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## Preface

The era of the genome and the ensuing field of genomics are upon us. But can the animal health research community benefit from this new field of research that promises to revolutionize biomedical research? The input received from the 260 scientists from 28 countries that participated in the first international symposium on animal genomics dedicated to animal health was a resounding yes. Recent advances in genomics are now providing unprecedented opportunities for understanding the links between the genetic code and diseases. While it took 13 years to sequence the human genome, significant breakthroughs in sequencing technologies are providing the whole genome sequences of animals at record speed: the draft genome sequences of the chicken in 2005, dog in 2006, cattle and horse in 2007, and the cat and pig genomes in the queue in 2008 and 2009, respectively. Although it is abundantly clear that animal genome sequences alone are insufficient and that many of the genomic tools and infrastructure for animal health research need to be developed, we are now at a crossroad where we can begin to move animal health research to new dimensions and start to address some of the most difficult problems in animal health.

This volume presents the proceedings of this international symposium held at the World Organization for Animal Health (OIE) Headquarters, Paris, France, 23-25 October 2007. The primary aims of the conference were to identify key challenges for integrating animal genomics in animal health research and to bring together worldwide leaders in the fields of animal genomics and animal health to plan new directions that will fundamentally change the way we approach animal health research. Exceptional collaborations between these two communities will pave the way for addressing difficult problems in animal health by connecting those who are currently engaged in cutting edge genomics research with animal health scientists that are disease experts and understand the real world challenges facing animal health.

The proceedings include a review of the state of the art in animal genomics and animal health research, and the contribution of animal genomics in the construction of animal disease models. Research projects using animal genomics to understand animal diseases, disease susceptibility, desirable animal traits and the development of new tools to prevent and control animal diseases are presented herein. Importantly, the results of a round table discussion and a questionnaire given to the participants of this symposium provide four pillars to advance this field of research and key recommendations that will guide the way forward.

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