SMART DUST: DEFENDING THE LAND, AIR, and SEA and ITS GLOBAL ENVIRONMENTAL IMPACT THROUGH DEPOPULATION WARS.

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Abstract: The world is in the cataclysmic reactor of the universe where mankind is desperately trying to protect his nations through the advancement of science, medicine, and technology. And at the same time, the use of his bionanotechnology architecturally designed commercial products are at a fork in the road with the possibility of killing many of its inhabitants without the destruction of a single building. This is the time for all people to listen to their hearts and realize, that through the advancement of nanotechnology and its bridge to artificial biology, their greatest creation, "Smart Dust", will be the way something nearly invisible could become our greatest national security threat. Its use as a monitoring tool has taken many tolls on the global population of plants, animals, and mankind. Whether it was designed as a universal surveillance tool or the monitoring tool of the rate of death of a tree, it is here and is part of the global dominance race involving smart nanotechnology. This paper will present an historical overview and a pictorial overview of field observations of the technology as found in the human population of the United States of America.

Introduction to Nanomaterials and Nanotechnology

Nanomaterials are great and strange at the same time. Carbon nanotubes, for example, add strength, flexibility, and heat protection to plastics, ceramics, and metals. Nanomaterials don't break easily when dropped or smashed. When sliced, nanomaterials "heal" themselves by linking back together. Nanomaterials offer engineers a brand new bag of tricks to make life better for everyone.[1]

Nanomaterials have amazing and useful properties with many structural and nonstructural applications. But, they are not necessarily new – nanomaterials have been important in the materials field for a long time; we just couldn't see or manipulate them. Gold nanoparticles were used in medieval stained glass, and nanoparticles of carbon black (graphene) have been used to reinforce tires for nearly 100 years.[1]

The advancements of nanotechnology in the last 10 years are like the early chemistry, or *alchemy,* as it was known. Alchemy's greatest day was during the time of the power plays of monarchs, like Philip II of Spain and his nephew, who were the greatest European contributors, supporting the science of alchemy, astrology and mathematics through the use of Philip II's "*magic circle*". Rudolf II of Hapsburg, during the time of Renaissance Prague[2], within the walls of his Prague castle, contributed to the world by supporting the works of Tycho Brahe, Johannes Kepler, and the artist Albrecht Durer, to name a few. He allowed and financially contributed to the birth of chemistry as a modern-day science. Through these early foundations of chemistry, the promise of amazing things to those who understood its power would be given, just as nanotechnology will give the greatest commercial economic rewards to the companies and nations controlling its architecture and deployment.

Nanotechnology is expected to have an impact on nearly every industry. The U.S. National Science Foundation has predicted that the global market for nanotechnologies will reach $1 trillion, or more, within 20 years. Nanotechnology-related job projections are estimated to be at nearly TWO million engineers/scientists, worldwide, by 2015. Working in Nanontechology offers significantly more rewarding career and job satisfaction compared to mundane careers in IT or similar fields. However, there is little awareness or knowledge in India about world opportunities in Nanotechnlogy. Nanotech training is determined to bridge this gap and avail world-class knowledge and opportunities in Nanotechnology to students and professionals in the world. There are currently over 997 global universities involved in research and the commercialization of nanotechnology with industry, governments, and military. Many of the world's leading Nanotechnology Institutes and companies, have developed training courses in Nanotechnology. The aim of nanotech training is to open a window to immense activities and opportunities in Nanotechnology, to guide and eventually realize a dream of launching a coveted career in the next generation technology known as NANOTECHNOLOGY -- but at what costs to the environmental and humanity?[3, 4]

To begin our journey into the world of NANOTECHNOLOGY, fellow scientists, engineers, and medical professionals who have not kept up with the state-of-the-art developments in this rapidly growing field, need to understand the fundamental building blocks used in the architecture of nanomachines, tools and sensors used as our new surveillance tools for global safety and monitoring of natural and manmade pandemics.

Carbon Nanotubes

Single-walled carbon nanotubes (SWNTs) are incredibly promising nanomaterials. Their remarkable materials properties, such as strength, rigidity, durability, chemical vigor, thermal conductivity, and (perhaps most importantly), electrical conductivity, make them very versatile. Depending on their exact molecular structure, some nanotubes are semiconducting, while others display true metallic conductivity. This ability, combining with their nanoscale geometry, makes them great candidates for wires, interconnects, and molecular electronic devices.[5]

Through the development of super acids, as discovered by Professors Richard Smalley and Matteo Pasquali at Rice University's Center of Biological and Environmental Nanotechnology (CBEN), such as sulfuric acid, work well in dispersing SWNTs into an easily processed form. This carbon form ranges from individually dissolved nanotubes, to a liquid crystal which acts as a starting material for aligned SWNT fibers. This improved material, then, has laid the ground work for larger objects (nanomachines and tools) made entirely of SWNTs.[5] Figure 1-1 shows self-assembled carbon nanotubes in a simple diagram. Figure 2-2 shows them as in an actual field specimen from a female exposed to advanced nanomaterials (Project: FMM © 2006 H. Staninger, Photomicrograph taken by Dr. Rahim Karjoo, Pathologist).

