1 Introduction

The Message-Passing Interface or MPI is a library of functions and macros that can be used in C, FORTRAN, and C++ programs. As its name implies, MPI is intended for use in programs that exploit the existence of multiple processors by message-passing.

MPI was developed in 1993–1994 by a group of researchers from industry, government, and academia. As such, it is one of the first standards for programming parallel processors, and it is the first that is based on message-passing.

This *User's Guide* is a brief tutorial introduction to some of the more important features of MPI for C programmers. It is intended for use by programmers who have some experience using C but little experience with message-passing. It is based on parts of the book [6], which is to be published by Morgan Kaufmann. For comprehensive guides to MPI see [4], [5] and [2]. For an extended, elementary introduction, see [6].

Acknowledgments. My thanks to nCUBE and the USF faculty development fund for their support of the work that went into the preparation of this *Guide*. Work on MPI was supported in part by the Advanced Research Projects Agency under contract number NSF-ASC-9310330, administered by the National Science Foundation's Division of Advanced Scientific Computing. The author gratefully acknowledges use of the Argonne High-Performance Computing Research Facility. The HPCRF is funded principally by the U.S. Department of Energy Office of Scientific Computing.

Copying. This *Guide* may be freely copied and redistributed provided such copying and redistribution is not done for profit.