SUB-ATOMIC-PARTICLES, WAVES, QUARKS, MUONS, BASIC NUCLEOTIDES, & PRELIMINARY DNA IMAGING STUDY

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ABSTRACT

Einstein's reference to "quarks", "muons" and other sub-atomic-particles, is known on a worldwide basis from his 1905 scientific paper. These phenomena have been studied by scientists for over seventy years. However, a break-through developed when physicists faced this issue and proved that it is not an impossibility to track unobserved quantum particles.[1] Many scientists may think that it is still many years away before microscopy instrumentation would not only be able to view, but photograph in a micrographs, videotape, and study (sub-sub-atomic particles in "real time" in a particle wave). However, such is not the case. This paper reveals that now, not only have (organic sub-atomic-particles in a particle wave, while in movement, been photographed in micrographs and videotaped). From a diseased mycoplasma gentialium cell at the (femto-microscopic-scale-level).These discoveries have accomplished what scientists have been trying to do with sub-atomic-particle-accelerators for the last seventy years. Including the latest scientific and technological (CERN-Super-Collider-Sub-Atomic-Particle-Accelerator) as well. And that is, to not only image, but to videotape a sub-atomic-particle wave in movement. This opens up many new doors of scientific application and potential opportunities.. Especially, in being able to now study and treat human diseases at the (organic sub-atomic-particle)-femto-microscopic measurement scale level.

Keywords: Einstein, sub-atomic-particles, quarks, muons, energy, particle-wave, CERN-Super-Collider-Particle-Accelerator, sub-atomic-particle-imaging, organic sub-atomic particles, femto-scale, CRISPR, sub-atomic-particle nuclear-medicine, nucleotides, DNA, DNA-Basics, RNA

1.0 Introduction, Background and Early History

In approximately (1978) Author [Ronald Stewart] published his first peer-reviewed paper.[1] He invented and incorporated a (construction/surveyor's three-legged tripod, and developed it into a (pre-production-run-prototype apparatus). He named a: *"Combination-Telescope-Microscope".

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1 Ronald Stewart - is an interdisciplinary scientist and works in association as: "VP of Science and Optical Systems" with the RMANNCO, corporation. Both Stewart and Resnick have also worked on both: "Classified" and "Non-Classified" USA-(United States of America) government projects as well.

2 Joseph A. Resnick - is a world renowned interdisciplinary scientist who is also: "President of The RMANNCO, Corporation and is also: "Chief Scientist of Research and Development". Dr. Resnick is an inventor and prolifically holds over 40 patents in many scientific applications, that ate both "Classified" and "Non-Classified" with the (USA)-(United States of Amera)gvrnmnt. He also helped to invent the (reticle) and other miroscopic parts, on the (TEM)-(Transmission Electron Microscope). Dr. Resnick worked for NASA for almost 40 years. And other USA government agencies. Such as: 'US Space Command', 'DOD', 'JIDDEO', and other USA governmental agencies.

3 Pre-Print-Peer-Review- This paper was also published as a "pre-print" in Academia.edu and Research-Gate for additonal feeback and peer-review.

***Footnote** - Author [Ronald Stewart] envisioned that maybe one ay that there would be kind of a: "Super-Combination-Telescope-Microscope". That could literally peer and photograph and capture on film the smallest depths of the microscopic universe. And extend this capability to the far reaches of outerspace into the macro-universe. Bein able to capture exoplanets in other star systems, their surfaces, and what they are composed of microscopically as well.

Which first allowed a potential specimen, anomaly, and/or archaeological artifact to be studied (when necessary) from a limited distance. The second functional capability of the (Combination-Telescopic-Microscope) allowed it to be studied at a limited microscopic level for further diagnosis and analysis.[2] In approximately (1980-1982) Author [Ronald Stewart] made additional improvements to the (Combination-Telescopic-Microscope). When applying it to law-enforcement.[Ronald Stewart] was able to work in association with Ronald Robinson who was the local 'Chief of Police of Seagraves, Texas'. To determine if the (Combination-Telescopic-Microscope) could be used above and beyond current conventional methods used in fingerprinting. A fingerprint study was initiated and a peer-reviewed paper as written on this on a local basis by [Ronald Stewart] and Chief of Police [Ronald Robinson] as well.[3]

Years passed, and over time [Ronald Stewart] developed the (Combination-Telescopic-Microscope) into an imaging program which has numerous applications. Which was first entitled (ORIE)-(Optical Remote Imaging Enhancement). During 2006 Author [Ronald Stewart] and [Joseph A. Resnick]-(Co-Equal-Author) on this paper,) met each other. Since the (ORIE) imaging technology has been used periodically in (classified) and (non-classified) USA (related) government projects.

From approximately (2011) - (2014) two additional peer-reviewed papers were written on the (ORIE) technology. However, the name was changed to (IMMI)-(Infinite-Microscopic-Macroscopic-Imaging). Why? Primarily, because when making improvements to the IMMI) technology, Author [Ronald Stewart] recognized once making the improvements that the (IMMI) technology now had many more diverse potential scientific/technological applications and diagnostic and analytical capabilities.[4],[5]

However, continued improvements to the (IMMI) technology lead to a spin-off technology in inventing the new microscope known by the acronym (AM)-(Angstrom-Microscope).[6] Continued improvements to the (AM) lead to testing out the capability even further into the research of human disease. Thus, a true scientific break-through and milestone were reached. When [Ronald Stewart] was able to study a mycoplasma gentialium cell beginning at 50.0 um-(microns). Which was photographed in micrographs and videotaped as the scientific historical biological journey was made down into the cell attaining microscopic measurement scales below 1.0 nm-(nanometer). And this is the first time microscopy instrumentation was able to attain microscopic measurements into the (Angstrom) scale level.[7],[8] However, Author [Ronald Stewart] did not stop there.

A second monumental phenomenal scientific achievement was attained in the first part of (2016)-(July 2018). Where further scientific development of the (IMMI)/(AM) proved much superior again. When the (IMMI)/(AM) microscopy challenged the (IMG-2263)-Super-Microscope). Where the ending results performed by the (IMMI)/(AM) were far, far, superior to the results of the (IMG-2263)-Super-Microscope).[9] And for the first time in the history of science and microscopy, (organic-sub-atomic-particles like quarks, muons,-etc.), were not only photographed in micrographs but also videotaped while in movement in an (organic-sub-atomic-particle wave) at the (femto)-microscopic-measurement-scale level. This is the first time in the

history of science or microscopy that the (femto-microscopic-measurement-scale-level) e.g., (which is two categories smaller) then the (nanometer) microscopic measurement scale level) was reached.[9],]10] However, before we are able to attain deeper understandings and insights into these scientific historical breakthroughs and milestones, and understand their potential applications we need to study different location parts of the video and provide some video frame examples.

