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# Languages and Compilers for Parallel Computing

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# Foreword

This book contains the papers presented at the Fourth Workshop on Languages and Compilers for Parallel Computing held during August 7-9, 1991 in Santa Clara, California. The workshop was sponsored this year by the Intel Corporation. The previous workshops in this series were held in Irvine, California (1990), Urbana, Illinois (1989), and Ithaca, New York (1988).

The papers in this book cover several important topics including: (1) languages and structures to represent programs internally in the compiler, (2) techniques to analyze and manipulate sequential loops in order to generate a parallel version, (3) techniques to detect and extract fine-grain parallelism, (4) scheduling and memory-management issues in automatically-generated parallel programs, (5) Parallel programming language designs, and (6) compilation of explicitly parallel programs.

We are very pleased with the breadth and depth of the work presented in these papers. Taken together, these papers are an accurate reflection of the state of research in languages and compilers for parallel computing in 1991. We hope this book will be as interesting to the reader as it was for us to compile.

January 1992

Utpal Banerjee  
David Gelernter  
Alex Nicolau  
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