

# 15<sup>th</sup> Sinkhole Conference and 3<sup>rd</sup> Appalachian Karst Symposium

## Detailed Program

<b>Monday 2 April 2018</b>			
<b>Start</b>	<b>End</b>		
6:30 AM	8:00 AM	Breakfast	Commons Dining Room
7:30 AM		Registration Opens	
8:00 AM	12:00 PM	<b>Short Courses</b> <b>Short Course 1:</b> (Room 105) <b>Geologic Site Characterization in a Karst Setting</b> (4 hrs) <u>Instructors:</u> Lynn Yuhr, P.G., <i>President of Technos, Inc., Miami, Florida (retired);</i> Richard C. Benson, P.G., C.P.G., <i>Founder and Sr. Engineering Geologist of Technos, Inc., Miami, Florida (retired)</i>	Instructional East Building <b>Short Course 2:</b> (Room 103) <b>Grouting in Karst</b> (4 hrs) <u>Instructors:</u> Joseph A. Fischer, P.E., <i>Geoscience Services;</i> Michael J. Miluski, P.E., <i>Compaction Grouting Services</i>
12:00 PM	1:00 PM	Lunch	Commons Dining Room
1:00 PM	5:00 PM	<b>Short Course 3:</b> (Room 103) <b>Stormwater Management in Karst – A Regional Perspective</b> (4 hrs) <u>Instructor:</u> Robert K. Denton Jr., CPG, LPSS ( <i>GeoConcepts Engineering Inc.</i> )	<b>Short Course 4:</b> (Room G30-GIS Lab) <b>Identifying Closed Depressions from Lidar-Derived Digital Elevation Models</b> (4 hrs) <u>Instructors:</u> Daniel H. Doctor, Ph.D., <i>Research Geologist, U.S. Geological Survey;</i> John Wall, Ph.D. Candidate, <i>North Carolina State University</i>
5:30 PM	7:30 PM	Dinner	Commons Dining Room

<b>Tuesday 3 April 2018</b>			
<b>Start</b>	<b>End</b>		
6:30 AM	7:30 AM	Breakfast	Commons Dining Room
7:00 AM		Registration Opens	
7:30 AM	5:30 PM	<b>Karst of the Appalachian Valley Field Trip</b>	Buses for field trip will leave from the parking lot/turnaround loop <b>outside of the Commons Dining area</b>
5:30 PM	6:30 PM	Dinner	Commons Dining Room
6:30 PM	9:00 PM	Welcome Reception	Roosevelt Room

**Wednesday 4 April 2018**

<b>Start</b>	<b>End</b>		
6:30 AM	8:00 AM	Exhibitor Setup	Hallway outside of Auditorium
6:30 AM	8:00 AM	Poster Setup	Commons Dining Room
6:30 AM	8:00 AM	Breakfast	Commons Dining Room
7:00 AM		Registration Opens	
8:00 AM	8:10 AM	<b>Opening Session</b> Introductory Remarks from <b>George Veni</b> (NCKRI) and <b>Dan Doctor</b> (KWI)	Auditorium
8:10 AM	8:20 AM	Remarks from <b>Mitch Blake</b> - West Virginia Geological and Economic Survey	
8:20 AM	8:30 AM	Remarks from <b>Stephen Sites</b> - Division of Highways, West Virginia Department of Transportation	
8:30 AM	9:15 AM	Keynote - <b>Chester F. (Skip) Watts</b> , Radford University & Virginia Tech	An Appalachian Mystery: The hydrogeology of Mountain Lake in Giles County, Virginia. Leaky landslide or covered karst
9:20 AM	9:40 AM	<b>Karst Hydrogeology I - James Lolcama</b> <b>John D. Barry</b> , <i>Minnesota Department of Natural Resources</i> ; <b>Jeff A. Green</b> , <i>Minnesota Department of Natural Resources</i> ; <b>Joseph W. Rutelonis</b> , <i>Minnesota Department of Natural Resources</i> ; <b>Julia R. Steenberg</b> , <i>Minnesota Geological Survey</i> ; and <b>E. Calvin Alexander Jr.</b> , <i>University of Minnesota</i>	Auditorium Coupling dye tracing, water chemistry, and passive geophysics to characterize conduit flow in a siliciclastic pseudokarst aquifer, Southeast Minnesota, U.S.A.
9:40 AM	10:00 AM	<b>Brian A. Smith</b> , <i>BSEACD</i> ; <b>Brian B. Hunt</b> , <i>BSEACD</i> ; <b>Doug A. Wierman</b> , <i>Blue Creek Consulting</i> ; and <b>Marcus O. Gary</b> , <i>Edwards Aquifer Authority</i>	Groundwater flow systems in multiple karst aquifers of central Texas
10:00 AM	10:30 AM	Break & Exhibits	Hallway outside of Auditorium
10:30 AM	Noon	<b>Sinkhole Litigation and Liability; A Panel Discussion - Michael Byle, TetraTech and Ira Sasowsky, University of Akron</b> <b>Jesse Richardson</b> , <i>West Virginia University</i> <b>Steven Miano</b> , <i>Hangley Aronchick Segal Pudlin &amp; Schiller</i> <b>Larry Madrid</b> , <i>Madrid Engineering Group, Inc.</i> <b>Michael Byle</b> , <i>TetraTech</i>	Auditorium Karst, scientific uncertainty, and the law When sinkholes become legal problems Litigation and the complexities of sinkhole insurance claims in Florida Engineering assessment of karst sinkhole causation and prediction in litigation
12:00 PM	1:00 PM	Lunch	Commons Dining Room
1:00 PM	2:00 PM	Planning Session for the Next Sinkhole Conference	Auditorium
2:00 PM	2:20 PM	<b>Karst Hydrogeology II - James Lolcama</b> <b>James L. Berglund</b> , <i>Temple University</i> ; <b>Laura Toran</b> , <i>Temple University</i> ; and <b>Ellen Herman</b> , <i>Bucknell University</i>	Auditorium Using stable isotopes to distinguish sinkhole and diffuse storm infiltration in two adjacent springs

