Record Nr. UNINA9910791559603321 Autore Hanrahan Grady Titolo Artificial neural networks in biological and environmental analysis / / Grady Hanrahan Boca Raton, Fla.:,: CRC Press,, 2011 Pubbl/distr/stampa 0-429-14892-5 **ISBN** 1-283-00454-2 9786613004543 1-4398-1259-4 Edizione [1st ed.] Descrizione fisica 1 online resource (206 p.) Collana Analytical chemistry series Classificazione MAT029000SCI013000SCI013010 Disciplina 570.285/63 Soggetti Artificial intelligence - Biological applications Biology - Data processing Environmental engineering - Data processing Neural networks (Computer science) - Scientific applications Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Front cover; Dedication; Contents; Foreword; Preface; Acknowledgments; The Author; Guest Contributors; Glossary of Acronyms; Chapter 1. Introduction; Chapter 2. Network Architectures; Chapter 3. Model Design and Selection Considerations; Chapter 4. Intelligent Neural Network Systems and Evolutionary Learning; Chapter 5. Applications in Biological and Biomedical Analysis; Chapter 6. Applications in Environmental Analysis; Appendix I: Review of Basic Matrix Notation and Operations; Appendix II: Cytochrome P450 (CYP450) Isoform Data Set Used in Michielan et al. (2009) Appendix III: A 143-Member VOC Data Set andCorresponding Observed andPredicted Values of Air-to-Blood Partition CoefficientsColor Insert; Back cover Sommario/riassunto Drawing on the experience and knowledge of a practicing professional, this book provides a comprehensive introduction and practical guide to the development, optimization, and application of artificial neural

> networks (ANNs) in modern environmental and biological analysis. Based on our knowledge of the functioning human brain. ANNs serve as

a modern paradigm for computing. Presenting basic principles of ANNs together with simulated biological and environmental data sets and real applications in the field, this volume helps scientists comprehend the power of the ANN model to explain physical concepts and demonstrate complex natural processes--