2.0 A Preliminary Analysis of IMMI Renderings in (Video-Frames-(1705) and (Plate D at Frame 2333), By Dr. Joseph A. Resnick, Ph.D.

In Prof. Ronald Stewart's video that was updated in (2017) entitled: *"The AM Angstrom Microscope", Versus; "The IMG 2263 Super Microscope"* when (I) [Dr. Joseph A. Resnick, Ph.D.] discuss what this video was able to capture in micrographs and videotape. As it journeyed down into a diseased mycoplasma-genitalium cell from (50.0)-um-(microns) down to the (femto-microscopic measurement scale level). Revealing a number of different types of (organic sub-atomic-particles) such as (quarks), (muons), (gluons)-etc. That are in movement is a sub-atomic particle wave.

However, the location of these specific observations, diagnosis, analysis, and assessments of the results are located at different parts of this video. Therefore, many significant scientific observations of the entire accumulative results could be discussed. However, for the sake of space in this paper (I) [Dr. Joseph A. Resnick, Ph.D.] have chosen two unique examples explaining and descrbing in scientific terms the results in (video frames)-(1705) and (Plate D at Frame 2333).

2.1 Introduction

I have been asked to offer my opinion as to ongoing research and development of a revolutionary investigational imaging process and algorithm, called, “IMMI”, developed by Prof. Ronald Stewart, the acronym representative of “Infinite Macro-Micro Investigational” tool. In completing my review of a short video in which Prof. Stewart both narrates and operates tenets of the IMMI technology, I noticed several major capabilities present in the technology which are not available in other microscopic investigational tools or techniques, e.g., SEM (Scanning Electron Microscopy) or LIM (Light Investigational Microscopy). Please refer to this URL to view a copy of the presentation, here: https://tinyurl.com/ycawtxma .

2.2 Rationale

For the purposes of this treatise it is first necessary to provide the reader with insights to the perspective from which this Author has posited this opinion in reliance upon rhetorical license and consensus that such analysis is based upon recognized fundamentals of Astrophysics, Physics, Quantum Mechanics and the basic Scientific Principle(s) that what Prof. Stewart has demonstrated in the above video clip is first, based on sound Scientific Methods, i.e.,

- Make an Observation;
- Formulate a Question;
- Make an Observation;
- Formulate a Hypothesis;
- Conduct an Experiment;
- Analyze the Data;
- Draw a Conclusion.

Every effective motion in this Universe is an electrical effect caused by electrical force acting under the control of the invisible magnetic universe resulting in movement of heat. Two of the fundamental states of 'matter' in the Universe are "heat" and "cold". Everything we see, touch or feel, is either hot or cold. And the object can derive those properties from a myriad of circumstances, including molecular makeup, position or juxtaposition to other elements, or the laws of attraction. For the purposes of this treatise I hold the position that the invisible electric universe entirely dominates and controls the visible electric universe. And, that all motion is entirely driven by some element of electricity including atoms, neutrons, protons, electrons, and, more importantly, sub-atomic particles, e.g., 'quarks', muons, gluons, pixels and most importantly (in my opinion), the 'Torus' … which I believe to be the fundamental building block of all 'matter' … as control of the polarity of this particle (through influence of the + or – charge of the 'Meson' particle) determines the manifestation of the 'thing' that the 'matter' (atomic particles, DNA, etc.,). eventually becomes. This becomes more and more evident and will become more apparent once the reader views Prof. Stewart's video.[11] A beginning and near ending example of this is presented and demonstrated in figure 1 (below).

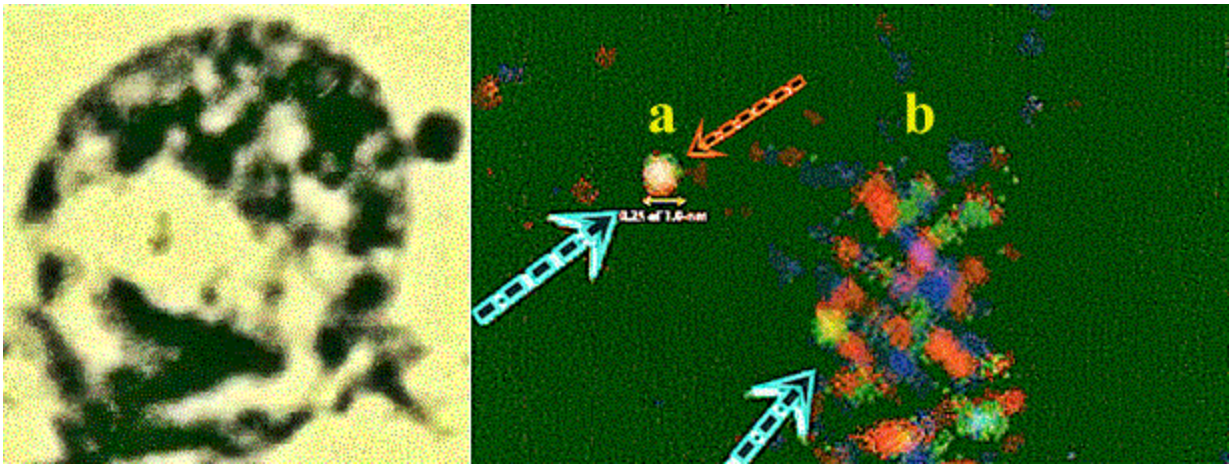

Figure 1 - The (left) micrograph depicts a diseased organic mycoplasma genitalium cell which is first observed at a microscopic measurement scale diameter of about (50.0)-um/microns. As the journey continues into the cell eventually scierntific historical achievements and milestones are achieved when the (IMMI)/(AM) technology is ble to attain a high resolution micrograph image

as seen to the (right) in (a) depicting a small atom. Which will be studied in great detail in the rest of this paper and Prof. Stewart's video. Where a microscopic measurement scale of (0.25) of (1.0)-nm-(nanometers) and/or (2.5)-Angstroms was attained (where the (left) aqua and orange colored arrows point to). Whereas (below) (b) is a high resolution image of a human organic diseased mycoplasma gentialium molecule. To understand what is happening in figure 1 at the (organic sub-atomic particle wave femto-microscopic measurement scale level), the Author suggests reading information found at this excellent description of the *'Three Laws of Motion'*. (See) - https://www.autodesk.com/products/eagle/blog/three-laws-thermodynamics/ .The reader should become familiar with the following chart in figure 1. Setting forth mathematical principles, titled, *"The Formula of Locked Potentials in Universal Ratios"*, shown below.

