The General Equation

$$\Box G^{ab} + G^{ps}\left(2 R_{p}{}^{a}{}_{s}{}^{b} - \tfrac{1}{2} g^{ab} R_{ps}\right) = 0$$

The Corresponding Lagrangian

$$\int \cdots \int \sqrt{-g}\left(2R^{ps}R_{ps} - R^2\right) dx^1 dx^2 \ldots dx^n$$

The Scalar Reduction, Derived from the Trace, of the Equation in n Dimensions:

$$\Box R + \left(\frac{n-4}{2n-4}\right)\left(2R^{ps}R_{ps} - R^2\right) = 0$$

(It is notable that for 2 dims there is degeneracy and for 4 dims reduction to $\Box R = 0$.)

The Equation with $\Box R^{ab}$ instead:

$$\Box R^{ab} + 2R^{ps}R_{p}{}^{a}{}_{s}{}^{b} - R R^{ab} - \frac{g^{ab}}{2n-4}\left(2R^{ps}R_{ps} - R^2\right) = 0$$

Further remarks and explanations are given in an associated text file.