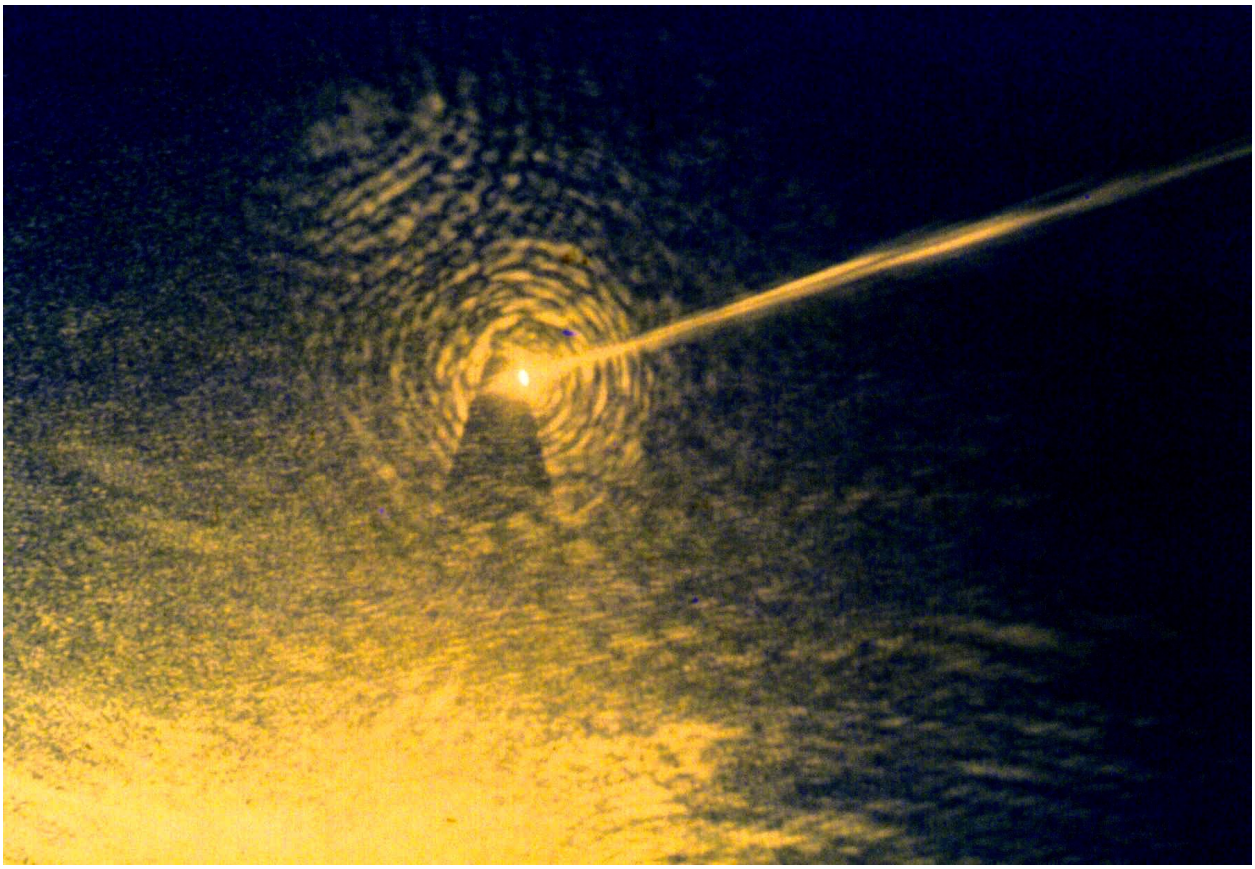
“Interferences”



A Laser Interferometry - Photonic Eco-Sensing - Arts Installation.

“The difference that makes a difference”

“Info/Eco: Interferences & Resonances” is an art installation currently being developed to sense, process and display selected low frequency eco-signals photonically, not electronically, demonstrating laser interferometry, the same technique used to create holograms and to detect gravitational waves. Interferometry allows us to sense the imperceptible, making the invisible vividly visible, opening a window onto a wondrously vibrant world of complex thermodynamic interactions. Institutional collaboration will help to realize this exemplary arts/sciences initiative.

