**DRAFT OF A RESOLUTION FOR CREATION OF A WORKING GROUP ON "AI/ML METHODOLOGIES FOR PHYSICS AND PHYSICS FOR AI/ML"**

**Subject: Creation of a Working Group on Artificial Intelligence and Machine Learning (AI/ML) for the Physical Sciences**

Artificial Intelligence and Machine Learning (AI/ML) are fast becoming indispensable tools in scientific research, including within the physical sciences. These methodologies have demonstrated their capacity to revolutionize data analysis, modeling, optimization and prediction in physics research. Moreover, they have been effectively adapted to address unique challenges across various subfields of physics.

In recognition of the growing significance of AI/ML in the physical sciences, we propose the establishment of a working group within IUPAP. The primary focus of this group will be to assess the role and impact of AI/ML in scientific research, with specific emphasis on how the physical sciences drive dedicated developments in AI/ML methodologies. The working group will explore the implications of fostering collaboration between computer scientists, data scientists, and physicists. Such interdisciplinary partnerships can yield mutual benefits, enhance innovation, and impact workforce development. Additionally, the group will investigate the interplay between academia, laboratories, and industry. Understanding these connections will facilitate the effective integration of AI/ML techniques into practical applications. Furthermore, the working group will explore AI/ML applications that can be transferred to benefit society at large.

**Resolution:** We recommend that IUPAP establish a working group to thoroughly examine the need for a new commission specifically dedicated to AI/ML methodologies within the physical sciences.