

# 2<sup>nd</sup> INTERNATIONAL CONFERENCE ON SCIENCE AND TECHNOLOGY

Organised by:



*Silesian University  
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*Faculty of Energy  
and Environmental Engineering*

**Scientific patronage:**

*Committee for Civil Engineering and Hydroengineering of Polish Academy of Sciences  
Section of Sanitary Engineering*



## *Current issues in water treatment and water distribution*

*31 May- 2June 2017*

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**WATER** – one cannot say  
that you are necessary in life – you are life itself  
Antoine de Saint-Exupéry

## INTRODUCTION

Water is life, water is invaluable treasure. Therefore, today – at the time of intense growth of civilisation, and so in the face of global threat of water deficit – it is well worth stopping and thinking what the universal right to water means. Is it merely a catchphrase or the actual obligation of each country, or maybe a commitment towards the inhabitants of Africa and Asia in terms of search for safe water? The historical resolution 64/292, setting forth the "access to safe drinking water and sanitation" as a fundamental human right, was adopted the UN General Assembly in July 2010 by support of 122 countries as a result of endeavours of Pablo Solón Romero, UN ambassador of Bolivia, among others. He referred to its role in the human life and its meaning for the growth of contemporary economy and he presented moving facts about a constantly growing number of people dying of lack of access to clean drinking water. Romero emphasised the fact that it is shameful to remain indifferent to ensuring universal drinking water supply when in developing countries a child dies of water-induced diseases every 3.5 seconds.

Facing our everyday challenges, we fail to ponder over the issue of the live-giving nature and strength of water. No one disputes the fact that water is one of the most important resources on Earth. Moreover, we also fail to notice that the growth in water demand results not only from a growing global population and changing consumption patterns, but also from growing needs of dynamically developing economy. For instance, to produce 1 kg of beef, one needs ca. 15 thousand litres of water, one cup of coffee requires as much as 140 litres and a cup of tea – 30 litres. Therefore, our every-day choices have a practical effect on the use of water resources and they form the most significant needs of contemporary economy development.

Those needs result in the fact that the universal access to clean drinking water which does not pose threat to health has become a global goal, the achievement of which is ensured by the synergy of activities revolving around the sustainable consumption of water resources. Such plotted activities of the water management help support the development of innovative solutions in terms of water supply and create market opportunities for those innovations. That water will be supplied in high amounts is ensured by highly effective technologies of treatment and distribution, which reduce water intake from the natural environment, as well as procedures optimising hydraulic parameters of the system operation. Those activities are to result in decreasing the energy consumption of water supply system use and minimising the costs of water supply to the recipient. The performance of those activities is a challenge for the scientific world, dictating the necessity of close cooperation with business entities.

The aim of „*Current issues in water treatment and water distribution*” is to present the latest results of studies conducted in this respect in Poland and in the world. It includes 30 studies that cover the issues connected with modern technologies of intake, treatment and distribution of water and with the management of water-pipe networks.

I hope that this edition of research articles will be an inspiration for new challenges in the area of water supply systems.



**Proceedings Editor**  
**Izabela Zimoch, Prof. Ph.D., D.S.**