Prof. Dr. Hasan Komurcugil published a text book entitled "*Advanced Control of Power Converters: Techniques and Matlab/Simulink Implementation*". The co-authors of this new book are Sertac Bayhan, Ramon Guzman, Mariusz Malinowski, and Haitham Abu-Rub. The book introduces the latest knowledge of three control methods (sliding mode control, Lyapunov-function-based control, and model predictive control) developed by the authors, particularly by Prof. Komurcugil. The design of each control method, and simulation case studies and results are presented and discussed to point out the behavior of each control method in different applications including uninterruptible power supplies in standalone and grid-connected modes, power quality improvements, and AC-DC rectifiers used in charging the batteries of electric vehicles. Furthermore, it includes detailed discussion on the realization of the Simulink models in sliding mode control, Lyapunov-function-based control and model predictive control. Also, building and running real-time model as well as rapid prototyping of power converters by using OPAL-RT simulator are discussed. In this way, the book fills the gap between theory and practice and provides practical guidance to the researchers, graduate students, and practicing engineers for designing and developing advanced control methods using MATLAB/Simulink.

The book is published by Wiley & Sons and IEEE in July 2023. More information on the book can be obtained from the following links: