Dr. Dufour's research interest is to utilize the immunoprotective properties of Sertoli cells as a means to prevent the rejection of co-transplanted cells. Sertoli cells play a critical role in maintaining the immune privileged environment of the testis. Moreover, co-transplantation of rodent Sertoli cells with allogeneic or xenogeneic islets has been shown to reverse diabetes in rodent models without the need for continuous immunosuppression. The ability of Sertoli cells to survive and protect in allogeneic and xenogeneic recipients indicates they likely synthesize and secrete immune-modulating factors that prevent their rejection. Thus, the focus of her research is to identify and characterize immunoprotective factors produced by Sertoli cells as the first step in understanding the mechanisms behind their immunoprotective properties. If the mechanism responsible for this immune protection is identified, it could be used to overcome one of the major problems associated with transplantation by eliminating the need for chronic immunosuppression.

Selected Publications: