

HEALTH in BUILDINGS HYGEIA 2026

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May 27-29, 2026 - Island of KOS, Greece

#	Drury B. Crawley Ph.D., FIBPSA, FCIBSE, FASHRAE
Title:	Bentley Fellow, Sustainability and Education Bentley Systems, Inc., Washington, DC, USA
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Presentation title:	The Role of Digital Twins in Urban Resilience, Futureproofing, and Sustainability

It is now possible to quickly model a city using 3D technologies such as photogrammetry, LiDAR, and BIM. By federating data from these sources, it is possible to evaluate the resilience of a city under different planning and disaster scenarios. This presentation includes example models of several cities, including Philadelphia and Helsinki. The photogrammetry model of downtown Philadelphia created for the Pope's visit is merged with the Philadelphia building benchmark data, which includes energy, water, and other relevant data. For Helsinki, the 26 km² (10 mi²) reality model is presented along with disaster planning and automated asset identification using deep learning algorithms. Application of digital twin technology throughout the built environment is also described.

Short CV:

Dru Crawley is a Bentley Fellow, Sustainability and Education, focusing on infrastructure performance, zero-energy buildings, decarbonization, digital twins, smart cities, and resilience.

With over 45 years of experience in building energy efficiency, renewable energy, and sustainability, he has a PhD in Mechanical Engineering from the University of Strathclyde in Glasgow, Scotland, and a Bachelor of Architecture from the University of Tennessee.

Dr. Crawley is active in several ASHRAE Technical and Standards Committees. He is also President of the International Building Performance Simulation Association (IBPSA) and a fellow of ASHRAE, IBPSA, and CIBSE. He has published more than 125 papers and articles, testified before the U.S. Congress, lectured at more than 50 universities, and delivered over 700 presentations on energy efficiency, sustainability, and renewable energy worldwide.

Event:



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DRURY B. CRAWLEY, PH.D., FASHRAE, FIBPSA, FCIBSE

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Dru Crawley is a Bentley Fellow, Sustainability and Education, where he focuses on building performance, zero-energy buildings, decarbonization, digital twins, sustainability, and resilience. Before being elevated to Bentley Fellow in 2014, he led the development of Bentley's building performance software suite for four years. Before joining Bentley in 2010, Dr. Crawley developed and managed EnergyPlus and the USDOE's Commercial Buildings Initiative (now Better Buildings Initiative and Alliances), promoting net-zero-energy buildings.

With more than 45 years of experience in energy efficiency, renewable energy, and sustainability, he has worked in engineering software development, government research and standards development organizations, and building design and consulting companies. He received his PhD in Mechanical Engineering from the University of Strathclyde in Glasgow, Scotland, on the topic of building simulation as a policy tool and a Bachelor of Architecture from the University of Tennessee.

Dr. Crawley is active in ASHRAE (past Director-At-Large on the ASHRAE Board) and a member of multiple Technical and Standards Committees. He is a past member of the Standards, Technical Activities, Research Administration, Advocacy, and Grassroots Government Activities Committees. He has received the ASHRAE Standards Achievement, Exceptional Service, Service to ASHRAE Research, and Distinguished Service Awards.

He is also President of the International Building Performance Simulation Association (IBPSA) and a fellow of ASHRAE, IBPSA, and CIBSE. He has published more than 125 papers and articles, testified before the U.S. Congress, lectured at more than 50 universities, and delivered over 700 presentations on energy efficiency, sustainability, and renewable energy worldwide.