



Manthan

A Quarterly Magazine Published by BiharBrains

October, 2009

THE UNIVERSE
YOURS TO DISCOVER



INTERNATIONAL YEAR OF
ASTRONOMY
2009

Nuclear Diplomacy: POKHARAN



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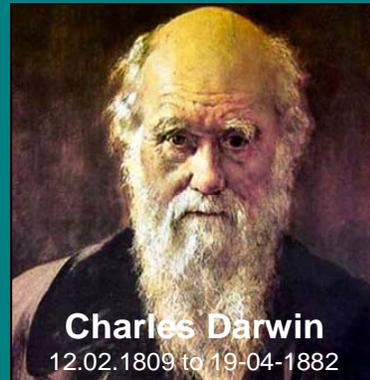
DR. H. J. BHABA
30-10-1909 TO 24-01-1966

100 Years



SIR J. C. BOSE
30-11-1858 TO 23-11-1937

150 Years



Charles Darwin
12.02.1809 to 19-04-1882

200 Years

Manthan

October, 2009

Contents

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1. From Editor's Desk	1
2. Featured Articles	
2.1 Pokharan '98 and Govt. Nuclear Policy	2
<i>Bibhuti Bikramaditya, Seoul, South Korea</i>	
2.2 International Year of Astronomy: 2009	4
<i>Rakesh Kumar Singh, Patna, India</i>	
3. Research Article	
3.1 Study of Interaction of Blue Light and Different Frequencies of Acoustical Waves on the Vegetative Growth of Some Plants	8
<i>S. S. Singh, K. B. Singh, S. P. Kumar, Motihari, Darbhanga, Patna, India</i>	
4. General Articles	
4.1 In Vitro Antibody Production Enables HIV Infection Detection In Window Period -- Key To Safer Blood	11
<i>Diwaker Tejaswi, Patna, India</i>	
4.2 Can India Lead Through Innovations	12
<i>Indra R. Sharma, New Delhi, India</i>	
4.3 Mind Transformation Course	14
<i>Ghanshyam Singh, New Delhi, India</i>	
4.4 Solarised Secured Electric Vehicle	24
<i>Sachin kumar, Cochin, India</i>	
4.5 My Sweet Journey from a Village in Bihar to California (NRI Experience)	25
<i>Dhananjay Kumar, California, USA</i>	

Manthan is a quarterly magazine published by BiharBrains, an international Forum of educated people of Bihar with the objectives of sharing ideas, knowledge and achievements which can be benefited to the scientific and non-scientific community.

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Editor's Desk

This issue of Manthan contains Featured articles, Research and General articles covering all the area interest as that of earlier issues. Recently, scientists have put a question mark on India's nuclear ability by saying that the yield from the Pokharan II nuclear tests was much less than claimed by the authorities. One of feature article in this issue highlights facts and figures about Pokharan II and ground reality about its yield and India's nuclear diplomacy.

The International Year of Astronomy 2009 (IYA2009) is a global celebration of astronomy and its contributions to society and culture. The aim of the Year is to stimulate worldwide interest, especially among young people, in astronomy and science under the central theme "The Universe, Yours to Discover". IYA2009 events and activities will promote a greater appreciation of the inspirational aspects of astronomy that embody an invaluable shared resource for all nations. Another feature article explain the important points on the life and work of Dr. J. C. Bose, Dr. H. J. Bhabha and aim, objectives, Vision of International Year of Astronomy (IYA2009).

The research article section in this issue is focused on interaction of physical factors on the vegetative growth of some plants.

We solicit your reactions, comments and suggestions in the mailbox and expect that with your help and support in future, this magazine will grow into a versatile platform.

For details you are free to visit our website www.bbmanthan.info.

Bibhuti Bikramditya
Chief Editor



Pokharan'98 and Government Nuclear Diplomacy

Bibhuti Bikramaditya
Seoul, South Korea

On May, 11 & 13, 1998, India conducted three serial underground nuclear blasts at Pokharan, namely (i) Atom Bomb, (ii) Hydrogen Bomb & (iii) Low Yield Devices. In all of the three, today our chief concern is about the hydrogen bomb explosion, which is a thermo nuclear device. This is because, we had already tested Atom Bomb explosion, which is a fission device, at the same place, 24 yrs ago in May 1974 which is yielded about 5.1 on Richer Scale equivalent to about 12 kilo tone and only a marginal improvement has been reported in the **Shakti 98** (pseudonym for Pokharan II explosion given by Vajpayee govt.) And as far as low yield device is concerned, it can not be placed in the list of astonishing scientific advancement that could cause flurry of hot debates.

The success of nuclear explosion is measured from the yield, which results from the nuclear explosion. The yield or total energy of a thermonuclear device is generally expressed in mega tonnes ("one megaton is 1000 kilo tones and one kilo tonne is 1000 tonnes of equivalent of chemical explosives).

In seventies, china conducted thermonuclear device and the yield was found to be about 6 megaton's. The first thermo-nuclear test was conducted by US in 1951 followed by USSR in 1993. It is said that yield found by USSR was about 500-mega tone which is about 84 times more than that of china. But we found, is no more secret now, you will see later, is definitely confusive.

"The new Scientist" (May 23, 1998) reported an assessment by Dr. Frode Ringdal, scientific director of the Norwegian Seismic array near Oslo, which is also a part of global network, 'that blast (May 11) registered clearly in Pakistan, Canada, Russia, Australia and here (Oslo). All the traces show, it was almost 15 tonnes.

"Seismological Research Letters" (sept,98) carried an article" the May 1998-India and Pakistan Nuclear test" containing an analysis of data of 22 monitoring station around the world with conclusion that May11,explosion had a combined force of no more than 15 kilotonne, so small that they involved a less sophisticated fission bomb than the thermonuclear bomb.

According to Mr. Gregory Evan Vink, Director of Planning at Incorporated Research Institute of Seismology, the seismic signal about explosion, was found to be .4 which is he thought ,10 to 25 kilotons.

More or less, the Japanese scientists and the British Scientist estimated the same yield.

Mr. Gregory E.Van Vink is also the expert advertising US Congress and Clinton Administration, he reported the congress that either Indian thermo nuclear device failed completely or what ever yield that had been recorded, was entirely from the boosted fission device.

Experts at the Los Alamos National Laboratory, Princeton University and the Incorporated Research Institute of Seismology at consortium of 90-research University that operates a global network of 100 seismic monitoring stations, endorsed the upper data. At Princeton, Mr. Frank Von.Hippal, a physicist and Ex- Assistant Director for the national security in the white house office of science and technology policy, said, "it seems pretty convincing to me".

But the data's collected by Indian seismological centers and the claim of prominent Indian scientists (like Chidambaram, Kalam, Dr. Sikka and Anil kakodkar) was rather different.