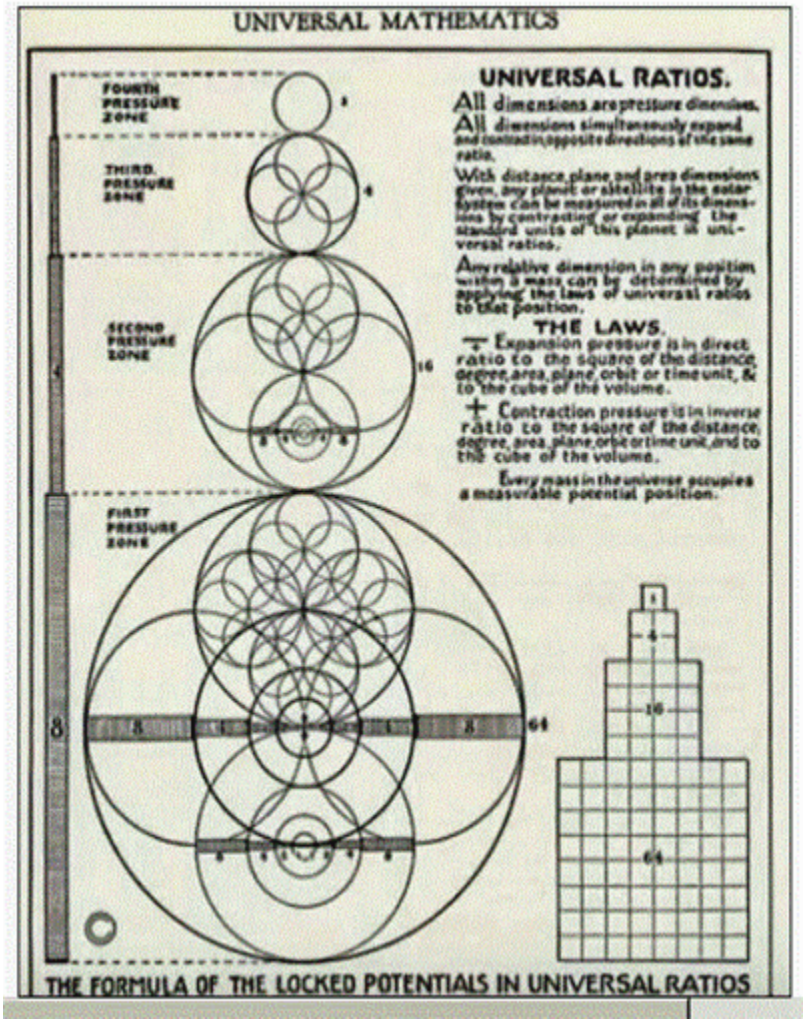

Figure 2 - While studying this formula the reader should familiarize with strict attention to the statement of the Universal Ratios and Laws, as shown above, recognizing that, 'every mass in the universe occupies a measurable potential position'. (Note) in order to read the text in the diagram above please use your (PDF) enlargement option).

3.0 How IMMI Shows Movement of Energy in (Frame-(1705)

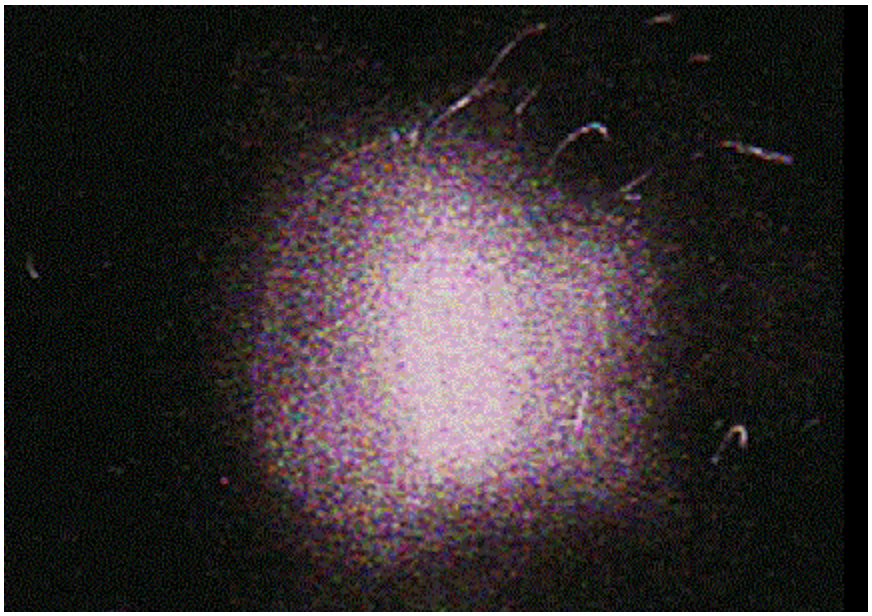

Figure 3 - We first observe (frame 1705)-(above).-(Which means that at (17) minutes and (05) seconds into the video is (frame 1705). Again when watching the video and at (frame 1705), the prediction of Albert Einstein's (1905) paper is fulfilled, and comes to life when it was written (113) years ago. And scientific historical milestone are achieved.

Of course, the large grayish and purple colored anomaly is a small atom as also seen in figure 1 marked (a) that has an approximate diameter of (2.5) Angstroms. However, the (thin-white structures are tails of 'quarks'). And the (top one has a blue-spec in it). The second 'tag' to the right has a red-colored particle in it...this is possibly the muon and the blue one is the quark. Which in this case, makes up organic composite subatomic particles (such as protons or atomic nuclei). That are inbound states of two or more elementary particles of organic matter.

For example, a proton is made of two up quarks and one down quark, while the atomic nucleus of helium-4 is composed of two protons and two neutrons. This is also a fulfillment of a recent milestone reached in being able to at least measure a (sub-atomic particle wave function and its effects).[12] Although this does not allow it to be photographed in micrographs or videotaped as has been done in this peer-reviewed paper, it is still a significant accomplishment.

However, physicists have discovered a way to track unobserved quantum particles. The way this was accomplished first scientists need a fundamental understanding of quantum theory and quantum mechanics. Thus, the underlying principles of quantum theory are that quantum objects can exist as waves or particles. However, since the inception of the first particle accelerator over seventy years ago in (1928), scientists have known that these sub-atomic particles exist. However, were not able to measure them effectively. And although scientist's understanding of

these particles has increased due to recent developments like the CERN Particle Accelerator Collider, it was still not enough of a scientific achievement to be able to attain an in-depth comprehensive understanding into how sub-atomic particles move. And makes it difficult to know "how" to measure these particles while in movement as well. Making it seemingly unachievable to identify or track quantum objects when they're not being observed. Recently physicists faced this issue and proved that it is not an impossibility to track 'unobserved quantum particles'.

