

# **SEMINARIUM Z MAGNETYZMU I NADPRZEWODNICTWA**

Uprzejmie zawiadamiamy, że w **środę**

**15 grudnia 2021 r., o godz.10:00**

odbędzie się seminarium **on-line (link podany jest na stronie IF PAN)**,  
na którym

**dr Szczepan Głodzik**

*(Department of Theoretical Physics, Jožef Štefan Institute, Ljubljana, Slovenia)*

wyłosi referat na temat:

**“Nadprzewodnictwo topologiczne na życzenie”**

Naturally occurring materials exhibiting topological superconductivity prove to be scarce. The designer approach of combining materials with different types of electronic order has surfaced as a remedy. Recent breakthroughs in fabricating van der Waals materials has led to the emergence of a multitude of 2D materials displaying ferromagnetism and superconductivity [1]. Their layered structure provides a nearly ideal platform for interfaces retaining their intrinsic properties, with exotic states emerging from the interaction. I will present the recent proposals of combining the superconductor NbSe<sub>2</sub> with 2D ferromagnets to create nodal topological [2] and chiral superconductors [3], with long-sought Majorana modes on the boundaries.

[1] Novoselov, K. S. et al., *2D materials and van der Waals heterostructures. Science* 353, aac9439 (2016).

[2] S. Głodzik, T. Ojanen, *Engineering nodal topological phases in Ising superconductors by magnetic superstructures. 2020 New J. Phys.* 22 013022

[3] S. Kezilebieke et al., *Topological superconductivity in a van der Waals heterostructure. Nature* 588, 424–428 (2020).

**Serdecznie zapraszamy**

**Roman Puźniak  
Andrzej Szewczyk  
Henryk Szymczak**