



# Research Directions

Office of Research Services

## *Virtually Amazing*

**Dr Yi-Chen Lan from the School of Computing and Mathematics is collaborating with staff from Nanjing University, China, to research the most effective way to develop an interactive digital city for their School of Geography and Oceanology Sciences.**



'Nanjing University wishes to develop a Digital City Project which will allow students and researchers to design and then enter an urban environment and interact virtually with different elements of the landscape to simulate how their designs and buildings might function with people in the real world,' says Dr Lan. 'To achieve this, Nanjing University needs sophisticated state-of-the-art virtual reality projection systems and software that will allow the landscape to be populated with people and will allow a computer user to enter that virtual world. The UWS School of Computing and Mathematics has developed such a projection system and will work with Nanjing University to apply this innovative technology to their Digital City Project.'

Dr Lan will work with key academic and technical laboratory staff at Nanjing University to assess their existing laboratory, identify IT infrastructure and software needs, and research effective solutions so that work can begin on building the virtual reality system and Digital City laboratory. A second phase of the project will test the system, make adjustments to the hardware and software, and develop 3D models so that users can begin to build and interact with the virtual environment.

As well as enhancing the potential for international research collaborations with Nanjing University in the future, this research will improve urban designers' understanding of how environmental factors such as culture, ecology, structural scale and human physical characteristics interact to enhance or detract from the functionality of urban landscapes. It will allow urban planners to manipulate design elements in a virtual urban environment to test how changes will affect people and places, without having to make costly and potentially unsafe changes in the real world. This will assist developers to more fully cater for the needs of people and thus make cities better and safer places in which to live.

**Project Title:** Digital City Laboratory

**Funding has been set at:** \$22,632

October 2007

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