

## **List of Exhibits at Transformations**

### **'Metropolitan Information Management System' Waterford Institute of Technology**

This interactive experience will demonstrate the benefits of ubiquitous computing, as envisioned by M-Zones. The demonstration will centre on a person shopping/visiting the city centre using their PDA or phone to acquire information about the area that they are interested in, such as shopping, child amenities, entertainment, etc. Once an area (such as shopping) is selected, more specific information should be made available as required, such as directions, travel options (bus, taxi, etc) with their various prices and timetables.

### **'Shaping Drugs for the Future' Analytical & Biological Chemistry Research Facility, UCC**

An interactive participant based experience that will include details of theory about atomic structure and how changing (or designing) the structure at the molecular level impacts on drug discovery. Participants will also undergo real-time interaction with molecular structures and members of the public will be asked to play with a 3-D structure and try to fit it into a pocket. The demonstration will show how investment in research is altering the shape of future drug discovery.

### **'Nanoscale Science & Technology Initiative' Tyndall National Institute, UCC**

An interactive exhibition that reflects how Tyndall researchers are discovering and developing solutions to communications, energy, healthcare and environmental challenges. Visitors will interact with wireless sensor gloves and will be exposed to the transmission of information via light manipulation. Demonstrators will also witness the production of 'nanogold'.

### **'Science behind the Sea' Marine Science Research – Martin Ryan Institute, NUIG**

This exhibit will take the public on a journey of discovery beginning with a live and colourful culture display of familiar seaweeds and not-so-familiar microalgae from the seashore. The exhibit will cater for a broad spectrum of age groups and we will demonstrate how our understanding of ecologically important reference species such as the Atlantic Salmon have benefited from molecular studies.

### **'The Secret Lives of Mamillian Cells' The National Institute for Cellular Biotechnology, DCU**

The aim of this demonstration stand is to shed light on the development and production of many of our pharmaceutical products today which treat a range of conditions from depression and infertility to cancer and diabetes. The mysteries of cell culture will be explained and visitors will interact with and manipulate live cells.

**'Sensor Science'**  
**The National Centre for Sensor Research, DCU**

Visitors will experience first hand some examples of the research being carried out in the NCSR including wireless autonomous environmental monitoring systems, Wearable sensors for sport and personal health monitoring and the development of new materials for future sensing development. Visitors can interact with the technology and experience a virtual tour of the Botanic Gardens.

**'The Urban Environment'**  
**The Urban Institute of Ireland, UCD**

Visitors will experience practical applications of thermal imaging, which can show areas in a structure that are particularly warm (and therefore energy-efficient), versus those that are colder and potentially wasteful of energy. This camera will be demonstrated in real-time for audience members. We will also highlight our work on climate change and sustainable energy by demonstrating a variety of toys run through solar power and developed by researchers in the Institute in conjunction with Dyson.

**'Irish Virtual Research Library and Archive'**  
**Humanities Institute of Ireland, UCD**

The Irish Virtual Research Library and Archive (IVRLA) is a unique digital repository of materials from various UCD repositories - providing a fascinating insight into the daily lives of people – both ordinary and well known – from various periods of Irish History. The demonstration will present a slideshow of representative images from the repository, with a 'workstation' allowing access to, and interaction with, the digital repository

**'Science Alive'**  
**The Conway Institute of Bimolecular & Biomedical Research**

Interactive workshops will allow audience members to get a 'hands-on' understanding of some key biomedical questions such as 'how our brains work' and 'understanding DNA'. Researchers will interact with visitors, bringing to life issues around heart-health, manufacturing drugs in an environmentally friendly way and nutrition.

**'Exploring the Human Condition'**  
**The Long Room Hub, Trinity College**

Featured research projects include virtual exhibits of important manuscripts and collections, such as a fully interactive Beckett manuscript, samples from our collections from botanical prints to fairy tales, Bardic culture, and early Irish print media. There will also be podcasts of excerpts from some of our most popular recent events, such as the Ireland and the Great War symposium and the Four Masters and their World symposium

**'An Interactive Digital Edition of the Alcalá Account Book'**  
**An Foras Feasa, NUI Maynooth**

The Alcalá Account Book project, is a collaboration between An Foras Feasa (AFF) and The Irish in Europe Project (IEP) , and involves the digital encoding of an eighteenth century Spanish account book recording the monthly expenses of the Royal Irish College of Saint George the Martyr. In this innovative project, visitors can engage with the source manuscript which is encoded and made available in a web based, dual language, searchable and interactive environment.