Real-time data from multiple remote and on-site sources (Schumann resonances, plant signals, human brainwaves, tides, financial market fluctuations, and Earth climate/temperature changes) will concurrently be processed, visualized, sonified and presented in an installation focused on differences that make a difference, to enhance our sense of light, of life and of enlightenment.

“Info/Eco: Interferences & Resonances”: Art/Sci/Tech exploring “The Life of Information”.

“Resonances”

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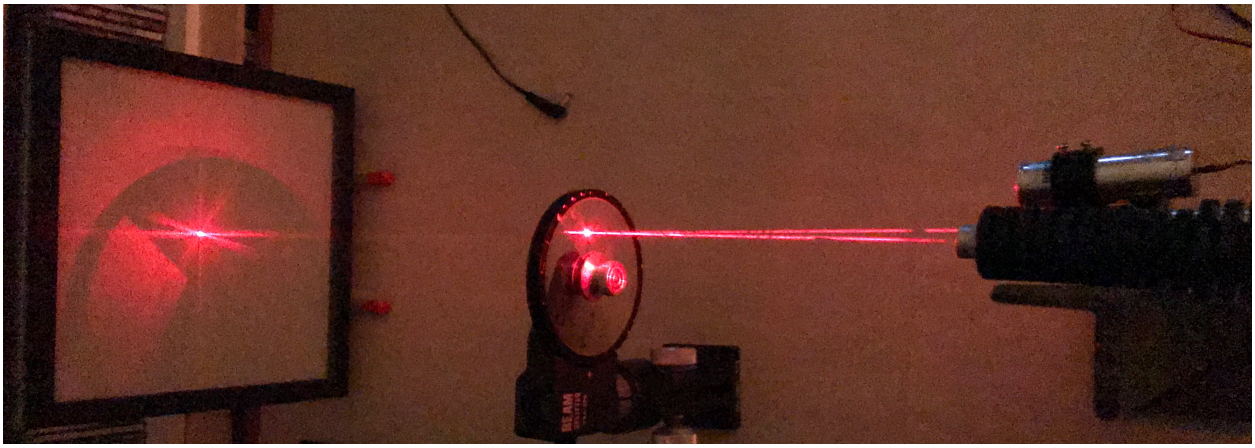
“Interferences & Resonances”

Let there be light. Light has been an elemental creative medium since first humans saw the sun. Fast forward. We are now precariously teetering on a precipice that could lead to a long fall. Our near-magical contemporary scientific and technological progress is evolving concurrently with co-evolutionary ecological imbalances, bringing into question the very nature of humanity.

Being is not digital. Bio-photonic processing is at a conceptual edge beyond digital logic. An emergent photonic era is now upon us, portending new ways of thinking, beyond digital, to a new analogue with a quantum twist. While extremely sensitive optical detection and processing techniques are now being developed, photons (light) bring us to new ways of understanding that are not simply on-off, if-than, either-or, 1-0; requiring us to think differently; to take next steps towards an ecology of mind. Laser interferometric ‘speckle patterns’ are dynamically rich with information. They represent truth and beauty and much between. Light can illuminate the way.



Science/Technology Tasks:
Laser interferometry is an extremely sensitive medium, able to detect gravitational waves or one raindrop falling into the Pacific Ocean. In this context, there is a need to filter the vast amount of ‘noise’ from minimal detection of desired ‘signal’. Optical/visual processing and application of computer algorithms to separate signal from noise will be a necessary aspect of this project.

Arts/Design Tasks:
Laser interferometric speckle patterns are visually captivating, full of ‘information’, but very difficult to interpret. Sonification of the extracted photonic data can be a useful approach, in sensing patterns and detecting ‘meaning’, while visual processing and display techniques must be brought to the threshold of artfully representing truth and beauty.

