

DEPARTMENT OF CIVIL, ENVIRONMENTAL
& GEOMATIC ENGINEERING

CENTRE FOR TRANSPORT STUDIES



UCL

PEARL

Person-Environment-Activity
Research Laboratory



INTERNATIONAL

The What, Why & How of PEARL

What is PEARL?

PEARL (Person-Environment-Activity Research Laboratory) is a unique facility to explore the ways in which people interact with their environment. It is a massive space – around 4,000m² and 10m high – in which we can create life-sized environments – a railway station, high street, town square – under controlled conditions, so that we can examine how people interact with the environment and other people in these types of places. We can change the profile, type and material of the floor, simulate lighting of any colour and intensity, create sound from the tiniest bird song to the most massive explosion, include other senses, such as smell, and much more.

Why PEARL?

Much of our understanding about how cities work is based on a lot of assumptions about how people respond to, use and act in the environment. Many of these assumptions are based on experience over many years and are valid in general, but often the models we use just don't represent what actually happens. PEARL enables us to study in detail how people actually interact with the environment and each other, by enabling us to test detailed differences in the environment – such as space, colour, lighting, sound – under controlled conditions, so that we can obtain rich data for use in the design of real urban systems.

How can we use PEARL?

PEARL allows the public, researchers, regulators, implementers and others to see, hear, smell, feel and try out for themselves what operation and design ideas would be like, so cutting the cost of trying out new ideas by testing them in the laboratory before trialling them for real on-street. We can help designers work out how people will respond to their designs, for example, of trains. Sometimes we need to instrument people with sophisticated systems, such as eye trackers, accelerometers and motion detection systems, so that we can track how they move around the environment.

Types of International Projects

Capacity Building Workshops

We have run a number of capacity-building workshops concerning sustainable urban development in a number of DAC countries in order to help their governments rethink the design of their cities for the twenty first century. With the support of the Foreign and Commonwealth Office, in 2014/15 we ran a series of capacity-building workshops for urban professionals and transport authorities focussed on improving mobility in Colombia and Panama. In 2016/17, we ran participatory design workshops in Havana, Cuba, and Santiago, Chile, in order to improve the quality of public urban spaces. We bring you our ethos of learning through doing, and our workshops are often quite practical, site-specific and collaborative.



Figure 1. Results of a public workshop in Santiago, Chile



Figure 2. Participatory design workshop, Santa Marta, Colombia

Supporting local communities

We also support local communities in their own site-specific endeavours to change the way they live. Since 2015, we have helped civil society Lima Como Vamos facilitate workshops focussed on designing and implementing small-scale urban interventions in Lima, Peru. We continue to support the community through presentations and workshops at the annual International Forum for Urban Interventions.

PEARLs International Presence

Worldwide collaboration

The PEARL facility welcomes the idea of collaborative projects with international partners, ranging from universities and research institutes, to governments and NGOs. In addition to the UK, we have worked in many countries around the world, spanning Latin America, the USA, Asia, the Middle East, and Europe.

Remote research

Should you have a specific research question concerning the design and operation of your city, PEARL can conduct experiments on your behalf. Our outputs can be used to develop the techniques, methods, and actions required to support, advise and assist policy interventions. Technological advances will soon allow the remote observation of experiments, so that you can observe, and even control, experiments whilst in operation from wherever you are.

Exchange visits

We welcome international visitors from a range of disciplines interested in taking advantage of PEARLs one-of-a-kind facility, whether for scientific experiments, design work or the performing arts. In the spirit of knowledge exchange, we are also keen to spend time working alongside your team at your institution or organisation.

Capacity building

Our work extends beyond the walls of the university and PEARLs researchers and designers are often found in cities around the world, helping communities and governments to solve a variety of urban problems, from improving public transport in car-congested cities, to designing places for people through small-scale urban interventions. Our objective is to share our knowledge and experience in order to develop your own capacity to make your city a better place to be.