6736(21)02835-X
- Madianian, S., Johnson, K., St.Martin, M., Sinha, R., Cámara, J., & Parry, D. (2022). Adaptable socio-cyber physical systems for supporting disaster response. *Australasian Journal of Disaster and Trauma Studies*, 26, 221-234. [https://trauma.massey.ac.nz/issues/2022-IS/AJDTs\\_26\\_IS\\_Madianian.pdf](https://trauma.massey.ac.nz/issues/2022-IS/AJDTs_26_IS_Madianian.pdf)
- Magutshwa, S. (2022). Rethinking the improvisation of digital health technology: A niche construction perspective. *Australasian Journal of Disaster and Trauma Studies*, 26, 235-251. [https://trauma.massey.ac.nz/issues/2022-IS/AJDTs\\_26\\_IS\\_Magutshwa.pdf](https://trauma.massey.ac.nz/issues/2022-IS/AJDTs_26_IS_Magutshwa.pdf)
- Morand, O., Larribau, R., Safin, S., Pages, R., & Rizza, C. (2022). Using SARA app and video feedback for dispatchers to improve the out-of-hospital cardiac arrest handling. *Australasian Journal of Disaster and Trauma Studies*, 26, 209-220. [https://trauma.massey.ac.nz/issues/2022-IS/AJDTs\\_26\\_IS\\_Morand.pdf](https://trauma.massey.ac.nz/issues/2022-IS/AJDTs_26_IS_Morand.pdf)
- Tijerino, Y., Miyazaki, Y., Tovar, C., & Espinosa, C. (2022). Improving security and trust for IoT devices during rescue operations. *Australasian Journal of Disaster and Trauma Studies*, 26, 195-208. [https://trauma.massey.ac.nz/issues/2022-IS/AJDTs\\_26\\_IS\\_Tijerino.pdf](https://trauma.massey.ac.nz/issues/2022-IS/AJDTs_26_IS_Tijerino.pdf)
- Umar, M., Ahmad, R., & Radics, R. (2022a). Tourism supply chains: Issues and resilience strategies during the global

pandemic. *Australasian Journal of Disaster and Trauma Studies*, 26, 167-178. [https://trauma.massey.ac.nz/issues/2022-IS/AJDTS\\_26\\_IS\\_Umar2.pdf](https://trauma.massey.ac.nz/issues/2022-IS/AJDTS_26_IS_Umar2.pdf)

Umar, M., Wilson, M., Ahmad, R., & Radics, R. (2022b). A framework to study supply chain strategies against global pandemic. *Australasian Journal of Disaster and Trauma Studies*, 26, 179-184. [https://trauma.massey.ac.nz/issues/2022-IS/AJDTS\\_26\\_IS\\_Umar.pdf](https://trauma.massey.ac.nz/issues/2022-IS/AJDTS_26_IS_Umar.pdf)

Wong, J. H. C., & Zhou, C. T. (2022). Social-psychological emergency response during Wuhan lockdown: Internet-based crisis intervention. *Australasian Journal of Disaster and Trauma Studies*, 26, 159-166. [https://trauma.massey.ac.nz/issues/2022-IS/AJDTS\\_26\\_IS\\_Wong.pdf](https://trauma.massey.ac.nz/issues/2022-IS/AJDTS_26_IS_Wong.pdf)

Zhang, A., Meng, F., Gong, W., Zeng, Y., & Yang, L. (2022). Clearance time prediction of traffic accidents: A case study in Shandong, China. *Australasian Journal of Disaster and Trauma Studies*, 26, 185-194. [http://trauma.massey.ac.nz/issues/2022-IS/AJDTS\\_26\\_IS\\_Zhang.pdf](http://trauma.massey.ac.nz/issues/2022-IS/AJDTS_26_IS_Zhang.pdf)

