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## A “DEVELOPER’S TOOLKIT” FROM MORGAN KAUFMANN

Three Morgan Kaufmann Books Provide Software Engineers  
With the Tools They Need to Take Advantage of the Latest in Programming

**Burlington, MA – March 29<sup>th</sup>, 2011** – Leveraging advances in software design – cloud, mobile, and parallel/heterogeneous computing – is critical to success. Three new [Morgan Kaufmann](#) books provide the tools to design cutting edge systems.



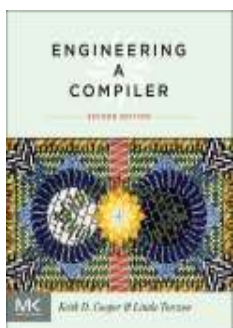
**[An Introduction to Parallel Programming](#)** by Peter Pacheco uses a tutorial approach to show students how to develop effective parallel programs with MPI, Pthreads, and OpenMP. The first undergraduate text to directly address compiling and running parallel programs on the new multi-core and cluster architecture, *An Introduction to Parallel Programming* explains how to design, debug, and evaluate the performance of distributed and shared-memory programs. User-friendly exercises teach students how to compile, run and modify example programs.

### **Advance Praise for Pacheco’s *An Introduction to Parallel Programming***

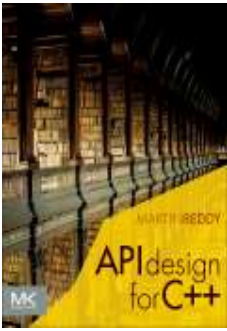
*With the coming of multicore processors and the cloud, parallel computing is most certainly not a niche area off in a corner of the computing world. Parallelism has become central to the efficient use of resources, and this new textbook by Peter Pacheco will go a long way toward introducing students early in their academic careers to both the art and practice of parallel computing.* -- Duncan Buell, Department of Computer Science and Engineering, University of South Carolina

*An Introduction to Parallel Programming illustrates fundamental programming principles in the increasingly important area of shared memory programming using Pthreads and OpenMP and distributed memory programming using MPI. More importantly, it emphasizes good programming practices by indicating potential performance pitfalls. These topics are presented in the context of a variety of disciplines including computer science, physics and mathematics. The chapters include numerous programming exercises that range from easy to very challenging. This is an ideal book for students or professionals looking to learn parallel programming skills or to refresh their knowledge.* -- Leigh Little, Department of Computational Science, The College at Brockport, The State University of New York

*An Introduction to Parallel Programming is a well written, comprehensive book on the field of parallel computing. Students and practitioners alike will appreciate the relevant, up-to-date information. Peter Pacheco’s very accessible writing style combined with numerous interesting examples keeps the reader’s attention. In a field that races forward at a dizzying pace, this book hangs on for the wild ride covering the ins and outs of parallel hardware and software.* -- Kathy J. Liszka, Department of Computer Science, University of Akron



**[Engineering a Compiler, 2<sup>nd</sup> Edition](#)** by Keith Cooper and Linda Torczon is full of technical updates and new material covering the latest developments in compiler technology. In this comprehensive text you will learn important techniques for constructing a modern compiler. Leading educators and researchers Keith Cooper and Linda Torczon combine basic principles with pragmatic insights from their experience building state-of-the-art compilers. They will help you fully understand important techniques such as compilation of imperative and object-oriented languages, construction of static single assignment forms, instruction scheduling, and graph-coloring register allocation.



[API Design for C++](#) by **Martin Reddy** covers all of the strategies of world-class API development. Martin Reddy draws on over fifteen years of experience in the software industry to offer in-depth discussions of interface design, documentation, testing, and the advanced topics of scripting and plug-in extensibility. Throughout, he focuses on various API styles and patterns that will allow you to produce elegant and durable libraries. With this book, which includes extensive C++ code to illustrate each concept, readers will learn how to design a good API for large-scale long-term projects.

### About the Authors

**Peter Pacheco** received a PhD in mathematics from Florida State University. After completing graduate school, he became one of the first professors in UCLA's "Program in Computing," which teaches basic computer science to students at the College of Letters and Sciences there. Since leaving UCLA, he has been on the faculty of the University of San Francisco. At USF Peter has served as chair of the computer science department and is currently chair of the mathematics department. His research is in parallel scientific computing. He has worked on the development of parallel software for circuit simulation, speech recognition, and the simulation of large networks of biologically accurate neurons. Peter has been teaching parallel computing at both the undergraduate and graduate levels for nearly twenty years. He is the author of Parallel Programming with MPI, published by Morgan Kaufmann Publishers.

**Dr. Keith Cooper**, Professor, Dept. of Computer Science at Rice University, is the leader of the Massively Scalar Compiler Project at Rice, which investigates issues relating to optimization and code generation for modern machines. He is also a member of the Center for High Performance Software Research, the Computer and Information Technology Institute, and the Center for Multimedia Communication -- all at Rice. He teaches courses in Compiler Construction at the undergraduate and graduate level.

**Linda Torczon**, Senior Research Scientist in the Department of Computer Science at Rice University, is a principal investigator on the Platform-Aware Compilation Environment project (PACE), a DARPA-sponsored project that is developing an optimizing compiler environment which automatically adjusts its optimizations and strategies to new platforms. From 1990 to 2000, Dr. Torczon served as executive director of the Center for Research on Parallel Computation (CRPC), a National Science Foundation Science and Technology Center. In this capacity, she coordinated extensive research efforts, education and outreach programs, and technology transfer activities. She also served as the executive director of HiPerSoft, of the Los Alamos Computer Science Institute, and of the Virtual Grid Application Development Software Project (VGrADS).

**Dr. Martin Reddy** is the founder and CEO of the software consultancy firm Code Reddy Inc. He holds a Ph.D. in Computer Science and has over 15 years of experience in the software industry. During this time, he has written 3 software patents and has published over 40 professional articles and a book on 3D computer graphics. Dr. Reddy worked for 6 years at Pixar Animation Studios where he was lead engineer for the studio's in-house animation system. This work involved the design and implementation of various APIs to support several Academy Award-winning and nominated films, such as "Finding Nemo", "The Incredibles", "Cars", "Ratatouille", and "Wall-E." Dr. Reddy currently works for Linden Lab on the Second Life Viewer, an online 3D virtual world that has been used by over 16 million users around the world. His work is currently focused on a radical redesign of the Second Life Viewer, putting in place a suite of robust APIs to enable extensibility and scriptability.

### New Releases

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#### [An Introduction to Parallel Programming](#)

By Peter Pacheco

ISBN: 9780123742605

Feb 2011 | Softcover | 372 pp

79.95 USD | 57.95 EUR | 48.99 GBP

#### [Engineering a Compiler, 2<sup>nd</sup> Edition](#)

By Keith Cooper and Linda Torczon

ISBN: 9780120884780

Feb 2011 | Softcover | 804 pp

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#### [API Design for C++](#)

By Martin Reddy

ISBN: 9780123850034

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### COMING SOON

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By Dean Allemang and James Hendler

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