2:20 PM	2:40 PM	<b>Liu Hong; Cui Dang; Yang Liu;</b> and <b>Mengmeng Wang</b> , <i>International Joint research Center for Karstology, Yunnan University</i>	The hydro-chemical characteristics of karst faulted basin: case study of Baiyi Basin, Kunming, China
2:40 PM	3:00 PM	<b>Amaël Poulain</b> , <i>Dept. of Geology, Univ. of Namur</i> ; <b>Arnaud Watlet</b> , <i>Royal Observatory of Belgium</i> ; <b>Gaëtan Rochez</b> , <i>Dept. of Geology, Univ. of Namur</i> ; <b>Olivier Kaufmann</b> , <i>Dept. of Geology and Applied Geology, Univ. of Mons</i> ; <b>Michel Van Camp</b> , <i>Royal Observatory of Belgium</i> <b>Romain Deleu</b> , <i>Dept. of Geology, Univ. of Namur</i> <b>Yves Quinif</b> , and <b>Vincent Hallet</b> , <i>Dept. of Geology, Univ. of Namur</i>	Surface to cave dye tracing: lessons learned from the Belgian karst
3:05 PM	3:30 PM	Break & Exhibits	Hallway outside of Auditorium
3:30 PM	3:50 PM	<b>GIS-Mapping-Management of Karst - Clint Kromhout &amp; John Barry</b>	Auditorium
		<b>Michael C. Alfieri</b> , <i>Water Resource Associates, LLC</i> ; <b>Sam B. Upchurch</b> , <i>SDII Global Corporation</i> ; and <b>Thomas L. Dobecki</b> , <i>Dobecki Geosciences, LLC</i>	Photolinears, fractures, and fallacies: A case study of a "ground-truthed" photolineament assessment study, Hillsborough County, Florida
3:50 PM	4:10 PM	<b>Clint Kromhout</b> , <i>Florida Geological Survey</i> and <b>Michael C. Alfieri</b> , <i>Water Resource Associates, LLC</i>	Assessment of historical aerial photography as initial screening tool to identify areas at possible risk to sinkhole development
4:10 PM	4:30 PM	<b>Lasha Asanidze</b> , <i>Ivane Javakishvili Tbilisi State University, Vakhushti Bagrationi Institute of Geography</i> ; <b>Zaza Lezhava</b> , <i>Ivane Javakishvili Tbilisi State University, Vakhushti Bagrationi Institute of Geography</i> ; <b>Nino Chikhradze</b> , <i>(Ivane Javakishvili Tbilisi State University, Vakhushti Bagrationi Institute of Geography. Ilia State University, School of Natural Sciences and Engineering.</i> ; <b>George Gaprindashvili</b> , <i>Department of Geology, National Environmental Agency, Ministry of Environment Protection and Agriculture of Georgia</i> ; and <b>Guranda Avkopashvili</b> , <i>Ivane Javakishvili Tbilisi State University, Elephter Andronikashvili Institute of Physics.</i>	Mapping of potential show caves in the Racha Limestone Massif (Country of Georgia)
4:30 AM	4:50 PM	<b>Yongje Kim</b> , <i>University of Central Florida</i> and <b>Boo Hyun Nam</b> , <i>University of Central Florida</i>	A comparative study of karst sinkhole hazard mapping using frequency ratio (FR) and artificial neural network (ANN) for east Central Florida
5:30 PM	6:30 PM	Dinner	Commons Dining Room

