

Activity Proposal for Senior Life Science

Interactive Salon: Silver Wisdom and Scientific Radiance

I. Implementation Background and Overall Objectives

With the rapid development of cutting-edge life sciences and medical diagnostic technologies, the elderly population faces an objective cognitive gap in accessing and understanding new public health technology information. The core objective of this project is to eliminate such information barriers and translate the underlying logic of synthetic biology and rapid respiratory disease detection technologies into physical forms that are directly perceivable by the elderly demographic. Simultaneously, it aims to establish a two-way communication channel between the project research and development team and elderly users, systematically collecting the actual demands of this group regarding the senior-friendly design of portable medical devices and health management.

II. Target Audience and Venue Standards

Target Audience: Long-term elderly residents in nursing care institutions and registered students at senior universities. Venue Standards: Community activity centers or multi-function halls in elderly care institutions equipped with comprehensive barrier-free facilities must be selected. The interior must meet the visual requirements of sufficient natural lighting without glaring reflections, and the provided seating must feature non-slip bases, bilateral armrests, and ergonomic senior-friendly backrest structures.

III. Core Execution Procedures

Phase One: Comparative Analysis of Traditional Biological Processes and Modern Biotechnology Principles

Starting with daily yogurt fermentation and traditional brewing processes, the basic phenomena of microbial metabolic operations will be objectively stated. Following this logic, a

progressive explanation will be provided on how modern synthetic biology achieves precise intervention in microbial metabolic pathways and target product control through genetic sequence recombination.

Phase Two: Tactile Perception of Macroscopic Senior-Friendly Biological Physical Models

Physical models of the deoxyribonucleic acid double helix structure and internal cell structures, scaled up to specific proportions, will be provided to the participants. Elders with characteristics of visual decline will be guided to establish concrete cognition of microscopic life science underlying structures through manual touching and morphological perception.

Phase Three: Special Presentation on Respiratory Health and Biosensing Technologies

Integrating the immune function characteristics of the elderly population, professional health presentations on the prevention of respiratory infectious diseases will be conducted. Concurrently, the structural composition of portable biosensors, the principles of pathogen identification, and their application pathways in grassroots medical interventions and daily health monitoring will be demonstrated to the elders.

Phase Four: Two-Way Experience Recording of the Evolution of Medical Technologies

Eligible elders participating in the activity will be invited to orally recount the evolution of medical diagnostic technologies and public health service systems they have experienced throughout their lives. The project team must synchronously record the elders' willingness to accept new molecular testing devices, their operational concerns, and their suggestions for product iteration.

IV. Senior-Friendly Guarantees and Risk Control Mechanisms

Sensory Compensation Mechanisms: All distributed educational manuals and presentation materials must utilize high-contrast color matching and extra-large sans-serif typography. The presentation venue must be equipped with full-band public address equipment, dynamically adjusting the output decibels according to the participants' degree of hearing decline. **Medical and Personnel Emergency Guarantees:** Throughout the entire duration of the activity, general practitioners or professional nursing staff from local institutions are mandatorily required to be on standby at the venue. The project team must execute a zoned and fixed-point caretaking system to ensure the absolute personal safety of each participant during seating, departure, and contact with physical models.