This was recently accomplished in (2017), when David Arvidsson-Shukur, a Ph.D. student at Cambridge's Cavendish Laboratory, became interested in a physics premise called "the wave function".[12] However to be able to understand this wave function, we provide a simple example. We may liken this 'particle wave function' which may be similar to what is seen when we see the waves move on top of a body of water. Or as would also be heard and measured in sound waves.

Wavefunction, in quantum mechanics, mathematically describes the variable wave characteristics of a particle. The value of the wave function of a particle at a given point of space and time is related to the likelihood of the particle's being there at the time. However, in application to the sub-atomic particle world, would be applicable to sub-atomic wave-particle amplitude as well. However, in a sense, it does not have physical significance.

Does this have significance in the probability of finding the particle described by a specific wave function? At a given point and time? Yes it does. How? The (2018) online ENCYCLOPEDIA BRITANNICA, which is written by (The Editors of Encyclopedia Britannica), explain this in fundamental detail, under the subtitle: *"Wave Function"*.[13] However, the paper by Arvidsson-Shukur continues to explain that he and his research team created a way to track the secret movements of quantum particles.[12] However, the authors of this paper have taken similar research a step further. Much smaller than the nanometer, and even Angstrom microscopic measurement scale levels.

The higher applications of the (IMMI) imaging and (AM)-(Angstrom-Microscope) technologies have been able to attain the Femto Scales microscopic measurement scale levels. And the authors of this paper take this much further. This also helps to confirm and verify the paper written by Arvidsson-Shukur.[12]

The very fact that the Arvidsson-Shukur peer-reviewed paper provides evidence of creating a way of not only being able to track the secret movements of quantum particles and that they exist, is a remarkable discovery.

However, what the Authors of this paper have accomplished, is not only being able to photograph in micrographs and videotape images of not only the (organic sub-atomic particles, but their (particle wave patterns of movement in like manner). Which has never been accomplished in the seventy year history of(sub-atomic-particle) and (nuclear physics research).

4.0 Sub-Atomic-Particle-Wave-Function and Movement Is Photographed In Different Sizes In An Organic Mycoplasma Genitalium Atom Measuring 2.5 Angstroms In Diameter

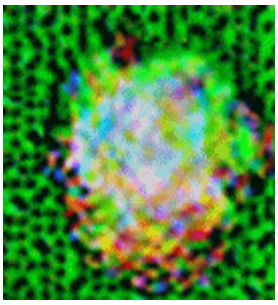

Figure 4 - (Source)-Author [Ronald Stewart]. The above image, is a high resolution micrograph of an organic mycoplasma genitalium atom measuring 2.5 Angstroms in diameter. That was photographed using the (AM)-(Angstrom-Microscope). However what is the perforated organic matter in the background? This will be discussed more in the next subtitle and shown in figure 5.

5.0 The Sub-Atomic Particle Structure of The Four Nucleotide Basics of The DNA Strand

We know that are the foundational fundamental of both (DNA) and (RNA) sequences. And that Nucleotides are organic molecules that serve as the monomer units. In forming the nucleic acid polymers deoxyribonucleic acid (DNA) and ribonucleic acid (RNA), both of which are essential bio molecules within all life-forms on Earth.

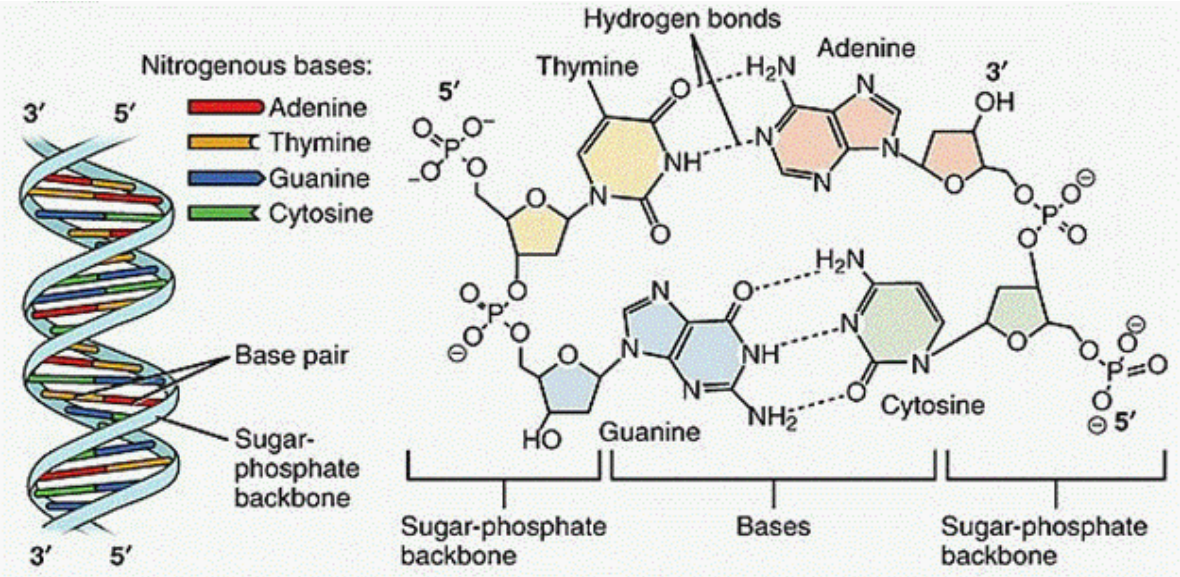

Figure 5 - (Image Credit and Source).Gracious courtesy of Version 8.25 from the Textbook OpenStax Anatomy and Physiology. Published May 18, 2016. At - https://cnx.org/contents/FPtK1zmh@8.25:fEI3C8Ot@10/Preface . Author OpenStax).

Under the Creative Commons Attribution 4.0 International license. The [Author] is neutral and does or does not either sponsor or endorse the specific use of this illustration in this paper. In this particular case, the mycoplasma genitalium cell in one of the organic smallest cells.[13] Therefore, the atoms themselves would be much smaller as seen in figures in figures 3-4 as well.

Normally atoms on larger cells may be as large as 2.0-nm-(nanometers). However, because we are in the diagnosis and analysis of the mycoplasma genitalium cell and being of the smallest cells known it would no be uncommon for an atom to have a diameter of only 2.5 angstroms as seen in figure 4. However, in the background behind the atom measuring approximately 2.5 angstroms is perforated organic matter in figure 6. What is it?