Multi-walled carbon nanotubes (MWNTs), with an average diameter of about 40 nm, also have a variety of potential uses in everything from cell phone lens systems and shutter materials to car windows and sporting goods. Their comprehensive strength appears even greater than SWNTs, as is proving important in composite materials. Recent developments by Massachusettes Institute of Technologies, Soldier Institute, in development of the "nanoworm" (which is able to take pictures of cells within the body and transmit them back to a computer), are the highlights for modern nano medicine in 2007.[6] Close review of Figure 3-3 shows a picture of an advanced nanomaterial device called "Goldenhead", which originally, upon analysis, had a layer of high density polyurethane (a simple lens) (wall No. 1). It had a second wall covered with acrylonitrile/acrylic resins with specific dye impregnated into its self-assembling polymer composite material, along with a viral DNA sensory camera at its end, seen as the red dot. (Taken from Project: FMM, © 2006 H. Staninger, Photomicrograph taken by Dr. Rahim Karjoo, Pathologist).

These tough technical puzzles and fabrication obstacles are only the beginning in the area of pathogen countermeasures, which looks at ways to counter exposures to populations. In many of these types of technologies (due to the metallic conductivity of the SWNTs and MWNTs materials), one may be able to combine these materials with coating materials such as paints, dyes, and adhesives. When mixed with paint, nanotubes become electrostatic. This helps plain and other nanotube-containing coatings stick more tightly to surfaces. Cars on the production line could be coated with nanotube pigments to cut manufacturing costs. Nanotube pastes might be able to improve liquid crystal and flexible displays to create images sharper than silicon and carbon-based films can generate. When these technologies are coupled with specific frequencies, such as 288 MHz, one can send a wireless image to the advanced nanocomposite materials. This can be an image of some horrible, created disease that does not exist – just an image upon nanoclaws, hooks, wires and sol-gel. (See Figure 4-4, image of self-developing nanocomposite material after 21 days from removal of human source. Project: FMM © H. Staninger, photomicrograph taken by Dr. Rahim Karjoo).

Nanocrystalline Materials

All of us who ever took a single science class know that everything is made up of atoms and molecules. Most of these bulk materials have particles varying in size form hundreds of microns to a few millimeters.

Nanocrystalline materials have particles of about 1 to 100 nm. An average atom is about 1 to 2 angstroms (A) in radius. One nanometer is roughly 10 angstroms (A), and there may be three to five atoms in one nanometer, depending on the size of the atoms.

Nanomaterials are particularly strong, hard,ductile (bendy/stretchy) at high temperatures, wear, erosion and corrosion resistant, and chemically reactive. Many departments may be addressed, depending on their various specific properties. For example, nanosilver has special catalytic properties that bulk silver does not have (e.g. interacting with and killing virus).[7, 8]

The following lists of methods are commonly used to produce nanomaterials:

- Sol-gel (colloidal) synthesis.
- Inert gas condensation.
- Mechanical alloying or high-energy ball milling.
- Plasma synthesis.
- Electrodepostion.

- DNA folding Origami Proteins.

Although all of these processes are used to create various amounts of nanomaterials, currently sol-gel synthesis is able to:

- Make precision materials in large quantities, fairly cheaply.
- Create two or more materials at the same time.
- Make extremely homogeneous (same throughout) alloys/composites and ultra-high purity (99.99 percent) materials.
- Produce materials (ceramics and metals) at ultra-low temperatures (around 150 to 600°F compared to 2500 to 6500°F in standard methods).
- Fine-tune atomic composition/structure accurately.
- Couple with synthetic DNA/RNA to create new vaccines or genetic repair nanomedicine delivery systems.

By creating or augmenting materials at the nanoscale, applications engineers can add capabilities such as superior strength to existing products.[8, 9]

Nanolasers and Nanocrystals

All forms of modern communication systems, whether on an airplane or a satellite system of advanced nano materials, a *repeater*[10] is necessary for in-line amplifiers that take fading phonophotonic signals and resend them with more power. To do that with data shot along the line as well-ordered groups of photons and phonons, those repeaters need to be miniature coherent-light sources called nano-size lasers.[11]

The photonic band gaps created inside photonic crystals not only provide an excellent way to keep the photons moving along certain paths, they can also provide areas that trap photons – *optical cavities.* As light enters such a cavity, the photonic band gap (etched into the crystal) keeps the light from leaving through the rest of the crystal. Such "trapped light" bounces back and forth in the cavity – gaining in energy, tightening into a coherent beam.