While delivering a press conference, Dr. Chidambaram reported that serial blast occurred in India at Pokharan in May 98 had a following device wise yield:

On May 11, 98

- (i) Fission device (atom bomb)-15 kilotons
 - (ii) Low yields device-0.2 kilotons.
 - (iii) Thermonuclear device comprises-
 - a. Fission device: 12 kilotons.
 - b. Fusions device:45 kilotons
- Total: 57 kilotons

On MAY 13, 98

Two sub kilotons device exploded, gave 0.5 kilotons and 0.3 kilotons yield respectively. That means, the yield found by Indian seismological center was about 57 kiloton but magnitude just 5.2 on Richter scale. This is also astonishing. Only a margin of 0.1 (5.2 in 1998 & 5.1 in 1974) on Richter scale, there is a difference of 45 kilotons (57-12 =45 kilotons). Is it believable? When asked about the reason behind this, he replied the reason for low values recorded by international seismic sensors was the simultaneous triggering of the three devices-(i) fission device (ii) low yield device & (iii) the thermo nuclear device on May 11, 1998.



According to him, the simultaneous explosion caused interference of shock waves traveling through the earth and resulted in a low value seismic data at the international seismological centers. If it is true, one can ask, how the shock waves had no interference at Indian seismic centers.

Clarifying this, Dr. Sikka (who was monitoring his team to assess the yield) said that the final result of the yield gives by us is after cross checking of different data's. This type of claims and counter claims is certainly not convincing but looks very elusive.

Dr. B. K. Subha Rao, an eminent Nuclear scientist at IIT, Mumbai has also written an open letter to the Prime Minister on dated 22 Sept. 98 (published in the HINDU on 27 Oct.,98) urging him to order a judicial inquiry into Pokharan 98. According to him, Dr. Kalam and Chidambaram have made a great fool to the nation.

GROUND YIELD REALITY

Now two points are very clear:

- (i). Yield reported in many different seismological centers of India and abroad varied from 5.1 to 92 on Richter Scale and therefore, controversial equivalent energy gained also varied from 25 kiloton to 57 kilotone. We could not achieve the standard yield level of one megaton .we were far behind.
- (ii). Therefore claiming that the data's collected by our scientists are satisfactory and exhilarious, is certainly a farce. This is unresistingly true at least in comparison to four other nuclear states like America, UK, Russia and China.

Now, this is not question whether India conducted thermonuclear device test explosion, but this is very necessary to see how much extent test succeeded achieving the yield. In the context, our results were not up to the mark. This is the ground reality.

I am not anyway going to belittle the scientific efforts and the advancement they made but attempts should necessarily be made to do further nuclear test in order to find standard yield of the order of mega tones as also Russian defense analyst claims. According to

the Russian analysts, India must have to test at least 4 more nuclear explosions for the minimum credibility.

NUCLEAR DIPLOMACY

Our govt. became overjoyed for this splendid endeavor of the scientists at Pokharan. Just after explosion, India clarified her nuclear diplomacy based on the three declared intensions of a minimum credible deterrent, of no firth use and willingness to go beyond the moratorium on test towards CTBT and FMCT.

What is meant for maintaining minimum credible nuclear deterrent, we do not know and has not been defined properly? This is abstruse.

No first use is welcome event for the sake of universal brotherhood. But this is very unlogistic and unfavorable efforts to generate favorable public opinion for allowing the govt. to sign CTBT. Now, there will be very possibility of the American govt. supporting India to get permanent seat in the UN Security council. Perhaps, this is the clear result drawn by India after recent Clinton visits. Thanks to Clinton sahib for dispelling the doubts that he is the super boss, controlling the world in very astute manner.

But we must not forget that at the cost of only a marginal scientific advancement, selling of national interest is dangerous and the nuclear diplomacy based on the false claims can be dangerous to the national security.

This is the cause of serious concern.
The govt. must pay attention to that.

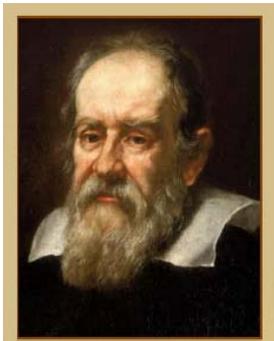
(Note: This article was written by Mr. Bibhuti Bikramaditya when he was postgraduate student of Physics department of Patna University in 1998. The facts and figures of this article were collected from Times of India, The Hindu, The Hindustantimes, The Hindustan Dainik. But no newspapers accepted to publish this article that time. Thanks to Some top scientists of India who dared to raised this question again about the yield of the Pokharan II.)



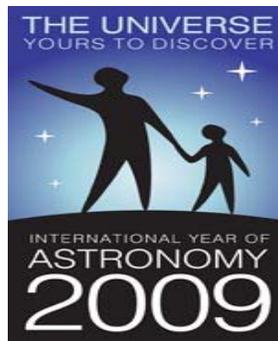
International Year of Astronomy, 2009

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International Year of Astronomy: 2009, and Remember the Contributions, Relevance of Dr. H.J.Bhabha, Dr. J.C.Boss, Charles Darwin on his birth Centenary.

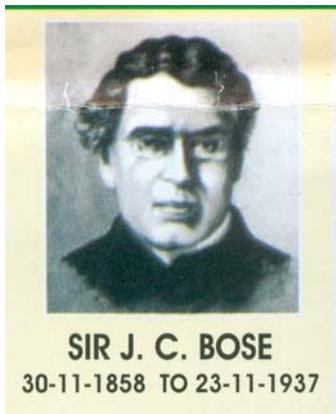


Galileo



Aryabhat

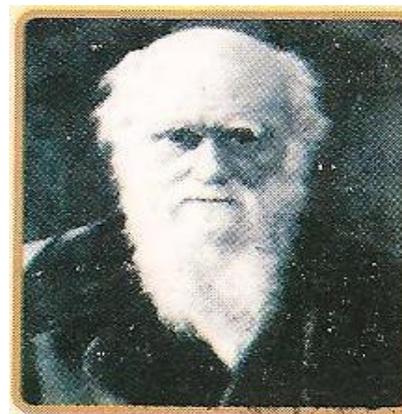
Inspiration & Join Hands to Make Society Prosper in Science and Technology



(150 Years)



(100 Years)



**Charles Darwin
(200 Years)**

Dr. Rakesh Kumar Singh is Master Resource Person: International Year of Astronomy, appointed by DST, Govt of India. He can be reached at Mobile- 09304197595, E-mail – rakeshpu@yahoo.co.in



Abstract

This article is a popular presentation of the important points on the life and work of Dr. J. C. Bose, Dr. H. J. Bhabha and aim, objectives, Vision of International Year of Astronomy (IYA). The idea is to inspire the younger generation in Basic Scientific Research field and create a conducive atmosphere of Science education and Research in Society. I observed the significance of scientific spirit, when I visited the Colleges/University Departments/ Institutions as Master Resource Person of International Year of Physics-2005 & International Year of Astronomy-2009, how the scientific discoveries are helpful for mankind.

