

## INVITATION and PROGRAM

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**SEMINAR: LEVERAGE IoT, COMMUNICATION, SOCIAL MEDIA AND DATA SCIENCE TO PROTECT CIVIL INFRASTRUCTURE AND SAVE LIVES**

**Hosted by: The Norwegian Consulate General, Houston**

DATE:	TIME:	PLACE:	LANGUAGE:	ADMISSION:
April 27, 2018	9:00 am – 1:00 pm	Norway House 3410 W Dallas Street, Houston, Texas 77019	English	Free

The Centre for Integrated Emergency Management (CIEM) at the University of Agder, the Ken Kennedy Institute for Information Technology at Rice University, and the Global Center of Expertise NODE (GCE NODE) invite you to a seminar on the utilization of Big Data for emergency response systems.

Globally, we are seeing increasing storm frequency and intensity resulting in excessive flooding, landslides and other natural catastrophes. Recent events such as Hurricanes Harvey, Irma, and Maria, which devastated portions of the Gulf, Caribbean, and Atlantic coasts; the northern California wildfires; and the southern tornado outbreak made 2017 the costliest year ever for US natural disasters. At the same time, the counties of Agder and Rogaland located in Southern Norway, experienced the worst flooding in decades while the entire Norwegian coast has been subjected to numerous storms and hurricanes.

These disasters have a detrimental impact on, infrastructure, transportation, communication, and lives. Data collected from sensors and cameras located throughout the region can be mined for knowledge that can be used in responding to disasters in real-time as well as facilitate recovery post-hazard. Advances in data science, data analytics, and machine learning should be leveraged to predict patterns and influence short-term and long-term outcomes.

The seminar will bring together leaders in the field to explore how IoT, Communication Technologies, Social Media, and Data-Science can be leveraged for risk-assessment, improve wellness checks and efficiency of emergency response and guide emergency response actions, pre, during and post disaster. Topics include opportunities and challenges in technology-supported emergency preparedness and response, flood warning and impact of climate change on world-wide security with emphasis on land-based and maritime security and disaster prevention.

The goal is to share information about current projects across borders and entities as well as strengthening partnerships and collaboration. We look forward to welcoming you.

<b>8:30 – 9:00</b>		<b>REGISTRATION AND COFFEE</b>
<b>9:00 – 9:10</b>		<b>OPENING</b>
	<b>WELCOME</b> Morten Paulsen, Norwegian Consul General	
	<b>OPENING REMARKS</b> Moderator, Jan E. Ødegaard, Executive Director, Ken Kennedy Institute, Rice University	
<b>SESSION 1:</b>		
<b>9:10 – 9:35</b>	<b>TECHNOLOGY-SUPPORTED EMERGENCY MANAGEMENT: OPPORTUNITIES AND CHALLENGES</b> Bjørn Erik Munkvold, Director, CIEM, University of Agder	
<b>9:35 – 10:00</b>	<b>RISK MANAGEMENT ADVISORY USING DATA ANALYTICS</b> Kathy Ensor, Professor Statistics, Director Urban Data Platform, Rice University	
<b>10:00 – 10:25</b>	<b>DEVELOPING SMART BIG DATA PIPELINES TO ADDRESS CHALLENGES OF BRIDGE INFRASTRUCTURE HEALTH IN THE US</b> Deepak Khazanchi, University of Nebraska & Adjunct Professor CIEM, University of Agder	
<b>10:25 – 10:45</b>	<b>COFFEE BREAK</b>	
<b>SESSION 2:</b>		
<b>10:45 – 11:05</b>	<b>PREPARING FOR BIGGER STORMS USING BIG DATA</b> Philip Bedient, Professor Civil and Environmental Engineering, Director Severe Storm Prediction, Education and Evacuation from Disasters Center, Rice University	
<b>11:05 – 11:30</b>	<b>THE SECURITY IMPLICATIONS OF CLIMATE CHANGE: CHALLENGES FOR MARITIME SECURITY</b> Christian Webersik, Deputy Director, CIEM, University of Agder	
<b>11:30 – 12:00</b>	<b>MULTI-PLATFORM HYPERSPECTRAL IMAGING FOR POST-DISASTER SITUATIONAL AWARENESS</b> David Alexander, Professor Physics & Astronomy Director, Rice Space Institute, Rice University  <b>USING BIG DATA AND MACHINE LEARNING TO BUILD SPATIALLY FINE-GRAINED PREDICTION MODELS OF WIND AND FLOOD DAMAGE RISK</b> Devika Subramanian, Professor Computer Science, Rice University  <b>OPTIMIZED RESOURCE ALLOCATION FOR EMERGENCY RESPONSE</b> Andrew Schaefer, Professor Computational and Applied Mathematics, Rice University	
<b>12:00 – 12:10</b>	<b>SUMMARY AND CLOSING REMARKS</b> Moderator, Jan E. Ødegaard, Executive Director, Ken Kennedy Institute, Rice University	
<b>12:10 – 1:00</b>	<b>NETWORKING LUNCH</b>	
<b>PROGRAM COMMITTEE</b> Ann Marchioro, GCE NODE Bjørn Erik Munkvold, CIEM, University of Agder Jan Erik Ødegård, Rice University		<a href="#">REGISTER HERE</a> Contact: Ann Marchioro Telephone: +47 90 02 18 13 Email: <a href="mailto:ann@gcenode.no">ann@gcenode.no</a>