**Wednesday 4 April 2018 (Posters)**

6:30 PM	9:00 PM	<b>Karst Hydrology and Geochemistry Posters - Jack Hess</b>	Roosevelt Room
		<b>Mohammad Shokri</b> , <i>West Virginia University</i> ; <b>Dorothy Vesper</b> , <i>West Virginia University</i> ; <b>Ellen Herman</b> , <i>Bucknell University</i> ; <b>Ljiljana Rajic</b> , <i>Northeastern University</i> ; <b>Kimerly Hetrick</b> , <i>Northeastern University</i> ; <b>Ingrid Y. Padilla</b> , <i>University of Puerto Rico - Mayaguez</i> ; and <b>Akram Alshawabkeh</b> , <i>Northeastern University</i>	Bulk chemistry of karst sediment deposits
		<b>Emily Bausher</b> ; <b>Autum R. Downey</b> , and <b>Dorothy J. Vesper</b> , <i>West Virginia University</i>	Geochemical comparison of karst and clastic springs in the Appalachian Valley & Ridge Province, southeastern WV and central PA
		<b>William K. Jones</b> , <i>Karst Waters Institute</i> and <b>Philip C. Lucas</b> , <i>Virginia Speleological Survey</i>	An Unusual Spring in the Jackson River, Bath County, Virginia
		<b>Long Jia</b> , <i>Institute of Karst Geology, CAGS</i>	Study on early recognition methods of cover-collapse sinkholes in China
		<b>Amaël Poulain</b> , <i>Department of Geology - University of Namur</i> ; <b>Geert De Sadelaer</b> , <i>Royal Meteorological Institute of Belgium</i> ; <b>Gaëtan Rochez</b> , <i>Department of Geology - University of Namur</i> ; <b>Lorraine Dewaide</b> , <i>Department of Geology - University of Namur</i> ; and <b>Vincent Hallet</b> , <i>Department of Geology - University of Namur</i>	Advances in ultra-portable field fluorometry for dye tracing in remote karst
		<b>Kimberly Hetrick</b> , <i>Northeastern University</i> ; <b>Ljiljana Rajic</b> , <i>Northeastern University</i> ; <b>Akram Alshawabkeh</b> , <i>Northeastern University</i> ; <b>Dorothy Vesper</b> , <i>West Virginia University</i> ; and <b>Mohammad Shokri</b> , <i>West Virginia University</i>	The role of suspended sediments on the electrochemical remediation of karst groundwater
		<b>Binggui Cai</b> , <i>Institute of Geography, Fujian Normal University</i> and <b>Hong Liu</b> , <i>International Joint Research Center for Karstology, Yunnan University</i>	The water chemical characteristics of Qinglongdong karst spring, Kunming China
		<b>Zong Yuan Pan</b> , <b>Xiao Zhen Jiang</b> , <b>Ming Tang Lei</b> , <b>Jian Ling Dai</b> , <b>Yuan Bing Wu</b> , <i>Institute of Karst Geology, Chinese Academy of Geological Sciences</i> ; and <b>Yongli Gao</b> , <i>Department of Geological Sciences, Center for Water Research, University of Texas San Antonio</i>	Review of monitoring and early warning technologies for cover-collapse sinkholes
		<b>Jeffery A. Green</b> , <i>Minn. Dept. Natural Resources</i> ; <b>Robert G. Tipping</b> , <i>Minn. Geol. Survey</i> ; <b>John D. Barry</b> , <i>Minn. Dept. Natural Resources</i> ; <b>Gregory A. Brick</b> , <i>Minn. Dept. Natural Resources</i> ; <b>Betty J. Wheeler</b> , <i>Univ. of Minn., Earth Sciences Dept.</i> ; <b>Joseph W. Rutelonis</b> , <i>Minn. Dept. Natural Resources</i> ; <b>Bart C. Richardson</b> , <i>Minn. Dept. Natural Resources</i> ; and <b>E. Calvin Alexander Jr.</b> , <i>Univ. of Minn., Earth Sciences Dept.</i>	Electronic Access to Minnesota Springs, Karst Features and Dye Traces Information
		<b>David K. Brezinski</b> ; <b>Johanna Gemperline</b> ; <b>Rebecca Kavage Adams</b> ; and <b>David W. Bolton</b> , <i>Maryland Geological Survey</i>	Factors affecting karst spring turbidity in eastern Washington County, Maryland