During Total Solar Eclipse on 22 July 2009, the temperature, light intensity, animal /bird behavior was found different as compared to normal other day. The Joint campaign was organized by Vigyan Prasara club member, DST, Govt. of India and Science for Society, Bihar at Patna. India witness the longest solar eclipse (TSE) of this century on 22 July 2009. This eclipse was visible from many cities of India including Patna, Allahabad, Varanasi, Darjeeling, Surat, Indore and Dibrugarh. At Patna, we could not see the initial sequence of the eclipse before totality due to sudden rain but could witness the sequence of the eclipse after totality.

Overview

The international year of astronomy (IYA)-2009 is being celebrated worldwide. United Nations, its 62nd General assembly on 20th Dec., 2006 took the resolution to celebrate 2009 as the International Year of Astronomy. **The vision of IYA** is to help citizen of the world to rediscover their place in the universe through the day and night sky observation and thereby generate a sense of wonder and discovery. We, in India the IYA focus to remember

- ✓ 400th year of Galilean Telescope, which was used first for Astronomical observation
- ✓ 100 Year of, Since Samanta Chandrashekhar of Orissa made celestial observation through simple hand-made instruments.
- i. 300 years of Swai Jai Singh's efforts of constructing a chain of massive observation (e.g Jantar Mantar, Delhi)
- ii. 1600 years of since Aryabhata (Patliputra based Mathematician) gave explanation of Lunar and solar eclipses and busted the Rahu-Ketu mythical frame work of the Jyotish-Vidya.

Aim and Objectives of IYA

- Aware the Astronomy is one of the oldest Basic Sciences & it has contributed and still contributes fundamentally to the evolution of other Sciences and applications in a wide range of fields.
- Recognizing that Astronomical observations have profound implications for the development of Science, Philosophy, culture and the general concept of the Universe.
- Noting that, although there is a general interest in Astronomy, It is often difficult for the general public to gain access to information and knowledge of the subject
- Conscious that each society has developed legends, myths and tradition, concerning the sky, the planets and the Stars which form part of its cultural heritage.
- Expressing its support to the declaration of 2009 as the International Year of Astronomy, with a view to highlighting the importance of Astronomical Sciences and their contributions to the Knowledge and Sustainable development.



Eclipse Scene at Patna

Observation on 22 July 2009: Largest Celestial drama of this Century

1. All the animals and birds get confused. Dogs stops barking/lie down/ sleep. Cows and Buffaloes give very less milk
2. Fishes in water stops feeding to their child/ leaves their shelters etc.



3. Light intensity varies from 0 – 18,000 lux. While normal day light have light intensity of 15000- 18000 Lux.
4. Temperature changes by 3-7 degree Celsius. (At Patna 27 degree Celsius to 29.8 degree Celsius in 6 minute)
5. Shadow band was observed on the open floor, white paper.

Frontiers of Astronomy (Space Scientist)



DR. VIKRAM SARABHAI
12-08-1919- TO 31-12-1971



SUNITA WILLIAMS
19-09-1965



APJ ABDUL KALAM
15-10-1931



KALPANA CHAWLA
-07-61 TO 1-02-2003



RAKESH SHARMA
13-01-1949

Dr. Jagadish Chandra Bose: Modern India's First Physicist .(150 Year)

He was the pioneer of experimental science in India. J.C. Boss was born in Mymensingh (Now in Bangladesh) on Nov. 30, 1858 and started his education in a Pathsala Bengali medium school. He studied with the children of peasant's, fishermen and labours. In their company young Jagdish imbibed a love for nature. Bose came in contact with Father Eugene Lafont (1837-1908) at St. Xavier's College, founded by Belgian Jesuits, who played an important role in developing a tradition of modern science in Kolkata. In 1880, he sailed for England for studying higher education and again he left London for Cambridge, where he took admission in Christ's college to study **Natural science**. In 1894, on his 35th

birthday, Bose decided to pursue scientific research and not to be confined with teaching assignment alone and his first research on electric radiation.

Bose was the first to produce millimeter-length radiowaves and study their properties. The Institute of Electrical and Electronics Engineers is one of the their publications wrote "Our investigative research into the origin and first major use of solid state detector devices led to the discovery that the first transatlantic wireless signal in Marconi's world famous experiment was received by morconi using the iron-mercerry-in coherer with a telephone detector invented by Sir J.C. Bose in 1898. He was the first to show that semi-conductor rectifiers cold detect radio waves.

In May 1895, Bose read his first research paper before the Asiatic society of Bengal. In the same year his paper titled "On the Determination of the indices of Refraction of Sulphur for the Electric Ray" was communicated to the Royal Society of London by Lord Rayleigh. The paper was read before the Royal Society in December, 1895 and it was accepted for publication in the Society's proceedings. The University of London awarded him Doctorate of Science (D.Sc.) in 1896 without any examination. Many in India though that Bose had given a fresh scientific impetus to the age-old wisdom of the East which believed in the basic unity of all life. Swami Vivekananda, who was then in Paris, went to hear Bose at the Congress (In 1990, Bose read his paper "On the Similarity responses of Inorganic and Living Matter" before the Paris International Congress of Physicists"). Rabindranath Tagore sent his appreciation in the form of a poem.

Bose retired from educational service as senior professor of Physics in 1915. The Bose Institute established on 23rd Nov., 1917 and he become its lifetime director. In 1903, Bose was honored with Commander of the order of the Indian empire at Delhi by the British Government. He received in 1912 the commander of the star of Indian at the coronation of the British Emperor.

Bose died on 23 Nov., 1937 at Giridih in Jharkhand (then in Bihar). Every citizen should inspire his scientific effort.

Dr. Homi Jahangir Bhabha: Founder of India's atomic energy programme. (100 year)

H.J. Bhabha is mostly known as the chief architect of Indian's nuclear programme and his contribution to India's development goes for beyond the sphere of atomic energy. He was born on 30 October, 1909 in a wealthy family of Mumbai. He took the mechanical engineering in 1930. His father and Uncle Sir Dorab J. Tata wanted Bhabha to become an engineer with the view that ultimately he would join the Tata Iron and Steel Company at Jamshedpur. In 1928, Bhabha in a



letter to his father wrote: **“I seriously say to you that business or job as an engineer is not thing for me, it is totally foreign to my nature and radically opposed to my temperament and opinions. Physics is my life, I know I shall do great things here. Therefore, when Bhabha passed the mechanical Tripos at Cambridge with first class, his father allowed his son to fulfill his wishes. Bhabha joined the Cavendish laboratory, from where he obtained his Ph.D. in theoretical Physics and many sensational discoveries were made. His first research paper published in 1933 won him the Isaac Newton Studentship in 1934, which he held for three years and mostly worked in Cambridge except for a short time when he worked with Niels Bohr at Copenhagen.** At Cambridge Bhabha’s work centered round cosmic rays. It was Bhabha who suggested the term ‘meson’ now used for a class of elementary particles, whose mass intermediate between that of the electron and the proton.

In 1940, Bhabha joined the I.I.Sc. Bangalore where a readership in theoretical physics was specially created for him. C.V. Raman was then the Director of the Institute. Bhabha sent a proposal in March, 1944 to the Sir Dorab J. Tata Trust for establishing a vigorous school of research in fundamental Physics and finally, the institute named TIFR was established in 1945 in 140 square meters of hired space in an existing building.

