# CAA 2004 Artists' Statements

## *NANO:* An Exhibition of Scale and Senses

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When asked by the director of the Los Angeles County Museum of Art Lab what was the greatest challenge faced by contemporary museums, we responded: to accept science as culture; and to pave the way forward for scientists as artists, artists as scientists and creativity in collaborative teams [1].

*NANO* was an example of what a team that has been gathered from a wide range of diverse disciplines can achieve with a shared vision. Groups of media artists, scientists, writers and museum and university administrators worked together without any prior experience of this kind of collaboration.

The main production team consisted of graduate students in media arts and chemistry, together with architects. The humanists focused on wall text and the creation of a book [2]. To facilitate work flow between these different languages and cultures, a monthly retreat in Malibu was organized that allowed artists, architects and scientists to learn about each other outside of the academic walls.

The greatest challenge we faced was to overcome the natural grouping of the museum administrators and writers trained in humanist scholarly processes and the art-science-architecture team, who were focused on materializing the vision for the 10,000-square-ft space. After our experience, we conclude that this gap of "two cultures" is still very much present and needs to be addressed more aggressively, in practice, in the academic environment that creates this separation.

The main goal of the project was to conceptually shift the idea of nanotechnology from a mechanistic vision of the 20th century to a sensorial and ephemeral one. We created a space designed to heighten the understanding that we are all molecular in origin, created "from the bottom up." Through the interconnected installations in the sculptural architectural space, we promoted dialogue with the public about nanotechnology by representing the world as particles, waves, molecules and atoms connected through quantum interactions. We envisioned the entire space quiet and still, until someone entered, at which point everything was responsive to presence, including the floor. Webcams were used in conjunction with image recognition software to track shadows of projected images. Algorithms of molecular responses to nanostimulation were then employed to present the illusion that the C60 molecules represented in the installation were manipulable by visitors' shadows (Statement Frontispiece).

The sculptural architecture for the exhibition was inspired by Buckminster Fuller's dymaxion world map [3]. The structure allowed for all technical equipment to be hidden from view, which made the interaction seamless.

*NANO* took place at LACMA West's lab—an experimental wing of the main museum, LACMA East. When asked by the director to connect the two, we decided that it would be best to pull in ideas of "nothingness" from the Southeast Asian section. As it happened a large exhibition of Nepalese and Tibetan Buddhist art was being planned there and we began an ongoing collaboration with a group of Tibetan monks who were creating a sand mandala. The center of the mandala was re-created by a Tibetan monk in the nano lab at UCLA and imaged using the Scanning Electron Microscopes (SEM) for the creation of the installation *Nano Mandala* [4] (Color Plate G No. 2).

Creativity, imagination and perception are essential in the development of a new methodology necessary for the emerging fields of nanoscience and media arts. Students of art and science have promulgated the emergence of a hybrid third culture, which has had a powerful impact on the research approaches taken by nanoscience and media-art graduate students.

Process was and is the most critical part of the collaboration, and because of the long-term duration of the exhibition (10 months), we had an opportunity to keep developing and changing the installations after observing the interaction of the audience with them.

We encouraged and helped realize many events in relation to the art exhibition, including a nano teen night, a Buckminster Fuller day, a fashion show, a sound concert and an installation-specific dance [5]. The exhibition also aired on national TV during "The NewsHour with Jim Lehrer" and we were told by the director that they had the largest audience age span for *NANO*—from toddlers, to teenagers, to intellectuals. This is probably the most significant indication of why the merging of disciplines is so important in this day and age.

**Statement Frontispiece. *NANO*, installation at the Los Angeles County Museum of Art, 2004–2005. (Photo © Victoria Vesna) Allegra Fuller Snyder, Buckminster Fuller's daughter, playing with interactive buckyballs using her shadow (software by Josh Nimoy).**

### References and Notes

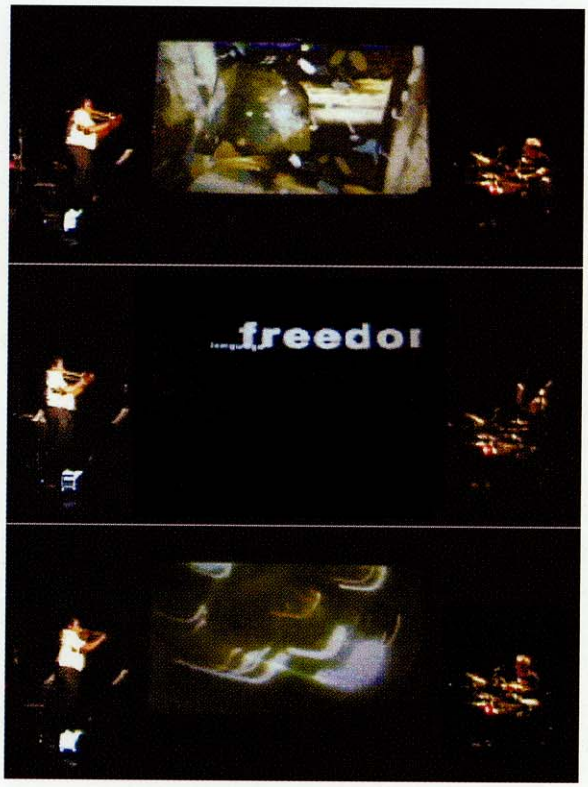
1. Bob Sain is the director of the experimental wing of LACMA Lab.

2. Katherine Hayles, ed., *Nano Culture: Implications of a New Techno Science* (Bristol, U.K.: Intellect Books, 2004).

3. The exhibition's architecture was designed by Sharon Johnston, Mark Lee and Anne Rosenberg of Johnston Marklee & Associates.

4. The Tibetan Buddhist monks from the Gaden Lhopa Khangtsen monastery in India created the *Chakrasamvara* sand mandala in October 2004 and it was dispersed in January 2005. It was created as part of a large-scale exhibition entitled Circle of Bliss, co-curated by John C. Huntington and Dina Bangdel.

5. For more information, see <nano.arts.ucla.edu>.




No. 1. Miller Puckette, Vibeke Sorensen and Rand Steiger, *Lemma 1*, networked multimedia performance, 1997. (Photo © Vibeke Sorensen) George Lewis, trombone and trombone-cam; Steven Schick, drumset and mallet-cam.

No. 2. Victoria Vesna, *Nano Mandala*, 2004–2005, projection on a bed of sand, going beyond the powers of 10 by going from the nano-scale view of a grain of sand to the entire 8-ft-diameter sand mandala. (© Victoria Vesna and James Gimzewski) Choreography by Marianne Kim and Norah Zuniga Shaw.