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Gig City Goes Quantum Doubles World Quantum Day Participation Goal

CHATTANOOGA, Tenn. (June 6, 2023) – When Dr. Blake Laing learned about the [Gig City Goes Quantum](#) goal of completing 1,000 Quantum Learning Activities, he called it “serendipitous.” Laing, a professor at the Southern Adventist University School of Engineering and Physics, was midway through teaching the university’s first quantum information science (QIS) course when he heard about [EPB Quantum NetworkSM](#) powered by Qubitekk and the Gig City Goes Quantum effort to celebrate World Quantum Day.

“I just happen to teach in the only city with a commercial quantum network,” Laing said. “I knew my students would want to get plugged into the activities in our community during World Quantum Day for their service-learning class project.”

After sampling the quantum learning activities collection shared by Gig City Goes Quantum, Laing and his college students found the “Qupcakery” quantum computing game to be a particularly engaging tool for outreach to 6th grade middle school students, but they felt the need to develop learning activities that illustrate three principles of QIS: quantization, superposition, and measurement probability.

Laing emphasized: “We started with the question ‘what is quantum?’ in terms of something that many students already are familiar with—musical octaves in musical instruments and in singing. We gave visual illustrations of the sound wave patterns for the octaves using jump ropes and other examples. We next demonstrated that a single ‘note’ is actually a classical superposition of a spectrum of overtones. Since 6th grade students were already familiar with probability questions involving dice, we illustrated probabilistic quantum measurements by letting student roll paper dice and then performing measurements by smashing the dice.

When complete, Laing and his QIS class reached more than 100 middle school students at Collegedale Academy during World Quantum Day. He plans to develop the curriculum into an annual tradition and hopes to reach more schools next year.

Laing was one of approximately 120 teachers who used Gig City Goes Quantum resources to reach more than 8,000 students in nearly 400 Chattanooga area classrooms during the World Quantum Day observance from April 14 through May 31. Overall, visitors to GigCityGoesQuantum.com completed more than 2,200 Quantum Learning Activities, more than doubling the established goal for the effort.

This year marked the community-wide participation in World Quantum Day led by Gig City Goes Quantum, a collaboration to prepare Chattanooga for education, jobs and business opportunities in the emerging quantum sector.

“Chattanooga’s enthusiastic participation in World Quantum Day reflects how invested our community is in preparing for future innovations, positioning not just Chattanooga, but our entire country to be competitive in the quantum technology industry,” said U.S. Congressman Chuck Fleischmann (TN-03). “It’s my priority to advance our community’s efforts to create a destination for quantum technology and position innovations at home as examples to the rest of our country.”

Momentum generated by Gig City Goes Quantum and World Quantum Day reinforces the [National Quantum Initiative Act](#) to accelerate the commercialization of quantum technology by building a well-prepared workforce and supporting the growth and job creation of quantum technology companies. This has gained additional urgency as other countries threaten to surpass America’s technical leadership in this rapidly emerging industry. To address this issue, Tennessee’s U.S. Senator Marsha Blackburn co-sponsored bipartisan legislation to advance the United States’ position in the global quantum race.

“As we know in Tennessee, quantum applications have great potential to be a powerful source of technological innovation,” said Senator Blackburn. “While Communist China has publicly acknowledged their goal to lead the world in quantum communications by 2049, it’s critical the United States provide an environment for entrepreneurs and companies to promote competition and continued innovation. My bipartisan legislation, the Quantum Sandbox for Near-Term Applications Act, will create a public-private partnership to accelerate the development of near-term quantum applications.”

Quantum Learning Activities continue to be available to students, teachers, parents and anyone with a curious mind at gigcitygoesquantum.com. Videos, games and lessons include contributed content from Hamilton County Schools, Chattanooga State Community College, the University of Tennessee at Chattanooga (UTC), Chattanooga 2.0, Public Education Foundation Chattanooga, National Science Foundation, National Q-12 Education Partnership, EPB, Qubitekk and Xairos.