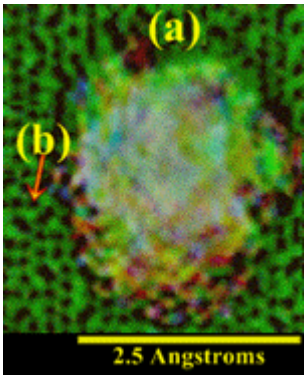

Figure 6 - We know that nucleic acids consist of a chain of linked units called nucleotides. Each nucleotide consists of three subunits: a phosphate group and a sugar (ribose in the case of RNA, deoxyribose in DNA). Essentially making up the backbone of the nucleic acid strand, and attached to the sugar is one of a set of nucleobases.

The nucleobases are very important in affecting all organic forms of life on earth.Whereas the fundamental base pairing of strands, also forms a much higher-level secondary and tertiary structure such as the famed double helix seen in DNA.

Based upon what we have learned by the illustration as seen in figure 5, we know that the abbreviated acronyms and/or letters are (A, C, G, and T), represent the four nucleotide bases of a DNA strand — adenine, cytosine, guanine, thymine. Which are covalently linked to a phosphodiester backbone.

We also know, the sequences are printed abutting one another without gaps. And as seen in figure 6 (above), (greenish colored background maybe made upof the firstthe background maybe made up of two categories of sub atomic particles. The first may be the sub-atomic particles of the cell wall. [14],[15], [16] [17], [18], [19]

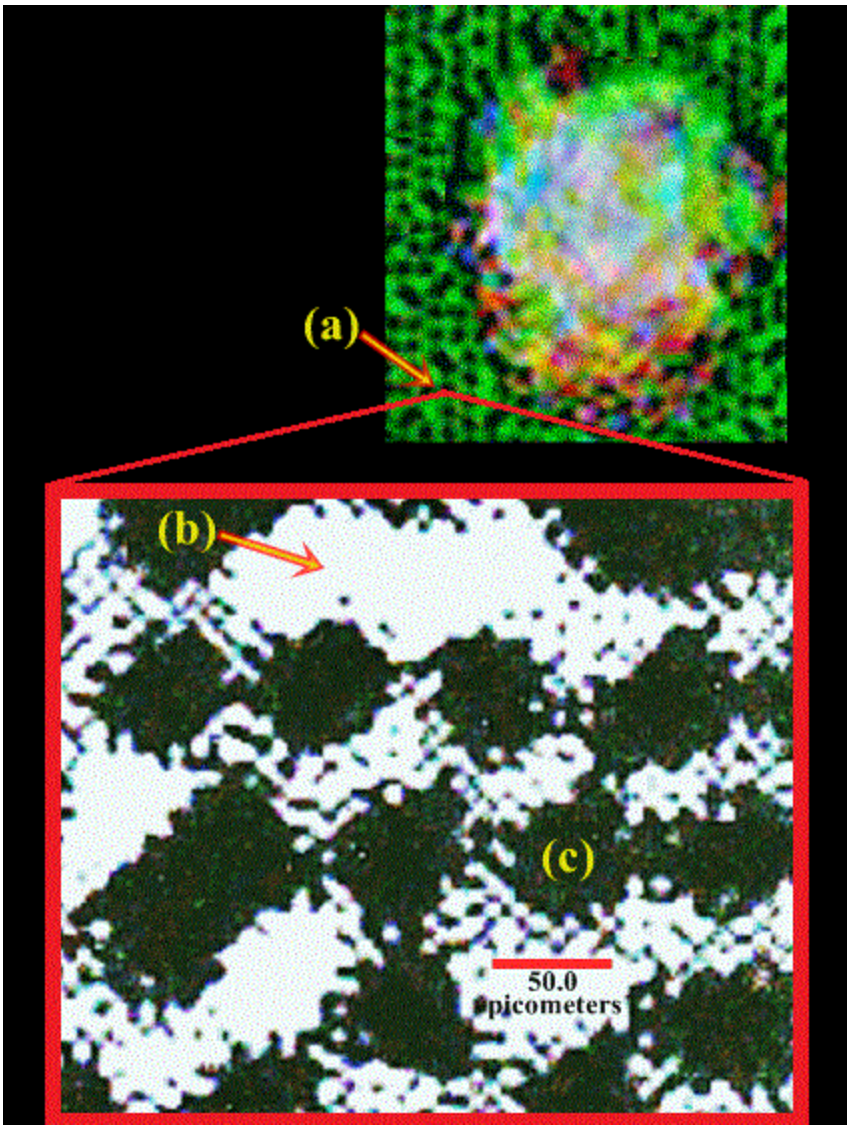

Figure 7 - (Source), Author [Ronald Stewart]. Copyright-(2013-2018). All rights reserved. (a) is the organic sub-atomic-particle-matter of the diseased mycoplasma genitalium cell wall as depicted and seen in the top image. In which the arrow points away from (a), where the projection start and is projected in the bottom much larger image. The arrow that points away from (b), points to the now (white) colored organic sub-atomic-particle-matter of the diseased mycoplasma genitalium cell. This micrograph provides new scientific evidence that the diseased digenic deteriorating necrotic condition of this diseased mycoplasma genitalium cell, extends down even to the sub-atomic-particle picometer microscopic measurement scale level. This is the first time that scientific and new medical applicable evidence has show that organic disease affects even the sub-atomic-particles of a cell as well. (c) is the is the sub-atomic-particle-cell wall that is measured at an appoximate (50.0)-picometer microscopic measurement scale level.

6.0 Two Sub-Atomic-Particle Waves Captured On Film In A Micorgraph

Figure 8 - (Source), Author [Ronald Stewart]. Copyright-(2013-2018). All rights reserved.was photographed. However, this raises the question: "are sub-atomic particles in different sizes and in different positions on the outside of a atom? The answer may be seen in the depiction in figure 8. In the upper top left corner where a combination of yellow and red arrows point to the first (organic-sub-atomic-particle wave), is in a counter clockwise-movement. Whereas in the left bottom corner of this micrograph, a second (organic-sub-atomic-particle wave), is in a counter clockwise-movement where the red arrows point to as well. Again, another historical scientific achievement and mile stone has been reached in the publishing of this paper.[20], [21]

