An introduction to p-adic systems: A new kind of number system
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In this talk a new kind of number system on the p-adic integers $\mathbb{Z}_p$ will be introduced which generalizes and provides a common framework for several different notions, such as positional notation systems, the $3n + 1$ problem, integer fibred systems, or permutation polynomials. This framework allows notions and methods of one discipline to be translated to the other, admitting new points of views in both areas. Furthermore, it provides interesting examples of new discrete dynamical systems showing unexpected behavior.