Abstract: Given the fundamental role of domain models in software and knowledge engineering, it is important that they be as precise and detailed as possible whilst at the same being simple and easy-to-understand. This presents a challenge, however, because higher precision and detail often lead to more complexity and obscurity. To overcome this tension it is necessary to reconcile approaches focussed on maximizing the richness of domain models with approaches focussed on maximizing their simplicity. The former (richness) is addressed by vocabularies (i.e. sets of linguistic modeling concept (a.k.a. metamodels)) optimized to capture the full range of real world phenomena perceived by human beings. This is the role of foundational (a.k.a. upper level) ontologies such as BWW or UFO. The latter (simplicity) is achieved by modelling infrastructures that allows the basic ingredients of conceptual modelling (classification and generalization) to be expressed with minimum accidental complexity. This is the focus of deep (i.e. multi-level) modelling. In this talk Colin Atkinson will discuss the challenges faced in reconciling the goals of richness and simplicity in conceptual modelling and the benefits that can be gained through a synergetic integration of foundational ontologies and deep modelling.

BRIEF BIOGRAPHY

Colin Atkinson has been the leader of the Software Engineering Group at the University of Mannheim since April 2003. Before that he has held positions at the University of Kaiserslautern, the Fraunhofer Institute for Experimental Software Engineering and the University of Houston – Clear Lake. His research interests are focused on the use of model-driven and component based approaches in the development of dependable and adaptable computing systems. He was a contributor to the original UML development process and is one of the original developers of the deep (multi-level) approach to conceptual modelling.

He received his Ph.D. and M.Sc. in computer science from Imperial College, London, in 1990 and 1985 respectively, and his B.Sc. in Mathematical Physics from the University of Nottingham 1983.