Professor Spence is interested in how people perceive the world around them and in particular how our brains manage to process the information from each of our different senses (such as smell, taste, sight, hearing, and touch) to form the extraordinarily rich multisensory experiences that fill our daily lives. His research focuses on how a better understanding of the human mind will lead to the better design of multisensory foods, products, interfaces, and environments in the future. His research calls for a radical new way of examining and understanding the senses that has major implications for the way in which we design everything from household products to mobile phones, and from the food we eat to the places in which we work and live.

He has consulted for a number of multinational companies advising on various aspects of multisensory design, packaging, and branding. He has also conducted research on human-computer interaction issues on the Crew Work Station on the European Space Shuttle. He and his group are currently working on problems associated with the design of foods that maximally stimulate the senses. His group also has a very active line of research on the design of auditory, tactile, and multisensory warning signals for drivers and other interface operators (together with Toyota). Charles is also interested in the effect of the indoor environment on mood, well-being, and performance (together with ICI).