Certain materials – some semiconductors for example – can be stimulated to emit photons. The LED (light-emitting diode) is a common example of this kind of technology, but is not a laser in itself. To get the laser effect, you would most often want to choose a semiconductor-like material – called a *gain medium* – and place it in an optical cavity. Photons enter the cavity, bounce back and forth, and stimulate the medium to emit more photons. Those extra photons are of the same wavelength as the original ones, so what you get is an amplified version of the original light. (This "light amplification by stimulated emission of radiation" is how a laser gets its name.)
(See Figure 5-5: Nano light-emitting diode from Sencil™ technology © Integrative Health Systems, LLC photomicrograph Applied Consumer Services, Inc.)

To make a nanolaser, a photonic crystal is used to create a cavity that is almost as small as the wavelength of the photons themselves. This cramped space forces the photons to travel in nearly parallel lines, until the intensity of the light reaches the theoretical limit - in effect, all the photons are traveling right on top of each other! The gain medium is essentially part of the crystal itself – but before it can emit photons, a small electrical current must be induced (this is true for most semiconductor lasers), through the use of a gain medium – like chemical in the silane family or a nanopiezo electrical device.[12, 13, 14] (See Figure 6-6: Silane Based Nano Composite Material (2 polymeric materials and silicone head; Figure 7-7: Acrylic Nano Composite Material as a Piezo Electrical Device and Figure 8-8: Edible Braille RDIF Chip as compared to granules of sugar.)

The little zap of extra energy is all the photons need to make a break for it and blast out of the crystal as a laser beam. When supplied with a little electricity and a signal composed of photons (like a light house sending its signal to the captains of the sea), the laser amplifies that signal. Out comes the flow of happy photons, ready to spread information around the world or even to a cell in the brain.[15]

Korean researchers have developed such a photonic crystal laser, using semiconducting materials (indium, gallium, arsenidem and phosphide). Their laser produces detectable amounts of light with as little as 250 millionths of an ampere of electricity. Their design uses a tiny post (nanoanchor) to conduct electricity and soak up excess heat without disturbing the main portion of the crystal at the top.[16]

Self-Assembling Crystals

Nanocrystals are clumps of atoms that form a cluster. They are bigger than molecules (~ 10 nm in diameter), but not as big as bulk matter. Although nanocrystals' physical and chemical characteristics change, one of their big advantages over larger materials is that their size and surface can be precisely controlled and properties tuned, like quantum dots (a type of nanocrystal). In fact, scientist can tune how a nanocrystal conducts charge, decipher its crystalline structure, and even change its melting point.[17]

Dr. Paul Alivisantos, chemist at the University of California at Berkeley and Lawrence Berkeley National Laboratory has made nanocrystals by adding semiconductor powders to soap-like films, called surfactants. His group has grown mixtures of crystals using different surfactants. These react with semiconductor powders and produce different-shaped nanocrystals (e.g., rods instead of spheres).

Dr. Alivisantos's ability to grow semiconductor nanocrystals into the shape of 2D rods opens up many new applications and shows how controlling crystal growth as important to changing size and shape. Although shape change is at its horizon of being understood by fellow nano-ologists, it is possible that the interaction of atoms with different surfactants causes a crystal to grow in a particular way – just as various hazardous materials trapped in various tissue pockets will react to the administration of nanocrystals into the human body.[18, 19] To keep up with a speedy growth rate, then (with the right mix of surfactants), crystals take on elongated, rod-like, and faceted shapes, such as nanohorns as made with the mixture of waterborne polyurethane (styrene) and high-density polyethylene, which yields a styrene-based plexi-glass of nanocrystals growing out of the skin of an individual. (See Figure 9-9)

Further studies by Dr. Alivisato's group have shown that rod-shaped nanocrystals give off polarized light along their long axis compared to nonpolarized light fluoresced by cadmium selenide nanocrystal spheres. This is important in biological-tagging of synthetic biology, stem cells, and viral protein envelopes.[20] Since nanorods can be packed and aligned (like logs on a rail road car) they may also work well in LEDs and photovoltaic cells.

