CHERYL ABUNDO
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Cheryl Abundo is a PhD candidate in the Division of Physics and Applied Physics, School of Physical and Mathematical Sciences at the Nanyang Technological University. The main thrust of her research is in spatio-temporal modelling of mobility patterns in complex systems of varying spatial and time scales. She is interested in understanding how statistical physics and diffusion concepts combined with data and computational tools can be utilised to comprehend the dynamics behind the propagation of information in complex systems and how this in turn affects the evolution of the system. In the short time scale, she investigates how land use and network structure can be coupled to model travel demand and commuter distribution in a transport network to probe into how transport networks evolve with changing land use patterns and vice versa. In long time scales, she studies how languages and genes co-evolved with movement patterns between speech communities based on post-marital residence rules.

She graduated Magna Cum Laude and earned her B.Sc. degree in Applied Physics in 2011 from the National Institute of Physics, University of the Philippines Diliman. Previously, as a researcher at the Complex Systems Group of the Instrumentation Physics Laboratory in the Philippines, most of her research was on identifying parameters that control the interaction of system components as they approach a state change. She probed the importance of determining the combination of features that best describes systems such as Filipino music and opinion column articles using statistical physics and machine learning techniques. She further explored the criticality of control parameters in complex networks by simulating the interaction of agents in a spatial network to determine the forcing direction and the positioning of influentials that will preserve the most connections.