

# Ximeng Guan

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## EDUCATION

- Sept. 2005 – present **Tsinghua University**, China  
Ph. D. candidate at the Institute of Microelectronics.  
Area of research: semiconductor device modeling and simulation  
Expected graduation date: July, 2010.
- Jan. – Aug. 2008 **Stanford University**, U.S.  
Visiting researcher at the Center for Integrated Systems  
<http://nano.stanford.edu/members.php>
- Sept. 2001– Jul. 2005 **Tsinghua University**, China  
B.E. degree from Department of Electronic Engineering  
GPA: 90.2/100 Rank: 5/164.  
GRE: 1330 (800/800 Quantitative, 530/800 Verbal, 4.5/6 Analytical)

## EXPERIENCES:

- Jul. 2006 – Jul. 2007 Vice chair, IEEE student branch ED chapter in Tsinghua
- Jul. 2006 – Oct. 2006 Intern student, Intel China Ltd. Beijing Branch, programming for transistor modeling and simulation.
- Jul. 2005 – Jul. 2006 Vice chair, IEEE student branch in Tsinghua, organizing lectures given by IEEE fellows and co-hosting IEEE Region 10 student congress in Beijing

## HONORS/AWARDS

- Dec. 2009 [IEEE Electron Device Society PhD Student Fellowship](#)
- Jan. 2007 Chenming Hu Scholarship for outstanding research and school performance
- Nov. 2005 Second-place Prize for Intel's High Performance Computation and Optimization Contest in China
- Jul. 2005 Graduate with honor (57 out of 3801), Honeywell Scholarship for overall merit, Excellent Graduate Thesis, Tsinghua University
- 2001-2005 Scholarship for excellent curricular performance every year, Tsinghua University

## SKILL SETS:

- Languages:** English, Chinese. **Programming:** C, CUDA, MATLAB, Bash.
- Computer Experience:** Linux, Solaris, Windows, MS Office, LaTeX, MS Visual Studio 6.0, OpenMP/MPI, Intel ICC/vTune/MKL/Thread Profiler, HSPICE, Cadence SpectreRF/Virtuoso, DESSIS.

## ADDITIONAL INFORMATION:

- Membership:** Student member of IEEE.
- Hobby:** Music and dancing (Slow Waltz, Viennese Waltz, Tango, Rumba and Chacha).

## PUBLICATIONS:

- [1] **Ximeng Guan**, Yu He, Liang Zhao, Jinyu Zhang, Yan Wang, He Qian, and Zhiping Yu, "Simulation Study of Switching Mechanism in Carbon-Based Resistive Memory with Molecular Dynamics and Extended Hückel Theory-Based NEGF Method," International Electron Devices Meeting (**IEDM**), Baltimore, MD, USA, Dec. 7-9, 2009 (to be presented).
- [2] **Ximeng Guan**, Qiushi Ran, Ming Zhang, Zhiping Yu, and H.-S. Philip Wong, "Modeling of Schottky and ohmic contacts between metal and graphene nanoribbons using extended Haeckel theory-based (EHT) NEGF Method," International Electron Devices Meeting (**IEDM**) Tech. Dig., pp. 197-200, San Francisco, CA, USA, Dec. 14-17, 2008. [[PDF](#)]
- [3] **Ximeng Guan**, Ming Zhang, and Zhiping Yu, "Surviving process variation: Investigation of CNR MOSFETs with tapered channels using fully self-consistent NEGF and tight-binding methods," IEEE Electron Device Letters (**IEEE EDL**) Vol. 29, Issue 7, pp. 759-761, 2008. [[PDF](#)]
- [4] **Ximeng Guan**, Ming Zhang, Qiang Liu, and Zhiping Yu, "Simulation investigation of double-gate CNR-MOSFETs with a fully self-consistent NEGF and TB method," International Electron Devices Meeting