Thursday 5 April 2018			
Start	End		
6:30 AM	8:00 AM	Breakfast	Commons Dining Room
7:30 AM		Registration Begins	
8:00 AM	8:10 AM	Announcements	Auditorium
		<b>Appalachian Karst - Dave Weary &amp; Dan Doctor</b>	Auditorium
8:10 AM	8:50 AM	<b>Ernst H. Kastning</b> , <i>Radford University</i>	Studies of the Appalachian Karst: 1770 – Present
8:50 AM	9:10 AM	<b>Wil Orndorff</b> , <i>Virginia Dept. of Conservation and Recreation</i> ; <b>Daniel H. Doctor</b> , <i>U.S. Geological Survey</i> ; <b>Thomas E. Malabad</b> , <i>Virginia Dept. of Conservation and Recreation</i> ; <b>Katarina Kosič</b> , <i>Virginia Dept. of Conservation and Recreation</i> ; <b>Zenah W. Orndorff</b> , <i>Virginia Tech</i> ; and <b>Andrea Futrell</b>	Patterns of heterogeneity within phreatic karst aquifers of the Great Valley, Virginia and West Virginia: evidence from time series hydrologic monitoring, groundwater chemistry, and stygobite site occupancy
9:10 AM	9:30 AM	<b>J. Steven Kite</b> and <b>John Tudek</b> , <i>West Virginia University</i>	Cold-air trap temperature records support simple high-density air-flow mechanisms at an Appalachian limestone cave entrance sinkhole
9:30 AM	10:00 AM	<b>Joshua R. Benton</b> and <b>Daniel H. Doctor</b> , <i>U.S. Geological Survey</i>	Investigating vadose zone hydrology in a karst terrain through hydrograph and chemical times-series analysis of cave drips at Grand Caverns, VA
10:00 AM	10:30 AM	Break & Exhibits	Hallway outside of Auditorium
10:30 AM	10:50 AM	<b>Gheorghe M. Ponta</b> , <i>Geological Survey of Alabama</i>	Geologic framework of karst aquifer systems in Alabama
10:50 AM	11:10 AM	<b>Joel P. Maynard</b> and <b>Brad White</b> , <i>Virginia Department of Environmental Quality</i>	Packer testing and borehole geophysical characterization of observations wells in a vertically integrated karst aquifer in Augusta County, Virginia.
11:10 AM	11:30 AM	<b>Brent B. Waters</b> , <i>Golder Associates Inc.</i> ; <b>Daniel H. Doctor</b> , <i>U.S. Geological Survey</i> ; and <b>Joel P. Maynard</b> , <i>Virginia Department of Environmental Quality</i>	Using geophysics to map bedrock faults, dikes, and surficial geology in relation to karst features in the Briery Branch Quadrangle, Rockingham County, Virginia
11:30 AM	11:50	<b>Jacob A. Gochenour</b> ; <b>R Shane McGary</b> ; <b>Gregory J. Gosselin</b> ; and <b>Ben S. Suranovic</b> , <i>James Madison University</i>	Investigating Subsurface Void Spaces and Groundwater in Cave Hill Karst Using Resistivity
12:00 PM	1:00 PM	Lunch	Commons Dining Room

		<b>Formation of Karst and Sinkholes - Eric Peterson &amp; Douglas Aden</b>	Auditorium
1:00 PM	1:20 PM	<b>Gildas Noury</b> , <i>BRGM</i> ; <b>Jérôme Perrin</b> , <i>BRGM</i> ; <b>Li-Hua Luu</b> , <i>IRSTEA</i> ; <b>Pierre Philippe</b> , <i>IRSTEA</i> ; and <b>Sébastien Gourdiér</b> , <i>BRGM</i>	Role of floods in the sinkholes outbreak in covered karst contexts. Case study of the Orléans area (France) during the 2016 meteorological event and perspectives in other karst environments.

