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Sommario/riassunto	This work is focused on different aspects within the loop of multiscale modeling: On the cellular level, effects of adrenergic regulation and the Long-QT syndrome have been investigated. On the organ level, a model for the excitation conduction system was developed and the role of electrophysiological heterogeneities was analyzed. On the torso level a dynamic model of a deforming heart was created and the effects of tissue conductivities on the solution of the forward problem were evaluated.