

Bin Wu

Male Birth: 10/10/1985

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EDUCATION:

PhD, Power Electronics, GPA 3.825/4.0

University of California, Irvine (UCI)

2011.9-2015.12(expected)

MS, Power Electronics, GPA 85/100

Xi'an Jiao tong University, Xi'an, China (XJTU)

2008.9-2011.3

BS, Electrical Engineering, GPA 3.73/4.0

Zhejiang University, Hangzhou, China(ZJU)

2004.9-2008.6

PROJECT EXPERIENCE:

PhD:

2013.6-now

Hybrid Converter, Energy Harvest

Developed a family of new hybrid converters for high gain application, developed a modified buck-boost converter for low power energy harvest application

2012.6-2014.9

Switched Capacitor converter project (The US-Israel Binational Science Foundation (BSF), Grand NO. 2011507)

Developed a new topology of step up SC converter, derived the model and regulation method

2011.9-2012.9

Review of Micro-inverter, MPPT technology

MS:

2010.8-2011.5

500kW three-phase solar grid-connected inverter

Main job: Cooperator, Control algorithm simulation and experimental debugging

2010.6-2011.11

Constructing of solar panel –battery – super capacitor hybrid energy system in solar car

Main job: Project leader, organizing the technical group, hardware construction, mechanical design

2009.6-2010.4

Micro-grid simulation based on PACAD/EMTDC (High Technology Research and Development Program (863 Program) of China, Grant NO. 2008AA05Z215)

Main job: In charge for software and modeling, Construction of a Micro-grid fast simulation platform

2008.10-2009.5

1kW Solar Grid-connected inverters

Main job: Project leader, Coding through XE164 and circuit debugging

BS:

2007.5-2008.5

Science Research Training Project (SRTP): A research of a super-high speed motor driver

Main job: Project leader, control board designing and coding through AVR MCU. Grade: 91/100

2007.6-2008.5

2007-2008 ZJU "Challenge Cup" Competition: A novel power line communication technology research

Main job: Project leader, circuit construction, programming and debugging. Grade: First Price

2007.6-2007.7

Designing of a 30W DC-DC forward converter

Main job: Project leader, Components designing and circuit debugging. Grade: excellent

WORK EXPERIENCE:

2013.6-2013.9

Broadcom PMU group, Headquarter, Irvine, USA

Intern: Testing for switchers, LDO, fuel gauge, analysis of converter efficiency, get familiar with automation testing system through LabVIEW

2011.6-2011.8

Silergy, Headquarter, Hangzhou, China

Intern: DMPPT control for solar panel array, product commercialized

2010.8-2011.2 GE, Department of "Appliance & Lighting", Xi'an, China
Intern : Research on three-phase passive P.F.C circuit for LED driver, good job

2008.6-2008.8 PHILIPS, Global Research Center (Shanghai), China
Intern: DBD (Dielectric Barrier Discharges) driver for water processing, product patented

TEACHING EXPERIENC:

2015 winter: Lab TA for EECS166/267A Industrial and power Electronics (Graduate Course)
Job: Teaching power electronics circuits in lab class, guiding students to do simulation through Pspice, illustrating magnetic components design, compensator design, hardware construction, debugging, and lab equipment utilization

2014 winter: Same as 2015 winter quarter

2013 fall: Class TA for EECS160A Introduction to control systems (Undergraduate Class)
Job: Teaching class materials in class when instructor was out of town, explain homework and exam problems in discussion classes, help students individually in office hour

HONORS & AWARDS:

2013.8 First Place in Broadcom Creativity and Innovation 2013 Intern Hack-A-thon

2010.9 MPS enterprise scholarship

2009.4 Price for excellence in "2009 Infineon Cup" solar power application design competition

2008.6 2007-2008 ZJU "Challenge Cup" competition: First price

2006 2005-2006 Calculus competition of Zhejiang Province: second price

2005~2006 Research and innovation scholarship: second price

2004~2005 National scholarship: First price

TECHNIQUE SKILLS:

Hardware: AVR micro-controller, Arm micro-controller, Infineon XE164 controller, TI 28335, Protel99, Protel DXP, Altium Designer 6.

Software: MATLAB, PSCAD, PSIM, Pspice, Saber, Verilog, C, Cadence

Language: Mandarin-Mother Tone, English-Fluent

PATENTS & PUBLICATIONS:

US Patents:

Bin Wu, Keyue Smedley, A family of Hybrid Boosting Converters (pending)

Bin Wu, Keyue Smedley, A family of two-switch boosting switched-capacitor Converter (TBSC) (pending)

Chenyang Liu, Ang Ding, **Bin Wu**, Circuit for converting dc into ac pulsed voltage. Patent No: US20120104960 A1; Issued date: 2012.5.3;

Chenyang Liu, Ang Ding, **Bin Wu**, Circuit for converting dc into ac pulsed voltage. Patent No: US20120106214 A1;

Issued date: 2012.5.3;

Publications:

Conference papers:

B. Wu, S. Keyue, and S. Sigmond, "A new 3X interleaved bidirectional switched capacitor converter," in 2014 IEEE Applied Power Electronics Conference and Exposition - APEC 2014, 2014, pp. 1433-1439.

B. Wu, S. Keyue, F. Ieee, and A. Aviv, "A Unified Switched Capacitor Converter," Energy Convers. Congr. Expo. (ECCE), 2014 IEEE, pp. 2781-2786, 2014.

B. Wu, S. Li, S. Keyue, and F. Ieee, "A New Hybrid Boosting Converter," Energy Convers. Congr. Expo. (ECCE), 2014 IEEE, pp. 3349-3354, 2014.

B. Wu and S. Keyue, "A current control MPPT method in high power solar energy conversion system," in 2014 IEEE Applied Power Electronics Conference and Exposition - APEC 2014, 2014, no. 1, pp. 3021-3025.

B. Wu and S. Keyue, "A New Isolated Hybrid Boosting Converter," in 2015 IEEE Applied Power Electronics Conference and Exposition - APEC 2015(Accepted)

S. Li, **B. Wu**, K. Smedley, and R. Aviv, "Analysis and Design of a 1-kW 3X Interleaved Switched-Capacitor DC-DC Converter," Energy Convers. Congr. Expo. (ECCE), 2014 IEEE, pp. 1692–1698, 2014.

B. Wu, F. Zhuo, F. Long, W. Gu, Y. Qing, and Y. Liu, "A management strategy for solar panel — battery — super capacitor hybrid energy system in solar car," 8th Int. Conf. Power Electron. - ECCE Asia, vol. 2, pp. 1682–1687, May 2011.

B. Wu, J. Liu, and F. Zhuo, "The Micro-Grid fast simulation platform exploitation based on PSCAD," 2011 Twenty-Sixth Annu. IEEE Appl. Power Electron. Conf. Expo., pp. 1737–1742, Mar. 2011.

Journal papers:

Bin Wu, Shouxiang Li, Keyue Smedley, and Sigmond Singer, "A Family of Two-Switch Boosting Switched-Capacitor Converters," **IEEE Trans. Power Electron.(accepted)**

Bin Wu, Shouxiang Li, Yao Liu, Keyue Smedley,"A New Hybrid Boosting Converter (HBC) for Renewable Energy Applications," **IEEE Trans. Power Electron. (accepted)**