1:20 PM	1:40 PM	<b>Douglas Aden</b> , <i>Ohio Department of Natural Resources, Division of Geological Survey</i>	Quantitative comparison of sinkhole geomorphology of four karst regions in Ohio
1:40 PM	2:00 PM	<b>Valeria Ramirez</b> , <i>Knight Piésold Consultores S.A., Lima, Peru</i> ; <b>Olimpio Angeles</b> , <i>Knight Piésold Consultores S.A., Lima, Peru</i> ; and <b>Michael W. West</b> , <i>Wiss, Janney, Elstner Associates, Inc., Lakewood, Co, USA</i>	Assessment of the karstification degree in the Copacabana Group for a tailings dam foundation, south Andes, Peru
2:00 PM	2:20 PM	<b>Andrew Francis</b> , <i>Illinois State University</i> ; <b>Eric Wade Peterson</b> , <i>Illinois State University</i> ; and <b>Toby Dogwiler</b> , <i>Missouri State University - Springfield</i>	Lithology as an erosional control on the Cave Branch and Horn Hollow fluviokarst watersheds in Carter County, Kentucky
2:20 PM	3:00 PM	<b>Shuning Dong</b> , <i>Xi'an Research Institute of China Coal Technology &amp; Engineering Group Corp. Xi'an, Shaanxi 710054, China</i> ; <b>Hao Wang</b> , <i>Xi'an Research Institute of China Coal Technology &amp; Engineering Group Corp. Xi'an, Shaanxi 710054, China</i> ; and <b>Wanfang Zhou</b> , <i>ERT, Inc.</i>	Comprehensive investigation and remediation of concealed karst collapse columns in Renlou Coal Mine, China
3:00 PM	3:30 PM	Break & Exhibits	Hallway outside of Auditorium
3:30 PM	3:50 PM	<b>Ros Fatimah Muhammad</b> , <i>Department of Geology, University Malaya</i>	The Extreme Karstification of the Kinta Valley, West Malaysia
3:55 PM	4:15 PM	<b>Karst Geophysics I - Charlotte Krawczyk &amp; Lewis Land</b> <b>Sonja H. Wadas</b> , <i>Leibniz Institute for Applied Geophysics</i> ; <b>Saskia Tschache</b> , <i>Leibniz Institute for Applied Geophysics</i> ; <b>Ulrich Polom</b> , <i>Leibniz Institute for Applied Geophysics</i> ; and <b>Charlotte M. Krawczyk</b> , <i>GFZ German Research Centre for Geosciences</i>	Auditorium  Sinkhole imaging and identification of fractures with SH-wave reflection seismic
4:15 PM	4:35 PM	<b>Charlotte M. Krawczyk</b> , <i>GFZ German Research Centre for Geosciences</i> and <b>SIMULTAN Research Group</b>	Joint project SIMULTAN - Sinkhole characterization and monitoring with supplementing geophysical methods
4:35 PM	4:55 PM	<b>James Lolcama</b> , <i>KCF Groundwater, Inc.</i>	Remedial investigation of large scale karstic flow conduits with brine-enhanced resistivity imaging and downhole colloidal borescope methods
4:55 PM	5:15 PM	<b>Saskia Tschache</b> , <i>Leibniz Institute for Applied Geophysics</i> ; <b>Sonja H. Wadas</b> , <i>Leibniz Institute for Applied Geophysics</i> ; <b>Ulrich Polom</b> , <i>Leibniz Institute for Applied Geophysics</i> ; and <b>Charlotte M. Krawczyk</b> , <i>GFZ German Research Centre for Geosciences</i>	Combination of 2d shear wave reflection seismics and travel time analysis of borehole geophone data for the investigation of a sinkhole area
5:15 PM	5:35 PM	<b>David Harro</b> , <i>The G3 Group</i> and <b>Henok Kiflu</b> , <i>Dept. of Geology, University of South Florida</i>	Imaging of deep sinkholes using the Multi-Electrode Resistivity Implant Technique (MERIT) case studies in Florida
6:30 PM	9:30 PM	<b>Banquet</b>	Commons Dining Room

