

## 2012 Leeper Lecture

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### ***Soil and Sustainable Food***

Soil is an incredibly complex material that is home to a uniquely diverse microbial community, stores most of the water we use, plays an important part in climate regulation and above all sustains the terrestrial biosphere, including us, with nutrition. The underlying complexity and apparent 'chaos' of processes at the micro scale is manifest as an ordered recycling and supply of nutrition and water that is resilient to perturbation over a wide range of

circumstances. This lecture will focus on the interaction between physical and biological processes in soil, and how these may conspire to organise the soil in a way that gives the system macroscopic resilience. The factors that may set bounds on this capacity for organisation will be discussed and ideas for understanding the spatial and temporal dynamics of environmental nutrition, particularly carbon and nitrogen, will be introduced.

