



# Hamilton Institute

## Complex Networks and Control

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Federation Fellow

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The Australian National University

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### *Abstract*

Complex networks such large power grids, the Internet, transportation networks and co-operation networks of all kinds provide many challenges for scientists and engineers. In particular, advanced societies have apparently become dependent on large infrastructure networks to an extent beyond our capability to plan and control them to operate securely. The recent spate of collapses in power grids and attacks on the Internet illustrate the need for research on modelling, analysis of behaviour, systems theory, planning and control in such networks. Coincidentally, the techniques for planning and control for complex systems generally are evolving to be network-based, e.g optimisation on graphs, neural networks, controller networks. This seminar will describe recent work in complex networks and control at ANU and plans for future work.

### *Biography*

**David J. Hill** received the BE and BSc degrees from the University of Queensland, Australia, in 1972 and 1974, respectively. He received the PhD degree in Electrical Engineering from the University of Newcastle, Australia, in 1976. He is currently an Australian Research Council Federation Fellow in the Research School of Information Science and Engineering at The Australian National University. He has held academic and substantial visiting positions at the universities of Melbourne, California (Berkeley), Newcastle (Australia), Lund (Sweden), Sydney and Hong Kong (City). He holds honorary professorships at The University of Sydney, South China University of Technology, City University of Hong Kong and Northeastern University, China. His research interests are in network systems, circuits and control with particular experience in stability analysis, non-linear control and applications. He is a Fellow of the Institution of Engineers, Australia and the Institute of Electrical and Electronics Engineers (IEEE), USA; he is also a Foreign Member of the Royal Swedish Academy of Engineering Sciences.

**Venue:** Seminar Room, Hamilton Institute, Rye Hall  
NUI Maynooth

**Time:** 1.00 - 2.00pm (followed by tea/coffee)

Travel directions are available at [www.hamilton.ie](http://www.hamilton.ie)



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