The 4th Great Wall Symposium, 2015

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THE FOURTH GREAT WALL Symposium held in September 2015, in Florence, Italy featured the latest advances in the field of peptidoglycan metabolism. We hosted one keynote lecture by Waldemar Vollmer in honor of Joachim-Volker Höltje. The meeting was organized around six different sessions with 22 speakers and 12 short talks selected from the submitted abstracts. The meeting attracted a great deal of interest from the scientific community, which has expanded dramatically the past decade. Despite its recent origin, the Great Wall Symposium is already considered as a reference by the field and a must for the scientists studying the bacterial cell wall.

The remerged interest in the field of peptidoglycan research occurred around the year 2000 with two important discoveries: (1) the characterization of bacterial cytoskeleton and its role in cell wall synthesis and (2) the discovery of innate immune receptors in *Drosophila* (through peptidoglycan recognition proteins) and in mammals (through the Nod proteins) involved in sensing of peptidoglycan. As a consequence of the rediscovered interest in peptidoglycan by microbiologists, cell biologists, and immunologists, a first meeting exclusively focused on peptidoglycan research was organized in Baeza, Spain, October 4–6, 2010. This first small meeting answered to a real need for a discussion platform of the peptidoglycan community and a second meeting followed a year later in Lisbon, Portugal, September 28–30, 2011. To avoid overlaps with the bacterial cell surface Gordon Conference, it was decided that this meeting would be organized every 2 years alternating with the Gordon Conference. Also, given the fact that the Gordon Conference is organized in the United States, the scientific community felt that this meeting should stay in Europe to favor diversity and opportunity to young scientists to meet with senior members of the field. The number of participants (140 in total) increased again with

regard to the first and second meetings and was limited by the venue capacity. The fifth meeting will be back in Portugal in the Algarve at the Hotel Atlântico São Rafael on September 24–27, 2017. This venue will allow the organizers to host the symposium without a cap in the number of participants, although we believe that the symposium should remain a friendly and human size meeting, avoiding exceeding the 200 participants.

Microbial Drug Resistance has been an active promoter of the advances that have been made in the field of peptidoglycan metabolism during the past two decades, first with a special issue of the last Cell Wall meeting before the Great Wall Symposium era that took place in Lago de Garda, Italy, in 1995. Following this tradition, Alexander Tomasz has organized a special issue on the science presented at the Great Wall Symposium. The two first special issues were published in June 2012 and June 2014 on the work presented at the second and third symposiums, respectively. The success of these two issues has led to a third special issue on the fourth meeting presented in this issue, creating a great opportunity for young scientists to present their work to the scientific community. This edition is composed of six original articles on work presented at the meeting from some of the leading groups working on peptidoglycan metabolism and regulation.

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