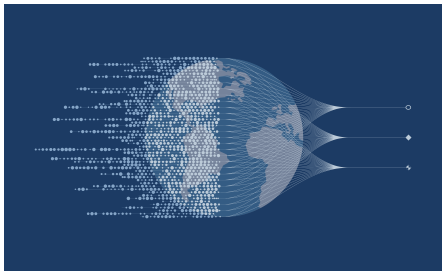

ID: **P5.2-260** Type: **E-poster**

cooperation in seismic monitoring across the Arabian Peninsula

Increasing urban development combined with damage from recent earthquakes highlights the need for resilient infrastructure and a better understanding of seismic hazard. During the past several decades, the expansion of national seismic networks and data collection in the Middle East has improved seismic monitoring and contributed to emergency preparedness and response. Lawrence Livermore National Laboratory (LLNL), through the US Department of Energy's Seismic Cooperation Program (SCP), supports joint research and high quality data collection in collaboration with international partners in the Middle East. Beginning in 2012 and 2015, King Saud University in Saudi Arabia and Sultan Qaboos University in Oman operated and maintained two nine-element, small-aperture arrays to enhance the scientific research capacity of low signal events. LLNL also started collaborations with the Saudi Geological Survey (SGS) on joint research projects to reduce earthquake risks and hazards. In 2014, US and Iraqi seismologists and engineers established the Mesopotamian Seismic Network, a permanent broadband network to further improve national earthquake monitoring capabilities. Data collected from the Middle East were used to determine earthquake source mechanisms and magnitudes, reduce uncertainties in earthquake locations, advance understanding of subsurface velocity and attenuation structures in the region, and provide new insights into mitigation and assessment of seismic hazards.

E-mail

chiang4@llnl.gov

In-person or online preference

Primary author: CHIANG, Andrea (Lawrence Livermore National Laboratory (LLNL))

Co-authors: Dr EL-HUSSAIN, Issa (Sultan Qaboos University); AL-RAWAHI, Yasir (Sultan Qaboos University); AL-SHUKRI, Haydar (University of Arkansas at Little Rock); MAHDI, Hanan (University of Arkansas at Little Rock); YOUSEF, Khalid (Saudi Geological Survey); HOSNY, Ahmed (Saudi Geological Survey); AL-AMRI, Abdullah (King Saud University); BONDAR, Istvan (Seismic Location Services)

Presenter: CHIANG, Andrea (Lawrence Livermore National Laboratory (LLNL))

Session Classification: P5.2 Regional Empowerment

Track Classification: Theme 5. CTBT Science and Technology in the Global Context: T5.2 Regional Empowerment