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Optimization of quantum algorithms for near-term quantum computers

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Optimization of quantum algorithms for near-term quantum computers

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Xavier Bonet-Monroig

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Cover: Two roses that arise from the same root are drawn using quantum gates. Inside them there are mathematical descriptions of quantum circuits. One of the roses has been carefully cared and has grown strong and with bright colors. It is a metaphorical representation of a quantum algorithm that has been successful, with errors fully mitigated. The other rose has not been carefully treated, it has not been able to grow and its colors are dull. It is a metaphorical description of a failed quantum algorithm because errors have not been properly mitigated. Illustration by Cristina Cejudo Vera.

To my family: Anna, Xavi and Ada, and to Mireia for always being there.

“There is a flower... I think she has tamed me...”
Antoine de Saint-Exupéry

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