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# On systems of parabolic equations with unbounded coefficients (Part I)

In my talk I will consider systems of parabolic equations coupled up to the first order. The coefficients of the equations will be assumed to be defined in the whole $\mathbb{R}^d$ $(d \geq 1)$ and to be possibly unbounded. After a motivation for the study of such systems, I will present some recent results. In particular, I will address the well posedness of the associated Cauchy problem when the initial datum belongs to the space of bounded and continuous functions or to the usual $L^p$-spaces. Some remarkable properties of the solution of such a Cauchy problem in these two settings of functions, will be also discussed.