

# セミナーのお知らせ

## " A genetic and small molecule understanding of infertility and contraception "

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Date: Nov 5<sup>th</sup> Thursday

Time: 5pm to 6 pm

Location: Taniguchi Memorial Hall (Integrated Life Science Building)

(融合棟 谷口記念講堂)

Over the last two decades, the Matzuk laboratory at Baylor College of Medicine and the Ikawa laboratory at Osaka University have succeeded in producing over 200 mouse models to study reproductive processes *in vivo*. In our International Joint Research Promotion Program proposal, we have brought together our expertise in bioinformatics and manipulation of the mouse genome to characterize the *in vivo* functions and mechanisms of action of novel testis-specific proteins. Using bioinformatics strategies, the Matzuk laboratory identified more than 100 genes that are specifically expressed in mouse testis, that previously had not been functionally characterized *in vitro* or *in vivo*, and that have human orthologs. In parallel, the Ikawa laboratory has become world leaders in using CRISPR/Cas9 technology to rapidly and efficiently manipulate genes *in vivo*. Using our synergistic approaches, our laboratories are focusing on the functional characterization of dozens of novel and evolutionarily-conserved genes expressed during spermatogenesis.

### 参考文献

1. Activin-like kinase 2 functions in peri-implantation uterine signaling in mice and humans. **PLoS Genet.** 2013 Nov;9(11):e1003863.
2. BMPR2 is required for postimplantation uterine function and pregnancy maintenance. **J Clin Invest.** 2013 Jun 3;123(6):2539-50.
3. Growth differentiation factor 9:bone morphogenetic protein 15 heterodimers are potent regulators of ovarian functions. **Proc Natl Acad Sci U S A.** 2013 Feb 19;110(8):E776-85.
4. High-grade serous ovarian cancer arises from fallopian tube in a mouse model. **Proc Natl Acad Sci U S A.** 2012 Mar 6;109(10):3921-6.
5. Transforming growth factor  $\beta$  receptor type 1 is essential for female reproductive tract integrity and function. **PLoS Genet.** 2011 Oct;7(10):e1002320.

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※医学系研究科単位認定の対象となるセミナーです。