The first step towards organizing research in atomic energy was the creation of a board of Research on atomic energy that was constituted as a part of CSIR with Bhabha as its Chairman.

Bhabha possessed sensitive and trained artistic gift of the highest order. The environment in which he grew certainly helped him to develop all these fine qualities. He loved music and dancing. In 1943 he was awarded the **Adams price by the Cambridge University for his work on cosmic rays** and Hopkins price of the Cambridge Philosophical Society. He was awarded the title of **Padma Bhushan by the government of India** in 1991. According to J.R.D. Tata, Bhabha “Scientist, Engineer, Teacher, Master-builder and administrator steeped in humanities, in art and music, homi was a truly complete man.”

Charles Darwin: (200 Year)

This Year further marks bicentenary of Charles Darwin (Feb 12, 1809- April 19, 1882) as well as the sesqui-centennial celebration of the publication of this landmark book “On the origin of species” by means of natural selection (1959). As the Biologist Dobzhansky has aptly put “ Nothing in Biology makes sense except in the light of evolution”.

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Study of Interaction of Blue Light and Different Frequencies of Acoustical Waves on the Vegetative Growth of Some Plants

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Abstract

An experimental study was conducted to find out the effect of Blue light on *Salvinia molesta*. It was found that blue light enhances the vegetative growth under laboratory conditions. Another experiment was performed to find out the effect of acoustical waves on the growth of *Pteris vittata*. It has been observed during experiment that this fern grows even in the area where exhaust fumes are emitted by generators. This fern was subjected to wave frequencies of 1000, 500, 420, 380 & 100 Hz under a photoperiod of 14/10 h (day/night). Maximum growth was recorded to be dependent on the medium composition and independent of sound application. Sound waves applied during the dark period had no significant effect.

Key words: Blue light, *Salvinia molesta*, *Pteris vittata* L. Acoustical waves.

1. Introduction:

Light is of paramount importance for vegetative growth and other physiological processes. Light influences the growth at certain intensity duration and quality of light or wavelength. The visible light is a combined form of different colours (VIBGYOR). Each colour has different energy manifestation and wavelength. All seven colours of light cause voluptuous effect. The photomorphogenesis are directly related with quality of light. It is obvious that the various pigments present in the plant have specific requirements for light quality. Earlier it has been observed that red light is best for plant growth. But internodes show maximum increase in blue violet light. Phototropic movement is more in blue light (400nm – 510 nm). Other light waves also show effect.

Considering this it was decided to study the role of different monochromatic light on *Salvinia molesta*. This plant grows luxuriantly in eastern region of Bihar and in Bengal plains. It is sometimes considered as abnoxious weed of aquatic medium hampering the movement in water and for cultivation of *Euryale ferox* and *Trapa bispinosa*. Owing to this reason the effect of different monochromatic light and of ultraviolet and infra-red rays was experimented in laboratory conditions.

Acoustical wave, if rhythmic normally leads happiness and joy. If it is beyond audible capacity it produces noise. In another investigation we have tried to study the effect of acoustical wave on the vegetative growth of *pteris vittata*. L. It is widely occurring leptosporangiate fern which shows voluptuous growth. It grows well in township area and resists to air pollution.

2. Materials and Methods:

Healthy plants from the field and growing in ponds and ditches at Motihari under cultivated conditions were collected and some plants were allowed to grow under normal condition (field) and in pteridology lab. under blue light condition with variable intensity and time duration.

Pteris vittata a common widely growing fern was subjected to experimentation. This fern starting from germination to adult (full grown plant) was treated with different wave frequencies (380 Hz, 420 Hz, 500 Hz, 1000 Hz) and changes were observed. *P. Vittata* L. was grown under Knop's solution.



3. Observations:

Table -1

	Normal light	Blue light
Internode length	10-15 cm	12-16 cm
Leaf emergence from node	3 or 4	4
Length of submerged leaf	3 cm	3.5 cm
Diameter of submerged leaf	0.25 cm	0.36 cm
Length of leaf	1.5 cm	1.6 cm
Breadth of leaf	3 mm	3.0 mm
Sporocarp	2.00-1.5 mm dia	2.10-1.6 mm dia

Table - 2

	380 Hz	420 Hz	500 Hz	Higher dose in Hz
Spore Sown	G - 10 d	G - 12 d	G - 12 d	I
Pinna developed (one)	21 d	22 d	24 d	I
Full grown (vegetative)	34 d	36 d	37 d	I
S o r i development	37 d	39 d	41 d	I
Y o u n g	60 d	62 d	65 d	I
<u>Maturity</u>				
G 4 germination D 4 days I 4 inhibition				



4. Inference:

From Table 1, It is inferred that blue light enhances the internode length, leaf emergence from node, length of submerged leaf, diameter of submerged leaf, length of leaf, breadth of leaf and sporocarp. The number of sporocarp per submerged leaf remained the same. As compared to normal light the single blue light accelerates the vegetative growth to some extent. But when the exposure time is increased the rate of growth remained the same.

It is obvious from Table 2 that Rhythmic music between 380 Hz to 500 Hz causes development and higher dose retard the growth and spore formation.

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In Vitro Antibody Production Enables HIV Infection Detection In Window Period -- Key To Safer Blood

Dr. Diwaker Tejaswi
Patna, India

Researchers in Israel and Kenya have shown that the contribution of variable degrees of immune suppression, either due to existing chronic infections such as parasitemias and/or nutrition, in different populations may influence and prolong the serological-diagnostic window period of HIV. However, the immunosuppression can be overcome, by in-vitro enhancement of antibody production (termed-Stimmmunology). The results, which appear in the August 2009 issue of *Experimental Biology and Medicine*, show that pre-treating the whole blood sample in the SMARTube™ containing immune potentiating agents promoted the synthesis and release of antibodies against HIV-1 prior to their detection in corresponding plasma samples in a group of donors who would otherwise be classified as HIV-1 seronegative blood donors. The identification of techniques that can lead to detection of HIV infection during this window period is of obvious public health importance especially in resource poor settings highlighting the importance of these findings. Overcoming the suppression, in-vitro, led to the production of detectable levels of anti-HIV antibodies in the whole blood sample and to the detection of potentially infectious blood units which were missed by regular HIV serology. Interestingly, the ratio of missed infections among the total HIV infected blood donors was higher among the younger (high-school) donors versus adult donors. The research team, Dr. Jasper Mumo, immunologist from the Department of Human Pathology, University of Nairobi, Kenya, Dr. Ami Vansover, head of the Virology Laboratory, Public Health Laboratories, Ministry of Health, Israel, and Dr. Tamar Jehuda-Cohen, an immunologist, Faculty of Biomedical Engineering, Technion-Israel

Institute of Technology, ran the same HIV antibody tests using both regular plasma and SMART-plasma (plasma after the Stimmmunology step) from blood donors in Kenyata hospital. Dr. Jehuda-Cohen noted that "this study, offers one of the keys to making the blood supply safer, by overcoming the problem of this protracted window period perhaps unique to certain field study sites with a high incidence/prevalence of HIV-1. This is true not only for HIV but also for other infections such as HCV, which has even a longer window period than HIV"

In summary, in-vitro enhancement of antibody production, made simple by the SMARTube™, has been shown to enable the earlier detection of HIV infection. This is critical for saving lives not only via a safer blood supply but also by detection of HIV infection among pregnant women who seem to have a very long window period. "A pregnant women testing false negative for HIV will not be offered ART which could have saved her baby" said Dr. Jehuda-Cohen. Dr. Steven R. Goodman, Editor-in-Chief of *Experimental Biology and Medicine* said "The article by Mumo and colleagues may lead to a change in testing paradigms and algorithms in HIV and other infections with a diagnostic window period."