Dr. Alivisatos and others have shown how they can change nanocrystal growth conditions and rates to create nanocrystals in the shape of teardrops, arrowheads, "jacks," and horns. These shapes, since they are so small, are registered with the US Department of Commerce under the term "molecular brand,"[21] just as the continuous shape of the dragon protein was found to form the shape of a dragon's head by Argonne National Labs as described in their Press Release July 15, 2008.[22]

The mixture of particles in liquid referred to in chemistry as a solution is the ultimate key in making self-assembling crystals. In this mixture, submicron silica spheres float around in the liquid (called the solvent), which is often ethanol. Ethanol causes the silica spheres to crash into a plate that is placed in the solution. As the temperature rises and the ethanol evaporates, the *meniscus* travels down the plate, making it easier for any submicron silica spheres floating nearby to stick to the plate. As time goes by, more and more spheres deposit themselves on the plate, forming an orderly pattern. When all the ethanol is evaporated, the first layer is finished and subsequent layers can be added by repeating the process (thin-film applications). The result: a colloidal self-assembly-colloids being the solution of silica spheres (between 1 nm and 1 micron in size) suspended in a solvent.

By varying the size of the spheres being placed in the solutions, you can introduce useful chemical defects at specified layers. (See Figure 10-10: A) Silicon Nano Spheres in Human Blood with various dye coatings. B) Enlarged Closeup of Silicon Nano Spheres and Nanotubes with specifically Chinese Lantern Nanotubes in Human Blood). Chinese Lantern silicon nanotubes were first developed by Dr. Z. Wang at Georgia Tech.[23, 24]

After all of the spheres are lined up on the plate, they may be coated in a polystyrene plastic – thus allowing one to get it into the dead spaces between spheres. Once that hardens, one may use a chemical etching process to remove the silica spheres, which produces an inverted representation of the original structure as a super lattice.
(See Figure 11-11: Nano Claw, Nano silica spheres, and dragon protein thin layer technology.)

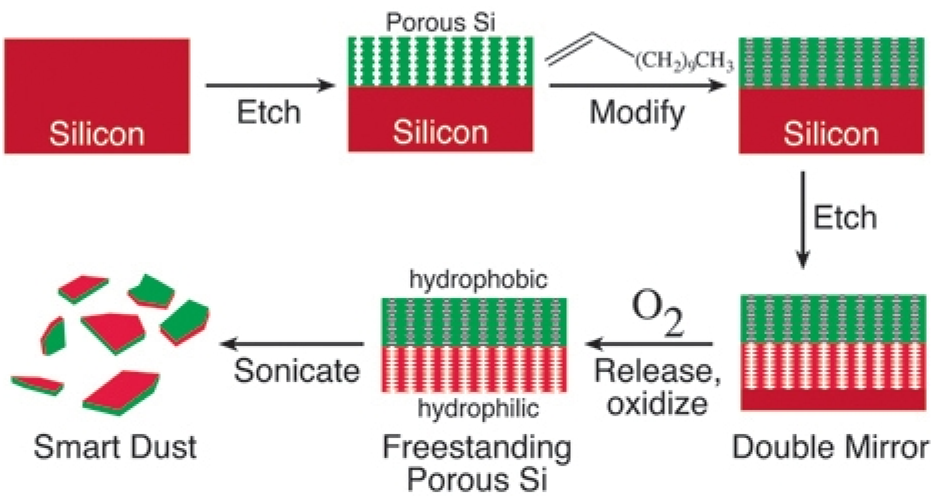
Making these crystals is very quick and relatively easy. It is so easy that many take-home scientists are making them in their homes as DIYbio[25]. Portrayed as techno-progressive, rogue, and, above all, hip, this global cadre of DIYbio practitioners or biohackers are stylized as being capable of doing, at home, what just a few years ago was only possible in the most advanced university, government, or industrial labs. What is clear is that the emergence of DIYbio and synthetic biology add urgency to the creation of a framework for systematically evaluating the risks and dangers of bionanotechnology engineering.[26]

Smart Dust, Smart Crystal Motes and MEMS

Information taken directly from the University of California, San Diego Sailor Institute, adds to the validity of the many applications of smart dust and smart crystal motes. Originally, the term and use of smart dust was developed by its pioneer inventor, Dr. Kris Pister, principal investigator, and co-investigators, Joe Kahn and Bernhard Boser (MLB Co), at the University of California, Berkeley, for autonomous sensing and communication in a cubic millimeter of space as funded by DARPA/MTO MEMS program with possible utilization within the academic network of global pathogen and countermeasures as applied to many of our country's governmental allies.

