

# Colloquium

Department of Fundamental Research

National Centre for Nuclear Research

**November 7 (Monday), at 2:15 pm**

The colloquium will be run in the hybrid mode: live in the lecture hall 207 and on-line using the GoToMeeting platform. To participate on-line click on the following link:

<https://www.gotomeet.me/NCBJmeetings/mrowisko>

**Professor Marek Kuś**  
**Center for Theoretical Physics of Polish Academy of Sciences,**  
**Warsaw**

**Nobel Prize in Physics 2022 - the power of quantum mechanics.**

**Summary:** In the lecture I would like to present the reasons why the Nobel Committee decided to award this year's Nobel Prize to Alain Aspect, John F. Clauser and Anton Zeilinger "for experiments with entangled photons, establishing the violation of Bell inequalities and pioneering quantum information science".

The achievements of this year's laureates are of great importance to our understanding of the fundamentals of quantum mechanics. While it is not that anyone doubts the correctness of the quantum world picture, these experiments have confirmed that quantum mechanics can be validated even in areas where its predictions deviate furthest from our common intuitions. Above all, however, they open up new prospects for applications. So I will try to demonstrate that, in accordance with Alfred Nobel's will, the prize was awarded to those who "shall have conferred the greatest benefit to mankind" by "the most important discovery or invention within the field of physics".

St. Mrowczynski & W. Piechocki