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Can India Lead Through Innovations?

Indra R. Sharma
New Delhi, India

Many recent news reports about India and Indians make me ponder about if India can lead through innovations. The latest one giving hope came due to the person of Indian origin who shared the Nobel in chemistry this year. An interesting statement by Venky Ramakrishnan made after becoming Nobel Laureate reinforced my hope. "There are lots of good scientists in India but I notice the press is hung up about these Western prizes like the Nobel Prize instead of appreciating the excellent work they (scientists) are doing within the context of India." Unfortunately, we hardly come to know about the scientists and their works, as the media hardly cover anything but those unscrupulous politicians and their activities. Why can't the news magazines such as 'India Today' and 'Outlook' or business magazines come out with some special issues covering the innovations in India and the big players in innovation from industry as well as institutions of excellence?

As a routine subject of discussion that follows the announcements of Nobels every year, the media has many reporters and columnist raising the question 'if Indians in India can win Nobel' and providing their own answers.

Interestingly a new study became handy in time to emphasize and encourage Indians about the possibility. According to a study, conducted by British firm Thomson Reuters, and published as 'Global Research Report: India', "In the last decade, India has seen a substantial growth in its annual output of scientific publications. India's research productivity will be on par with most G8 nations within seven-eight years and overtake them between 2015-2020." But many well-wishers including NR Narayana Murthy are skeptical about the growth of innovations in India. Perhaps Mr. Murthy has sufficient reasons to be negative which is not. One reason may be the reports on the rankings of the Indian universities that hardly provide any hope. Even a recent ranking expressed the similar view. According to the QS/Times Higher Education rankings, 'none of the Indian universities figure among the top 100 varsities of the world'. And naturally one of the pet excuses is the lack of funding.

However, I have some other reasons to be hopeful. At least few recent news reports about the technical capabilities of Indians working in the country support my hope. The news related to the finding of water traces on moon by Chandrayan-I was one. According

to Chairman of the Indian Space Research Organisation (ISRO) G. Madhavan Nair, the Chandrayaan-1 detected water on the lunar surface as early as June 2009. The indigenously developed Moon Impact Probe (MIP), which crash-landed at a designated site on the lunar South Pole on November 14, 2008, picked up "clear signatures" of water during its 25-minute descent. Analysis of the data from a mass spectrometer on the MIP pointed to the presence of water. This finding was later "confirmed" by the Moon Mineralogy Mapper (M3), which was supplied by the United States.

Another landmark research related to genetics. It has revealed that nearly all Indians carry genomic contributions from two distinct ancestral populations. Following this ancient mixture, many groups experienced periods of genetic isolation from each other for thousands of years. The study has medical implications for people of Indian descent. Samir Brahmachari, a geneticist of repute and CSIR's director-general says, "India is among the first country to do a diseases-specific, drug-response mapping on large populations which gives us risk analysis and benefits."

Besides the facilities of CSIR and DRDO, the scientists and technocrats in huge number of research facilities of the country running in thousands are busy in their pursuits of innovations. But the potentials are still more. The rush of the multinationals to open its R&D centres in India and the performance of some who are already established are proofs of the talents of Indians and potentials.

It requires only course corrections with the necessary change in the mindsets. I wish PM could have a CTO for the country too. Perhaps, persons like Nandan Nilekani, Sam Pitroda, or someone would have been more suitable for this bigger responsibility.

Just to give one example of the potentials, each IIT must have 'an Institute of Science' integrated with it in its campuses to have basic researches in applied and pure science. On similar lines, the big business houses would have supported an independent R&D institute to serve the sector. Can't Tata Steel or for that matter Anil Agrawal set up dedicated R&D facilities for metal related researches?

Innovations in every field can only take the country ahead. However, it requires synergy to show fast and effectively impressive results. I was going



through an article about the grassroots innovations from the rural India. I am sure if the big industrial houses take interest in some of them and fine tune it,

the result will be wonderfully unique and commercially successful products for even global market.



Mind Transformation Course (MTC)

Ghanshyam Singh
New Delhi, India

Are you burned out on trying hard but failing? Now, after passing through Mind Transformation Course, you shall learn - "How to Perform Like A Champion, Make A Quantum Leap in Your Life, And Increase Health, Wealth, Power, Happiness and Success with **Transformed Mind**", indeed you learn how to win at the games of life.

'**Mind Transformation Course (MTC)**' is an advanced re-discovered manual that aims to let you understand the process of human conditioning and how to achieve an awakening from this imposition. We are born in a body with animal instincts, we carry the baggage of past lives (it seems) and to add to this we develop survival solutions upon the lines of our racial culture, and according to our particular upbringing and experiences. But no one need accept that they must remain as they were shaped by their hereditary body-mind and by the conditioning of their childhood and culture.

This is a complex and tangled mixture but it is possible to separate out these strands and to find our true identity. In so doing, we discover what mind is, how mind plays a great role in our success and failure, we also understand the reasons why we make failure, friendships break down, marriages go sour and misunderstandings occur, why life may contain more stress than pleasure and why our purposes in life often become obscured. With this knowledge we can transform our minds - and that is the prerequisite to fundamental change for the better.

The Mind Transformation Course through Irresistible Success Formulas is an easy-to-follow process to **stop getting what you don't want and start getting what you do want...**

What is Mind Transformation Course?

This Course transforms the simple mind into Super Mind. During the course, the most powerful mind transformation tact and techniques are taught which are best comprehensive by all. In the classes of MTC, you are introduced the thrilling and stunning mysteries of mind, so the attendees of MTC are

ensured to have well understanding and familiar with mind and it's behaviors for desired results.

It's important to note that "mind" is not synonymous with brain. Instead, in our definition, the mind consists of mental states such as feelings, perception, mental visualization and consciousness. The brain is the hardware that allows us to experience these mental states.

Our thoughts, feelings, beliefs, and attitudes can positively or negatively affect our biological functioning. In other words, our minds can affect how healthy our bodies are!

On the other hand, what we do with our physical body (what we eat, how much we exercise, even our posture) can impact our mental state (again positively or negatively). This results in a complex interrelationship between our minds and bodies.

