

# JULIET ALISON RUBINSTEIN (FORMERLY JULIET HOLWILL)

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<b>RESEARCH INTERESTS</b>	Research interests include CAD and DFM for lithography, pattern matching and double patterning. I am currently seeking full time opportunities starting in January 2010.
<b>EDUCATION</b>	<b>UNIVERSITY OF CALIFORNIA, BERKELEY, PH.D CANDIDATE</b> PhD. Electrical Engineering & Computer Sciences December 2009 M.S. Electrical Engineering & Computer Sciences December 2007 Management of Technology Certificate May 2009 Research Advisor: Professor Andrew Neureuther
	<b>CARNEGIE MELLON UNIVERSITY</b> Semester abroad, Computer Engineering and Computer Science Spring 2004
	<b>UNIVERSITY OF MELBOURNE, AUSTRALIA</b> Bachelor of Engineering (First Class Hons) in Computer Engineering August 2004 Bachelor of Science in Computer Science August 2004
<b>HONORS &amp; AWARDS</b>	<ul style="list-style-type: none"><li>· Intel Foundation Fellowship, 2008/2009</li><li>· Cymer Best Student Paper Award for the Optical Microlithography Conference, 2008</li><li>· UC Berkeley Underwriter scholarship to attend Grace Hopper Conference, 2007</li><li>· Intern of the Summer, AMD, Summer 2006</li><li>· Carnegie Institute of Technology Dean's List, Carnegie Mellon University, Spring 2004</li><li>· Esso Mobil Dean's Honours List, Faculty of Engineering, University of Melbourne, 2004</li><li>· Melbourne Abroad Scholarship for exchange to Carnegie Mellon University, 2003</li><li>· Siemen's Prize – Third year. Top third year student in EE at the University of Melbourne, 2002</li><li>· Australian Broadcasting Commission Scholarship for Women in Engineering, 2002</li><li>· Year-In-Industry Scholarship, Australian Nuclear Science and Technology Organisation, 2001</li></ul>
<b>RESEARCH EXPERIENCE</b>	<b>UNIVERSITY OF CALIFORNIA, BERKELEY</b> <i>Graduate Student Researcher, Advisor: Prof. Andrew R. Neureuther</i> Jan 2005 - Present Researching Pattern Matching for Advanced Lithographic Technologies such as double patterning, polarization, off-axis illumination and high NA. Also researched electric test monitors for aberrations.
	<b>UNIVERSITY OF MELBOURNE, AUSTRALIA</b> <i>Undergraduate Student Researcher, Advisor: Prof. Aaron Harwood</i> May – July 2004 Theoretical analysis of a dynamic peer-to-peer protocol.
<b>PROFESSIONAL EXPERIENCE</b>	<b>MENTOR GRAPHICS</b> SAN JOSE, CA <i>Summer Intern, Mentor: Yue Yang, Manager: Dr. Pradiptya Ghosh</i> Summer 2008 Investigation and implementation of efficient and effective pattern matching techniques for applications in lithography.
	<b>ADVANCED MICRO DEVICES (AMD)</b> SUNNYVALE, CA <i>Lithography Intern, Advisor: Jongwook Kye, Manager: Dr. Harry Levinson</i> Summer 2006 Analysis of process variation at the 32nm node, including statistical analysis of yield depending on process parameter distributions.
	<b>MOTOROLA</b> ADELAIDE, AUSTRALIA <i>Embedded Design Summer Intern, Manager: Des Lawless</i> Dec 2002 – Feb 2003 Designed and implemented a synthesizable testbench for a DSPI. The testbench was ported to FPGA to test at high speeds. ~1000 lines of synthesizable verilog was written, and at least 4 bugs were found.
	<b>SPATIALINFO</b> MELBOURNE, AUSTRALIA <i>Software Repair Engineer</i> Feb 2002 – June 2003 Found and corrected corruptions in a nation-wide relational database and graphical information system.

**FIBREMAKERS***Summer Intern*

Procedure preparation for a synthetic yarn manufacturer. Created and updated over thirty procedures for operations including laboratory procedures, colour control, entangling/twisting procedures.

