1062-30-75   **Alastair Fletcher*** (`alastair.fletcher@warwick.ac.uk`). *Iteration of quasiregular mappings.*
Quasiregular mappings in $\mathbb{R}^n$ can be considered as higher dimensional analogues of analytic mappings in the plane. In this talk, we will discuss some recent work on the iteration of quasiregular mappings and highlight some similarities and differences in comparison to the highly developed field of complex dynamics.

Since it is apparent that the notion of Fatou and Julia sets do not make sense in this setting, a key object in connecting quasiregular and complex dynamics is the escaping set $I(f)$, i.e. the set of points which iterate to infinity. The boundary of the escaping set is well known to coincide with the Julia set in the analytic case, and so we will look at properties of $\partial I(f)$ for quasiregular mappings.

Both quasiregular mappings of polynomial type and those with an essential singularity at infinity will be discussed, with examples. This talk will be largely based on joint work with Dan Nicks, Open University, UK. (Received July 27, 2010)