Mind-body specialist Dr. James Gordon states that the mind and body are essentially inseparable: "the brain and peripheral nervous system, the endocrine and immune systems, and indeed, all the organs of our body and all the emotional responses we have, share a common chemical language and are constantly communicating with one another."

When you feel angry or depressed, in a self-defeating way, this is the result of negative or irrational inner-speech that you may not even be aware of, as it is often very fleeting or below the threshold of consciousness, or simply not recognized as such.

Considerable mental energy is locked-up by continuing to repress feelings and emotions, and this is justified by irrational and over-generalized conclusions about self and others.

The techniques to be presented will enable you to look again at your beliefs with a fresh viewpoint. This will help you to release the effects of held-back trauma and have fuller access to your potential for intuitive, creative and holistic thinking.



With a more flexible outlook and greater freedom of emotional expression, new horizons may appear, and goals approached that before seemed out of reach. Problems and difficulties now become opportunities for creative choice and valuable learning, stepping-stones towards what you really want to achieve.

When, as with many people, 90% of the brain's capacity is not utilized optimally due to neurotic repression, the remaining 10% is apt to fall into a robotic state. The individual acts out imprinted behavior patterns which are predictable from day to day and only responds semi-consciously when something attracts his attention. The under-utilized 90% is susceptible to hypnotic influences and the individual is driven by his environment and circumstances; this is far from the self-determined state he probably considers himself to be in. For most of us, a radical program of reawakening is urgently needed!

What is required of you?

An open mind and a genuine desire to learn and expand. The major goal of Transformational Psychology is to facilitate the development of self-determined people taking full responsibility in their lives. Indeed, we need to explore the unmapped territory of our minds and develop it to the full, if we are each to have the insight to be able to effectively cut through the blinkered thinking in our environments, and to make an impact on what is happening to our world's social, economic and ecological systems.

Resolving the chaos of fixed ideas which nearly everyone has to some extent, is a gradient process of analysis, of rediscovering both objective reality and the unique, intuitive truths which lie within ourselves.

Like a magic wand, this systematic process turns anything you do into a successful outcome. Using it, you will hit your targets, you will meet your goals, you will fulfill your expectations, and you will find the way to live your dreams and put your life on track.

Chances are that you've never really succeeded in a big way--simply because nobody ever showed you how Olympic gold medalists train, how millionaires pace themselves, and how top entertainers practice until they're the best.

This unique system was formulated after researching peak performers. It will take you by the

hand...and show you exactly what to do, step by careful step, to reach any goal and fulfill any dream.

Failure is not an option with this process.

It's so exact, it's like a science. It works because it's based on what champions do to create outstanding results. When you model excellence, you can't help but manifest excellence.

This is not the usual course, e-book or secret "system." In fact, it's unlike anything else you may have seen before. It's a fast, simple, and sure way to accelerate your success, boost your goals and crank up your results... Even if any major success has eluded you until now.

Is this for you? Let me ask you: does your life feel stagnant because it's not moving forward? Do you fail often? Have you wondered how some people appear to easily succeed?

Perhaps you're doing fine, but deep down you know for certain that you can do an even better job. Or maybe you're about to buy yet another success book or sign up for another seminar or hire another personal coach, but you're beginning to lose hope that anything can help you now.

As a psychotherapist for only a handful of people who could afford my outrageous fees, I've been using a special method to help others succeed. And I'm going to share with you exactly what it takes to move up in life. It will be a no-holds-barred session and training program.

You'll be astonished at how it is a simple process after all. I repeat: It's not complex.

If it really were complex nobody would succeed at anything. The fact that there are some people who enjoy outrageous success is testimony to the fact that they have found a straight and direct path to achieving their outcomes.

Champions aren't doing complex things to become champions. They're simply doing ordinary things in an extraordinary way.

I'll not only show you what to do and how to do it, but also create within you the intensity, will, and desire to do it, using a special mind-conditioning process



With the release of The Irresistible Success Formula™ you can take your current skills and go from wherever you are right now to cranking out one success after another in a stunningly short time.

Your family and friends will wonder what has happened to you. You'll be lit up with passion and power and move past obstacles with reckless abandon.

Take control of your life with this detailed system. I will take you by the hand and make you the winner that you know you really are inside.

Best of all, you can use it to succeed at anything.

You will learn in a clear way (yes, without any confusion at all):

What is the one essential element in setting any goal.

What two things you must believe before any type of success is possible.

What is the single thing you must know before you reach any goal?

Why a strategy that does not use this simple tactic is bound to fail.

Why skipping these five basic principles of **The Law of Attraction** will have you'll be whistling in the wind.

But, despite this priceless knowledge, gleaned from the experience of peak performers, what really makes this simple, highly-practical course stand head and shoulders above anything else in the marketplace is that I explain exactly what it means to be in the Zone and how to get there at will. I even provide a special audio to plug you into it.

The MTC is designed to take you from where you are right now to where you want to be.

The MTC is right, only, if you -

- want results. You want results that can be proven and you want them now. You'll get measurable results and you'll get them fast. All you have to do is put in the effort and stay on task.
- want to track everything for bottom-line results using a solid metric. You want to know how and the details and specifics of what to do and when to do it. Well, you can tailor this entire system to be

as scientific and as measurable and as quantifiable as you please.

- want to finally break a record, make big money, buy that house, own that car, or win the love of your life. You are tired of not performing and want to show the world once and for all that you're made of the right stuff.
- are just plain fed up with getting upset over not succeeding. You want to have your bills paid, your kids in the best colleges, and to finally feel really good about yourself and on top of the world.

When your mind is transformed you possess followings:

- Vibrant Health,
- Brilliant and Profound mind,
- Creative Expression,
- Competent Personality,
- Career Fulfillment,
- Loving Relationships,
- Happiness,
- Social honor and position,
- And much more....

Why mind transformation is needed for best life?

Two famous physicists, Niels Bohr and Werner Heisenberg were exploring a field that eventually became known as "quantum mechanics."

One of the subatomic actions that baffled them was the ability of an electron to suddenly and inexplicably JUMP from one energy level to another.

They called this phenomenon...

"A QUANTUM LEAP"

Today the phrase "quantum leap" has entered the language. It's often used without fully understanding what it means.

Basically, it means that sometimes in life we experience a sudden and inexplicable JUMP from one level of existence to another and feel like a king of universe.

Has that ever happened to you?

If not, then pass the Mind Transformation Course and realize 'A Quantum Leap'.



If you want to subjugate and transform a subject of a kingdom, you will need to subjugate and transform the king. And the moment the king is controlled and transformed the whole subject will follow their king. In the same manner, mind is the King of the Universe-Kingdom, so, the minute, your mind is transformed, and the whole universe and the being residing in it, get transformed. To transform the life and surroundings, the mind must be transformed.

