THE VIRTUAL PHYSIOLOGICAL HUMAN (VPH) PROJECT, WITH FOCUS ON AN INTEGRATED CORE MODEL OF BLOOD PRESSURE REGULATION

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Thursday, 24 November 2011, 10.45–12.15, Hall A
D1.1b PLENARY SESSION I

European Physiome activity is currently supported under the 7th Framework Program VPH call (Virtual Physiological Human)(Hunter et al. 2011), which has now funded one Network of Excellence (NoE) and more than thirty targeted projects. The mission of the NoE is to coordinate these efforts, explore training possibilities, disseminate information about VPH resources and projects, and furnish a VPH Tool-Kit. The aim of the VPH ToolKit is to foster interoperability among the plethora of models at different scales through the use of markup languages, shared reference ontologies, model repositories, databases, and so on. I will briefly summarize this activity and then focus on progress in the Renal Physiome (Thomas 2009), which is linked to the VPH NoE through the SAPHIR Exemplar Project (Thomas et al. 2008) treating blood pressure regulation and renal physiology in a Guyton-inspired modular modeling environment (Guyton et al. 1972, 1987). Among other items, I will describe the Quantitative Kidney DataBase (QKDB) of experimental measurements and anatomical details relevant for kidney physiology, and preliminary results from an extensive sensitivity analysis of the Guyton models (Hernandez et al. 2011).