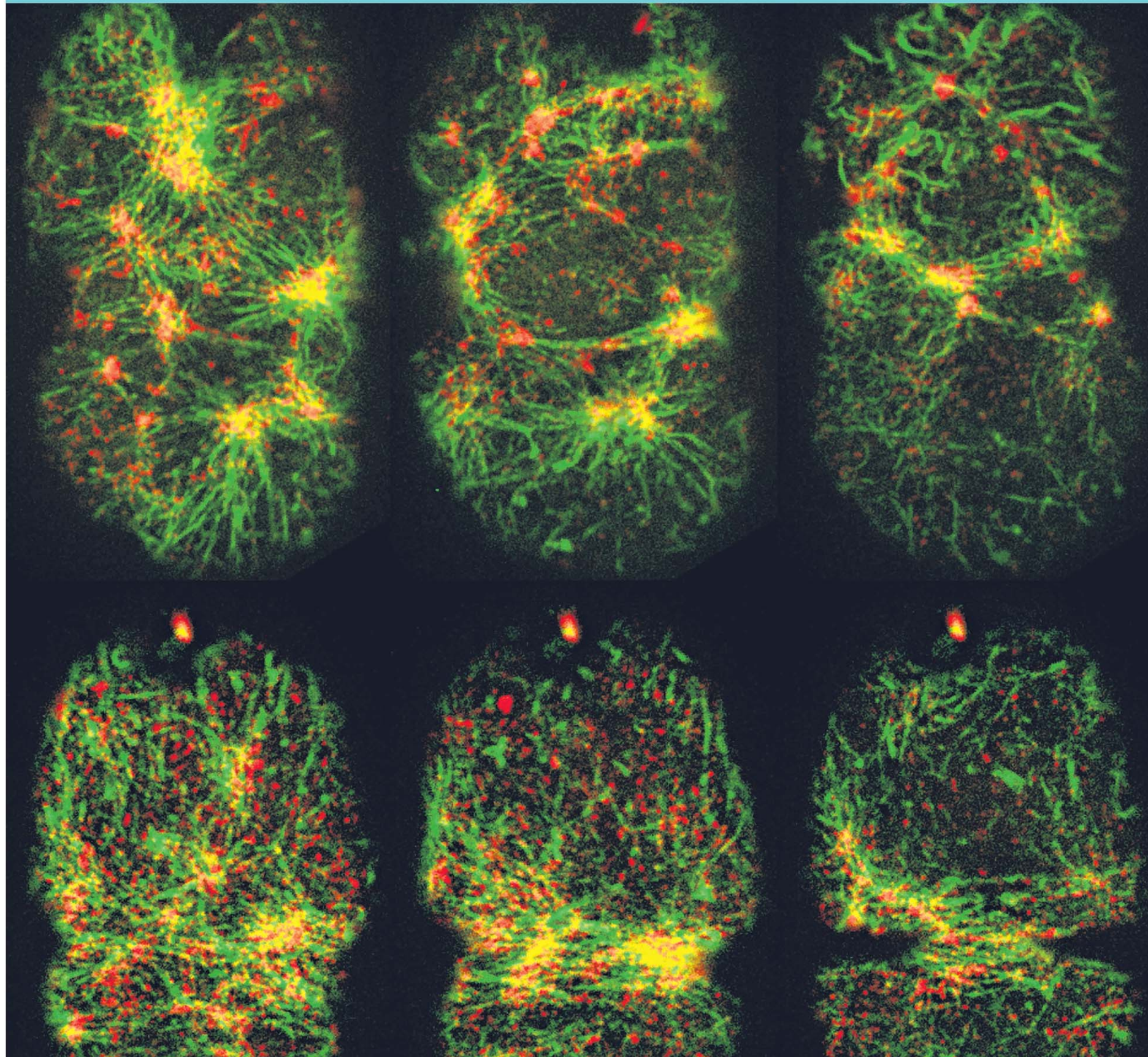


## Beautiful Science



A single fertilised cell of a *C. elegans* worm seen here in six stages of its first division. Here, the parent cell is dividing into two daughter cells in the earliest stages of embryo development. The study by a team of researchers from the Mechanobiology Institute, Singapore (MBI) at the National University of Singapore, led by Assistant Professor Ronen Zaidel-Bar, looked into how proteins work together in a living organism to produce higher-order structures and transmit mechanical force during crucial developmental processes such as cell division and polarisation (a process where cells undergo shape changes to become asymmetric). Changes in cell shape, and the pinching of the cell that leads to cell division, are dependent on the formation and function of higher-order structures that can generate pulling or contractile forces. These structures are composed of actin filaments and myosin motor proteins (red) together with proteins that can bundle actin filaments together. In this study, the MBI researchers discovered that plastin, an actin-bundling protein (green), acts as a molecular rivet to strengthen the contractile network and facilitate cell division and polarisation in the *C. elegans* embryo. PHOTO: MECHANOBIOLOGY INSTITUTE, SINGAPORE