Launched in March 2023, Gig City Goes Quantum joins organizations across Chattanooga to leverage EPB Quantum Network to accelerate the commercialization of quantum technology. Public and private organizations across Chattanooga continue collaborating to develop a quantum ecology to grow education, business and entrepreneurial opportunities.

“We need professionals of all interests and talents to meet the needs of the rapidly growing quantum industry,” said Qubitekk President, Chief Technology Officer and Co-Founder Dr. Duncan Earl. “As someone who’s devoted my career to quantum, it’s encouraging to see so many people want to learn more, which is the first step to building a strong workforce.”

EPB Quantum Network is America’s first industry-led, commercially available quantum network designed for running equipment and applications in an established fiber optic environment.

“Our community’s teachers are essential to creating a foundation that supports jobs, investments and innovation necessary to create a quantum ecology,” said EPB President & CEO David Wade. “World Quantum Day is just the first effort of Gig City Goes Quantum. We look forward to building on this momentum to advance Chattanooga’s position as a quantum leader as we prepare to open EPB Quantum Network to users this summer.”

Participating organizations in Gig City Goes Quantum include Chattanooga 2.0, Chattanooga Area Chamber of Commerce, Chattanooga Public Library, Chattanooga State Community College, City of Chattanooga, CO.LAB, The Enterprise Center, EPB, Hamilton County Schools, Hamilton County Government, Public Education Foundation, Qubitekk, University of Tennessee at Chattanooga and Xairos.

World Quantum Day is a global observance to promote public awareness and understanding of quantum science and technology around the world, from April 14 to May 31.

About EPB

EPB delivers advanced smart city infrastructure and world-class energy and connectivity solutions, including the most resilient smart grid power distribution system in the United States and the fastest internet in the world. EPB gained national notice when it deployed America's first community-wide Gig-speed internet in 2010, later expanding the ubiquitously available service to 10 Gig in 2015 and 25 Gig in 2022. Ever committed to keeping Chattanooga on the cutting edge, in 2022, EPB established EPB Quantum NetworkSM powered by Qubitekk, America's first industry-led, commercially available quantum network designed for private companies as well as government and university researchers to run quantum equipment and applications in an established fiber optic environment.

EPB utilizes its fiber optic network as the communications backbone for more than 200,000 smart switches, sensors and other devices. As a result, the Chattanooga area's power distribution system is the most advanced and highly automated smart grid in the nation. This led the U.S. Department of Energy to name EPB a living laboratory for pioneering smart grid technologies. Since then, EPB has partnered with Oak Ridge National Laboratory, the University of Tennessee at Chattanooga and more than 20 other national research partners to play a critical role in more than \$155 million in smart city research, earning such recognitions as the R&D 100 Award for its work to apply quantum technologies to securing America's electric grid. EPB was also the first major power distribution utility to earn the GBCI's PEER certification for having a highly automated, modernized electric power grid in 2015 and followed up in 2021 by re-certifying at PEER Gold.

EPB is an independent board of the City of Chattanooga which began serving customers in 1939 and today reaches a 600-square-mile service territory that includes the city of Chattanooga, Tennessee and the surrounding area. Visit epb.com for more information.

About Qubitekk

Qubitekk designs, builds and integrates the hardware and software for quantum networks, precursors to the quantum-enabled internet while championing the growth of a robust quantum ecosystem through education, advocacy and collaboration. Qubitekk's comprehensive entanglement distribution technology is at the core of the Bohr-IV Metro Quantum Network solution deployed at EPB and utilized in its Quantum Network Essentials product line and secure network solutions being developed for drones, satellite communications and the electric grid.

Co-founded by Dr. Duncan Earl, a nationally recognized pioneer in the field of practical quantum applications, Qubitekk holds more patents than any American player in quantum communications and security and has been recognized with an Edison Gold Award and R&D World's R&D 100 Award.

Qubitekk's quantum technology is empowering the next generation of solutions for AI, machine learning, automation, sensing applications, cybersecurity and secure communications. The company's growing list of partners and customers includes NASA, GE, Verizon, Juniper, Boeing, the United States Department of Energy and the United States Department of Defense. For more information, visit Qubitekk.com.