INTRODUCTION

This volume of **Homology, Homotopy, and Applications** includes papers submitted by the participants of a workshop in equivariant stable homotopy theory and related areas which was held at Stanford University during the period August 23-27, 2000, at Stanford University. The workshop was generously supported by the American Institute of Mathematics (AIM), the National Science Foundation, and the Mathematics Research Center in the Mathematics Department at Stanford University, and I would like to thank them all for their support. Equivariant stable homotopy theory is one of the first examples of what can be called "structured homotopy theory", meaning homotopy of objects with structure beyond just a topology or simplicial set structure. Structured homotopy theory is a subject now undergoing rapid development, motivated in part by the recent spectacular developments in motivic cohomology. For this reason, it seemed particularly apt to examine current state of equivariant homotopy theory, both to see where we are now and where we would like to go. The papers in this volume reflect these directions, and we include a list of problems in the general area of equivariant homotopy theory suggested by the participants. We hope that it will be a useful reference for others working in the field.

I would also like to thank the participants for making the workshop such a pleasant and productive occasion.

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