



CITYDANCE ENSEMBLE, INC.

## TECHNOLOGY AND ART UNITE TO CREATE DANCE SHOW BASED ON VOLCANIC SOUNDS OF THE EARTH

*DANTE and Washington-based CityDance Ensemble join forces to perform a concert to raise awareness of climate change*

**Wednesday 25 March, 2009 - Cambridge UK:** For the first time ever, a modern dance company has performed to music generated from seismic data, recorded from four volcanoes across three continents. This unique event was facilitated by DANTE, the provider of high speed research and education networks, the two distributed computing projects, Enabling Grids for E-science (EGEE) and E-science grid facility for Europe and Latin America (EELA), as well as CityDance Ensemble, a prestigious company based in Washington, DC.

The dance, titled *The Mountain*, was part of CityDance Ensemble's *Carbon*, a work-in-progress about climate change. Originally presented in sold-out performances on the 14<sup>th</sup> and 15<sup>th</sup> of March at the Music Centre, Maryland, USA, it is now available to view at <http://www.dante.net/volcanodance>. Following its initial success, further performances of *Carbon* will be staged on the 28<sup>th</sup> and 29<sup>th</sup> of March.

*The Mountain's* choreography is based on the structure of melodies created out of seismic waves recorded from Mount Etna in Italy, Mount Tungurahua in Ecuador, and the Mountains Pinatubo and Mayon in the Philippines. The data was then transformed into audible sound waves using a volcano sonification technique developed by DANTE engineer Domenico Vicinanza, who also composed the music used in the dance performance. The technique is currently being used in research to translate the patterns in a volcano's behaviour into sound waves to help predict volcanic eruptions.

Research and education data communications networks, GÉANT2 in Europe and TEIN3 in Asia-Pacific, both operated by DANTE, as well as Latin America's RedCLARA operated by CLARA, underpin the immense computing power provided

by EGEE in Europe and EELA in Latin America. The complex sonification algorithms harness the power of the grids, enabling the seismic data to be converted into sound melodies, a process that would be impossible using standard bandwidth networks or computing resources.

“High bandwidth research and education internet networks together with grid computing power have played a vital part in making this project a reality,” said Paul Gordon Emerson, CityDance Ensemble choreographer and *Carbon* curator. “It proves that if we can create a musical score from the earth’s natural sounds with the help of a global computer infrastructure, then we can find the innovation needed to improve the planet. The fact that this work uses the voices of the earth from three continents is a very powerful metaphor for *Carbon* as a project and as a concept.”

“As a scientist it was my priority on this project to develop tools to help us predict eruptions and ultimately reduce the loss of lives,” said DANTE engineer, Domenico Vicinanza. “As a musician and artist too, it was a natural step for me to take these seismic sonification sounds and apply them to the arts. I am delighted that the results, or songs of the earth, are being created into a dance performance that will help raise awareness of climate change.”

Dai Davies, General Manager, DANTE said: “The power of next generation research networks has been turning scientific research into a reality for some time now. This project is a testament to how technology can bring researchers and academics from across a multitude of disciplines together with artists, to facilitate their creative collaboration on a global level. In addition, it provides an innovative use for research data in aid of increasing climate change awareness.”

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### **About DANTE**

DANTE is a non-profit organisation, coordinator of large-scale projects co-funded by the European Commission, and works in partnership with European National Research and Education Networks (NRENs) to plan, build and operate advanced networks for research and education. Established in 1993, DANTE has been fundamental to the success of pan-European research and education networking. DANTE has built and operates GÉANT2, which provides the data communications infrastructure essential to the success of many research projects in Europe. DANTE is involved in worldwide initiatives to interconnect countries in the other regions to one another and to GÉANT2. DANTE currently manages projects focussed on the Mediterranean and Asia-Pacific regions through the EUMEDCONNECT2 and TEIN3 projects respectively, and is a partner of the ALICE2 project for Latin America. For more information, visit [www.dante.net](http://www.dante.net)

## **About EGEE**

The Enabling Grids for E-science (EGEE) project is co-funded by the European Commission. The project aims to provide researchers in both academia and industry with access to major computing resources, independent of their geographic location.

EGEE's main aims are:

1. To build a secure, reliable and robust grid infrastructure
2. To supply a computing service for many scientific disciplines
3. To attract, engage and support a wide range of users from science and industry, and provide them with extensive technical and training support.

For more information see [www.eu-egee.org](http://www.eu-egee.org) or contact Catherine Gater, EGEE Dissemination, Outreach and Communications Manager, on + 41 (0)22 767 41 76 or email [Catherine.Gater@cern.ch](mailto:Catherine.Gater@cern.ch).

## **About CityDance Ensemble**

CityDance Ensemble, Inc. is the parent organization to CityDance Ensemble, an award-winning contemporary repertory dance company; Early Arts, an arts outreach program for youth reaching thousands of students each year; CityDance Education Centers, facilities committed to excellence in dance training for youth and adults; and FilmWORKS, a creator and presenter of dance-on-camera. The mission of CityDance is to advance the appreciation for and participation in the art of dance through excellence in performance, education, film, and artistic innovation. CityDance is committed to green practices and environmental leadership in the performing arts. For more information, visit [www.citydance.net](http://www.citydance.net).