Mark Apperley is Professor of Software Engineering at the University of Waikato, Hamilton, Aotearoa New Zealand. He originally studied Electrical Engineering at the University of Auckland, and after a PhD involving digital data processing in radio astronomy, he held a post-doctoral research appointment at Imperial College, London, developing an interactive graphics CAD system for electronic circuits. He returned to New Zealand in 1975 as a lecturer in computer science at Waikato. In 1985, he moved to a chair at Massey University in Palmerston North, where he was Head of Department, and later Dean of the School of Mathematical and Information Sciences. He returned to Waikato in 1994 as Professor of Computer Science, and chairperson of the department. He became Dean of the then School of Mathematical and Information Sciences in 2003, a role he held for five years. For a 12-month period (2011-2012) he served as Pro Vice-Chancellor (Research). Mark was also a Kaitiaki (member of the governance board) for the Alexander Turnbull Library from 2006 to 2012.

For a large part of his academic career, the main focus of Mark's research has been human-computer interaction (HCI) and information visualization. However, since 2010 he has also taken on a strong involvement in energy informatics, specifically the application of ICT in renewable and efficient energy utilization. His work in this area has included vehicle-to-grid technologies, community energy systems, and smart micro-grids.

In recognition of his academic contributions, Mark has received the following honours:

- 1992: Australia Institute of Engineers, *Eminent Overseas Speaker*;
- 1995: *Fellow of the New Zealand Computer Society* (now Institute of Information Technology Professionals);
- 2013: Australasian Computing Research and Education Organisation, *Distinguished Service Award*.
- 2023: IFIP TC-13, *Human-Computer Interaction Pioneer* award.

Mark has been involved with IARIA since 2013, when he presented a keynote address at the *Energy* conference in Lisbon. Subsequently he was invited to become a member of the *Energy* Advisory Committee for the 2014 Conference, and has continued with his involvement since then, moving to the Steering Committee in 2017. He has delivered presentations to the *Energy* Conference in 2013, 2017, 2019

(best paper award), 2021 (keynote), and 2023, and participated in panel discussions on several occasions.

Relevant recent publications include:

Apperley, Mark, & Toki, Tama (2023): An Islanded Community Solar Microgrid with Capability of Future Fractal Growth. *Energy 2023: 13th International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies*, IARIA, Barcelona, 13-17 March, pp. 29-35.

Buresh, K.M., **Apperley, M.D.** & Booysen, M.J. (2020): Three shades of green: Perspectives on at-work charging of electric vehicles using photovoltaic carports. *Energy for Sustainable Development*, **57**, pp.132-140.

Apperley, M. (2019): Modelling Fractal-Structured Smart Microgrids: Exploring signals and protocols. *Energy 2019 Conference Proceedings*, IARIA, 13-17.

Roux, M**., Apperley, M**., and Booysen, M.J. (2018): Comfort, peak load and energy: Centralised control of water heaters for demand-driven prioritization. *Energy for Sustainable Development*, **44**, June, 78-86. ISSN 0973-0826.

Suppers, J., & **Apperley, M.** (2017): Interactive solar panel simulation tool - from GHI to PV output. In C. Beckmann & T. Gross (Eds.), *INTERACT 2015 Adjunct Proceedings: Fostering Smart Energy Applications Workshop* (pp. 633–642). Bamberg, Germany: University of Bamberg Press.

Apperley M. (2017): Modelling energy balance and storage in the design of smart microgrids. *Proc Energy 2017,* Barcelona*,* 40-45.

Apperley, M. Monigatti, P., and Suppers, J. (2015): Grid-Lite: A network integrated semi-autonomous local area electricity system. *Proceedings 4th International Conference on Green IT Solutions (ICGreen 2015)*, Milan, Italy, 6 July. SciTePress, 27-33.

Apperley, M. and Alahmari, M. (2014): Tracking battery state-of-charge in a continuous use off-grid electricity system. *Proceedings ITISE 2014*, Granada, June, 556-569.

Monigatti, P., **Apperley, M**. and Rogers, B. (2012): Improved grid integration of intermittent electricity generation using electric vehicles for storage: A simulation study. *Proceedings of International Green Computing Conference*, San Jose, IEEE Press, 1-10.

Monigatti, P., **Apperley, Mark** & Rogers, W. (2010): Power and Energy Visualisation for Micro-management of Household Electricity Consumption. *Proceedings AVI 2010,* Rome, 325-328.