The transformed mind knows well:-

- How to counteract concerns that weaken your natural confidence.
- How to discard what is extraneous or unnecessary.
- How to use the most effective resolutions to improve yourself.
- How to change your inner world to powerfully influence your outer one.
- How to stimulate thoughts that automatically make you self-confident.
- How you already possess a solid foundation for tremendous self-confidence.
- How applied self-confidence can improve your life and take you to a higher level of success.
- How to appreciate your uniqueness and stop sabotaging yourself
- How to outshine your competitors in any job.
- How to encourage others to become more confident.
- How self-confidence is different from narcissism and arrogance.
- How to bring more love into your life.
- How to be confident enough to succeed.
- How self-confidence makes you a better learner and display more aptitude and talent.
- How to use positive thinking to rise in self-confidence.
- How to skirt the poison of negative, self-defeating thoughts.
- How to tap your higher potential as your confidence soars.
- How to stop filtering admiration others express toward you.
- How to stop belittling yourself with fatuous comparison with others
- How to be very professional in your job.
- How doing what you love is the ultimate tonic for high self-esteem.

- How to correct internal self-talk that is tearing you apart.
- How to use positive psychology to motivate others to improve.
- Etcetera...

Have an earnest, deep, and driving curiosity about three mind-boggling questions:

1. How can ordinary human beings transform themselves to do what nobody else has been able to do?
2. What drives them to relentless excellence, superlative performance, and record-breaking results?
3. What gives them the energy, drive, and enthusiasm to pursue a dream until they can actually hold it in their hands?

The Challenge:

It's Time for You to Dream the Impossible Dream

Use The Gold Medal Process!

The impossible dream is just as possible for you if you dare to believe in it. The process of winning a gold medal in the Olympics, creating a million dollar business, or writing a work of literature is the same. Only the strategies and the techniques are different.

Whatever your dream, you can attain it.

Even if you are the first person in the history of the human race to dream it...it is possible.

If you can dream it, you can achieve it. If you can think about it and believe in it, you can have it.

Your will is an irresistible magnetic force that will draw all that you need to accomplish your goal—even when you have nothing going for you at the moment.

Your task is not to ponder how. Your task is to simply ask, “why not?”

Be adamant on yourself. Insist on grasping your gift in the present. Insist on using the cumulative force of your will to bring it to you.

The Buddha once said, **“Your work is to discover your world, then with all your heart, give yourself to it.”**



Who are you? Where did you come from? Why are you here? And where are you going?

Can you define your world?

Dare you dream? And dare you give yourself over to your dream?

No matter what tribulations and heartaches you're currently experiencing, no matter what obstacles and setbacks, no matter how great your frustration at the relentless forces opposing your dream, remember one thing—it isn't over until you win.

If you can truly believe that it is possible—regardless of your current reality—then somehow and in some way, you will bring out the greatness that is in you into reality.

Follow your dream, even if it is an impossible one.

You can never hope for too much.

You can never dare too much.

“It isn't over until I win.” Make that your mantra.

Now here's how to do it...

The Invitation:
Start A Winning Streak

Does success appear to elude you?

You've read books, listened to audios, viewed videos, and attended live seminars on success. At times, you felt that you were about to make it, then the motivation faded and you crashed back down to mediocrity.

Or perhaps you got confused by all the success principles in the 300 page binder you paid a large amount to get.

Listen it's not that this information is incorrect. Nor is it because there is insufficient information. Nor is it because the success gurus are schemers and hucksters. That's not it at all.

The problem, if I may call it that, or the challenge, is this: with all that good information by all these people who have obviously succeeded in a big way where do you start?

There is a lot of good information. But too much of it. So where do you start?

How did the champions get off the starting block? How did they end their confusion? How did they fill the void in their life to start fulfilling their dreams? How?

All this information. All these experts. Yet the dream still lingers...to find a success system that actually works.

The dream lives on because you want to discover the astonishing secrets to wealth, success, health, happiness and power. You're eager to increase your profits, performance, and success.

You probably want to help others attain the same goals, too.

I've spent years reading and scrutinizing the biographies of successful people I know. I've made notes on everything that I learned.

Then one day, it struck me that they all were in darkness sometime, and the moment they transformed their mind and behaviors the success and happy began to be attracted automatically to them.

I then designed and developed **The Mind Transformation Course**, which cause irresistibly the success and happiness, and used it on my clients, changing them from deeply disappointed in themselves to immensely delight. They became highly successful.

This discovery will change your life, too. All you have to do is just take a pace.

This is not complicated, and it isn't the same rehashed material about positive thinking. It's an actual system, not more theory.

Are you ready to learn more about how this can be done?

Come and join MTC!

Basically, this is what I want to share with you:

I want to share with you architecture and system of mind, success and happiness, a simple system to follow, like a recipe that will create success for you in any field. All successful ones are the witness.



You've probably already discovered that there are many success principles. The more books on self improvement you read, the more you'll find. There may even be as many success principles as books on them.

The result of all this information is not more success stories. Rather it is more confusion.

People don't know where to start on their journey to success.

Yet is there a system of success, an elegant synergy that works every time?

Is there, in fact, architecture of success? A step by step process that anyone can follow, regardless of their current circumstances?

And can this success system be applied anywhere at anytime for anything by anybody?

The answer is "Yes!"

I've named it the **Mind Transformation Course**. If you give me a few minutes of your time, I'd like to tell you about it.

It's simple to understand, but it's not easy.

And I'm not trying to pull the wool over your eyes and claim that success is a walk in the park if you just follow the right system.

Success is always a challenge. It's a movement to a higher order of existence. Naturally, it's not easy.

But it is simple. All you have to do is follow in the footsteps of those who have succeeded.

It's simple, but not easy.

Yet, for most people, it's not even simple. Because they have no sense of direction. This means that they put a lot of energy in doing everything wrong. So they give up in frustration.

You can't get to your destination without a map. And if you're following the wrong map or no map at all, you're lost before you even start.

So, here, then, is the map.

First go here, and then go there.

This is what makes my method unique. It gives you clear, unequivocal, and straight-forward direction.

All you need to do is plug your dream into it and put in the NECESSARY EFFORT.

"One can not become a King just by saying 'I am the King', without defeating one's enemies and taking possession of the country." – One of Dynamic Masters – Acharya Shankara.

"He, who seeketh, findeth". – Jesus Christ.

Another analogy, I like to use is that it's like a recipe.

The recipe is here.

First do this, and then do that.

It's so clear that you'll be astonished that you didn't discover it for yourself.

But, of course, you still need to **make the effort to gather all the ingredients, arrange them neatly before you on the kitchen cabinet, and bake the cake.**

Success doesn't happen by itself. It still needs YOU.

Just as a buried treasure will not come out by itself, but needs a good map, digging, removal of obstructing stones and so on to get at it, even so, you need a map to follow. You need a recipe to put together.

But before we get into the method, let's quickly cover the ground over **possible errors in using this system, beware of them!**

People who try for success but do not succeed have made one of the following mistakes:

- a) **They are ignorant of one or more of The Principles of Success included in The Mind Transformation Course.**
- b) **They only follow the few principles that they like.**
- c) **They do not follow the principles consistently.**
- d) **They do not follow them thoroughly enough.**
- e) **They miss steps and get confused.**
- f) **They do them in the wrong order.**



The Mind Transformation Course is a 4-step series of actions you have to take to succeed.

