

# PEARL Background Information Document

This document is a short introduction to working at PEARL (Person-Environment-Activity Research Laboratory). It is designed to help you understand our ethos - our vision, mission, philosophy, values and approach – all of which are key to how we work.

## Context

PEARL is hosted at University College London (UCL), within the Centre for Transport Studies, which is one of the Sections in the Department of Civil, Environmental & Geomatic Engineering. As part of UCL, PEARL is a diverse, frontier-challenging facility that fuses research and education to create a better world. It is also part of the UK Collaboratorium for Research on Infrastructure and Cities (UKCRIC<sup>1</sup>) and will become the UK's National Research Facility for Person-Environment Interactions. Once open in May 2021 it will replace UCL's existing PAMELA laboratory (Pedestrian Accessibility Movement Environment Laboratory<sup>2</sup>), due to its increased capacities and capabilities. As a one-of-a-kind world-class facility, PEARL provides the means – the people, knowledge, activities, and infrastructure – to simulate environments so that we can study those interactions in greater depth.

## Vision

PEARL's vision is to create a better world for a future in which people and the environment can thrive together in a mutually beneficial, safe, equitable and healthy way. We aim to improve the quality of life, health and wellbeing of all within the context of a more sustainable environment. We see this as a world in which people and environment come together.

## Objective

PEARL challenges all frontiers and our endeavour is driven by the exploration of new ideas which contribute to the creation of a better world. We bring to the challenge whatever qualities it needs, whether multidisciplinary, multinational, multicultural or multifunctional. We believe in looking at the issue first, before determining what particular combination of scientific, artistic, engineering, humanitarian, or philosophical approaches might be needed to understand it.

## Approach

At PEARL, 4 core values inform the way in which we approach our work:

### *1. Problem-based*

At PEARL, everything that is pertinent to a problem we are trying to solve or improve is involved in the investigation of how to resolve it, whether this be knowledge, experience, skills, techniques, setups, equipment and administration actions. This usually means that multiple disciplines are involved...

### *2. Transdisciplinarity*

We do not consider the world in terms of 'academic disciplines', although we appreciate what they each have to offer. However, we realise that most real-world problems require multiple disciplines simultaneously and appreciate the benefits they each lend to each other. At PEARL, we consider 'transdisciplinarity' as a process whereby the learning and thinking developed in one discipline is brought to bear on others in such a way that none of the disciplines involved remains the same after this interchange. Transdisciplinarity thus describes the evolution of one discipline, through its interactions with others, in relation to a specific challenge.

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<sup>1</sup> Please see <https://www.ukcric.com> for more details.

<sup>2</sup> <https://www.ucl.ac.uk/civil-environmental-geomatic-engineering/research/groups-centres-and-sections/pedestrian-accessibility-movement-environment-laboratory-pamela>

### 3. Transformation

Through the process of transdisciplinarity, we expect 'disciplines' to evolve. While this does not remove the need for high levels of knowledge and skills, expertise, experience and talent, it does mean that all our staff need to be willing to transform their particular strengths in multisensorial, multidisciplinary, and multifunctional ways so that they can be best applied to the specific challenge of the moment.

### 4. Integration

The ultimate aim of our problem-based, transdisciplinary, transformational approach is to understand the environment – including people - in a more holistic manner. To help with this process, PEARL's building, facilities, systems and approaches are designed to encourage people to work together and meld their ideas towards new ways of understanding the world as a whole. Our long-term objective is thus greater integration people and the environment.

## Working at PEARL

Everybody working in PEARL contributes to our mission for a better world and we recognise that none of us can achieve that on our own. We are a highly-skilled team of people whose contributions are all valued equally:

#### 1. Academics

While extremely talented in their own right, our Academics hold an appreciation for "other" disciplines and are always seeking to expand their own 'disciplines'.

#### 2. Researchers

Our innovative Researchers are just as curious about other disciplines as they are their own. They will have contracts that are not tied to specific research grants to allow them the flexibility to work on multiple experiments and projects at a time.

#### 3. Making and Production team

Our Making and Production team are highly skilled in a range of areas, whether that be to simulate the perfect sound, smell or lighting conditions for an experiment, to help manufacture innovative prototype, or to provide much needed IT support for a range of technological software and hardware.

#### 4. Enabling team

Our Enabling staff are vital to making all things happen at PEARL. As such, they will form an integral part of the research and experiment teams, so that they have a full understanding of what is needed in a project in order to support the work involved.

While the roles at PEARL are varied, everyone is encouraged and supported to gain further education, training and qualifications to expand their repertoire, and due recognition will be given in the interpretation of appointment and promotion criteria. Multidisciplinary publishing opportunities will be created to enable PEARL project outcomes to be disseminated in the most suitable ways to the appropriate audiences.

## Educational Programmes

PEARL engages in educational opportunities at all levels and runs a variety of programmes, both for school and university students, as well as for the wider community.

### *Research Education Programmes*

The main educational activity within PEARL is through doctoral work. We welcome doctoral students with a strong interest in transdisciplinary approaches to undertake their research at PEARL. Interested PhD students will already be thinking beyond narrow disciplinary lines, and have a strong idea of why they are pursuing transdisciplinary research.

### *Taught Education Programmes*

While we do not run in-house school or undergraduate programmes, we engage fully with schools and undergraduate programmes outside the facility so that they can benefit from what PEARL has to offer. Together with UCL and other universities as appropriate, we will be running a number of Masters programmes where the research components will be covered within the PEARL facility.

### *Community Programme*

We take our connection with the local community very seriously and our community engagement programme is designed to encourage the community to come and interact with us. This includes bringing us the questions most relevant to them, so that we can ensure the relevance of our own research. We also have a Community Gallery where collaborative exhibitions inspired and created by the community and ourselves, can be shown for all to learn from and enjoy.

## **PEARL Key Research Themes**

Researching People-Environment interactions, PEARL is concerned with a number of key themes:

### *Science and Engineering*

PEARL's unique contribution to science lies in its ability to simulate realistic environments under controlled conditions. This itself relies on scientific and engineering input so that we can create the most appropriate conditions needed for a certain study, creating a very symbiotic relationship.

### *The Arts*

At PEARL, we recognise the Arts as central to the way in which people perceive, interpret and thus interact with their environments. PEARL's capacity for multisensorial simulation allows artistic phenomena to be explored in practice as well as in theory. With a pop-up theatre capability (up to 500 seats<sup>3</sup>) we can create demonstrations and performances for both stakeholders and the general public.

### *The Environment*

PEARL studies the activities that people undertake within their environments (both built and natural), so that we can understand how the two affect each other. While activities are the mainstay of all people's quality of life, we are mindful of the negative impacts they often have on the environment. At the same time, we acknowledge the negative impacts of the environment on people, and thus a major part of our work is to understand the two-way relationship between them, and how we can improve it.

## **PEARL's Working Environment**

As a research laboratory, PEARL's claim to fame is a large, malleable laboratory space where lighting, sound, smell and physical features can be controlled for real-scale testing with people. To make this happen, we also have: a well-equipped workshop where we can manufacture items for use in the experiments as well as innovative prototypes; a studio where smaller items and models can be made; as well as a dedicated sound studio for the analysis and composition of spatialised soundscapes.

We greatly appreciate the thinking and exploration processes that take place before and after an experiment, for which we have created a unique "malleable" working environment for all staff that can be easily adjusted to suit different needs at different times. This includes (but is not limited to!): small, quiet spaces for individual or private meetings; a variety of spaces for group work in a variety of styles; and larger collaborative spaces.

## **Further Information**

Working at PEARL is a unique experience and we welcome your interest. Please consult our website [www.pearl.place](http://www.pearl.place) and our longer Background Document for further information and do not hesitate to contact us should you have any further questions.

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<sup>3</sup> Subject to health and safety regulations.