The notion of minimal set is central in topological dynamics. These sets correspond to the smallest possible components of dynamical systems from the topological point of view.

I will start with a short survey of the topic pointing out the most important general properties of minimal sets and of the dynamics associated to them. Then I will focus on the main subject of the contributed paper – topological characterization of minimal sets. After recalling several important results, I will present new results on continuous maps on graphs and dendrites. Graph maps can be used, for example, for studying the dynamics of pseudo-Anosov homeomorphisms, or manifold maps with an invariant foliation of codimension one. Dendrites appear as Julia sets in complex dynamics.

The topological structure of minimal sets on a general graph is, in principle, the same as the one on the interval or the circle – the difference is purely combinatorial. The completely new phenomena appear in the case of dendrites. Besides the results on characterization of minimal sets in this case, I will present an example of "wild" nonhomogeneous minimal set on a dendrite on which the map is "strongly" noninvertible. Such an example has not been known before. Finally I will discuss recent development on homogeneity of minimal sets. The contributed paper is based on the joint work with F. Balibrea, T. Downarowicz and Ľ. Snoha.