1. Record Nr. UNINA9910437847403321 Autore Banerji Anirban Titolo Fractal symmetry of protein interior / / Anirban Banerji Pubbl/distr/stampa Basel, : Springer, 2013 **ISBN** 3-0348-0651-5 Edizione [1st ed. 2013.] Descrizione fisica 1 online resource (92 p.) SpringerBriefs in biochemistry and molecular biology Collana 572.6 Disciplina Proteins - Structure Soggetti Proteins - Conformation 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. Nota di contenuto Introduction: How did it all begin -- Brief history of fractal dimension -- Introduction to Fractals -- Misconceptions about fractals --Studying Protein Interior with Fractal Dimension -- Why, at all, does one need fractal dimension to study protein interior -- Schools of protein interior fractal studies -- Results obtained with fractal dimension-based investigations -- Gaining new knowledge about protein interior with FD-based investigations -- New directions in FDbased protein interior research. Sommario/riassunto The essential question that fractal dimensions attempt to answer is about the scales in Nature. For a system as non-idealistic and complex as a protein, studying scale-invariance becomes particularly important. Fractal Symmetry of Protein Interior investigates the diverse facets of the various scales at which we describe protein biophysical and biochemical phenomena. Following a thorough introduction to fractal dimensions, fractal-dimension-based approaches, that have been employed to study protein interior biophysical properties, are described. The focus is on the question "which scales are scaleinvariant?" Investigations related to scaling of biophysical and biochemical behaviors may one day help us to formulate a fundamental theory about protein biophysics; which, in turn, may help us to

understand fundamental principles of proteins.