David Baddeley
University of Auckland, New Zealand

Coming from a background in optical physics, I did my doctorate in the Cremer group at the University of Heidelberg, Germany, working on a structured illumination and 4Pi microscopy. Following my PhD, I returned to New Zealand to complete a Post-Doc in the Soeller lab in the Department of Physiology, Auckland University, developing dSTORM super-resolution methods for the study of heart muscle. I was then recruited to Yale as an Assistant Professor in the Cell Biology department where I continued to work on the development of super-resolution microscopy techniques, before recently returning to the Bioengineering department at Auckland.

ABSTRACT

High content super-resolution microscopy

Super-resolution microscopy methods are becoming increasingly mainstream. The typical PALM/STORM experiment, however, is still time consuming, labor intensive, and looks only at a very small number of cells. The interpretation of results obtained is often also rather qualitative. I will discuss our realization of a high–throughput platform capable of automatically imaging of 10,000 cells in day, as well as efforts to improve quality, ease of use, and to extract as much information out of data as possible. This combination allows us to image large populations of cells and to compare the results to population-based methods such as genomics.