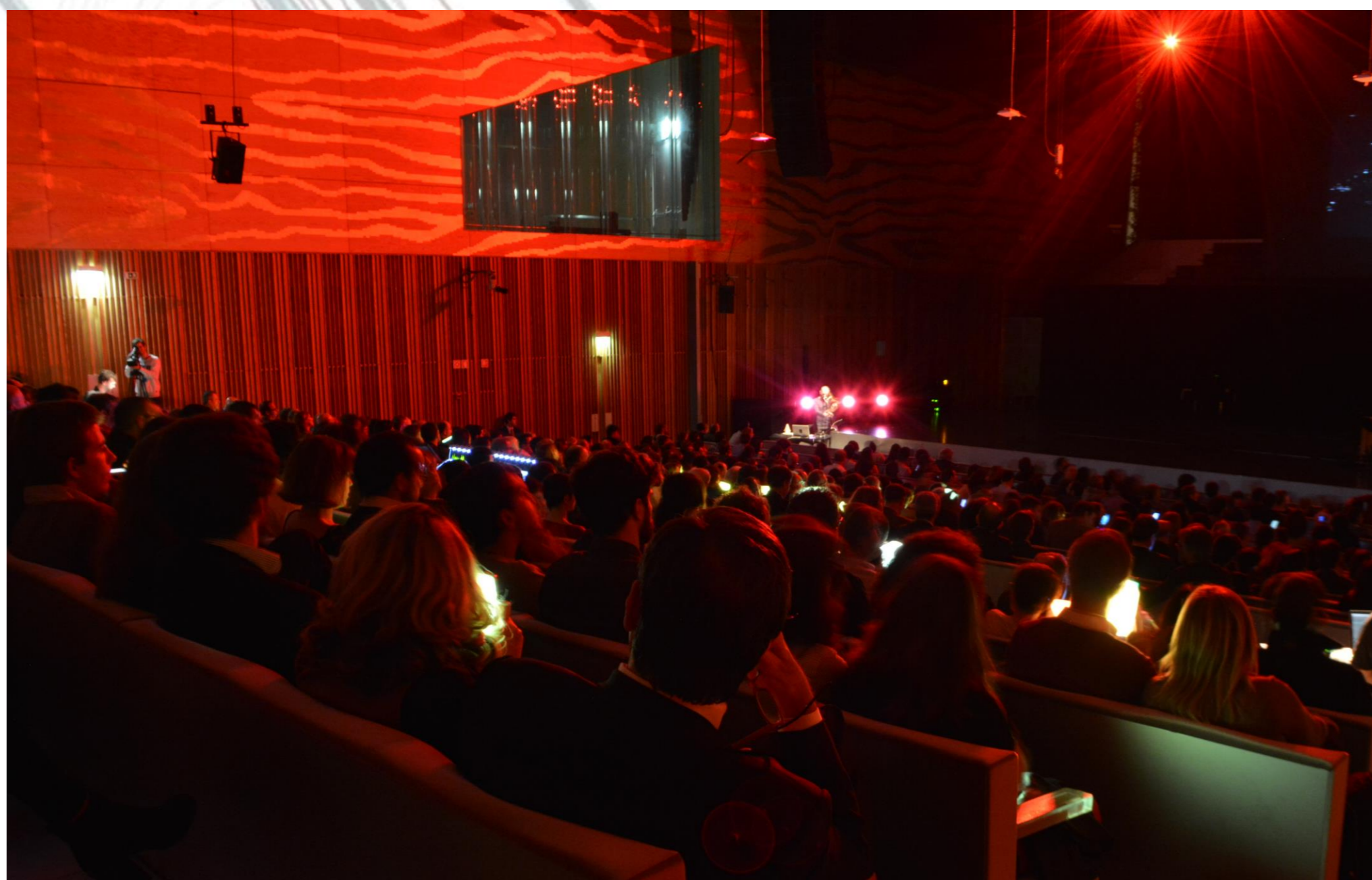# PROMOTING AUDIENCE PARTICIPATION IN MEDIA EVENTS USING VARIABLE-SCALE NETWORKS OF PERSONAL DEVICES

ALEXANDRE RESENDE CLÉMENT
Advisor: Rui Penha
Faculdade de Engenharia da Universidade do Porto
alexandre.clement@fe.up.pt

Audience participation and the devices allowing for it have changed, as has their adoption in media.

Concerts and media events are increasingly regarded as "participative experiences" instead of passively consumed content.

From simple bracelets with embedded LEDs, to action-inducing objects and customized interactive installations, bands and performers have been growingly attempting to connect with their audiences, and to make them feel as part of their performances.