Eco-Social Collaboration Tasks:
Based on experiential learning emerging from over 50 years of arts/sciences/society initiatives, this project is conceived with an intention to foster eco-mindedness; to not just use, but to further the sciences; to not just illustrate the science, but to aspire to artful transcendence. Public workshops and presentations should highlight the people, the interdisciplinary processes and the final works, reaching out to inform and inspire diverse communities of interests.

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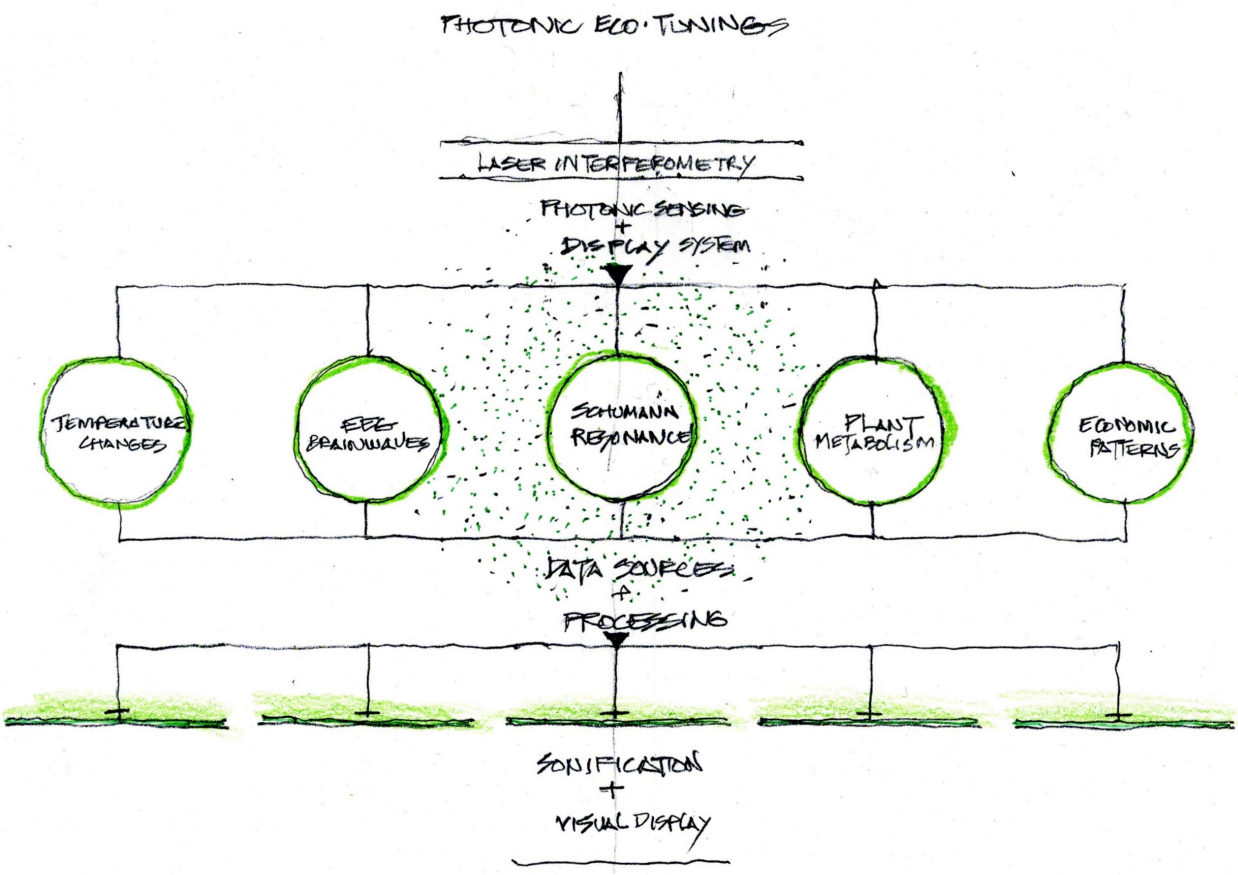
“Info/Eco: Interferences & Resonances”

The Nature of Information



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