

The dissertation deals with information systems in medicine with a focus on scientific information. Topics are treated from the perspective of a user, whether a scientist or a doctor in the clinical practice. Attention is therefore devoted to information sources, search tools, the ability to communicate and share scientific information, and current methods of analytical and synthetic processing of published medical literature, both at the level of value-added information services and at the level of automatic text processing. -- The topics mentioned above are divided into separate chapters. A large portion of the text devoted to new information sources is added to an overview of traditional biomedical databases. Further, current trends in biomedical information searching are described. Next, current possibilities of communication and sharing of scientific knowledge via the Internet and applications and services of Web 2.0 are listed. Particular attention is paid to scientific information for clinical decision-making support. -- The dissertation newly presents a comprehensive classification of biomedical information resources supplemented by illustrative examples. Further, five case tasks are described. Three of them demonstrate the claims made in the text. The other two test non-traditional retrieval approaches. In addition, a vertical search engine for clinical guidelines and a prototype of a new information resource based on the principles of EBM (evidence-based medicine) and Web 2.0 are described.