TARGETED SMART DUST - HOW IT WORKS

In order to spontaneously assemble and orient the micron-sized porous Si "smart dust," we couple chemical modification with the electrochemical machining process used to prepare the nanostructures. The process involves two steps, (see the scheme below). In the first step, a porous photonic structure is produced by etching silicon with an electrochemical machining process. This step imparts a highly reflective and specific color-code to the material that acts like an address, or identifying bar-code, for the particles. The second step involves chemically modifying the porous silicon photonic structure so that it will find and stick to the desired target. In the present case, we use chemistry that will target the interface between a drop of oil in water; but, we hope to be able to apply the methodology to pollution particles, pathogenic bacteria, and cancer cells. The two steps (etch and modify) are repeated with a different color and a different chemistry, yielding two-sided films. The films are broken up into particles about the size of a human hair. With the chemistry shown below, the particles seek out and attach themselves to an oil drop, presenting their red surface to the outside world and their green surface toward the inside of the drop.



Once they find the interface for which they were programmed, the individual mirrored particles begin to line up, or "tile" themselves on the surface of the target. As an individual, each particle is too small for one to observe the color code. However, when they tile at the interface, the optical properties of the ensemble combine to give a mirror whose characteristic color is easily observed. This collective behavior provides a means of amplifying the molecular recognition event that occurs at the surface of each individual particle.

As a means of signaling their presence at the interface, the particles change color. As the nanostructure comes in contact with the oil drop, some of the liquid from the target is absorbed into it. The liquid only wicks into the regions of the nanostructure that have been modified with the appropriate chemistry. The presence of the liquid in the nanostructure causes a predictable change in the color code, signaling to the outside observer that the correct target has been located. This work was first reported in J. R. Link, and M. J. Sailor, *Proc. Nat Acad. Sci.* 2003 *100*, 10607-10610.[27]

The application of smart nanostructure that caused a change in color – a code – was first observed in the fluorescent dye found in many individuals sclera after exposure to aerial spraying for the brown moth in California in recent years. This was termed the "Eye of Horus Effect," since it patterned the ancient Egyptian mathematic system of addressing the senses of smell, sight, hearing and odor as reported in the 2009 Annual Conference of the National Registry of Environmental Professionals, Journal of Environmental and Sustainability.[28] (See Figure 12-12.)

Smart Dust, and its spin-off technology of smart crystal motes, are miniaturized sensor/transmitters that are sprinkled onto an area - such as a battlefield - and used to analyze the environment. It was originally developed by Professor Kris Pister at the University of California at Berkeley. It is expected, that in the next decade smart dust particles will be be no more than 1 cubic millimeter in size, which includes a solar cell, a sensor, CPU, memory and radio transmitter. This technology has emerged as the mu-chip for Hitachi industries and the Sencil™ technology for Dr. Gerald Loeb at the Alfred E. Mann Institute at UCLA.[29, 30]

Smart dust is being developed as a sensory bioweapon with which one can protect themself from biological and chemical weapons exposure. Yes, the answer may very well be blowing in the wind through the efforts,in 2004, of Dr. Michael Sailor, a professor in the department of chemistry and biochemistry at the University of California, San Diego. He has used the sheen of a beetle's wing as a simple way to explain this technology - the wing does not have pigments, but we see it in different colors due to the various iridescence. The color is produced by two other properties: optical interference – the same phenomenon behind the colors in rainbows and soap bubbles, and in elaborate structures in the wing surfaces of a beetle.

Through DARPA funding, Dr. Sailor intends to make nanoparticles (smart dust) imbedded with iridescent colors into "fingerprints" that can be added to explosives and other chemicals, making it possible to trace a bomb or an illegal drug back to its single manufacturer. He also worked on making theses smart nanoparticles – dust – reflect signature colors when they encountered specific pathogens in air or water to create a cheap, disposable sensor for detecting chemical and biological weapons.[31]

Dr. Sailor makes the nanoparticles called smart dust by creating a filter for light in the surface of a silicon wafer about the size of a quarter. He places the wafer in a conductive solution, and then electrochemically corrodes it with an alternating current, which Sailor says, "as (the corrosion) drills down into the silicon, it bottlenecks and opens up again, then bottlenecks and opens up again."[32] The result is a delicate etched network of parallel pores about two nanometers in diameter. Using ultrasound vibrations, Dr. Sailor then crumbles the wafer into particles about the width of a hair.

When the dust is dispersed in air or water, ordinary dust particles scatter light in every direction, but when illuminated with a laser, Dr. Sailor explains, the smart dust appears quite different. "You'll get this one sharp, very precise wavelength of light for a given angle coming in and bouncing off the surface," he says. "The colors that result are incredibly vibrant, strong (and) highly reflective." By varying the current, the length of the process and the composition of the solution, Dr. Sailor can create filters that produce millions of specific colors. Each color is determined by the refractive index of those complex layers in the silicon. He has been further quoted as saying that the refractive index is like a barcode a laser can read to determine the composition of the dust.

