FACULTY MENTOR
Taur, Yuan

PROJECT TITLE
Modeling of I-V characteristics of short-channel double-gate MOSFETs above threshold

PROJECT DESCRIPTION
This project will focus on merging two models: an all region continuous I-V model for long channel double-gate (DG) MOSFETs, and a subthreshold region model for short channel DG MOSFETs, into an all region continuous I-V model for short channel DG MOSFETs with velocity saturation. TCAD simulations will be performed to confirm model predictions.

INTERNS NEEDED
1 MS Student

PREREQUISITES
Semiconductor device physics, TCAD simulations, matlab

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PROJECT TITLE
Modeling of output conductance of short-channel MOSFETs in saturation

PROJECT DESCRIPTION
This project will extend a non-GCA model for the saturation region of long channel double gate (DG) MOSFETs to the modeling of output conductance of short channel DG MOSFETs in saturation by adding the 2-D short channel effect. Model validation will be carried out by TCAD simulations.

INTERNS NEEDED
1 BS student

PREREQUISITES
Semiconductor device physics, TCAD simulations, matlab