



# Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu)

*From Morgan and Claypool Publishers*

Download now

Read Online →

**Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu)** From Morgan and Claypool Publishers

The book presents recent advances in signal processing techniques for modeling, analysis, and understanding of the heart's electrical activity during atrial fibrillation. This arrhythmia is the most commonly encountered in clinical practice and its complex and metamorphic nature represents a challenging problem for clinicians, engineers, and scientists. Research on atrial fibrillation has stimulated the development of a wide range of signal processing tools to better understand the mechanisms ruling its initiation, maintenance, and termination. This book provides undergraduate and graduate students, as well as researchers and practicing engineers, with an overview of techniques, including time domain techniques for atrial wave extraction, time-frequency analysis for exploring wave dynamics, and nonlinear techniques to characterize the ventricular response and the organization of atrial activity. The book includes an introductory chapter about atrial fibrillation and its mechanisms, treatment, and management. The successive chapters are dedicated to the analysis of atrial signals recorded on the body surface and to the quantification of ventricular response. The rest of the book explores techniques to characterize endo- and epicardial recordings and to model atrial conduction. Under the appearance of being a monothematic book on atrial fibrillation, the reader will not only recognize common problems of biomedical signal processing but also discover that analysis of atrial fibrillation is a unique challenge for developing and testing novel signal processing tools. Table of Contents: Analysis of Ventricular Response During Atrial Fibrillation / Organization Measures of Atrial Activity During Fibrillation / Modeling Atrial Fibrillation: From Myocardial Cells to ECG / Algorithms for Atrial Tachyarrhythmia Detection for Long-Term Monitoring with Implantable Devices

↓ [Download Understanding Atrial Fibrillation: The Signal Proc ...pdf](#)

 [Read Online Understanding Atrial Fibrillation: The Signal Pr ...pdf](#)

# Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu)

*From Morgan and Claypool Publishers*

## **Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) From Morgan and Claypool Publishers**

The book presents recent advances in signal processing techniques for modeling, analysis, and understanding of the heart's electrical activity during atrial fibrillation. This arrhythmia is the most commonly encountered in clinical practice and its complex and metamorphic nature represents a challenging problem for clinicians, engineers, and scientists. Research on atrial fibrillation has stimulated the development of a wide range of signal processing tools to better understand the mechanisms ruling its initiation, maintenance, and termination. This book provides undergraduate and graduate students, as well as researchers and practicing engineers, with an overview of techniques, including time domain techniques for atrial wave extraction, time-frequency analysis for exploring wave dynamics, and nonlinear techniques to characterize the ventricular response and the organization of atrial activity. The book includes an introductory chapter about atrial fibrillation and its mechanisms, treatment, and management. The successive chapters are dedicated to the analysis of atrial signals recorded on the body surface and to the quantification of ventricular response. The rest of the book explores techniques to characterize endo- and epicardial recordings and to model atrial conduction. Under the appearance of being a monothematic book on atrial fibrillation, the reader will not only recognize common problems of biomedical signal processing but also discover that analysis of atrial fibrillation is a unique challenge for developing and testing novel signal processing tools. Table of Contents: Analysis of Ventricular Response During Atrial Fibrillation / Organization Measures of Atrial Activity During Fibrillation / Modeling Atrial Fibrillation: From Myocardial Cells to ECG / Algorithms for Atrial Tachyarrhythmia Detection for Long-Term Monitoring with Implantable Devices

## **Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) From Morgan and Claypool Publishers Bibliography**

- Sales Rank: #4761400 in Books
- Published on: 2008-12-29
- Original language: English
- Number of items: 1
- Dimensions: 9.25" h x .55" w x 7.50" l, .93 pounds
- Binding: Paperback
- 242 pages

 [Download Understanding Atrial Fibrillation: The Signal Proc ...pdf](#)

 [Read Online Understanding Atrial Fibrillation: The Signal Pr ...pdf](#)



## **Download and Read Free Online Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) From Morgan and Claypool Publishers**

---

### **Editorial Review**

### **Users Review**

#### **From reader reviews:**

#### **Christopher Hartwick:**

People live in this new time of lifestyle always make an effort to and must have the time or they will get lot of stress from both lifestyle and work. So , if we ask do people have free time, we will say absolutely without a doubt. People is human not just a robot. Then we request again, what kind of activity have you got when the spare time coming to you of course your answer will certainly unlimited right. Then do you try this one, reading publications. It can be your alternative within spending your spare time, often the book you have read is Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu).

#### **Jennifer Trojanowski:**

Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) can be one of your nice books that are good idea. Most of us recommend that straight away because this guide has good vocabulary that will increase your knowledge in vocab, easy to understand, bit entertaining but nonetheless delivering the information. The article author giving his/her effort that will put every word into enjoyment arrangement in writing Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) although doesn't forget the main level, giving the reader the hottest and based confirm resource details that maybe you can be among it. This great information can certainly drawn you into fresh stage of crucial contemplating.

#### **Glen Hall:**

Do you really one of the book lovers? If yes, do you ever feeling doubt if you are in the book store? Try to pick one book that you find out the inside because don't ascertain book by its include may doesn't work the following is difficult job because you are scared that the inside maybe not seeing that fantastic as in the outside appearance likes. Maybe you answer can be Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) why because the excellent cover that make you consider about the content will not disappoint an individual. The inside or content is usually fantastic as the outside or maybe cover. Your reading 6th sense will directly show you to pick up this book.

**Thelma Cobb:**

The book untitled Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) contain a lot of information on the item. The writer explains your ex idea with easy technique. The language is very simple to implement all the people, so do not necessarily worry, you can easy to read it. The book was compiled by famous author. The author will take you in the new age of literary works. You can easily read this book because you can read more your smart phone, or gadget, so you can read the book throughout anywhere and anytime. If you want to buy the e-book, you can start their official web-site and also order it. Have a nice learn.

**Download and Read Online Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) From Morgan and Claypool Publishers #L5QJDNG6AIR**

# **Read Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) From Morgan and Claypool Publishers for online ebook**

Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) From Morgan and Claypool Publishers Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) From Morgan and Claypool Publishers books to read online.

## **Online Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) From Morgan and Claypool Publishers ebook PDF download**

**Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) From Morgan and Claypool Publishers Doc**

**Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) From Morgan and Claypool Publishers Mobipocket**

**Understanding Atrial Fibrillation: The Signal Processing Contribution (Synthesis Lectures on Biomedical Engineering Synthesis Lectu) From Morgan and Claypool Publishers EPub**