Magnetic Resonance Imaging. Physical and Biological Principles. Edition No. 4

Description: Magnetic Resonance Imaging: Physical and Biological Principles, 4th Edition offers comprehensive, well-illustrated coverage on this specialized subject at a level that does not require an extensive background in math and physics. It covers the fundamentals and principles of conventional MRI along with the latest fast imaging techniques and their applications. Beginning with an overview of the fundamentals of electricity and magnetism (Part 1), Parts 2 and 3 present an in-depth explanation of how MRI works. The latest imaging methods are presented in Parts 4 and 5, and the final section (Part 6) covers personnel and patient safety and administration issues. This book is perfect for student radiographers and practicing technologists preparing to take the MRI advanced certification exam offered by the American Registry of Radiologic Technologists (ARRT).

“In summary, this is the best explanation of what lies behind MRI that I have read, taking what can be a dry subject and making it readily understandable and really interesting. I would recommend it to anyone starting their MRI training and anyone trying to teach MRI to others.” Reviewed by RAD Magazine, June 2015

Contents:

Part I: Fundamentals
1. An Overview of Magnetic Resonance Imaging
2. Electricity and Magnetism
3. Nuclear Magnetism
4. Equilibrium-Saturation

Part II: The Magnetic Resonance Image
5. Radiofrequency Pulse Sequences
6. Magnetic Resonance Imaging Tissue Parameters
7. Manipulating Magnetic Resonance Image Contrast
8. Fourier Transforms in Magnetic Resonance Imaging

Part III: The Imaging System
9. Magnetic Resonance Imaging Hardware
10. Primary Magnetic Resonance Imaging Magnets
11. Secondary Magnetic Resonance Imaging Magnets

Part IV: Image Formation
12. Digital Imaging
13. A Walk Through the Spatial Frequency Domain
14. The Musical Score
15. Magnetic Resonance Images

Part V: Pulse Sequences
16. Spin Echo Imaging
17. Chemical Shift and Magnetization Transfer
18. Steady State Gradient Echo Imaging
19. Hybrid Fast Imaging Techniques
20. Echo Planar Imaging

Part VI: Applications
21. Nuclear Magnetic Resonance Spectroscopy
22. Partially Parallel Magnetic Resonance Imaging
23. Magnetic Resonance Angiography
24. Perfusion Imaging
25. Diffusion Imaging
26. Cardiac Magnetic Resonance Imaging

Part VII: Safety
27. Contrast Agents and Magnetic Resonance Imaging
28. Magnetic Resonance Imaging Artifacts
29. Biological Effects of Magnetic Resonance Imaging
30. Managing a Magnetic Resonance Imaging System

Appendix A: The Bloch Equations
Appendix B: Additional Resources
Practice Examinations
Answers to Challenge Questions
Answers to Practice Examinations
Glossary of Magnetic Resonance Imaging Terms
Index

Order by Fax - using the form below
Order by Post - print the order form below and send to
Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit [http://www.researchandmarkets.com/contact/](http://www.researchandmarkets.com/contact/)

**Order Information**
Please verify that the product information is correct.

- **Product Name:** Magnetic Resonance Imaging. Physical and Biological Principles. Edition No. 4
- **Web Address:** [http://www.researchandmarkets.com/reports/3691291/](http://www.researchandmarkets.com/reports/3691291/)
- **Office Code:** SCD2SIEV

**Product Format**
Please select the product format and quantity you require:

- **Quantity**
  - Hard Copy (Paper back): [ ] USD 104 + USD 29 Shipping/Handling

* Shipping/Handling is only charged once per order.

**Contact Information**
Please enter all the information below in BLOCK CAPITALS

<table>
<thead>
<tr>
<th>Title:</th>
<th>Mr</th>
<th>Mrs</th>
<th>Dr</th>
<th>Miss</th>
<th>Ms</th>
<th>Prof</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last Name:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email Address:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Title:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postal / Zip Code:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone Number:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fax Number:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:
Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer: Please transfer funds to:
Account number 833 130 83
Sort code 98-53-30
Swift code ULSBIE2D
IBAN number IE78ULSB98533083313083
Bank Address Ulster Bank,
27-35 Main Street,
Blackrock,
Co. Dublin,
Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: ________________________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp