

Full STE[+a]M Ahead: DNA of Creativity project, San Diego Visual Arts Network (SDVAN)

Patricia Frischer: coordinator SDVAN

After a multitude of hours of exhausting work, my 91 year old mother who tracks all my efforts, finally asked me two simple questions. Why did you want to do the DNA of Creativity project and what are you hoping to get from it. About one quarter of the way through this three year project, I am still madly enthusiastic about the idea of combining artists and scientist to see what they will produce.

I had just finished with my co-producer Felena Hanson, a large collaborative effort called Art Meets Fashion with 17 exhibitions, two huge fashion shows, and over 120 participating artists, fashion designer, teachers, and documenters in 10 teams. This project helped the visual arts community connect to the fashion community so we could all work together to build a larger audience for both. My husband, who is a physicist and a computer guru, had very little involvement and I wanted to spend more time with him. The idea that the high and bio tech industry are real drivers of the San Diego economy is not lost on me. So it seems obvious that our next endeavor would be art meeting science.

Once I started to explore what was out there on the internet about art and science in 2010, I realized there was definitely room for another project, especially in San Diego. I started gathering information, which eventually was shared on our DNA of Creativity blog. I was then contacted by Harvey Seifter who was putting together an Art of Science Learning Conference in Washington DC, Chicago and San Diego. He wanted help getting out the word and with our 4-5000 unique visitors a month and one million hits a year, we were able to fill a few seats and also document the conference. I met some exciting people and felt confident that we were going in the right direction.

We held one large networking gathering to see if there was popular interest with both artists and scientist locally. We used that occasion to discuss various types of collaborations and to start brainstorming possible projects. Receiving a grant from an east coast foundation meant that I was able to make real what I had conceptualized as a project where artists and scientist made equal partnerships on teams. We put an administration team in place to deal with the website, PR, the blog and the application process.

We were invited to visit the Virtual Reality installation for the StarCAVE as a special guest of Tom DeFanti, Director of Visualization and Senior Research Scientist at UCSD, Calit2 and held a meeting following that stimulating experience to discuss the DNA of Creativity project more fully with a small group. Our specific mailing list for the project quickly grew to 160.

Our mission for DNA of Creativity is to make connections between the art and science worlds with a goal of fusing the energies of both communities to produce a series of projects, which will enhance the viewing public's perception of creativity and its role in our lives. The project is divided into four components.

1. Teams of a minimum of five with a combination of artists and scientist choose a theme for their project which they have approximately 18 months to realize.
2. Each team must document the process of the collaboration and how creativity/innovation is enhanced by the relationships of the team members
3. Each team has to create lesson plans based on their project theme.
4. Each team must make a public presentation of their project in what ever format they choose.

For more information: [www.DNAofCreativity.org](http://www.DNAofCreativity.org)

[San Diego Visual Arts Network](http://San Diego Visual Arts Network) ( Public Charity 501 (c) 3 EIN #205910283)

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Our goals for this project are aligned with the general goals for the San Diego Visual Arts network. We hope to meet the challenge of making the complexities of art and science collaboration accessible to a new and enlarged audience. We want to showcase the aesthetics of both the arts and the sciences and enhance the viewing public's perception of creativity and its role in our lives as thriving, positive, empowered and fun. We hope that describing the creative process will encourage appreciation of excellence in the fields of art and science and re-enforce the idea of San Diego as an Innovation Destination. It is important to us to create additional awareness for all the supporting organizations in this field including corporate, non profit, political and never forgetting educational. Invigorating students of all ages to support the arts and sciences either as participants or beneficiaries is always a high priority.

Our administration team has worked to set those goals for the project and also to write criteria for judging the application proposals and show benefits for the team for their involvement as well as benefits to corporate involvement. We were pleased that the Selection Committee for the grants has prestigious members of the arts and science community; **Harvey Seifter** - Art of Science Learning Director and Principal Investigator for the National Science Foundation grant; **Ron Newby** - Bronowski Art and Science Forum; and **Ruth West** Research Associate, UCSD Research in Computing and the Arts

#### **Team Evaluation Criteria**

- Extent of cross-disciplinary innovation.
- Degree of scholarly risk-taking.
- Integration of concept explored and form in which it is executed.
- Feasibility for completion within the time frame.
- Relevance to individual team members' disciplines.
- Ability to create a community involvement component to the project
- Should be PR friendly and raise awareness about all participants
- Must include for profit corporations, businesses, individuals as well as non-profit associations

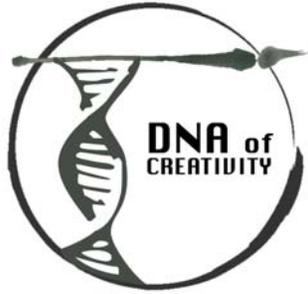
#### **Benefits to Team Participants:**

- Opportunities for social contribution and community enrichment
- Networking opportunities
- Building new audiences
- Cross pollination for artists and scientists
- Improved problem solving, thinking, technical, and team building skills
- Attaining new levels of performance in chosen fields
- Possible leveraging opportunities
- Creation of evidence for supporting funding
- Fun and excitement of sharing the Eureka moment

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## Benefits to Corporate Participants

- Cutting remedial cost of education in the smart skills that the arts usually provide
- Delineating how those smart skills help the bottom line
- Helping personnel to be able to multi-task
- Re-configuring teams to adapt to the new speed to market demands
- Creating a shared language and demystifying innovation to enhance collaboration with the arts community

We began working on the application and realized that there were Team Eligibility Requirements. The Collaborative team members must be prepared to work as a unit. Each team must have a balance of members from the arts and from the science disciplines. Each team member must have extensive experience in their chosen field. Exceptions to this are student members, which we encouraged but not as core members. Each team must agree to a public presentation of the team project and to have their own web presence and the ability to document the team progress. We ask each team to prepare lesson plans based on their project for all age groups i.e. K-6, 7-15 and Adult and they must be capable of completing that vital part of the project. Teams must be San Diego based but members can be world wide. This was the first time we encourage participation outside of San Diego. The Projects will be conducted between April 2012–April 2013, with a public presentations scheduled as dictated by the scope of the project through 2013. The projects could take any form imaginable: art works, publishable papers, photographs, films, music scores, performances, theater pieces, or documented research experiment, or even dinner parties or puppet shows, etc.

