Record Nr. UNINA9910483319303321 Autore Brezinski Claude <1941-> Titolo Extrapolation and rational approximation: the works of the main contributors / / Claude Brezinski, Michela Redivo Zaglia Pubbl/distr/stampa Cham, Switzerland: ,: Springer, , [2020] ©2020 **ISBN** 3-030-58418-6 Edizione [1st ed. 2020.] Descrizione fisica 1 online resource (VIII, 406 p. 32 illus.) Disciplina 511.42 Soggetti Extrapolation Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Includes bibliographical references and index. Nota di bibliografia Nota di contenuto 1. General Overview -- 2. Mathematical Background -- 3. The Mathematical Landscape up to the Mid-Twentieth Century -- 4. The Life of Peter Wynn -- 5. The Works of Peter Wynn. - 6. Commentaries and Further Developments -- 7. Testimonies -- 8. Vitae -- As a conclusion -- Acknowledgements -- Bibliography -- Index. . This book paints a fresco of the field of extrapolation and rational Sommario/riassunto approximation over the last several centuries to the present through the works of their primary contributors. It can serve as an introduction to the topics covered, including extrapolation methods, Padé approximation, orthogonal polynomials, continued fractions, Lanczostype methods, etc.; it also provides in depth discussion of the many

links between these subjects. A highlight of this book is the

presentation of the human side of the fields discussed via personal testimonies from contemporary researchers, their anecdotes, and their exclusive remembrances of some of the "actors." This book shows how research in this domain started and evolved. Biographies of other scholars encountered have also been included. An important branch of mathematics is described in its historical context, opening the way to new developments. After a mathematical introduction, the book

contains a precise description of the mathematical landscape of these fields spanning from the 19th century to the first part of the 20th. After an analysis of the works produced after that period (in particular those of Richardson, Aitken, Shanks, Wynn, and others), the most recent

developments and applications are reviewed. Claude Brezinski is professor emeritus of mathematics at the University of Lille (France), where he has been head of the Laboratory of Numerical Analysis and Optimization for 30 years. He was the advisor of 60 doctoral students. Prof. Brezinski is founder and Editor-in-Chief of the Numerical Algorithms journal and author of over 240 papers and several books. Michela Redivo-Zaglia is professor of numerical analysis at the University of Padua (Italy). She has been vice-director of the Department of Mathematics for three years. She is a member of the Editorial Board of several journals. She published software packages, 7 scientific and didactic books, and about 80 papers. She was the organizer of many international congresses, and an invited speaker at several ones.