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Concerns: *Reference letter for Dr. Jaromír Fiurášek*
Full Professor academic title

Brussels, February 24rd, 2017.

I am hereby very pleased to recommend the application of Dr. Jaromír Fiurášek for the academic title of Full Professor at Palacky University. I have known Jaromír since 2003, when I had offered him a postdoctoral position in my group, the Centre for Quantum Information and Communication. At the time, he had just completed a Ph.D. thesis at Palacky University and had published a few notable papers on quantum cloning, which had attracted my attention. Soon after he came here and started working under my supervision, I was struck by his deep understanding of quantum optics, his strong motivation, and his impressive work power, all this while he was still a young researcher. This first impression has proved more than right, and, in retrospect, I must say he stands out among the best collaborators whom I have had the pleasure to work with for more than 14 years now. He is undoubtedly an extremely bright and creative scientist, and his prolific scientific production speaks for itself.

His cursus as a Ms. and Ph.D. student at Palacky University was already outstanding, as witnessed by the Czech Head and Vaclav Votruba prizes that he earned in 2003. His early career as a postdoctoral researcher is equally impressive. The two years that he spent in my group in Brussels have been extremely productive. He was, among other things, a main actor in our work on a proposed test of a violation of Bell inequalities that is devoid of experimental loopholes. Probably his most remarkable work at that time is related to the demonstration of the first atomic quantum memory by the group of E. Polzik. He contributed to the theoretical aspects of it and co-authored the resulting paper, which was published in *Nature* and has collected an impressive number of citations since then. After returning to Olomouc in 2004, his scientific career has grown at a high pace, and I have been impressed to see how quickly he became an experienced fully-independent researcher, a group leader, and a professor.

He participated in other "world première" experiments in the field, such as the experimental demonstration of the first entanglement purification scheme for two-mode squeezed states (*Nature Physics*, 2008) or the noiseless amplification of light (*Nature Photonics*, 2011), and he is now widely recognized as an expert in theoretical quantum optics and in "continuous-variable" quantum information science. He is collaborating with some of the best experimental

teams in the field. Notably, aside from these high-impact achievements, he has also been a key actor in the development of a local experimental quantum optics and quantum information activity at Palacky University, which certainly contributes to the international recognition of the university. The prize that he earned from the Minister of Education is a sign that his efforts have been quite appreciated.

Over the last years, Jaromír has also taken on many organizational duties and administrative responsibilities at Palacky University, especially as a head of the Department of Optics since 2015. He is in charge of an impressive number of grants, both locally and at the European level. On the teaching side, I cannot judge on the quality of his activities, of course, but in view of the talks he delivers at conferences, I am confident that he is taking this role to the full satisfaction of his students. Overall, I have the feeling that he has become an invaluable member of the Faculty of Sciences at Palacky University.

On a final note, I would like to mention that, although he was a postdoc in Brussels 14 years ago, I have kept a very fruitful collaboration with him along the years. I must stress that his contributions to our joint publications have often been decisive. Our last collaborative paper (together with the group of R. Schnabel) was published in *Nature Communications* no later than in 2016, which is a sign that his scientific productivity remains strong and is not altered by his responsibilities as a group leader.

In conclusion, I recommend in highest terms the application of Dr. Jaromír Fiurášek for the academic title of Full Professor at Palacky University. He has a very strong research record, witnessed by an h-index 34, and I see him as a particularly talented researcher in theoretical quantum optics. Furthermore, he shows very good organizational skills as a group leader and communication skills when interacting with younger scientists. I am convinced that this academic title, if awarded to him, will help him boost his scientific career to a level that he deserves.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Nicolas J. Cerf', with a long horizontal stroke extending to the right.

Nicolas J. Cerf

Professor

Director of the Centre for Quantum Information and Communication