How this participation can be achieved, from a technical standpoint, is something that has been increasingly explored.

What remains to be studied is how, once the technological and implementation hurdles have been cleared, the interactive experience can be designed and created, so as to make it a seamless act and a real element in the performance of which it is a part.

How can one develop compelling and engaging interactive experiences in media performances?

What kind of interaction can be expected without shifting the focus from the performance in itself?

How can the user's actions influence the performance in a constructive way?

How can we leverage an everyday commodity, often disruptive, like the smartphone, and turn in into a constructive part of a performance?
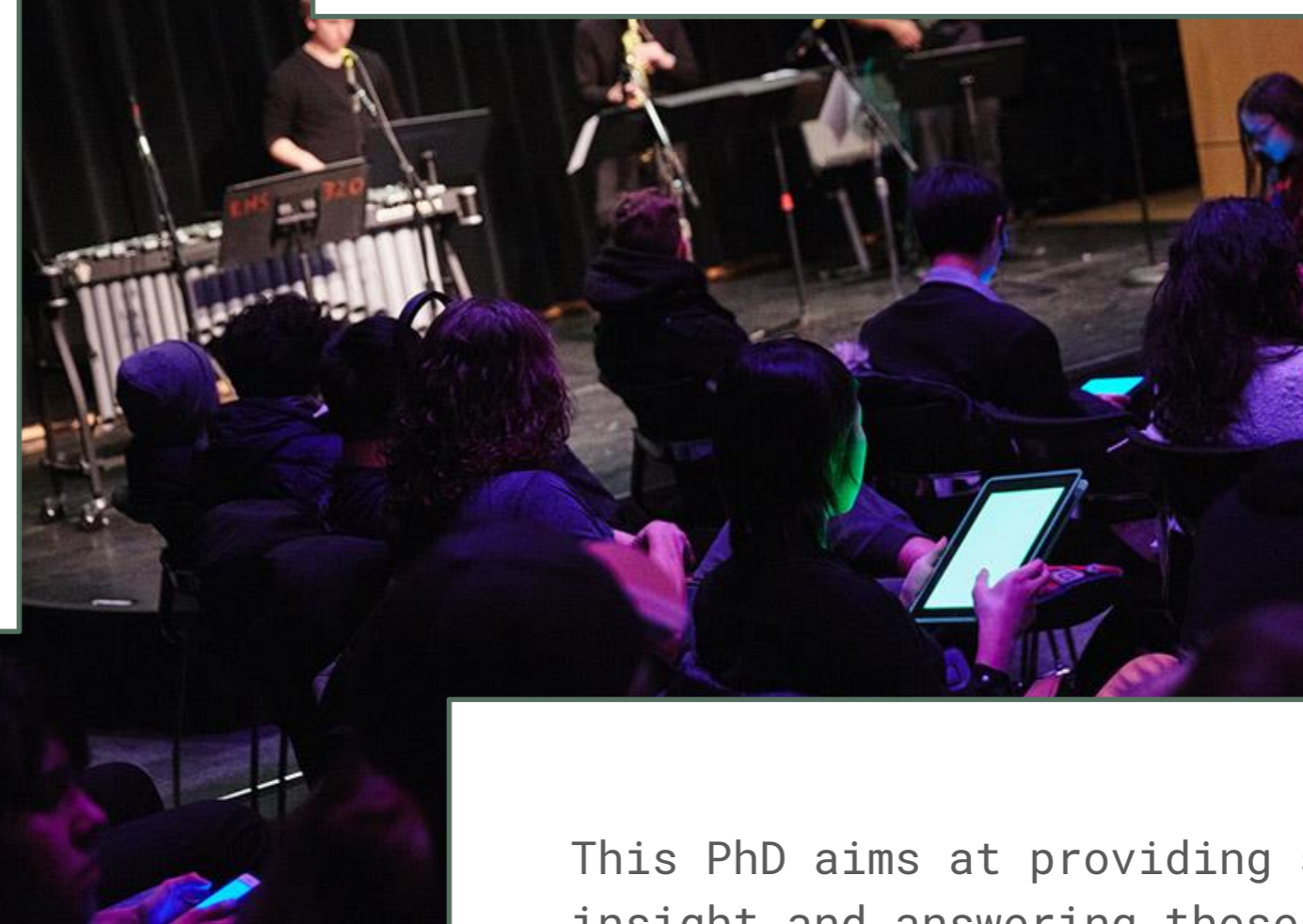
This PhD aims at providing some insight and answering these questions, by implementing and analyzing a number of test case systems and events

Going through different approaches on multimedia event audience participation and studying usability and user experience in interaction models, future interactive systems will be able to further become second nature in all media events

the *a.bel* project

The a.bel project is the first practical case study of this PhD.

