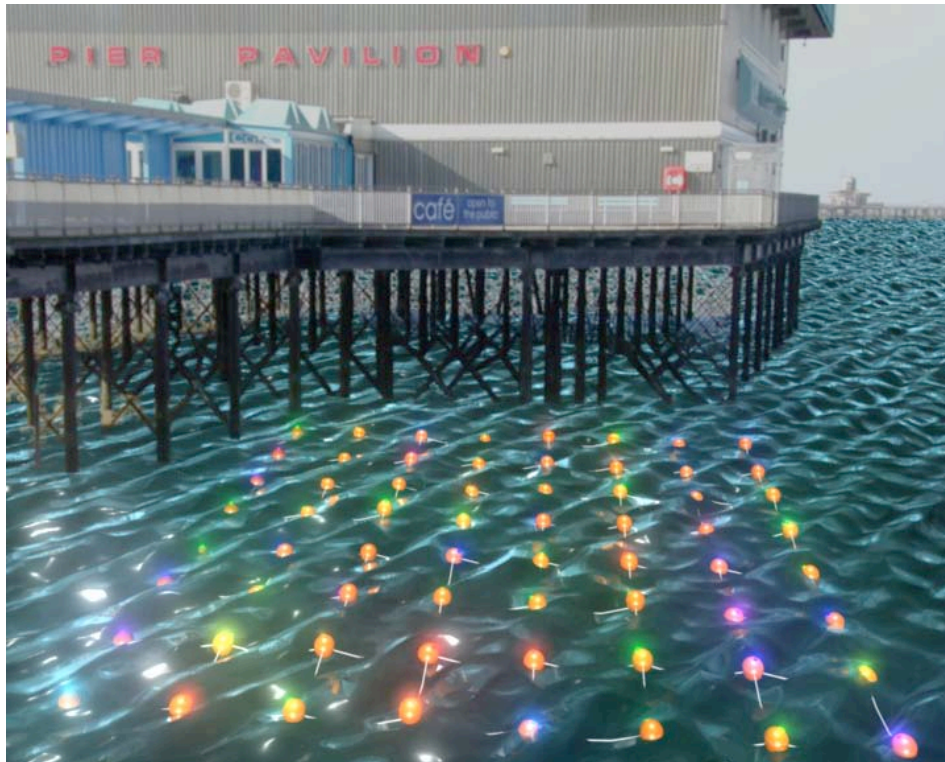


*Model Ideas: from stem cell simulation to large-scale floating art installation*

CELL was an interdisciplinary collaboration exploring the ways that research into adult stem cells re-addresses the complexity of human biology. As part of the collaboration, medical scientist Dr Neil Theise, a researcher in adult stem cells, based in New York, worked with artist Jane Prophet, mathematician Mark d’Inverno, computer scientist Rob Saunders and curator Peter Ride. One aim was visualise new and contentious theories of stem cell behaviour, and to feed these visualisations back into scientific research. Another was to generate a range of artistic outcomes that are under-pinned by the emerging understanding of cellular activity.



Throughout our collaboration, we wondered not only at the science of stem cells but also at the role that models, computer science and artistic visualisations have played in the transformation of scientific beliefs. This contribution will introduce and contextualise the art installation, *Net Work*, currently in development, which is based on our mathematical model of how stem cells function in the adult human body. *Net Work* will be a large, highly interactive, art installation constructed from 100 buoys fitted with LEDs, placed at 1 meter intervals to form a 10 x 10 grid. Each buoy is a node on the grid, undulating on moving water, acting like a cell. The LEDs display changing colours that correspond to the behavioural state of the buoys/cells. Each cell’s state depends on both its environment (the movement of the water detected by tilt sensors, light levels affected by users shining torches) and the state of neighbouring cells. By constantly checking for inputs and changing the colours they display as a result, the grid acts as a living network of cells. The rules that the buoys contain encode biological predictions about how stem cells behave.

<http://www.janeprophe.com/cell.html>