The subject of Quantum Noise will be briefly introduced. The Physics of the correlators and the fluctuation-dissipation theorem will be explained. The generalization of the latter to steady nonequilibrium states will be discussed. Brief remarks will be made on fundamental constraints on amplification in the quantum domain.

One of the most interesting consequences of the quantum fluctuations is the Casimir force, due to the radiation pressure of the electromagnetic "vacuum". Contrary to existing results, it will be shown that this pressure is negative. An (in principle) straightforward experiment is suggested to confirm that. Both macroscopic and nanometer-scale aspects of the effect will be discussed, along with insights on the subtle questions related to the Casimir effect. The substantial Casimir pressure on a thin conducting film, due to surface plasmons, will be demonstrated.