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Autore	Johnsen, Sönke
Titolo	The optics of life : a biologist's guide to light in nature / Sönke Johnsen
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Soggetti	Photobiology Physiological optics Polarization (Light)
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Formato	Materiale a stampa
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Nota di bibliografia	Includes bibliographical references and index
Nota di contenuto	Units and geometry -- Emission -- Absorption -- Scattering -- Scattering with interference -- Fluorescence -- Polarization -- Measuring light -- What is light, really? -- Appendix A. Converting spectral irradiance to lux -- Appendix B. Calculating the absorbance spectrum of a visual pigment -- Appendix C. Refractive indices of common substances -- Appendix D. Optical properties of very clear water -- Appendix E. Optical properties of natural waters -- Appendix F. Useful formulas -- Appendix G. Equipment and software suppliers
Sommario/riassunto	"Optics--a field of physics focusing on the study of light--is also central to many areas of biology, including vision, ecology, botany, animal behavior, neurobiology, and molecular biology. The Optics of Life introduces the fundamentals of optics to biologists and nonphysicists, giving them the tools they need to successfully incorporate optical measurements and principles into their research. Søenke Johnsen starts with the basics, describing the properties of light and the units and geometry of measurement. He then explores how light is created and propagates and how it interacts with matter, covering topics such as absorption, scattering, fluorescence, and polarization. Johnsen also provides a tutorial on how to measure light as well as an informative discussion of quantum mechanics. The Optics

of Life features a host of examples drawn from nature and everyday life, and several appendixes that offer further practical guidance for researchers. This concise book uses a minimum of equations and jargon, explaining the basic physics of light in a succinct and lively manner. It is the essential primer for working biologists and for anyone seeking an accessible introduction to optics"

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Autore

Titolo

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Disciplina

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Meullenet J.-F (Jean-Francois), <1968->

Multivariate and probabilistic analyses of sensory science problems //
Jean-Francois Meullenet, Rui Xiong, and Christopher J. Findlay

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Multivariate analysis

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Multivariate and Probabilistic Analyses of Sensory Science Problems;
Table of Contents; Introduction; Chapter 1. A Description of Sample
Data Sets Used in Further Chapters; 1.1. A Description of Example Data

Sets; References; Chapter 2. Panelist and Panel Performance: A Multivariate Experience; 2.1. The Multivariate Nature of Sensory Evaluation; 2.2. Univariate Approaches to Panelist Assessment; 2.3. Multivariate Techniques for Panelist Performance; 2.4. Panel Evaluation through Multivariate Techniques; 2.5. Conclusions; References; Chapter 3. A Nontechnical Description of Preference Mapping 3.1. Introduction 3.2. Internal Preference Mapping; 3.3. External Preference Mapping; 3.4. Conclusions; References; Chapter 4. Deterministic Extensions to Preference Mapping Techniques; 4.1. Introduction; 4.2. Application and Models Available; 4.3. Conclusions; References; Chapter 5. Multidimensional Scaling and Unfolding and the Application of Probabilistic Unfolding to Model Preference Data; 5.1. Introduction; 5.2. Multidimensional Scaling (MDS) and Unfolding; 5.3. Probabilistic Approach to Unfolding and Identifying the Drivers of Liking; 5.4. Examples; References Chapter 6. Consumer Segmentation Techniques 6.1. Introduction; 6.2. Methods Available; 6.3. Segmentation Methods Using Hierarchical Cluster Analysis; References; Chapter 7. Ordinal Logistic Regression Models in Consumer Research; 7.1. Introduction; 7.2. Limitations of Ordinary Least Squares Regression; 7.3. Odds, Odds Ratio, and Logit; 7.4. Binary Logistic Regression; 7.5. Ordinal Logistic Regression Models; 7.6. Proportional Odds Model (POM); 7.7. Conclusions; References; Chapter 8. Risk Assessment in Sensory and Consumer Science; 8.1. Introduction 8.2. Concepts of Quantitative Risk Assessment 8.3. A Case Study: Cheese Sticks Appetizers; 8.4. Conclusions; References; Chapter 9. Application of MARS to Preference Mapping; 9.1. Introduction; 9.2. MARS Basics; 9.3. Setting Control Parameters and Refining Models; 9.4. Example of Application of MARS; 9.5. A Comparison with PLS Regression; References; Chapter 10. Analysis of Just About Right Data; 10.1. Introduction; 10.2. Basics of Penalty Analysis; 10.3. Bootstrapping Penalty Analysis; 10.4. Use of MARS to Model JAR Data; 10.5. A Proportional Odds/Hazards Approach to Diagnostic Data Analysis 10.6. Use of Dummy Variables to Model JAR Data References; Index

Sommario/riassunto

Sensory scientists are often faced with making business decisions based on the results of complex sensory tests involving a multitude of variables. Multivariate and Probabilistic Analyses of Sensory Science Problems explains the multivariate and probabilistic methods available to sensory scientists involved in product development or maintenance. The techniques discussed address sensory problems such as panel performance, product profiling, and exploration of consumer data, including segmentation and identifying drivers of liking. Applied in approach and written for
