

FOR IMMEDIATE RELEASE

## PARTICLES+WAVES

*Twelve contemporary artists + the quantum world*

May 3 through July 27, 2012

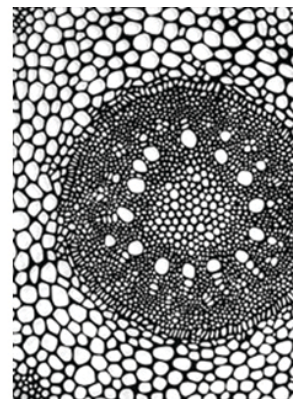
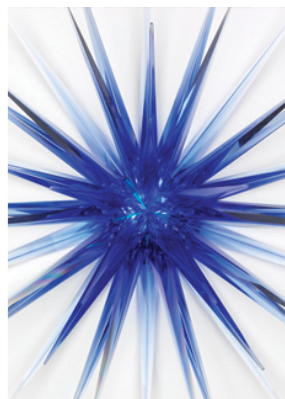
Opening reception: Thursday, May 3, from 6 to 8 pm

I L I A D

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Gallery Hours: Mon-Fri 11-6, Sat 12-5



I L I A D Contemporary is pleased to announce **PARTICLES+WAVES**, a curated group exhibition at its 57th Street gallery. **PARTICLES+WAVES** will present a group of twelve artists whose work resonates with quantum theory, the perplexities of the subatomic world, and various interpretations of the “observer-dependent universe” through visual metaphors presenting the paradox of particle/wave duality as a modern day parable. Featuring provocative works by **Cair Crawford, Karen Gunderson, Alice Hope, Ron Kingswood, Kari Lindstrom, Nefeli Massia, Norman Mooney, Svetlana Rabey, Taney Roniger, Rhonda Smith, Cornelia Thomsen** and **Andrea Zemel**, the exhibition will include a rich variety of artistic media in a broad range of 2D and sculptural works.

### Prospectus:

Particles and waves, points and lines, singularities and infinitudes are complementarities that circumscribe a lexicon in the search for a theory of everything. Of profound interest to both the physicist and the philosopher is a foundational question of quantum theory: *how and why does our familiar experience of a “classical” Newtonian world emerge from a limitless set of possible possibilities?* Einstein’s world-shaking paradigm of Relativity would forever alter the narrative of twentieth century physics while simultaneously declaring the *primacy of perspective*. His insights led to proverbial thought experiments like the “twins paradox” showing us the importance of the position of the observer by postulating diverging experiences of time for two individuals, one stationary here on earth, one traveling at speeds approaching that of light. A decade later, Werner von Heisenberg put forward his now ubiquitous “uncertainty principle”, and not long after, Edwin Schrödinger would present his famous “Schrödinger’s cat” problem, addressing similar query from the quantum perspective. If “why do things appear the way they

are?" is the question, then much has come down to the frame of reference imposed by the simple act of observation, and nowhere does the matter of position, momentum, and perception come more to the fore than in the world of the very, very small and the paradox of particle/wave duality.

The standard interpretation of quantum theory regards particle-wave duality as a fundamental property of the universe. Put simply, it states, more or less, that sometimes particles behave like particles, and sometimes particles behave like waves. Both descriptions are equally valid. However, for the observer, phenomena can be viewed in one way, or the other, but not both ways at once. This is the conundrum. Quantum theory addresses this perplexing dilemma, calling it a condition peculiar to human circumstance. As all manifest phenomena are understood to co-exist in simultaneity with their wave aspect, what we see as "reality" is actually a discontinuity - a fragment of an entirety. Like a single frame of a motion picture taken out of sequence, a fractal in a cascading chain of interdependent structures, or an obtuse Buddhist koan proffering a formulaic description of emptiness, indeterminism or impermanence; *phenomena are ascribed form*. Caught in time by the very act of perception, the moment of cognition becomes the reduction of all possibilities to a single outcome. Quantum theory elegantly refers to this as the "collapse of the wave function". Likewise, because of a phenomenon called quantum entanglement, the very atoms of the human eye interact with the particle-wave duality of light just like any other object, and the simple commingling of photons with the atoms of our sense apparatus serve to collapse the wave function through their intercourse. It is here at vision's fulcrum that creation can be said to take place in the eye of the beholder, and the broken symmetry of light manifests as our own space/time continuum.

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