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Title of project: Maternal Metabolism and Feto-placental Outcomes Throughout Pregnancy

ABSTRACT

A healthy placenta throughout pregnancy is a prerequisite for healthy growth and development of the fetus. Thus, understanding the mechanisms governing growth and development of the placenta and how this is influenced by the maternal environment throughout pregnancy is important. It will help understand how conditions such as maternal diabetes mellitus and/or obesity affect fetal development through dynamic changes of the placenta.

In the present project, associations between maternal metabolism and placental outcomes will be studied in early and late pregnancy. In addition, longitudinal changes in maternal metabolism throughout pregnancy and their effect on placental and newborn outcomes will be assessed. Primary outcomes will be placental oxygenation early in pregnancy, placental, maternal and neonatal telomere length and miRNA profiles, with a more in-depth analysis of nc886RNA, throughout and at the end of pregnancy.

The purpose of my stay will be to bring together research in this topic within Denmark. I will contribute to above described analyses with providing unique cohorts. In addition, I will bring in my placenta expertise to put the study results into the context of maternal- placental-fetal dialogue with pregnancy dynamics as a new paradigm, and help design new studies.