

Preface

In the recent years, ecotribology (or environmentally friendly tribology) has gained increasing importance in green science and engineering. It is current report ecotribology or green tribology, as environmentally acceptable tribological practices, namely *savings of resources of energy and materials, optimizing product usage and design, reducing energy consumption and the impact on the environment*. Today, it is normal to include several topics under the umbrella of ecotribology, namely biomimetics surfaces, control of friction and wear, biolubricants, environmental aspects of lubrication and surface modification techniques as well as tribological aspects of green applications, such as wind-power turbines, or solar panels.

The purpose of this book is to present a collection of examples illustrating review studies and research in ecotribology. Chapter 1 of the book provides ecotribology development, prospects, and challenges. Chapter 2 is dedicated to advancements in ecofriendly lubricants for tribological applications (past, present, and future). Chapter 3 describes new emerging self-lubricating metal matrix composites for tribological applications. Chapter 4 contains information about multi-objective optimization of engine parameters with biolubricant-biofuel combination of VCR engine using Taguchi–Grey approach. Chapter 5 describes biolubricants and potential of waste cooking oil. Finally, Chap. 6 is dedicated to two-body abrasion of bamboo fiber/epoxy composites.

The present book can be used as a research book for a final undergraduate engineering course or as a topic on tribology at the postgraduate level. Also, this book can serve as a useful reference for academics, researchers, mechanical, materials and industrial engineers, professionals in tribology and related industries. The scientific interest in this book is evident for many important centers of research, laboratories, and universities as well as industry. Therefore, it is hoped this book will inspire and enthuse others to undertake research in ecotribology.

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