Our next step was to issue a survey to determine the level and type of involvement each participant was considering. We were then lucky to make a connection with MiraCosta College and were able to use their Student Center Conference Room, at the San Elijo Campus in Cardiff by the Sea. Remember that San Diego Visual Arts Network is a public non profit charity but has no facilities of its own, so all of our venues supply sites as in kind donations. At the beginning of January 2012, we held a meeting at that location to explain the full application process and budding teams were introduced. It was a time to ask questions and for people to make decisions about joining or forming a team of their own. We video recorded and post this meeting so it was available online. We researched many possible types of collaborations for the artists and scientists on our teams. **Ideally these projects should not be about science as art, or art using science or art as a communicator of science, but a use of both disciplines equally and collaboratively.**

### Reference: Historical Types of Collaborations

Type I: Artists who collaborate with Scientists on common projects resulting in both the production of art works as well as scientific discoveries. The use of both the scientific process and intuitive creativity possible by both.

Type 1a: Scientists working with Artists to develop technological inventions

Type 1b: Artists working with Scientists to appropriate science for the arts.

Type II: Scientists who apply their scientific research to understanding creative activity in the arts in collaboration with Artists and not just using the artists as “subjects”.

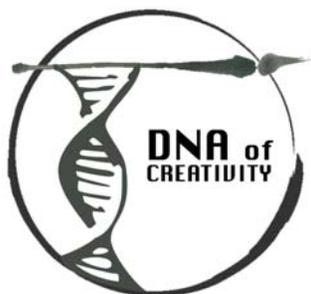
Type III: Scientists or Artists with dual careers both as working scientists and exhibiting artists.

Type IV: Artists and Scientists who engage the arts and humanities to improve the ways that the sciences are communicated to the public.

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We found that the teams were made up of artists interested in science and scientist interested in art as well as many scientists that had become artists. At this stage we have not seen that many artists who became scientists. Artist and scientist can work in the following way to produce results.

Artist/Scientist can put the process of the scientist on view?

Artist/Scientist can re conceptualized science and make it into art

Artist/Scientist can challenge new cultural forms in a reflective use of science

Artist/Scientist can affect science and push new scientific ideas to be formulated

At the end of March 2012, we received all the applications and by May 9, the selector had chosen four projects for grants. This was a process of aid and suggestions more than competition to hone the projects by working with the teams. That process of support will continue with the chosen teams.

1. Sea Changes - Kira Coser. Bringing attention to the plights of the ocean i.e. depletion of fish, pollution, acidity and climate change with a multimedia installation.
2. Urban Succession - Jason Rogalski. Research ways that urban planning can take into consideration the needs of wildlife so wildlife can have a place within our urban communities.
3. Poly Aesthetics Muses (PAM) merged with the team Tonescape - Kaz Maslanka. A structure to think about the collaborations that artists and scientist experience. Tonescape - Joe Monzo. An educational tool that uses Tonescape Data Mapping of microtonal music to map data from experiments aurally in up to 7 dimensions.
4. SD View Art Now (SDVAN) - Patricia Frischer. Creating a smart phone application which has an augmented reality component to track all art events listed on SDVAN by location or date including special promotion for DNA of Creativity projects.

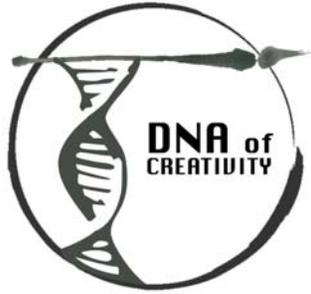
There is a fifth project called Painting with Chemistry - Elijah Rubottom. Through Cyanotype Analog Chemistry (Inorganic Chemistry) and Red Cabbage Indicator dyes (organic chemistry). This team will demonstrate new ways of creating paintings and photography. Although we are not fully funding this project, we hope to encourage them to use their new techniques to add visual interest to the promotion of our projects.

One of the reasons that I recommended choosing no more than 4 teams was that my previous work with a large number of teams made it less possible to mentor the teams completely. The first team Changing Oceans will need to narrow its focus to reach our deadlines, but the team is thinking further into the future and on a larger scale than just the DNA of Creativity project. Our second team of Urban Succession will need to broaden its views from the original concept of making sculptural housing for wildlife. The third project will be very useful to all the teams as they will try to create a structure for the documentation of all of the collaborations between art and science and demonstrate that structure to the public. Finally the last project will help in promoting all the other projects and will be an ongoing benefit to the visual arts community in San Diego.

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Besides helping the teams to define and develop their projects we aim to give them special mentoring when needed. We want to make sure that the teams can communicate to each other, to the administration of DNA project and to the public. To facilitate team building we will help teams set goals and align those goals for the benefit of the team and each individual member. They will be given help with conflict resolution and in reaching consensus. They will also get guidelines for their own meeting protocols in such areas as time lines, setting agendas, writing minutes and even a three strikes rule.

We are now at the most exciting part of the project and it will be fascinating to see the progress made by each of the teams.