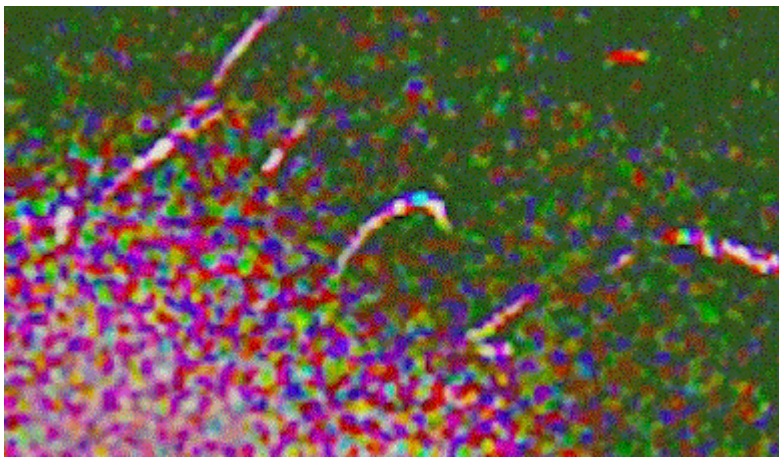

Figure 9 - In one of the supplemental material videos to this paper entitled: *"(A-C)-Atom & Organic Sub Atomic Particles, & (2) Particle Waves"* between video-frames (2:32.738) to (3:42.968) the atom measuring (2.5) Angstroms in diameter transitions into a number of color variations to where the color intensifies as seen in the above video-frame (above) in figure 9. During this period of time two dual semi-circular sub-atomic particles are in a (counter-clock-wise motion (as seen, explained, and described in figure 8). In figure 8 the organic sub-atomic

particle waves rotate in a semi-circular counter clock-wise motion.[20] This may also involve what is known as (*Wave–Particle-Duality*).[22] Albert Einstein first wrote about this in his world famous 1905 paper. Where no doubt he visualized the concept in quantum mechanics that every particle may be explained and described in terms of a dual methodology. Where not only sub-atomic particles exist, but in waves as well. When he stated quote: *"It seems as though we must use sometimes the one theory and sometimes the other, while at times we may use either. We are faced with a new kind of difficulty. We have two contradictory pictures of reality; separately neither of them fully explains the phenomena of light, but together they do"*. Unquote.[22] Through the work of Max Planck, Albert Einstein, Louis de Broglie, and many others, current scientific theory holds that all particles exhibit a wave (and vice versa).[23] This phenomenon has been verified not only for elementary particles, but also for compound particles like atoms and even molecules. For macroscopic particles, because of their extremely short wavelengths, wave properties usually cannot be detected.[24]

7.0 How IMMI Shows Movement of Energy in (Frame-(2333)

The essence of what (Albert Einstein) referred to in his 1905 paper is example in frame (2333) in known as a gluon as seen in figure 10, gives evidence the (gluon) seen in (frame 2333) is the 'fundamental building block of all matter'.

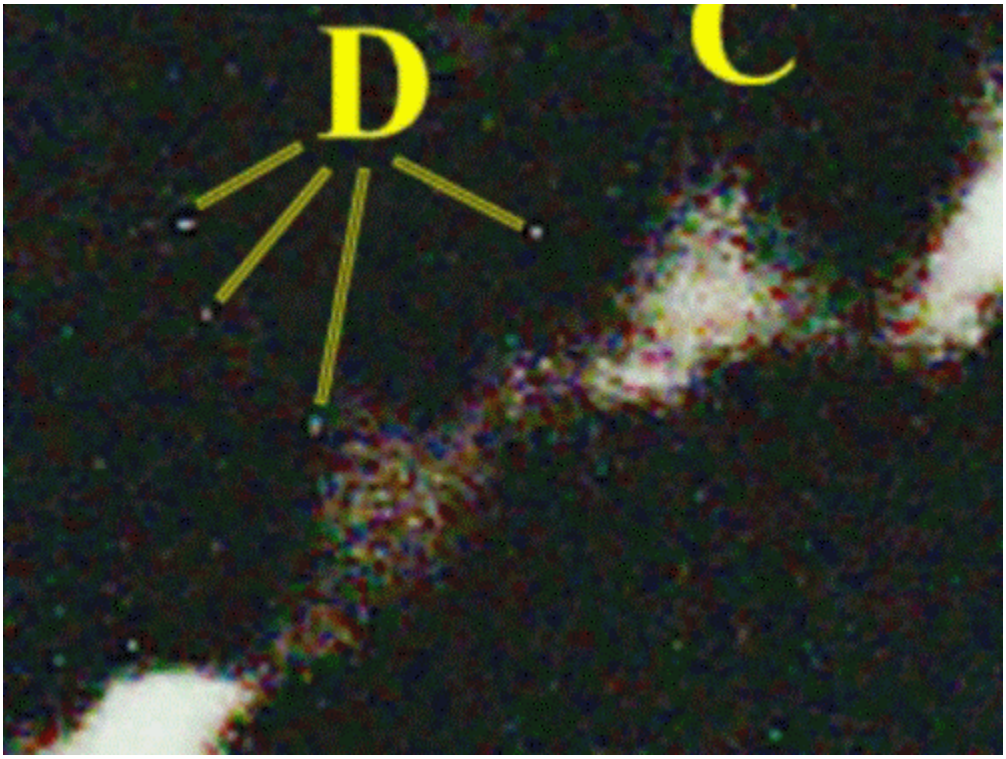

Figure 10 - With reference to Prof Stewart's video (Plate D, Frame 2333, (which may be watched at this URL - https://tinyurl.com/ycawtxma several significant events are shown, unfolding in the

renderings.[25], [26], [27], [28] But, to understand what is being revealed I believe the reader must thoroughly be familiar with the ‘Four W’s’ <what, where, when, why) as these relate to the fundamental laws of the motion and movement of electrical energy (macro and micro scales).

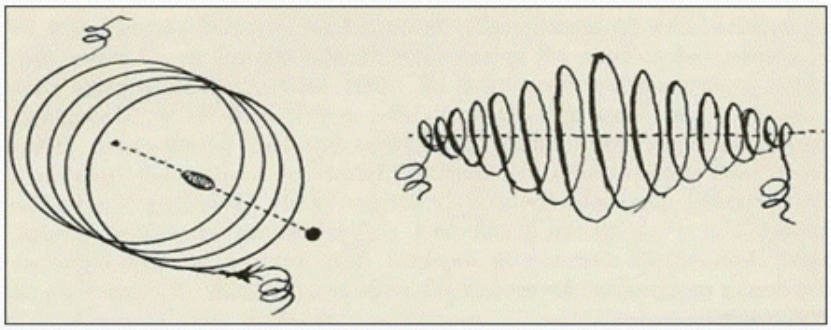

Figure 11 - Coils Used To Move Energy. Please take a moment to examine the illustration showing two distinctly different ways that energy (electricity) can be moved. The drawing on the left shows a ‘round’ coil, while the drawing on the right shows what energy actually looks-like in nature as it moves, encounters other forces, e.g., resistance, peaks (releasing ‘heat’) continuing to move the energy consistent with the fundamental laws of thermodynamics. To move electricity mankind utilizes a coil, wrongly-wound and compressed around wires such as the cylindrical coil shown in the above image, to move electricity from one location to another. These coils function according to the mandated laws of Thermodynamics and lose force over distance due to resistance and heat entropy. In nature, however, coils occur as spiraling vortex cones enabling heat transfer which is best explained in this rendering showing optical movement of electricity according to the four steps up where the forces are increased by the square of each step up, thereby multiplying the original force. https://tinyurl.com/ycawtxma

