

David Finnigan and University College London Environment Institute 2011 Synapse Residency proposal

Playwright and science-theatre producer David Finnigan is seeking funding to undertake a 12 week creative residency at the University College London Environment Institute over September - December 2011, to explore and develop the links between interactive theatre practice and social modelling.

a. A brief description of the artist's practice and previous collaboration with science partners;
David Finnigan is an ACT-based playwright, theatre producer and festival director. Since founding science-theatre ensemble Boho Interactive in 2006, David has developed a reputation as a significant emerging science/arts practitioner. Boho's Game Theory-based play *A Prisoner's Dilemma* presented seasons in Adelaide, Brisbane, Canberra and the Gold Coast, including at the 2007 Asia-Pacific Complex Systems Science Conference. In 2009 Boho was funded to complete a residency in the Manning Clark House Cultural Centre to write and produce *Food for the Great Hungers*, a performance exploring Australian history and complex systems science. In 2010, Boho was co-commissioned by the Powerhouse Museum to produce and tour *True Logic of the Future*, an interactive science-fiction performance exploring issues of Climate and Global Change. Boho's collaborators include scientists from CSIRO's Centre for Sustainable Ecosystems, the Powerhouse Museum and the National Centre for Science and Technology (Questacon).

As a theatre and festival producer, David has worked with scientists within cultural and research institutions including National Science Week, the Australian Museum, CSIRO Education, the Powerhouse Museum and Cosmos Magazine.

b. A brief description of the host organisation's activities, including any previous experience it may have had working with artists;

The University College London Environment Institute is the focal point for environmental research and related activities in UCL. The Institute's central mission is to foster the interdisciplinary research that is needed to tackle today's complex environmental problems effectively. The Institute works across several key areas: Thematic Research Development, where the Institute's scientists develop research collaborations for exciting and innovative research projects and to disseminate research results, and Policy Impact, including a range of activities and collaborations to ensure that UCL's environmental research impacts on practices in policy, business and communities.

In 2008 the UCL Environment Institute launched an Artist- and Writer-in-Residence programme, jointly with the UCL Slade School of Fine Art and UCL English Language & Literature. In 2009, Writer-in-Residence Jean McNeil pursued research and writing projects on the Polar Regions and semi-arid Africa and Artist-in-Residence Suba Subramaniam created an interdisciplinary dance work 'The Shiver' exploring the scientific and emotional reasoning behind the physiological response of shivering. In 2011, the Institute is joined by award-winning British poet, critic and novelist Ruth Padel and *~in the fields*, an collaboration between artists Nicole Heidtk and Stefan Baumberger.

c. A description of the proposed project;

The proposed project will bring together tools, techniques and concepts from two contemporary fields of arts and science practice: interactive theatre and climate / social modelling.

With Boho Interactive, David developed a diverse set of styles and techniques for live interactive performance. Building on pre-existing forms ranging from street performance, live art and computer gaming, Boho employed different techniques to elicit varying forms of audience participation and contributions. Over 2006-10, Boho developed and tested more than 15 unique interactive performance formats. This array of forms include a broad spectrum of interactive mechanisms, performer/audience relationships, passive/active involvement, narrative/experiential performances,

individual/large-scale audience involvement. Having consolidated this 'menu' of functioning mechanisms, David is now seeking to apply them to the field of social modelling.

Over the last two decades, models and simulations of Earth's systems have become a key tool for scientists and policy-makers seeking to comprehend and respond to the challenges of climate change. At the present time, the Earth is a complex adaptive system in which human activities play a role as potent as those played by natural forces. To be relevant, therefore, models of the Earth system must be a fusion of social and biophysical sciences. The predictive ability of the biophysical sciences is substantially higher than that of the social sciences and so much of the effort needed to produce models of the human-earth system must be directed towards social dynamics.

To examine and measure the parameters and idiosyncrasies of human decision-making, scientists construct games and scenarios exemplifying certain elements of the human-earth system. The behaviour of participants in these scenarios provide critical insights about human behaviour for scientists constructing accurate predictive models of the human-earth system. The tools and skills used to create and manage these participatory scenarios are often extremely similar to those used in devising and performing interactive theatre. In some cases, scientists have explicitly adapted exercises and workshops from theatre to create these scenarios. This project seeks to identify and explore the links between these two fields.

The proposed Synapse Residency with the UCL Environment Institute is the research and exploration phase of this new project. Over 12 weeks from September - December 2011, David will work with scientists from the Environment Institute including Professor of Planning, Environment and Policy Yvonne Rydin, to achieve the following goals:

- **Develop an understanding of contemporary climate and social modelling:** Drawing on the resources of the Environment Institute and in consultation with Dr Rydin, David will explore the origin, history and evolution of predictive modelling.
- **Identify connections between interactive performance and modelling:** David will focus on finding existing examples of interactions between these two fields, and where possible contact those involved for more detailed information to carry out case study assessments.
- **Create and present short performances testing new ideas:** Throughout this creative research residency, David will create a number of short scripts exploring new ideas and will demonstrate the results of these experiments for UCL staff in short presentations and performances intended to generate feedback and discussion. These informal 'work-in-progress' showings are an important part of this exploratory phase. Not only will these brief performances demonstrate potential difficulties in adapting this material, they will also highlight opportunities and avenues for exploration.

d. An outline of how both partners anticipate benefiting from the residency.

University College London is currently developing content for a new Systems Thinking course intended to teach policy-makers to supplement their historical / statistical / cost-benefit frameworks with systems thinking, data analysis, resilience thinking and complex systems science. Working with lecturer Jeff Johnson, David will develop content for a dramatic dimension to the course. This material may include scripted performances, participatory activities or creative workshops highlighting specific ideas within the curriculum.

David has the potential to become a science-arts practitioner of national significance; however, in order to achieve this goal, he needs experience working with an internationally-recognised science institution in a hub of cross-disciplinary art. As well as providing a great opportunity to work with this extremely forward-thinking institution in a serious context, this residency will place David within a community of cross-disciplinary science/arts practitioners from all around the globe, offering a unique chance to develop networks and experience a diverse range of approaches and insights.