

## **Fermionic T-duality in type II supergravity**

Ilya Bakhmatov

*Queen Mary, University of London, UK*

I will discuss possible applications of fermionic T-duality transformation developed by Berkovits and Maldacena. This will mainly be supergravity solution-generating, demonstrated on the examples of the D-brane and the pp-wave solutions of type IIB supergravity. The consequences of applying the transformation and various properties of the new transformed solutions will be considered (such as the pp-wave self-duality under the combination of dualities). Another application that shall be discussed is the explanation of the amplitude/Wilson loop correspondence in N=4 super-Yang-Mills, with view to extend these ideas to N=6 superconformal Chern-Simons theory (ABJM), via combined action of fermionic and bosonic T-dualities on the  $AdS_4 \times CP^3$  background of IIA supergravity.