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Sommario/riassunto	Bacterial spore formers have been the focus of intense study for almost half a century centered primarily on Bacillus subtilis. This research has given us a detailed picture of the genetic, physiological and biochemical mechanisms that allow bacteria to survive harsh environmental conditions by forming highly robust spores. Although, many basic aspects of this process are now understood in great detail, bacterial sporulation still continues to be a highly attractive model for studying various cell processes at a molecular level. There are several reasons for such scientific interest. First, some of the complex steps in sporulation are not fully understood and/or only are only described by 'controversial' models. Second, intensive research on unicellular development of a single microorganism, B. subtilis, left us largely unaware of the multitude of diverse sporulation mechanisms in many other Gram-positive endospore and exospore formers. This diversity would likely increase if we were to include sporulation processes in the Gram-negative spore formers. In addition, spore formers have great potential in applied research. Spore forming bacteria are becoming increasingly important in the areas of probiotics, vaccine technology and biotechnology. This Research Topic in Frontiers in Microbiology details the most recent advances in basic science of spore research and cover also emerging areas of scientific importance involving the use of spores.