**MELBOURNE, AUSTRALIA**

Dec 2001 – Feb 2002

**AUSTRALIAN NUCLEAR SCIENCE AND TECHNOLOGY ORGANISATION***Year-in-industry Scholar, Advisor: David Wassink*

Jan – Jul 2001

Specified, designed and implemented a control system for the Water Tunnel valves and pump. This involved programming PIC microcontrollers, interfacing the system with a keypad and LCD, and designing a communications protocol. Data acquisition using LabVIEW was also performed.

**TEACHING  
EXPERIENCE****UNIVERSITY OF CALIFORNIA, BERKELEY***Graduate Student Instructor, CS61B Data Structures*

Fall 2004

Leading discussion sections and laboratories, preparing exercises and solutions, grading exams.

**UNIVERSITY OF MELBOURNE, AUSTRALIA***Laboratory Demonstrator, 433-252 Software Engineering Tools & Principles*

Mar – Jun 2003

Teaching and guiding students in practical programming exercises.

**PUBLICATIONS****(NOTE THAT I HAVE PUBLISHED AS BOTH J. RUBINSTEIN AND J. HOLWILL)**

1. J. Rubinstein, A. Neureuther, "Through-focus pattern matching applied to double patterning", to appear in SPIE Advanced Lithography Proceedings 2009.
2. Wojtek J. Poppe, Andrew R. Neureuther, Patrick Au, Darshana Jayasuriya, Juliet A. Rubinstein, "Tiny footprint programmable electric defocus monitors", to appear in SPIE Advanced Lithography Proceedings 2009.
3. J. Rubinstein, A. Neureuther, "Post Decomposition Assessment of Double Patterning Layout," Proceedings of the SPIE, Volume 6924, pp. 69240O-69240O-12 (2008) **WINNER OF BEST STUDENT PAPER AWARD**
4. J. Rubinstein, A. Neureuther, "Images in Photoresist for self-interferometric electrical image monitors," Proceedings of the SPIE, Volume 6730, pp. 673039 (2007)
5. Marshal Miller, Andrew Neureuther, Daniel Ceperley, Juliet Rubinstein, Koji Kikuchi, "Characterization and monitoring of photomask edge effects," Proceedings of the SPIE, Volume 6730, pp. 67301U (2007)
6. J. Holwill, and A. Neureuther, "DRC Friendly Pattern and Probe Aberration Monitors," Proceedings of the SPIE, Volume 6521, pp. 65211U (2007).
7. J. Holwill, Kye, J and Zou, Y, "Statistical Analysis of Gate CD Variation for Yield Optimization," Proceedings of the SPIE, Volume 6521, pp. 65211P (2007).
8. E. Chin, J. Holwill, and A. Neureuther, "Prediction of Interconnect Delay Variations using Pattern Matching," Proceedings of the SPIE 6521, pp. 65210I (2007).
9. W. J. Poppe, J. A. Holwill, P. D. Friedberg, L. Alarcon, L. Pang, Q. Liu, A. R. Neureuther, "Transistor-based electrical test structures for lithography and process characterization," Proceedings of the SPIE 6520, pp. 65203N (2007).
10. A. Neureuther, W. Poppe, J. Holwill, et al., "Collaborative platform, tool-kit, and physical models for DFM", Proceedings of the SPIE 6521, pp. 652104 (2007)
11. J. Holwill, and A. Neureuther, "Self-Interferometric Electrical Image Monitors," Proceedings of the SPIE, Volume 6152, pp. 408-415 (2006).
12. J. Holwill, G. McIntyre, W. Poppe, and A. Neureuther, "Layout 'Hot Spots' for Advancing Optical Technologies," Proceedings of the SPIE, Volume 6154, pp. 1212-1220 (2006).
13. G. McIntyre, J. Holwill, A. Neureuther, L. Capodici, Y. Zou, H. Levinson, and J. Kye, "Screening layouts for high-NA polarization effects using pattern matching," Journal of Vacuum Science & Technology B: Microelectronics and Nanometer Structures -- November 2005 -- Volume 23, Issue 6, pp. 2646-2652

**SERVICE**

Co-President for Women in Computer Science and Electrical Engineering, UC Berkeley, 2006-2007.

**INTERESTS**

Travel (over 15 countries), learning and speaking German, badminton, ballet.

**REFEREES**

Available upon request.