The analysis of inductive NMR detection reveals that miniaturisation can potentially help to improve a sensor's signal-to-noise ratio (SNR). Early reports in the 1990's, initiated by Olson et al. in 1995 [1], and based on hand-crafted microcoils, confirmed this prediction, and showed that millimolar sensitivity for nanolitre sample volumes is in principle possible. Building upon these impressive early achievements, my collaborators and I have focused on enabling mass producible miniaturised NMR detectors and systems that show adequate spectroscopic performance. At the intersection of the demands of NMR-compatibility and performance, and requirements imposed by microfabrication methods [2,3], I will show that we have, through extensive simulations and manufacturing process improvements, progressively improved B0- and B1-homogeneity, sample handling, filling factor, detector SNR, and system functionality [4-9]. The cocktail of implementation ideas will cover: Wirebonding and inkjetting as metal micro-structuring methods [2,3], and building upon these processes, an NMR micro-detector with multi-level microfluidic lab-on-a-chip integration [8], a 7-channel micro phased array system [4], signal multiplexing based on a custom 4.3 x 3.4 mm2 CMOS chip [7], a Helmholtz microdetector with disposable sample holder [9], a 100% fill factor microcoil with disposable capillary sample holder [6], and a magic angle coil spinning micro-detector [5]. The application demonstrations will cover: Spectroscopy of nanolitre volume samples at low concentration, and NMR-microscopic imaging of cells, skin biopsies, and brain slices. Our current work is focusing on the further co-integration of functionality, such as microgradients, or multiple RF channels, and the customisation of the chip laboratory platforms towards the specific needs of various applications. As an outlook, I will speculate on where our journey may lead to.