Dr. Michael Sailor's work has caught the interest of DARPA because of its battlefield and counter-terror applications as stated in the article by John Harney on March 12, 2003, published in MIT's Technology Review, *Smart Dust Senses Bioweapons*. "The particles could be applied as a 'tag' to certain bomb-making materials, so that when a bomb blows up, investigators can scan a crime scene for the specific smart dust particles." "Most of the stuff that is used in terrorism activities is diverted from legitimate purposes," says Sailor. "If different manufacturers incorporated uniquely coded smart dust, the type of dust found at the bomb scene would indicate where the bomb materials were purchased and provide a clue to the identity of the terrorist who made the bomb."

These same techniques of scientific – forensic – toxicological investigations can be utilized in determining how our environment, global populations and food sources are being exposed to smart dust, G.E.M.S., MEMS, liquid viral crystals, liquid viral envelopes, and other technologies that would only benefit mankind. But in the hands of one of an evil-hearted intent it would cause the demise of humanity as we know it and the rebellion of Mother Earth in her continual poisoning. Networks utilizing the smart dust can be made with the crystallization of the dust to form a crystal mote through wireless technology, as found in a simple cell phone or telecommunications network system known as Smart DAA's.[33, 34]

Smart Dust, Molecular Forklift, Sensil™ and Lab-on-a-Chip

In January 2009 researchers at the University of Florida, Gainesville, FL developed molecular forklifts, which overcame an obstacle to "smart dust." The researchers observed algae as a livid green giveaway of nutrient pollution as found in a lake. Scientists would love to reproduce the action in tiny particles that would turn algae into different colors if exposed to biological weapons, food spoilage, or signs of poor health in the blood.

The University of Florida engineering researchers have tapped into the working parts of cells to clear a major hurdle to creating site specific "smart dust" for not only bioweapons but cellular disease repair networks. Their new approach to technology, known as "lab-on-a–chip," has been published in the journal *Nature Nanotechnology*.

"Instead of just changing one part of an existing system, we have a new and different way of doing things, "said Henry Hess, UF assistant professor of materials science and engineering and the author of the sensor paper. "And we can do it this way because of building blocks from bionanotechnology, and that's what makes it very exciting."

The researchers coupled the technologies of lab-on-a-chip with forklift systems assembled from natural motor proteins and specific pairs of antibodies to latch onto target contaminants. They do not use electricity to forge the various zones of exposures loaded aboard with fluorescent particles, or tags, but the naturally derived forklifts are powered by adenosine triphsophate, or ATP, the molecule that carries energy to the cells. The key advance, as quoted by Dr. Michael Sailor, co-author of the article, stated that the authors incorporated a transport mechanisms derived from a natural system into an artificial microsensor."

In September 2009 a specimen was isolated from the platform scaffolding technology of nasal sensory technology that was utilized in the coupling of Sencil™ technology, smart dust/crystals and the utilization of mass population in selected cities to monitor their environment (remotely). See Figure 13-13, which shows the field isolation of Sencil™ technology as developed by the Alfred E. Mann Institute, UCLA for sensory monitoring applications. The specimen was isolated from the nasal bulb of a female who was exposed to aerial spraying during September 2009 in Los Angeles, CA. It was also documented by the individual that continual EMF or RDIF frequencies were being emitted at specific times and frequencies, thus confirming the application of remote motes stimulating the growth of advanced nanomaterials into specific nanomachines, nanorobots, or other similar tools/devices.

In the December 20, 2009, issue of *Nature Nanotechnology,* it was stated that scientists at the U.S. Department of Energy's Brookhaven National Laboratory have found a new way to use a synthetic form of DNA to control the assembly of nanoparticles – this time resulting in switchable, three-dimensional, and small-cluster structures that might be useful, for example, as biosensors, in solar cells and as new materials for data storage.

The Brookhaven team, lead by physicist Oleg Gang, has been refining techniques to use strands of artificial DNA as a highly specific kind of Velcro, or glue, to link up nanoparticles, thus creating "smart glue." These same techniques have been applied to the new Harvard-designed DNA folding protein origami technologies to compress multiple materials into a single "smart dust platform."

