

Lab photobioreactor & bioreactor systems: R&D pro-totyping toward fully integrated end to end systems for stem cell and tissue research, engineering and personalized regenerative medicine

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A systems approach, related to research findings for end to end photobioreactors and bioreactors is needed to overcome problems with toxicity, uniform growth rates and imaging for analysis. These systems are complex and require detailed research. Advanced research findings which influenced the choices of system component prototypes for integration will be presented. The trend toward individualized regenerative tissue science and engineering requires special equipment for end to end lab systems. The presentation will include overviews of work by numerous scientific researchers and engineers, including genome profiling and bioinformatics, photobioreactors, bioreactors, freeze drying, microbubbles, nutrients, membranes, scaffolding, imaging systems, sensors and a new novel 2 photon printer for 3D molecular tissue engineering. Research related to the important new area of light reactions with cells will be presented, including recent imaging via ion beam microscopy of the formations of cell pores. Flat, tailored, full surface emission lamps will be demonstrated as will some basic information about the potential for patch vaccines to be grown in photobioreactors using single cell alga and carotinoids.

Biography

Robin Ore is an inventor and researcher in many diverse fields of study. She is a graduate of C.S.U. Pueblo in the field of Nursing. Ms. Ore is an expert in the field of HDTV systems for health networks, optical displays, and has been a speaker, moderator and integrator of advanced technologies, including the World's first showing of upconversions from both film (8mm NASA Apollo 17 footage) and NTSC video to HDTV large screen projection, optical microscope integrations with large screen image display systems for real time viewing of cells and early 3D developments. She is currently the owner of Femtobeam LLC, a management company of inventors, working with many colleagues throughout the World to develop and manufacture systems. Her interests include systems for research, biobanking, bioremediation, and bioengineering to improve the quality and longevity of life on Earth and in Space for future generations.

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