



**Application number/Title:** 46631 - Gestational Diabetes and subsequent Type 2 Diabetes

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**Keywords provided by the Applicant PI to describe the research project:**  
gwas, gestational diabetes, risk factors, snp, type two diabetes, pregnancy

**Application Lay Summary:**

Many women with diabetes during pregnancy will later become chronically ill with diabetes. These conditions seem to have a lot in common, they occur in women with the same characteristics and share many risk factors. Yet, the question remains, why will some women progress to a chronic Type 2 Diabetes while others who have been ill with gestational diabetes will not.

Historically women are under-represented in the studies of Diabetes, and only lately has the gender influence upon Diabetes course of disease and outcome been recognized. The focus of this study is the strongest risk factor of Diabetes in women, namely Gestational Diabetes.

In this study, we plan to use Machine Learning technology to study the correlation between personal characteristics (for example age, weight, habits) as well as medical (pregnancies, any illnesses, family history of illness) and genetic characteristics (whether an individual has a certain SNP already reported as correlated with Diabetes ) of women with pregnancy diabetes that will become chronically ill in comparison to women who will NOT developed later diabetes. The Machine Learning may spotlight the characteristics highly connected to the risk of subsequent diabetes, and may identify SNPs related to genes responsible for this progression of later disease.

The information from this study may improve the so far unsuccessful attempt to change the course of events by intervention programs since these will be able to focus upon the true target population. The rising rate of Gestational Diabetes further underlines the importance of our study, for the benefit of young women with diabetes in pregnancy.