Biomechanics IV

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**International Series
on Sport Sciences, Volume 1**

BIOMECHANICS IV

**Proceedings of the Fourth International Seminar
on Biomechanics, University Park, Pennsylvania**

**Editors: Richard C. Nelson and Chauncey A. Morehouse
The Pennsylvania State University**

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Preface

This volume contains most of the papers presented at the Fourth International Seminar on Biomechanics held at The Pennsylvania State University, University Park, Pennsylvania, August 26–31, 1973. These proceedings continue in the tradition established by the previous three seminars. They include 83 original contributions by leading researchers in biomechanics from 18 different countries throughout the world.

The program of this international meeting was quite diverse, as expressed by the principal theme, “Contributions of Biomechanics to the Improvement of Human Performance,” and a variety of disciplines therefore was represented. For convenience, the contents of this publication were divided into the following major subject headings: Fundamental Human Movements, Biomechanics of Sport, Electromyography, Orthopedics and Rehabilitation, Research on Muscle Contractions, Advances in Instrumentation and Techniques, and Miscellaneous. Where applicable, these main headings have been subdivided. An added feature of the volume is a section on Seminar activities in which the major events of the Seminar are briefly described. Several photographs showing the site of the Seminar and some of the more than 200 participants are included here.

The editors wish to thank the authors for their excellent cooperation in the preparation, submission, and editing of their manuscripts. Unfortunately, it was necessary to restrict the length of manuscripts in order to keep the volume to a reasonable size. For more detailed information, individuals are encouraged to contact the principal author, whose address appears at the end of each article.

This volume serves to document the overall program of the Seminar and provides an additional reference to literature in biomechanics research. We hope that it will help to stimulate ideas for further research by highlighting the work of fellow researchers in other countries.

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Biomechanics IV