Pregnancy and the risk of breast cancer

In women, breast cancer is one of the most common cancers diagnosed worldwide. Currently, there are several strategies to treat breast cancer, but its global incidence is predicted to increase in the coming years to 3.2 million new cases diagnosed each year by 2050. The World Health Organization estimates that the annual incidence of mortality due to breast cancer will increase by more than 60% during the next 20 years. This expected dramatic increase in breast cancer incidence and mortality stresses the need for the development of novel and effective prevention strategies. It is well known that if a woman had undergone her first full-term pregnancy early in life (before age 20), her lifetime risk for breast cancer is reduced by 50% compared to women who have never undergone a full-term pregnancy. In contrast, if a woman undergoes her first full-term pregnancy after the age of 35, her risk for breast cancer is increased even more than nulliparous women. In the current generation many women are career oriented and have children later in life. Universally the average age at first birth is on the rise. Hence, it is critical to understand the preventive effect of early parity to devise novel prevention strategies against breast cancer. Although this phenomenon of early parity-induced protection against breast cancer is well established, the mechanisms involved in this protection are not well understood. The ultimate goal of our research is to understand how an early life event like pregnancy influences the development of cancer later in life, which could lead to the development of strategies for the prevention of human breast cancer without adverse effects on health or significant alterations in quality of life.