## UiO University of Oslo

Faculty of Mathematics and Natural Sciences, Department of Physics

To whom it may concern

Date: 13 June 2019

## Letter of recommendation on behalf of Vegard Børve Sørdal

I have known Vegard Børve Sørdal since he was a MD student and served as his co-supervisor during both MD and PhD program. Therefore, we had many chances to discuss various aspects of research in physics and related areas of science and technology. Hence, I feel confident in his research and qualifications. In what follows I would like to formulate my impressions.

Probably, the most important side of Vegard's performance is his unusually broad set of interests. He tried several research areas — from low-temperature physics through nonequilibrium thermodynamics of mesoscopic devices to nonequilibrium thermodynamics of systems of DNA. In all these areas, Vegard very quickly acquired sufficiently deep fundamental knowledge. The same can be noticed regarding the employed research methods. He successfully used experimental methods, though his main profession is theoretical physics, both analytical theory and numerical modeling.

It worth emphasizing that in course our joint work Vegard made crucial contributions at all the stages — formulation of main idea, working out physical model and proper analytical theory, numerical simulations, preparing the manuscript. The last paper in his PhD thesis — on the properties of a quantum Szilard engine — was strongly stimulated by his wish to master the machine learning.

Last, but not the least: Vegard has a nice personality; he is a friendly and easy going person.

To summarize, in my opinion, Vegard Børve Sørdal is an extremely able young specialist having a great potential for both research and development. He definitely belongs to the upper crust of my former students. Therefore, I enthusiastically support his application.

Sincerely yours,

Yuri Galperin Professor emeritus, Member of Norwegian Academy of Science and Letters and Royal Norwegian Society of Science and Letters



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