Reproductive Immunology in the 21st century deals still with a problem known for decades—the fetus as semi-allograft and its response to the maternal immune system. Therefore, there is a strong need to solve problems like spontaneous and recurrent miscarriages and in addition repeated implantation failure.

In addition, socio-economical changes in an aging society are an additional challenge especially for the reproductive medicine specialist. Although highly developed in vitro fertilization techniques are available, many couples still face the problem of childlessness.

A quite new player in the field is the microbiome of the reproductive tract. For decades is was believed that the uterus is sterile but an up to date analyses revealed that we not only have a vaginal microbiome but also a cervical, uterine, male and even a placental microbiome.

Therefore we would like to invite our colleagues to submit articles that deal with cellular and molecular mechanism in the field of reproductive immunology to this Special Issue.