**'Exploring Environmental Research'**  
**Environmental Research Institute, UCC**

Visitors can view a specially produced documentary detailing the groundbreaking research carried out by the Environmental Research Institute, including atmospheric pollution in Cork City, energy security and the construction of 'smart' buildings. Researchers will be on hand to interact with members of the public.

**'Atoms to Applications'**  
**CRANN Centre, Trinity College & Centre for Bionano Interactions UCD**

This interactive exhibit will demonstrate the impact that nanoscience is having on our lives. Visitors will see and interact with the practical applications of Nanoscience including nano sports equipment, medical developments and buckyball demonstrations.

**'Live Cell Imaging and Analysis'**  
**National Biophotonics & Imaging Platform Ireland, RCSI/UCC/NUIM**

Visitors can interact with a computer based demonstrator which will be analysing in real-time previously collected images of fluorescently labelled, living cancer cells. An interactive demonstrator will also illustrate the construction and execution of systems biology experiments. Here users (the public) will be able to select images, apply some models and visualise the results.

**'Food and Health Research'**  
**Biosciences Institute, UCC & The Institute of Food and Health, UCD**

Researchers will be present to carry out real-time interactive research and demonstrators will carry out anthropometric measurements and blood pressure readings on volunteers from the public. Data will be analysed on the spot to give Body Mass Index, percentage body fat etc and Food diaries will be discussed with members of the public. Staff will also carry out an enzyme experiment with volunteers from the public and interactive demonstrations on gut health.

**'A New Design: Creative Practice and New Thinking for Research'**  
**GradCAM, NCAD/DIT/IADT**

An interactive audio-visual projection will feature short 'vox-pops' by researchers and other participants in GradCAM projects and events. In simple accessible language researchers will describe their work and indicate what larger benefit to society their work will generate.

**'Exploring the Virtual World'**  
**FOCAS Institute, DIT**

The exhibit will involve an interactive virtual world where the participant will have to solve a crime with the assistance of the analytical techniques acquired through the PRTL funding. Virtual instrument tours and exploration of results will be combined in a user friendly experience, providing both experienced and novice users a chance to experience the practical uses of the advanced analytical techniques

**'Transport Research in Practice'**  
**Centre for Transport Research and Innovation for People, Trinity College**

This is a fully interactive visual experience that invites members of the public to engage with cutting-edge developments in transport research. Members of the public can use our interactive driving simulator to demonstrate research in road safety.

**'Science behind the Beijing Water Cube'**  
**The Institute for Information Technology and Advanced Computing, Trinity College**

This exciting exhibit will display a model of the internationally commended Beijing Water Cube. Visitors will be encouraged to interact with the science behind the cube and can participate in safe and attractive experiments involving bubbles and chemical bonding.

**'Exploring Bioengineering'**  
**Trinity Centre for Bioengineering, Trinity College**

The exhibit aims to give the public an insight into the fascinating work being carried out in the TCBE via a highly immersive interactive experience. The public will be invited to 'investigate' a human figure to discover the significance of the research and the possibilities therein. The interaction will occur on an 'operating' table. The user will be invited to 'dissect' the human illustration on a large single-touch interface, bringing up information and interactive media.

**'Material Gain'**  
**Materials and Surface Science Institute, University of Limerick**

Researchers will demonstrate the benefits of material and surface science advances in medical treatments. Visitors will be shown how a stent works and how they are imaged in an MRI scan. The exhibit will demonstrate a hand held, inexpensive method of screening for osteoporosis that has been developed in MSSI.

**'Energy efficiency and Wireless Sensors'**  
**Department of Electronic Engineering, CIT**

The exhibit will provide visitors with information about the temperature, light, and humidity levels and location of the building occupants in the Environmental Research Institute (based at UCC) . The display of this information will be provided through a computer based virtual reality environment where visitors can virtually interact and read sensor data from the Institute.

**'Archaeologies of Art / Ábhar agus Meon'**  
**Humanities Institute, UCD**

The exhibit will present photographs of the artist installations from the Chronoscope project which explored and interrogating the residual presences and absences of the spaces of UCD's Newman House. There will also be a poster exhibition of the archaeological excavation of Bacon's studio in London, as part of its reconstruction in the Hugh Lane Gallery, Dublin.