Tom Paradise has been working in Petra for twenty years investigating the deterioration of its unique and renown sandstone architecture. As one of UNESCO’s World Heritage sites and one of the new *Seven Wonders of the World*, he will discuss his work on assessment and analysis of sandstone weathering in this magical place "half as old as time". Once a thriving city of 50,000 residents and visitors 2000 years ago, Petra fell into ruin after a series of catastrophic earthquakes, invasions, and a shift in regional trade routes. Most of the city has been long destroyed and abandoned, however since some of its Hellenistic, Nabataean and Roman structures where carved directly into the sandstone cliffs, those hewn structures have survived -- the focus of Paradise’s research since the 1990s. Paradise will discuss how cultural heritage management is now guided through the integration of multi-disciplinary fields including material science, urban studies, geology, climatology, and cartography.