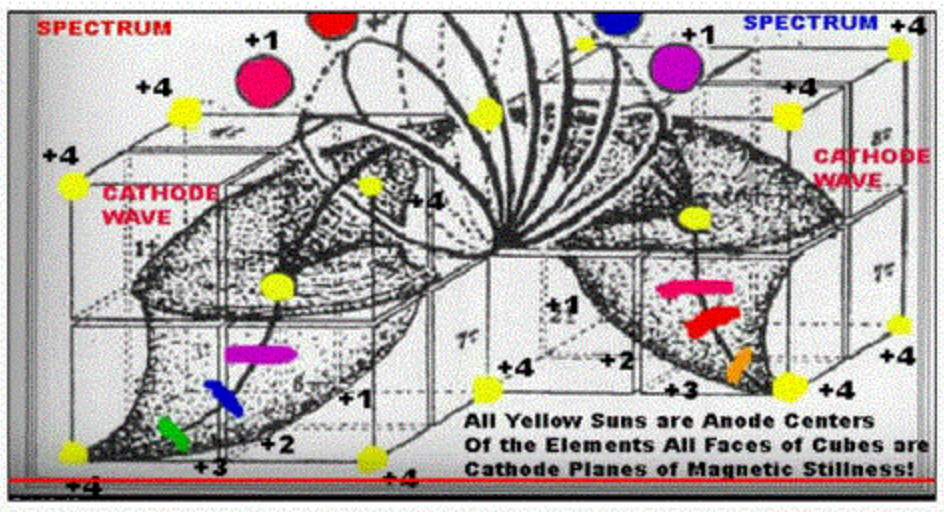

Figure 12 - presents and demonstrates that all yellow suns as far as energy is concerned are considered (cathode planes of magnetic stillness). (See) illustration above.

8.0 Understanding Microscopic and Femto-Measurement-Scales

Before we may be able to discuss the phenomenal discoveries that have been made, we have to begin with some fundamentals. As previously mentioned the (organic sub-atomic-particles moving in a particle wave) would have to be much smaller than what some super-microscopes have barely been able to attain of inorganic matter at best with a fuzzy blurry photo at a microscopic measurement scale of about 10.0 -nm-(nanometers). In figure 4 (below) is a list of microscopy categories. In order to be able to reach a microscopic measurement scale category small enough in order to not only visually see through a microscope, but photograph it, and videotape (organic-sub-atomic-particles as these quarks, muons-etc. move in a particle wave), the (IMMI)/(AM)-(Angstrom-Microscope) is the only microscope in the world, capable to go down to the (Femto)microscopic measurement scale category two categories smaller than a nanometer. Which is seen below in the bold text to the far left.

		1000^0	10^0	1	one		–
deci	d	$1000^{-1/3}$	10^{-1}	0.1	tenth		1795
centi	c	$1000^{-2/3}$	10^{-2}	0.01	hundredth		1795
milli	m	1000^{-1}	10^{-3}	0.001	thousandth		1795
micro	µ	1000^{-2}	10^{-6}	0.000 001	millionth		1873
nano	n	1000^{-3}	10^{-9}	0.000 000 001	billionth	milliardth	1960
pico	p	1000^{-4}	10^{-12}	0.000 000 000 001	trillionth	billionth	1960
femto	f	1000^{-5}	10^{-15}	0.000 000 000 000 001	quadrillionth	billiardth	1964
atto	a	1000^{-6}	10^{-18}	0.000 000 000 000 000 001	quintillionth	trillionth	1964
zepto	z	1000^{-7}	10^{-21}	0.000 000 000 000 000 000 001	sextillionth	trilliardth	1991
yocto	y	1000^{-8}	10^{-24}	0.000 000 000 000 000 000 000 001	septillionth	quadrillionth	1991

Figure 13 - depicts the microscopic measurement scale units starting at the (far left to the right of figure 13 (above). Starting with (-10-0/power) equaling (one). The second column is the (abbreviated) symbol for each measurement scale and down into the microscopic measurement scale levels from the (deci) to the (Yocto) smallest microscopic measurement scale level) that is currently scientifically accepted at the writing of this paper in (c.(2018)-CE). The acronym/abbreviated symbols (d-ay) each represent each measurement scale category(deci) to (Yocto). (far left is the name of the microscopic scale category. All microscopy related sciences involve the (micro)-e.g., (microscopic-measurement scale category using any type of microscopic instrumentation. Whether it be an (optical light microscope), (Electron-Microscope), and even today's (Super-Microscope) instrumentation categories. All of this is based upon the centimetre–gram–second system of units (abbreviated CGS or cgs) measurement system. Which is a variant of the metric system based on the centimeter as the unit of length, the gram as the unit of mass, and the second as the unit of time. All CGS mechanical units are unambiguously derived from

these three base units. And there are several different kinds of ways of being able to extend the CGS system to cover electromagnetism.[29], [30], [31], [32]

8.1 Femto-Microscopic Measurement Scale Examples of Use

The femto- (symbol f) is a unit prefix in the metric system denoting a factor of 10-15 or 0.000000000000001. Adopted by the 11th General Conference on Weights and Measures,[33] it was added in 1964 to the SI.[34] It is derived from the Danish word femten, meaning "fifteen".

An examples of use: The HIV-1 virus has the mass of about 1 x 10-15 g or 1 fg. Orders of magnitude (mass)a proton has a diameter of about 1.6 to 1.7 femtometres. The femtometre shares the unit symbol (fm) with the older non-SI unit fermi, to which it is equivalent. The fermi, named in honour of Enrico Fermi, is often encountered in nuclear physics.[35]

Before we may be able to discern and understand as to what may constitute the building block of matter itself at the femto-microscopic measurtement scale level, we need to attain an in depth understanding of femto-scales. First with a fundamental understanding of this microsscopic measurement scale level is more appropriately understood, when we take into consideration as to what may or may not exist.

