Sunday, April 22, 1:00 – 2:30pm

Plenary Session #1:

Presenter: Andreas Schleicher

Andreas Schleicher is Director for Education and Skills and Special Advisor on Education Policy to the Secretary-General, Organization for Economic Co-operation and Development (OECD). As a key member of the OECD's senior management team, he supports the Secretary-General's strategy, providing analysis and policy advice to advance economic growth and social progress. In addition to policy and country reviews, he oversees Programme for International Student Assessment (PISA), OECD Survey of Adult Skills (PIAAC), OECD Skills Strategy, OECD Teaching and Learning International Survey (TALIS), and the development and analysis of benchmarks on the performance of education systems (INES).

Strong Performers and Successful Reformers in Science Education--- Lessons from the world

Equipping citizens with the science knowledge and skills necessary to achieve their full potential, contribute to an increasingly interconnected world, and ultimately convert better skills into better lives is a central preoccupation of policy makers around the world. Over the past decade, the OECD Programme for International Student Assessment, PISA, has become the world's premier yardstick for evaluating the quality, equity and efficiency of school systems.

The latest PISA assessment in 2015 focused on science, a discipline that plays an increasing role in our economic and social lives. Science is not only the domain of scientists. In the context of massive information flows and rapid change, everyone now needs to be able to "think like a scientist": to be able to weigh evidence and come to a conclusion; to understand that scientific "truth" may change over time, as new discoveries are made, and as humans develop a greater understanding of natural forces and of technology's capacities and limitations.

The last time science was the focus of PISA was in 2006. Since then, science and technology have advanced tremendously. The smartphone was invented and became ubiquitous. Social media, cloud-based services, robotics and machine learning have transformed our economic and social life. New possibilities of gene sequencing and genome

editing, synthetic biology, bio-printing or regenerative medicine and brain interfaces are changing life itself. Against this backdrop, and the fact that expenditure per primary and secondary student rose by almost 20% across OECD countries over this period, it is disappointing that, for the majority of countries with comparable data, science performance in PISA remained virtually unchanged since 2006. But some countries showed substantial improvement in the science performance of their 15-year-olds, including high-performing education systems, such as Singapore and Macao (China), and low-performing ones, such as Peru and Colombia.

The presentation will review the progress achieved in science learning in different parts of the world, identify some of the characteristics of high-performing education systems, and discuss effective policies and practices that are associated with success.