

## NETWORK PERFORMING ARTS PRODUCTION WORKSHOPS - BRINGING THE ARTS AND TECHNOLOGY TOGETHER

Research and education go beyond science and encompass many disciplines, including the arts and humanities, social sciences, and other cultural areas. With 80 participants from 28 countries and 3 continents – the 2017 Network Performing Arts Production Workshops (NPAPWS) were the best attended event in the series so far. This year, academics, technicians and artists met at the Royal Danish Academy of Music in Copenhagen to share knowledge and experience in using research networking in supporting real-time musical, dance and artistic performances.



## NPAPW - THEN AND NOW

In 2000, Internet2, the U.S. research and education networking consortium, identified the potential of using advanced networks for arts and humanities and began bringing technicians, academics and artists together for Network Performing Arts Production Workshops in 2003. Since the beginning, the annual workshops took place at the campus of the New World Symphony in Miami Beach. Florida.

The NPAPW is designed for those who want to explore the evolving role of advanced education and research networks in supporting cultural performances. Previous workshops have attracted:

- students, academics and technical staff of institutions that offer education and produce events in the performing arts (music, dance, theatre, visual arts schools and academies, etc.);
- people involved in audio/video production and education in other areas;
- staff from NRENs and regional education networks, whose constituents have a need for high-end audio visual production and transmission over those networks.

Participants of previous workshops attend to build on their prior knowledge and skills, and share their experiences, while first-time participants are encouraged to attend to bring new perspectives and to share experiences.

Since 2009, the Network Performing Arts Production Workshops (NPAPWs) have been held in Europe and the United States annually. The European workshops were held in Trieste in 2009, Paris in 2010, Barcelona in 2011, Vienna in 2013, London in 2015 and Copenhagen in 2017. In 2010, 2012, 2014 and 2016, workshops were organised at the New World Symphony in Miami.

Currently NPAPWs are a collaborative project of GÉANT, Internet2, New World Symphony, GARR (Italian NREN) and other European national research and education networks (NRENs), working together with cultural institutions around the world to organise the annual event.



The 3 day workshop's program was mainly focused on education - teaching and learning via the academic networks and using various technologies available, including those developed by the members of the R&E community such as LoLa (Low Latency video-streaming system), Utragrid (high-quality/low latency video and audio transmissions software) and others. Technical updates, research presentations, discussions and live demonstrations were complimented by 2 multi-site evening performances - 'Similarities' (Prague - Miami -Copenhagen) and 'Longing for the Impossible' (Copenhagen - London -Barcelona).

The last day of the workshop was dedicated to creative use of technology, such as the Coriolanus Online project, enabling students in the UK and Finland to rehearse part of Shakespeare's play together via the network without leaving their home institutions. Another impressive example came from the researchers of Anglia Ruskin University, who set up a live demonstration to show how one's rowing technique can be improved by creating music from their movements, which then can be evaluated by a sports therapist located thousands of kilometers away based on the musical notes produced.

At the end of the workshop,
Mary Barnett from USA shared her
experience in adopting LoLa in a public
library in Chattanooga, one of the first
Gig Cities in the world, showing how
those technologies grew out of being
something only used by musicians at
conservatories and asking what is next?
What other spaces and venues can the
solutions available for collaboration over
advanced networks be adopted in?

together the NREN performing arts community. These faculty, students and IT staff embody the essence of innovation. With intense requirements for low-latency, HD video, multichannel and binaural audio, end-to-end performance, this community pushes invention to its limits to enable remote education, auditions, rehearsals and performances."

Ann Doyle, Internet2 Cultural

This year's workshop was kindly sponsored by DeiC and Sennheiser. The next NPAPWS event will take place in Miami, USA in 2018. Meanwhile, find information about similar projects, other events and check continuously updated learning materials on the NPAPWS community website.