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Production of Radionuclides by Cosmic Radiation -- 3.3 Artificial Radionuclides -- 3.3.1 Some Historic Data -- 3.3.2 Production of Radionuclides in Accelerators -- 3.3.3 Production of Radionuclides in Nuclear Reactors -- References -- 4 Environmental Radioactivity -- 4.1 Presence of Natural Radioactivity in the Environment -- 4.1.1 Primordial Radionuclides -- 4.1.2 Cosmogenic Radionuclides -- 4.1.3 NORM Materials and Non-nuclear Industries.
4.2 Sources of Artificial Radionuclides -- 4.2.1 The Start of the Nuclear Era. The Bomb Pulse -- 4.2.2 Radioactive Fallout -- 4.2.3 Nuclear Fuel Reprocessing Plants -- 4.2.4 Other Nuclear Facilities and Activities: Nuclear Power Plants -- 4.2.5 Nuclear Accidents -- References -- 5 Levels and Behavior of Environmental Radioactivity -- 5.1 Dynamics of Radioactivity in the Environment -- 5.1.1 General Concepts of Radioecology -- 5.1.2 Radionuclide Speciation in the Environment -- 5.1.3 Exchange and Transport Processes. Transfer Parameters -- 5.1.4 Mathematical Modeling -- 5.2 Levels and Behavior of Radioactivity in the Atmosphere -- 5.2.1 Radioactivity in the Air -- 5.2.2 The Radon Problem -- 5.3 Levels and Behavior of Radioactivity in the Lithosphere. Radioactive Particles -- 5.3.1 Soils -- 5.3.2 Radioactive Particles -- 5.4 Levels and Behavior of Radioactivity in Fresh Waters -- 5.4.1 Rivers and Sediments -- 5.4.2 Lakes and Sediments -- 5.4.3 Groundwater -- 5.5 Levels and Behavior of Radioactivity in Oceans -- 5.5.1 Global Circulation -- 5.5.2 Seawater -- 5.5.3 Marine Sediments -- 5.6 Levels and Behavior of Radioactivity in the Biosphere -- 5.6.1 Plants, Animals -- 5.6.2 Seaweed and Other Marine Bioindicators -- 5.7 Levels and Behavior of Radioactivity in Foods -- 5.7.1 Drinking Water -- 5.7.2 Foodstuffs and Food Raw Materials -- References -- 6 Radiological Impact. Radiation Dosimetry -- 6.1 Radiation Dosimetry -- 6.1.1 Radiation Exposure, Absorbed Dose and Dose Equivalent: Magnitudes and Units -- 6.1.2 Effective and Committed Doses and Other Magnitudes -- 6.2 Biological Effects of Radioactivity -- 6.2.1 Stochastic and Deterministic Effects -- 6.2.2 Radiation Effects on Human Health -- 6.3 Radiological Impact -- 6.3.1 Radiation Protection Programs -- 6.3.2 Radiation Protection Regulations -- References.
7 Principles of Radiation Detection: Interaction of Radiation with Matter -- 7.1 Interaction of Gamma Radiation with Matter -- 7.1.1 Photoelectric Effect -- 7.1.2 Compton Effect -- 7.1.3 Pair Production -- 7.1.4 Attenuation and Absorption Coefficients -- 7.1.5 Designing Gamma Radiation Detectors -- 7.2 Interaction of Charged Particles with Matter -- 7.2.1 Ionization and Excitation -- 7.2.2 Stopping Power. The Bethe-Bloch Equation -- 7.2.3 Bremsstrahlung -- 7.2.4 Cherenkov Radiation -- 7.2.5 Range, Specific Ionization, and Bragg Curves -- 7.2.6 Designing Charged-Particle Detectors -- 7.3 Nuclear Reactions. Interaction of Neutrons with Matter -- 7.3.1 Nuclear Reactions with Neutrons -- 7.3.2 Path of Neutrons Through Matter -- 7.3.3 Designing Neutron Detectors -- References -- 8 Principles of Radiation Detection: Counting and Spectrometry -- 8.1 Introduction -- 8.2 Counting Efficiency -- 8.2.1 Absolute Efficiency -- 8.2.2 Partial Efficiencies. Photopeak Efficiency -- 8.3 Background of Detectors -- 8.3.1 Sources and Components -- 8.3.2 Background Corrections -- 8.4 Dead Time -- 8.4.1 Sources of Dead Time -- 8.4.2 Dead-Time Corrections -- 8.5 Energy Spectra -- 8.5.1 Components -- 8.5.2 Energy Resolution -- References -- 9 Gas Ionization Detectors -- 9.1 Physics of Gas Ionization Detectors -- 9.1.1 Ionization in Gases -- 9.1.2 Charge Transfer Reactions in Gases -- 9.1.3 Multiplication of Charge in Gases. Townsend Avalanche -- 9.2 Ionization Chamber -- 9.3 Proportional Counters -- 9.4 Geiger-Müller Counters -- 9.5 Radiation Counting and Spectrometry with Gas Ionization Detectors --

	The Mass-Energy Plane -- 16.2.3 The Dynamic Approach -- 16.3 Low-Energy Mass Spectrometers: TIMS, SIMS, GDMS, RIMS, ICPMS -- 16.4 Applications to Environmental Radioactivity -- References -- 17 Principles of Particle Accelerators.
Sommario/riassunto	This textbook presents the principles and methods for the measurement of radioactivity in the environment. In this regard, specific low-level radiation counting and spectrometry or mass spectrometry techniques are discussed, including sources, distribution, levels and dynamics of radioactivity in nature. The author gives an accurate description of the fundamental concepts and laws of radioactivity as well as the different types of detectors and mass spectrometers needed for detection. Special attention is paid to scintillators, semiconductor detectors, and gas ionization detectors. In order to explain radiochemistry, some concepts about chemical separations are introduced as well. The book is meant for graduate and advanced undergraduate students in physics, chemistry or engineering oriented to environmental sciences, and to other disciplines where monitoring of the environment and its management is of great interest.

2.

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Titolo	Scattering seeds : cultivating church vitality / / Stephen Chapin Garner with Jerry Thornell
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Nota di contenuto	Contents; Foreword; Preface; Part I: Tilling; Preparing a Pastor; Preparing a Congregation; Part II: Scattering Seeds; Soil, Climate, and the Mystery of Growth; A Vital Theology; Part III: Tending Growth; Ministry Teams; The Ministry of the Laity; The Ministry of the Pastor; Worship and Education for All; Part IV: Harvesting; Service to Others; Evaluating Success with an Eye to the Future; Notes
Sommario/riassunto	In Scattering Seeds: Cultivating Church Vitality, Stephen Chapin Garner and Jerry Thornell share the story of their home congregation, the United Church of Christ in Norwell, MA. This average congregation has approached congregational life in a not-so-average way. Each congregant is seen as a minister, bringing the good news of Christ to the community; the church has moved away from boards and committees, instead utilizing the people to form ministry teams; and they have revitalized the way they approach and practice worship and education. Garner and Thornell don't claim to have the secret to