This type of technology was isolated from an individual who was shedding black specs with a clear plastic margin around the specimen. The individual had been exposed to multiple vaccines and had exposure to bed bugs (scabies). (This may have been synthetic biological delivery systems under pathogen countermeasures population testing, since many individuals experienced this after staying in a hotel.) Further investigations may determine that the advanced nanomaterials may have been part of the detergents used to launder linen in these facilities. See Figure 14-14, which is a photomicrograph after a static charge from the dissecting needle used to align the specimen for photographing was enough to cause the DNA origami folding protein to unfold. Further analysis utilizing Micro FTIR technologies showed four specific analyses of high density polyethylene, acrylonitriles, cotton, and polyesters. Further analysis of the dye showed it to be composed of a dye that has 56 letters and manufactured in Russia.

Summation and Conclusions

Nanotechnology investors, military, academia, and industry are the partners of the global rise in the many different benefits for the utilization of nanotechnology. Through this rise of phenomenal technology under the auspices of benefiting mankind and the environment, one can only pray to a higher being that through its release into the environment, planned or accidental, remedies will be made for its antidote upon exposure. The use of silane, alone, as a tracking compound with smart dust and/or antimicrobial coating on nanoparticles, can be antidoted in the human body with the use of Opaline Dry Oxy Granules and Dr. Willard's Catatlytic Altered Water. [35] It will decompose and the silicon/silica by-products will be released from the lymphnodes. Silicon nanotubes react with variable pH's, which can be further mediated with the application of alkalinized water as found in Kangen/Enigic alkalinizing water products.

Looking again at Figure 10-10, one can only wonder who is the true mastermind - a mastermind who created something that can be nearly invisible to the naked eye, yet become our greatest national security threat, as it can cause the death of mankind with a simple flip of a switch, as nanotechnology advances into the realms of synthetic biology and nanovectored gene delivery systems. Time will only tell us after She has run through the universe with Eternity, holding their hands together, as they are looking over their shoulders at Mother Earth and her children, saying, "Where Have They All Gone?"

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REFERENCES

1. Williams, Linda and Dr. Wade Adams. Nanotechnology Demystified: A Self-Teaching Guide. The McGraw-Hill Companies. New York. © 2007

2. Marshall, Peter. The Magic Circle of Rudolf II: Alchemy and Astrology in Renaissance Prague. Walker & Company. New York. © 2006.

3. www.nanotechtraining.com (Nanotechnology in India – Leaders in Nanotechnology Learning and Knowledge Sharing) © 12/23/2009

4. Wei, Chiming. Nanomedicine. Medical Clinics of North America. Volume 91 Number 5. the clinics.com Elsevier Saunders. Philadelphia, PA. © Sept. 2007

5. Williams, Linda and Dr. Wade Adams. Nanotechnology Demystified: A Self-Teaching Guide. The McGraw-Hill Companies. New York © 2007 pgs 143-147.

6. Press Release © 2007 Massachusetts Institute of Technology – Soldier Institute. Nano Worm developed at MIT.

   Staninger, Hildegarde. Project: Fiber, Meteorite and Morgellons. Phase 1-4. www.rense.com/morgphase/phase2_1.htm © 2006 (A privately funded project.)

7. Staninger, Hildegarde. Toxicological Dysfunction Analysis™ (TDA): Mr. James Walbert. Integrative Health Systems, LLC, Los Angeles, CA © December 24, 2009

8. Booker, Richard and Earl Boysen. Nanotechnology for Dummies: A Reference for the Rest of Us! Wiley Publishing, Inc. Hoboken, NJ. © 2005

9. Booker, Richard and Earl Boysen. Nanotechnolgy for Dummies: A Reference for the Rest of Us! Wiley Publishing, Inc. Hoboken, NJ. © 2005 pgs 168-170.

10. Soghoian, Marshall. Page One Science. Alexandria, Virginia © 2001 meeting

Anasell Group, Inc. for Sensory Technologies and Issues of National Security.

11. Link, Jamie R. and Michael J. Sailor. Smart dust: Self-assembling, self-orienting photonic crystals of porous Si. National Academy of Science. USA 100(19): 10617-10610. Washington, D.C. © September 16, 2003.

12. www.ucla.com Alfred E. Mann Institute. Sencil™ developed by Dr. Gerald Loeb. Technical papers and technology for diabetes monitoring.

13. Staninger, Hildegarde. Toxicological Dysfunction Analysis™ Report. Dr. Faranak Behi (and Massachusettes General Casulalty Insurance, Boston, MA) © 2007. DNA Tags- Black Panther/Pansey; Dragon Protein, Piezo Electrical Device and Acrylonitrile Nano Thin Film Technology. Integrative Health Systems, LLC, Los Angeles, CA © 2007, 2008, and 2009

14. Staninger, Hildegarde. IBID © 2008

15. Staninger, Hildegarde. IBID © 2009

16. Whipple, Charles. Korean Researchers Achieve Electrically-Pumped Photonic Crystal Single – Cell Laser. From OEMagazine. Feb. 2005 SPIE News Room: DOI: 10.1117/2.5200502.0002

17. Williams, Linda and Dr. Wade Adams. Nanotechnology Demystified: A Self Teaching Guide. McGraw Hill Publishing, Inc. Hoboken, NJ © 2005 Chapter 8: Materials, pages 144 – 149.