It is an INESC-TEC developed solution that enables the users to actively participate in any public event using a mobile app and scalable communication technologies.

With *a.bel*, the behaviors of a large number of smartphones can be triggered and synchronized, enabling the interaction between audience members and between audiences and performers.
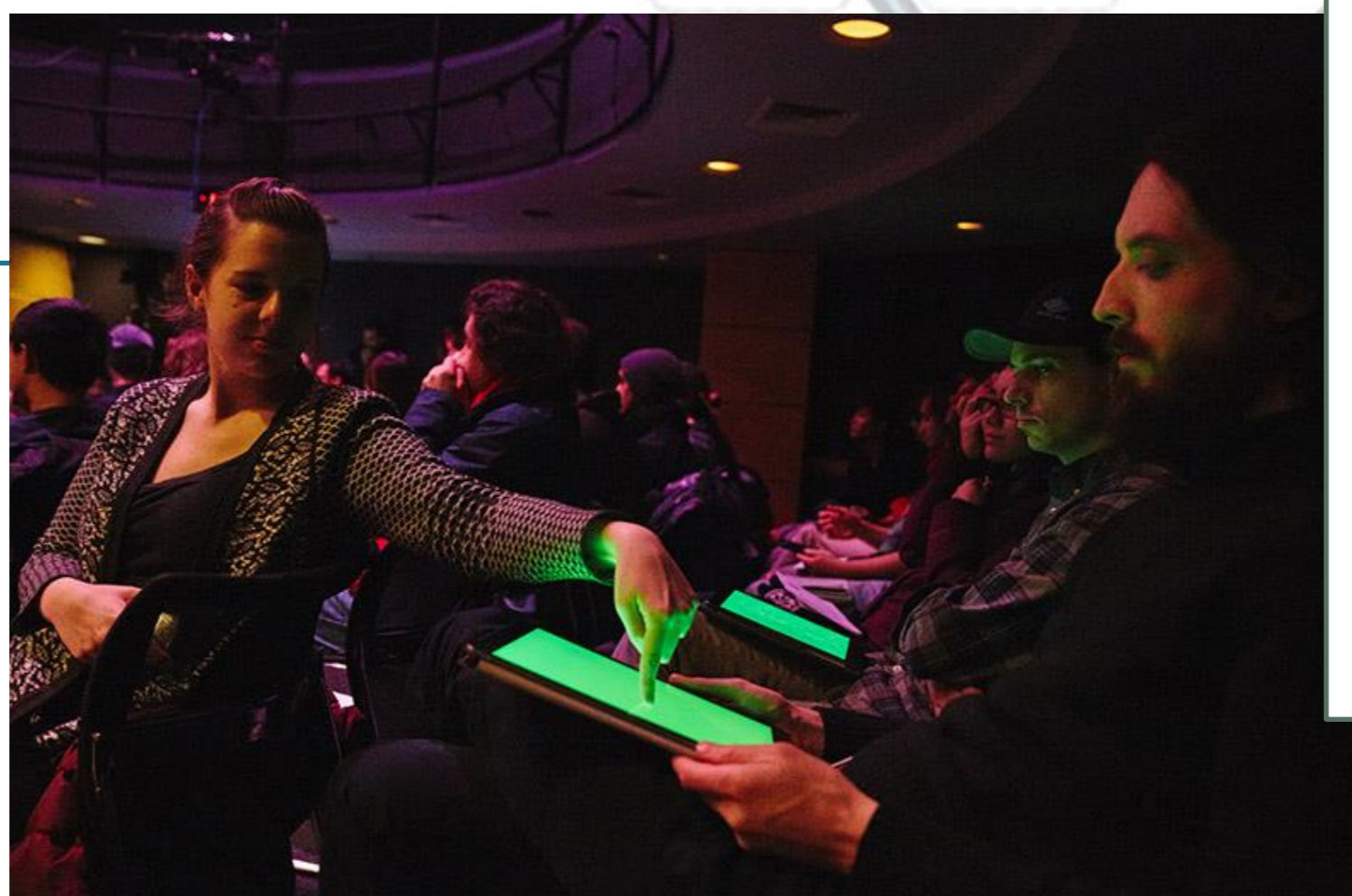
The *a.bel* system has already been used in two events:

• a.bel: nova música interactiva - on October 26th, 2015 at Casa da Música in Porto
• concert for 100 iPhones — on March the 3rd, 2016 at the Berklee Interdisciplinary Art Institute in Boston

It is an ongoing project and is scheduled to be used again in concert situations in the near future.