We have to be able to ascertain and discern what may exist at the femto-scale if we searching for phenomena in physics that may serve as a bases for a Femtometer Scale Technology. Which may only lie right now within the realms of our own imaginations. However because technology is making staggering progress in leaps and bounds we need to search for such phenomenon as to what exactly exists at the femto-scale. This is another one of the most important primary goals of this paper.[36], [37]

9.0 Using CRISPR To Treat Human Disease In Vitro The Genome, Via (Organic-Sub-Atomic-Particles) At The Femto Microscopic Measurement Scale Level

What is CRISPR? Is an abbreviated acronym which essentially means Clustered Regularly Interspaced Short Palindromic Repeats.[38] CRISPR is a family of DNA sequences in bacteria and archaea.[39]

The sequences contain snippets of DNA from viruses that have attacked the prokaryote. These snippets are used by the prokaryote to detect and destroy DNA from similar viruses during subsequent attacks. These sequences play a key role in a prokaryotic defense system, [39] and form the basis of a technology known as CRISPR/Cas9 that effectively and specifically changes genes within organisms.[40]

The simplest way to understand the CRISPR process mechanism process is to remember that there are three main parts. Such as cas genes, a leader sequence, and a repeat-spacer array.The arrangement of the three components is not always in the same order.

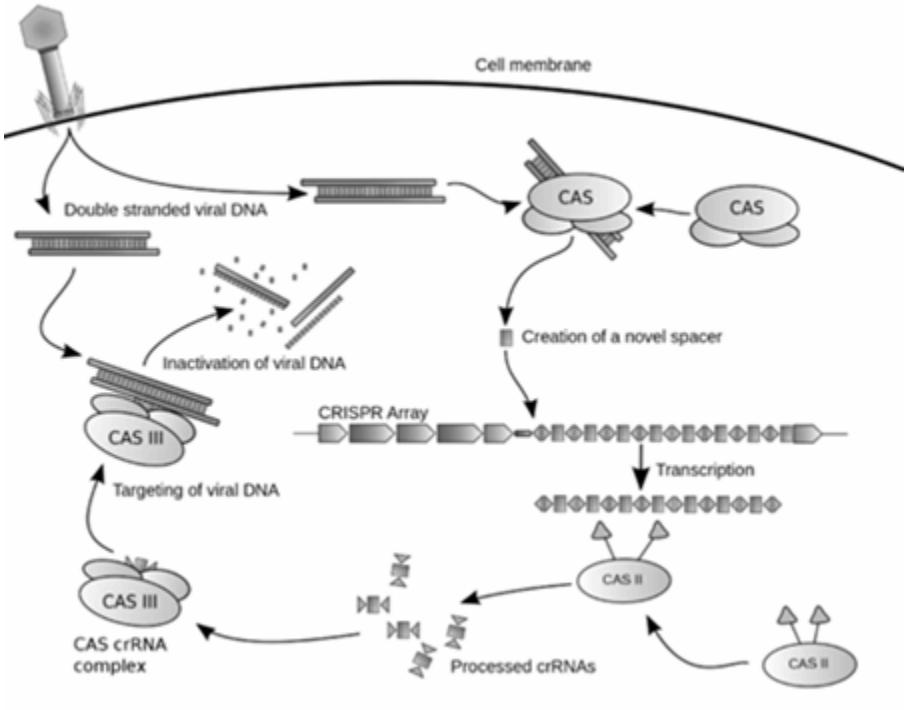

Figure 9 -Diagram/illustration 'how' CRISPR works. Source-Courtesy-(James Atmos/2009).

The current thinking is to use a hybrid benign virus that could be used to deliver the CRISPR techniques and to be able to eradicate human disease at the molecular level. However, what has to be remembered is that while this concept of attack is significant, we have to understand that to address CRISPR technology at the molecular level is like treating the symptom of a disease and likely eliminating it for a time. However, when a much more proficient way to help to keep the disease from developing in the first place is to use the CRISPR methodologies at the (organic sub-atomic-particle-level an studying this from the (femto-scale level).being able to eradicate the disease at a much, much, smaller microscopic measurement sale level and developing CRISPR in vitro at this treatment level is worth the research time and dollars spent. Although there have been some concerns in the past about CRISPR being used on genome engineering being able to do an exhaustive in-depth research into this discovery would be able to address all of the questions, ethics, and benefits.

6.0 Discussion

Agudelo, D. et al. discusses a fundamental and gradual more complex investigation and discussion in using CRISPR in creating marker-free co selection for CRISPR-driven genome editing in human cells. Through an array of targeted genome editing enabling the creation cellular models for biological research and may be applied to human cell-based therapies. With using either nuclease-driven nonhomologous end joining homology-directed repair. And by using the CRISPR–Cas9 and Cpf1 systems to deliver and make such repairs at the cellular levels. Although while this is a courageous effort this only addresses the treatment at the cellular level.

When applying CRISPR–Cas9 and Cpf1 systems to deliver and make such repairs at the cellular levels Whereas being able to do this at the molecular level would be desirable, it is still not producing the greatest amount of needed treatment, if it otherwise could be delivered at the sub-atomic particle femto scale level instead. [41]

However, again 3. Bak, R. O. et al. strongly suggests that the answer to multiplexed genetic engineering of human hematopoietic stem and progenitor cells using CRISPR/Cas9 could be another approach to treating human disease. There is credible worth that precise and efficient manipulation of genes is crucial for understanding the molecular mechanisms that govern human hematopoiesis and for developing novel therapies for diseases of the blood and immune system. And there is a great amount of truth in this discussion that current methods do not enable precise engineering of complex genotypes that can be easily tracked in a mixed population of cells. This paper suggests that a complex approach to multiplex homologous recombination (HR) in human hematopoietic stem and progenitor cells and primary human T cells is the answer using the CRISPR/Cas9 system to deliver ribonucleoproteins (RNPs). However, again it would be ultimately advantageous to be able to approach this from the (organic sub-atomic particle level instead.[42]

Whereas in a very recent paper Theodore L. Roth et al. has experimented with success using electromagnetic field at the cellular level to essentially manipulate the results of being able to affect the genome in a CRISPR–Cas9 genome-targeting system that does not require viral vectors, allowing rapid and efficient insertion of large DNA sequences (greater than one) at specific sites in the genomes of primary human T cells, while preserving cell viability and function. This permits individual or multiplexed modification of endogenous genes. However again, there is a much, much, greater advantage of applying this technique from the (organic sub-atomic particle level instead. [43]

Conclusion

When considering the breakthrough of these discoveries and their potentialities having many scientific and technological applications on behalf of the Authors of this paper and of RMANNCO, Inc. any and all interested parties in these discoveries and potential applications and/or investments we ask you to please contact the Authors of this paper and/or RMANNCO, Inc. for further details.

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