18. Williams, Linda and Dr. Wade Adams. IBID © 2005

19. Staninger, Hildegarde. "*Nanocomposite Material Exposure through Aerial Emissions cause Acetylcholinesterase Inhibition*." National Registry of Environmental Professionals (NREP). 2009 Annual Conference. Journal of Environment and Sustainability. October 2009.

20. www.sciencedaily.com/release/2004/11///041108012459.htm USCD Chemist Use Tiny "chaerones: to direct Molecules and Nanoparticles in Drop of Liquid.

21. Xie, Yougshu; Hill, Johnathan P.; Chavet, Richard, Ariga, Katshiko. *"Porphyrin Colorimetric Indicator in Molecular and Nano-Architectures."* Journal of Nanoscience and Nanotechnology. Vol. 7, Number 9, September 2007 pg: 2969-2993(25). American Scientific Publishers.

22. www.argonnenationallabs.com DOE/Argonne National Labs Press Release 15-July- 2008. Newly Described "Dragon Protein" could be key to Bird Flu Cure.

23. www.nanoscience.gatech.edu/zlwang/publication.html Silicon Nanotubes, Nanofibers and Micoarrays.

24. Wang, Zhong, Gao, Rui Ping, Pan, Zheng Wei, and Zu R. Dai. "*Nano Scale Mechanics of Nanotubes, Nanowires and Nanobelts*." Advanced Engineering

Materials. © 2001, 3 No. 9.

25. Bennett, Gaymon; Gilman, Nils; Stavrianakis, Anthony, and Paul Rabinow. "*From synthetic biology to biohacking: are we prepared*?" Nature Biotechnology. Volume 22 Number 12 December 2009 pgs: 1109-1111.

26. de S. Cameron, Nigel M. and Arthur Caplan. "*Our Synthetic Future – a Commentary: Two prominent ethicists provide their views on the ethical debates surrounding synthetic biology*." Nature Biotechnology Volume 27 No. 12 December 2009 pages 1103-1105.

27. www.ucsd/sailorinstitute.com smart dust – © 2009

28. Staninger, Hildegarde. "*The Eye of Horus Effect*." National Registry of Environmental Professionals (NREP). 2009 Annual Conference. Journal of Environment and Sustainability © October 2009.

29. www.hitachi.com/new/cnews/////030902.htal
Hitachi Develops New RFID with Embedded Antenna u-Chip. Press Release September 2, 2003.

30. http://ami.usc.edu/projects/ami/projects/sencil/
Video
Overview, Technology Overview, Glucose Sensor Development, Cancer Applications and other Publications © 2009

31. Harney, John. "*Smart Dust Senses Bioweapons*."
http://www.technologyreview.comcomputing13121/ Technology Review © March 12, 2003.

32. Lieberman, Bruce. "*The rapidly advancing science is forecast to transform society*." (Spotlight on Nanotechnology) The San Diego Union-Tribune. © March 12, 2005.

33. http://pda.physorg.com_news 180624054.html
Switchable Nanostructures Made with DNA © December 21, 2009, Nanotechnology/Bio & Medicine.

34. www.dna.caltech.edu/~pwkr/
DNA origami folding protein

35. www.wikipedia.com "Silane" "Silane breaks down in the presence of oxygen, forming carbon dioxide and silica." © 2009

Soft clinical trials conducted at Integrative Health Systems for Opaline Solutions, LLC, Tucson, AZ, manufacture of a product known as Opaline Dry Oxy Granules degradated nano composite materials coated with silane as it made Oxygen (O_2) and water. © 2007 H. Staninger

Dr. Willard's Catalytic Altered Water (CAW) is manufactured by CAW Industries, Inc., Rapid City, S.D. and has an inert Natural affinity for silica. It breaks it down larger molecules through molecular bonding reactions as associated in reverse micelle reactions of covalent bonded materials. © 1986, Hy-Tox, Inc.

www.krystheraputicwater.com Enagic/Kangen Alkaline water systems. Individuals utilizing Dr. Hildegarde Staninger's Cellular Detoxification Program had a 20 to 40% increase of cellular detoxification and body fat loss due to drinking Kangen water on a daily routine for 90 days.