

***Oddział Łódzki PTM serdecznie zaprasza***

*na wykład*

***prof. dra hab. Jerzego Kąkola***

***(Uniwersytet im. Adama Mickiewicza w Poznaniu)***

*pod tytułem*

***About Banach-Mazur's problem from the 1930s,***

*który odbędzie się*

***w dniu 6 grudnia 2023 roku (środa) o godz. 11.00***

***w sali D103 WMiI UŁ***

*Abstrakt.*

*One of the famous unsolved problems in Functional Analysis asks (Banach-Mazur's problem (1932)) if every infinite-dimensional Banach space can be mapped by a continuous linear operator onto an infinite-dimensional separable Banach space. This problem is known under the name Separable quotient problem. For many concrete Banach spaces the answer is positive, for example, reflexive Banach spaces, or even weakly compactly generated Banach spaces. Argyros, Dodos and Kanellopoulos, proved that every dual Banach space has a separable quotient. On the other hand, Rosenthal showed that all Banach spaces  $C(X)$  of continuous (real-valued) functions on  $X$  have a quotient isomorphic to  $c_0$  or  $l_2$ . We provide several useful methods to examine which Banach spaces admit a separable quotient, and the same problem will be studied for spaces  $C_p(X)$  with the pointwise topology. The talk gathers also quite new results. A connection with Efimov compact spaces  $X$  will be also discussed.*