- (**IEDM**) Tech. Dig., pp. 761-764, Washington D.C., USA, Dec. 10-12, 2007. [[PDF](#)]
- [5] **Ximeng Guan**, Yaohua Tan, Jing Lu, Yan Wang, and Zhiping Yu, "A self-consistent simulation of InSb double-gate MOSFETs using full-band tight-binding approach," **SISPAD** Proc. pp. 161-164, Vienna, Austria, Sept. 25-27, 2007. [[PDF](#)]
- [6] **Ximeng Guan**, Liu Yang, and Zhiping Yu, "Monte Carlo Simulation of Electron Mobility in Strained Si DG-FETs with TB Bandstructure Calculation," IWCE 07, online version in **Journal of Computational Electronics**, vol. 7, Issue 3 (special issue for IWCE), pp. 192-196, Sept. 2008. [[PDF](#)]
- [7] **Ximeng Guan**, and Zhiping Yu, "Atomistic Approach to Thickness-Dependent Bandstructure Calculation of InSb UTB," **IEEE Transactions on Nanotechnology (IEEE TNANO)**, vol. 6, p. 101, Jan. 2007. [[PDF](#)]
- [8] **Ximeng Guan**, Jing Lu, Yan Wang, and Zhiping Yu, "Atomistic-Level Modeling for Thickness Dependence of Electron Mobility in InSb QW-FETs," **SISPAD'06**, p. 248, Monterey Plaza Hotel, Monterey, CA, USA., September 6-8, 2006. [[PDF](#)]
- [9] **Ximeng Guan**, and Zhiping Yu, "Fast Algorithm for Bandstructure Calculation in Si Nanowires Using Supercell Approach," Special Issue on Computational Methods and Techniques for Nanoscale Technology Computer Aided Design, the International Journal of Computational Science and Engineering (**IJCSE**), Vol. 2, Issue 3/4, pp. 129~133, 2006. [[PDF](#)]
- [10] **Ximeng Guan**, and Zhiping Yu, "Orientation-Dependent Energy Bandstructure Calculation for Silicon Nanowires Using Supercell Approach with the Tight-Binding Method," **IEEE Conference on Electron Devices and Solid-State Circuits (EDSSC'05)**, p. 19, Hong Kong, Dec. 2005. [[PDF](#)]
- [11] **Ximeng Guan**, and Zhiping Yu, "Supercell Approach in Tight-Binding (TB) Calculation of Si and Ge Nanowire Bandstructure," **Chinese Physics Letters (CPL)**, vol. 22 p. 2651, 2005. [[PDF](#)]
- [12] Jenny Hu, **Ximeng Guan**, Donghun Choi, James S. Harris, Krishna C. Saraswat, and H.-S. Philip Wong, "Fermi level depinning for the design of III-V FET source/drain contacts," 16th International Symposium on VLSI Technology, Systems and Applications (**2009 VLSI-TSA**), Hsinchu, Twaiwan, 27-29 April, 2009. [[PDF online soon](#)]
- [13] Qiushi Ran, Mingzhi Gao, **Ximeng Guan**, Yan Wang, and Zhiping Yu, "First-principles investigation on bonding formation and electronic structure of metal-graphene contacts," **Applied Physics Letters (APL)**, vol. 94, 103511, Mar. 2009. [[PDF](#)]
- [14] Liu Yang, **Ximeng Guan**, and Zhiping Yu, "A Direct Solution Method for Carrier Transport Using Markov Process Representation," **Journal of Computational Electronics (J. Comput. Electron.)**, online first, Feb. 2008. [[PDF](#)]
- [15] Ming Zhang, Qiushi Ran, **Ximeng Guan**, and Zhiping Yu, "Comparative Simulation Study of GNR-FETs using EHT- and TB-based NEGF," 2008 International Conference on Simulation of Semiconductor Processes and Devices (**SISPAD'08**), p. 165, Sept. 9-11, Hakone, Japan, 2008.
- [16] Tao Li, **Ximeng Guan**, Zhiping Yu, and Wei Xue, "Computation of Si Nanowire Bandstructures on Parallel Machines Through Domain Decomposition," **Lecture Notes in Computer Science (ICCS'06)**, vol. 3991, pp. 250-257, 2006. [[PDF](#)]