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Editorial

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I am grateful that we can present to our readers the second Special Issue on spermatogenesis entitled: “Molecular Mechanisms in Spermatogenesis” since our first Special Issue appeared in the summer of 2014. While two years do not seem to be such a long time, the field of spermatogenesis has made unprecedented advances in many fronts since 2014. I am indebted to all contributors of this issue who have taken time out of their busy schedules, amidst research, teaching and administrative responsibilities, to write about their corresponding topics which were not covered in the 2014 Special Issue. It is my belief that articles collected in this issue will benefit many investigators in the field, in particular young scientists who wish to expand their careers studying spermatogenesis in their laboratories. In this issue, we have covered topics on how signaling pathways/molecules modulate spermatogenesis by focusing on phosphoinositide- and phosphatase-based signaling; issues on environmental contaminants and spermatogenesis; germ cell development (e.g., acrosome biogenesis) and regulation (e.g., spermatogonial stem cells (SSCs), retrotransposon silencing in SSCs and undifferentiated spermatogonia); role of polarity proteins, planar cell polarity proteins, and adhesion proteins on spermatogenesis; microtubule (MT)-based cytoskeleton and spermatogenesis; impact of fetal Leydig cell fate on spermatogenesis; and the latest findings regarding the regulation of the blood-testis barrier. More important, we have an article devoted to the regulation of human spermatogenesis and also a manuscript on adjuvin, a potential male contraceptive which is also being used as a study model to investigate the biology of germ cell adhesion in the testis, in particular on its potential health benefits besides contraceptive activity. These two articles should appeal to clinical investigators in the field.

In short, we have provided a well-balanced coverage—from basic science to clinical studies, in regards to molecular mechanisms in spermatogenesis. We also hope that this issue will be beneficial to senior investigators, as well as, young scientists who have embarked on their careers. Of course, some of the proposed hypotheses will be updated, perhaps revised and corrected when more data become available in the field. Nonetheless, this information serves as a helpful guide to investigators at the forefront of research in their specific areas of research.

Furthermore, we have also witnessed and experienced drastic consolidations in the field during these past 2 years. In one way or another, we all have been affected by reduced government funding or infrastructure spending for basic biomedical research across the globe. Perhaps this is due to our rapidly changing world, which has brought new challenges for our governments, forcing them to shift their resources to tackle emerging issues in their countries. As scientists, these changes may seem like setbacks; however, all this helps us to reset our priorities to focus on topics more relevant to human health issues, such as fertility

and infertility. Even though many of us are using flies, worms and rodents in our studies, information from all this work is beneficial to understanding the biology of human spermatogenesis, as noted in an article in this Special Issue.

I am also grateful for the opportunity and trust that Dr. John Davey, the Editor-in-Chief of the journal, has given me to edit this Special Issue. I am also indebted to Ms. Nalini Kannan and Ms. Hoglah Dasari and their staff at the Journal office who have provided extraordinary help during the preparation, peer-review, and production of this Special Issue for the last two years. It is my wish that this issue will be helpful to many scientists for years to come.