		Speaker - <b>E. Scott Bair</b>	The science beneath the Ohio State geothermal field fiasco: A cool story about a hot topic
		Introduction to the Next Sinkhole Conference	Ingrid Padilla/Brian Smith

Friday 6 April 2018			
Start	End		
6:30 AM	8:00 AM	Breakfast	Commons Dining Room
7:30 AM		Registration Begins	
8:00 AM	8:10 AM	Announcements	Auditorium
8:10 AM	8:30 AM	<b>Karst Geophysics II - Charlotte Krawczyk &amp; Lewis Land</b> <b>Peter Hutchinson</b> , <i>THG Geophysics, Ltd.</i>	Auditorium Avoiding caverns in the Arbuckle Mountains using electrical imaging methods
8:30 AM	8:50 AM	<b>Lewis Land</b> , <i>NCKRI</i> ; <b>Colin Cikoski</b> , <i>New Mexico Bureau of Geology and Mineral Resources</i> ; and <b>George Veni</b> , <i>NCKRI</i>	Sinkholes as transportation and infrastructure geohazards in mixed evaporite-siliciclastic bedrock, lower Pecos Region, southeastern New Mexico
8:55 AM	9:15 AM	<b>Geotechnical and Modeling Investigations in Karst - Joe Fischer &amp; Pierre-Yves Jeannin</b> <b>Joseph A. Fischer</b> , <i>Geoscience Services</i> ; <b>Joseph Jeffrey Fischer</b> , <i>Geoscience Services</i> ; and <b>Justin Terry</b> , <i>Compaction Grouting Services, Inc.</i>	Auditorium Remediation of the Centenary College president's house
9:15 AM	9:35 AM	<b>Walter G. Kutschke</b> , <i>DiGioia Gray &amp; Associates</i>	Case histories: Karst successes and failures in the eastern United States
9:35 AM	9:55 AM	<b>Randall C. Orndorff</b> , <i>U.S. Geological Survey</i> ; <b>Michael A. Knight</b> , <i>Gannett Fleming, Inc.</i> ; <b>Joseph T. Krupansky</b> , <i>Gannett Fleming, Inc.</i> ; and <b>Khaled M. Al-Akhras</b> , <i>Qatar Ministry of Municipality and Environment</i>	Linking geology and geotechnical engineering in karst: The Qatar Geologic Mapping Project
10:00 AM	10:30 AM	Break & Exhibits	Hallway outside of Auditorium
10:30 AM	10:50 AM	<b>Boqin Zhu</b> , <i>National Astronomical Observatories of China (NAOC), Chinese Academy of Sciences</i> ; <b>Yongli Gao</b> , <i>Department of Geological Sciences, Center for Water Research, University of Texas San Antonio</i> ; <b>Wenjing Cai</b> , <i>National Astronomical Observatories of China (NAOC), Chinese Academy of Sciences</i> ; and <b>Xiaoan Shi</b> , <i>National Astronomical Observatories of China (NAOC), Chinese Academy of Sciences</i>	Site selection of the world's largest radio telescope within the Dawodang karst depression
10:50 AM	11:10 AM	<b>Ryan Shamet</b> , <i>University of Central Florida</i> ; <b>Boo Hyun Nam</b> , <i>University of Central Florida</i> ; and	Development of a sinkhole raveling chart based on cone penetration test (CPT) data

		<b>David Horhota</b> , <i>Florida Department of Transportation</i>	
11:10 AM	11:30 AM	<b>Moataz Soliman</b> , <i>University of Central Florida</i> ; <b>Adam Perez</b> , <i>University of Central Florida</i> ; <b>Boo Hyun Nam</b> , <i>University of Central Florida</i> ; and <b>Ming Ye</b> , <i>Florida State University</i>	Physical and numerical analysis on the mechanical behavior of cover-collapse sinkholes in central Florida
11:30 AM	11:50 AM	<b>Pierre-Yves Jeannin</b> and <b>Arnaud Malard</b> , <i>Swiss Institute for Speleology and Karst Studies</i>	A way to predict natural hazards in karst
12:00 PM	1:00 PM	Lunch	Commons Dining Room
1:00 PM	6:00 PM	<b>Karst of the Urban Environment Field Trip</b>	Buses for field trip will leave from the parking lot/turnaround loop <b>outside of the Commons dining area</b>