
Editorial

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Biographical notes: Steven Hart is currently assigned as the ERDC Engineering Fellow and Director of Infrastructure Studies at West Point. He has taught numerous civil engineering courses including innovative courses on Infrastructure Engineering and Critical Infrastructure Protection and has authored numerous articles and a book chapter on these subjects. He is the Developer and Lead Proponent of The Critical Infrastructure Symposium, now in its third year. He is active in The Infrastructure Security Partnership and the American Society of Civil Engineers including services on the Committee on Critical Infrastructure as well as the American Society of Engineering Education.

The Third Annual Critical Infrastructure Symposium (CIS) was held on April 23 and 24, 2012 in Alexandria, Virginia. The symposium is a collaborative learning community of students, educators, practitioners, and government officials engaged in developing the next generation of critical infrastructure protection and resilience leaders, technologies, and strategies. Sponsored by The Infrastructure Security Partnership, the symposium had 149 participants from five countries, representing over 40 organisations and schools.

Over 48 papers, posters, and presentations were discussed in ten technical breakout sessions. From these sessions, the best technical papers were selected for inclusion in this issue of the *International Journal of Critical Infrastructures*. One unique aspect of The CIS is that students and professionals present as peers and this is seen in the paper selection. Three of the papers included here are from undergraduates or masters students and one is a student/faculty collaboration and are presented with those from professionals. Their level of scholarship, though not matching that of professionals and faculty members, is well developed given their experiences and they have investigated interesting topics supporting the full spectrum resilience (FSR) concept.

Dr. Wayne Boone of Carlton University and Lieutenant Colonel Steven D. Hart of the Engineer Research and Development Center (ERDC) and West Point opened the symposium by introducing the concept of FSR. FSR proposes that infrastructure resilience activities can be categorised by *functional levels*: strategic, operational, and tactical, *dimensions of the all-hazards environment*: natural, accidental, deliberate, and deterioration, and *level of impact*: national, regional, community, and individual. When organised as a cube, these three axes form 48 bins that all must be addressed for a nation or organisation to be fully resilient. The papers presented in this special issue may be classified as shown in the table below. This brief example of seven papers demonstrates the necessity of uniting specific resilience activities in time, space, and purpose to build a

truly resilient nation or organisation. The FSR presentation and paper are available on the TISP website (<http://www.tisp.org>) at the publications tab.

	<i>Functional level</i>	<i>All-hazards</i>	<i>Level of impact</i>
Fitzgerald	Tactical	Primarily natural	Individual
Rader/Habluetzel	Tactical	Natural	Community
Smith	Operational	Natural and deliberate	National and regional
Gonzales	Tactical	Military related	Community
Szoke	Operational	Natural and deliberate	Community
Cookson	Strategic	Natural	National and regional
Riegel	Strategic	All-hazards	National and regional

The theme of the Fourth Annual Critical Infrastructure Symposium is ‘Advancing full spectrum resilience’ where the presenters will individually discuss specific elements of FSR as represented by the papers above and the symposium collectively will demonstrate the necessity of integrating these elements and the utility of FSR as an organising concept. The symposium will be held April 15th and 16th, 2013 at the Hotel Thayer at West Point, New York. The call for papers and registration information is available at <http://www.tisp.org>.