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ABSTRACT OF THE PLENARY SPEAKER

***Towards a Transformative Science for a Sustainable and
Just World***

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Science has always had to demonstrate and defend its relevance to society. Today, the pressure on scientists to do so is unrelenting. Demands for scientific knowledge that makes a real difference to real peoples' lives grow as the consequences of global changes become a reality for communities across the world, and societal risk profiles become increasingly complex. With the adoption by world leaders and national governments of a new global framework of Sustainable Development Goals and the commitment to action for a sustainable and equitable future for all, the pressure is peaking. As witnessed in new global research initiatives such as Future Earth, the global scientific community is rallying to respond. Key elements of that response include the use of new approaches to the production and use of knowledge; approaches that add up to what can be called "open knowledge systems". Such approaches urge scientists not only to integrate their efforts with those of colleagues from other disciplines and fields, but to work iteratively with decision makers, policy shapers, practitioners and other societal stakeholders in open, networked knowledge arenas, involving collaborative learning and problem-solving. Understanding the challenges and opportunities of open knowledge systems, and how these depend on fundamental principles of open access and open data, is central to our understanding of the types of policies for science we now need to put in place at all levels of research systems.