

## ***NEWS RELEASE***

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### **MIT OpenCourseWare Adds Course on Bluespec Methodology**

*ESL Synthesis Instruction Now Available to Educators, Self-Learners, Students*

**Waltham, Mass. — January 5, 2006** — MIT's web-based publishing initiative

OpenCourseWare (MIT OCW) today added course material that teaches a new methodology for the design of multi-million gate integrated circuits (ICs). The backbone of the course is Bluespec Inc.'s electronic system level (ESL) synthesis software, the only ESL synthesis solution for control logic and complex datapaths in chip design today.

MIT OCW offers free, open access to educational materials from 1259 MIT courses for educators, self-learners, and students around the world for self-study or supplementary use. "Course 6.884 — Complex Digital Systems," was developed by MIT's Professor Arvind and MIT Associate Professor Krste Asanovic.

"It's time to set a new bar in what we can expect students to have designed while in college," says Shiv Tasker, chief executive officer at Bluespec. "The days of

designing a filter as your master's thesis are long gone. We should expect students to implement a million gate design in a semester.”

Bluespec's EDA software toolset incorporates Term Rewriting Systems (TRS)-based synthesis, a groundbreaking technology developed by Professor Arvind and his students, to enable HW designers to generate control logic on a correct-by-compiler construction basis. Hardware designers can raise the level of abstraction of application specific IC (ASIC) and field programmable gate array (FPGA) designs while retaining the ability to automatically synthesize register transfer level (RTL) code, without compromising speed, power or area. This methodology reduces development costs for complex, customizable designs, allowing semiconductor manufacturers to support smaller markets with more targeted solutions.

Materials posted online related to Bluespec are course lecture notes and lab materials that include descriptions and information on technology and scaling; area, delay, and power dissipation of gates and interconnect; VLSI implementation styles emphasizing cell-based ICs and FPGAs; hardware description languages (HDLs) including Verilog and Bluespec; clocking, power distribution, packaging, I/O, and fabrication testing.

The course is available online at: <http://ocw.mit.edu/OcwWeb/Electrical-Engineering-and-Computer-Science/6-884Spring-2005/CourseHome/index.htm>.

“Anytime we can publish cutting-edge course material with strong real-world application such as the course based on Bluespec's methodology, we advance MIT's goal of openly sharing useful information on a global scale,” remarks Anne Margulies, executive director of MIT OpenCourseWare. “We are pleased to add this course to our

publication, and look forward to the advanced learning that it will provide to the greater education community.”

The MIT OCW project launched in September 2002 with joint funding from the William and Flora Hewlett Foundation, the Andrew W. Mellon Foundation, and MIT. It is an internationally recognized educational resource where content can be used, copied, distributed, translated, and modified by anyone, anywhere in the world. It is required that the material use be non-commercial, that the original MIT faculty authors receive attribution if the materials are republished or reposted online, and that adapters openly share materials in the same manner as MIT OCW.

### **About MIT OpenCourseWare**

MIT OpenCourseWare (MIT OCW), available at <http://ocw.mit.edu>, makes course materials used in the teaching of all MIT undergraduate and graduate subjects available on the web, free of charge, to any user in the world. Educators use the materials for curriculum development, while students and self-learners around the globe utilize them for self-study or supplementary learning. MIT OCW is not a degree-granting or credit-bearing initiative, it is an open web-based publication of the MIT faculty’s educational materials. With 1,250 courses now available, MIT OCW is delivering on the promise of open sharing of knowledge.

### **About Bluespec**

Bluespec Inc. manufactures an industry standards-based Electronic Design Automation (EDA) toolset that significantly raises the level of abstraction for hardware design while retaining the ability to automatically synthesize high-quality RTL, without compromising speed, power or area. The toolset, the only one focused on control and

complex datapaths, allows ASIC and FPGA designers to reduce design time, bugs and re-spins that contribute to product delays and escalating costs. More information can be found on [www.bluespec.com](http://www.bluespec.com) or by calling (781) 250-2200.

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