The first 2 formula are internal. You will do them mentally.

The last 2 are external. You will do them in the world.

I am going to present them to you in such a simple way that there will be no confusion in your mind anymore about what it takes to be successful.

Those of you who master the secrets contained in this course will be handsomely rewarded for every step you follow.

You will become an undisputed and irresistible winner.

These secrets have been extracted from the formulas used by successful Olympic athletes, businessmen, and famous entertainers. I have tracked what they did right and compiled them into a system that anyone, no matter how humble their present position, can follow.

The Benefits:

Why Failure Is No Longer an Option?

Here's a sampling of the many success tactics I weave into **The Mind Transformation Course**.

- 1) The easier way to **instantly speed up your individual development**
- 2) The easier way to **increase your outcome**
- 3) The easier way to **hit your full power**
- 4) The easier way to **discover what is really possible for you**
- 5) The easier way to **attain your boldest visions**
- 6) The easier way to **move with effortless speed and intention**
- 7) The easier way to **create an atmosphere where others support your success**
- 8) The easier way to **control the outcome of your life**
- 9) The easier way to **build a rock solid groundwork for enduring victory**
- 10) The easier way to **see your big vision**
- 11) The easier way to **find out exactly where you are betraying your dreams**
- 12) The easier way to **develop your personal plan**
- 13) The easier way to **take step-by-step moves toward your goals**
- 14) The easier way to **optimize your performance on the day of a special event**
- 15) The easier way to **develop a positive philosophy**
- 16) The easier way to **maintain a winning attitude**
- 17) The easier way to **recover from past upsets quickly**
- 18) The easier way to **expand your dream to include everything you really want**
- 19) The easier way to **study the missing skills necessary for excellence**
- 20) The easier way to **systematically increase action while reducing stress**
- 21) The easier way to **put yourself on top of your game**
- 22) The easier way to **make more money and enjoy personal power**
- 23) The easier way to **accelerate your core activities**
- 24) The easier way to **optimize your efficiency**

The system can be adapted for any field of endeavor and for any level of performance that you desire, whether it is the most able person in your company or the best in the world at what you do.

Learning them will enhance and lead you to a dynamic level of awareness and achievement.

This information will help you increase your winnings. It is incredibly valuable for anyone who wants to improve any area of their life. **It will be your best kept secret, your secret weapon against the competition.**

Prior to finding us, you may have read many self improvement articles, books and also listened audios, and have made some progress too in your personal development. The only problem was that the improvements were not lasting. Things just did not **'STAY'**. Some time later you may have found yourself drifting back into the same **'OLD WAYS'**. What makes this different, is that this is not new knowledge (although some of it may be new to you) but systematized knowledge and highly practical.



- 25) The easier way to **increase your overall personal outcome**
- 26) The easier way to **master the influence of your mind**
- 27) The easier way to **discover the effects of your thoughts**
- 28) The easier way to **understand the astonishing things that you can do**
- 29) The easier way to **improve your results in life**
- 30) The easier way to **understand how to reach success**
- 31) The easier way to **avoid complex and confusing success strategies**
- 32) The easier way to **maintain your right to live your life your way**
- 33) The easier way to **take charge of your own power**
- 34) The easier way to **tap your deeper intelligence**
- 35) The easier way to **release energy**
- 36) The easier way to **create a focus and concentrate on your goals**
- 37) The easier way to **understand what it means to be in the zone**
- 38) The easier way to **put yourself there every day**
- 39) The easier way to **improve your performance in the zone**
- 40) The easier way to **follow people who succeed**
- 41) The easier way to **discover the key to staying in the zone**
- 42) The easier way to **get the magic back**

How Mind Transformation (MT) takes place?

MT takes place through understanding of the Laws, revealed in the classes of MTC, and altering own behaviors in conformity of them.

MTC is divided into following **4 Rounds**, none of them is avoidable, all of 4 rounds are compulsory for **Absolute Mind Transformation**:

1. **1st round:** An Understanding about mind, mind system and the elements which affect or influence mind.
2. **2nd round:** Development of favorable elements for transformation of mind, which compel the unfavorable elements to eject them out.
3. **3rd round:** Ensuring complete eradication of unfavorable elements from the mind-world.
4. **4th round:** Maintenance of developed favorable elements.

MTC comprises the following issues:

1st Round [An Understanding of mind system]

- 1 An Understanding about Mind Transformation
- 2 What is mind? Kinds of mind?
- 3 Behaviors of different kinds of mind.
- 4 Mind in a perfect one or wise
- 5 Mind in stupids.
- 6 Your Brain - A Hardware
- 7 Your Mind - A Software
- 8 Catharsis - Mind Detoxification or Scanning for viruses
- 9 The Law of **Belief System**
- 10 The Law - "As you thinketh, so you becometh" (Thought Reform Therapy)
- 11 The Science of Conviction and how to get benefited with Conviction Power.
- 12 The Law of Attraction (LOA)
- 13 The Law of Association
- 14 The Law of Similarity
- 15 The Law of Companionship (Company Reform Therapy)
- 16 Time line - A magnet.
- 17 Conscious channelization - need to reach the goal.
- 18 Ascension Activation.
- 19 Mind System



- 20 Mind & Consciousness
- 21 Thought Culture
- 22 The Law of Karma
- 23 Understand the importance of TIME

2nd Round [Development of Positive Elements]

- 24 Discovery of your Higher Self (Meta Programming)
- 25 Habit, its effect on life and circumstances. How to transform your habits? (Habit Reform Therapy)
- 26 7 Habits of Highly Effective People.
- 27 Habit 1: **Be proactive**: Principles of personal vision.
- 28 Habit 2: **Begin with the end in mind**: Principles of Personal Leadership.
- 29 Habit 3: **Put first thing first**: Principle of Personal Management.
- 30 Habit 4: **Think win/win**: Principle of Interpersonal Leadership.
- 31 Habit 5: **Seek first to understand, and then be understood**: Principles of Empathetic Communication.
- 32 Habit 6: **Synergize**: Principles of Creative Communication.
- 33 Habit 7: **Sharpen the saw**: Principles of balanced self-renewal.
- 34 5 Fundamental Habits of Glorious Mind
- 35 Habit 1: **Energetic and remember the things**. (Energy and Memory Culture)
- 36 Habit 2: **Thinks honestly and act deliberately**.
- 37 Habit 3: **Becomes continent**.
- 38 Habit 4: **Becomes righteous**.
- 39 Habit 5: **Becomes serious**.
- 40 Concentration - a cause of productivity.
- 41 Wandering mind - a wretched life giver
- 42 Some much helpful exercises
- 43 How to develop memory power?
- 44 Make your ears keen
- 45 Make your eyes a powerful camera
- 46 Power of Imagination - An element of Creativity.
- 47 Power of Visualization - A requisite for well planning.
- 48 Creativity - killer of competitors.
- 49 Confidence - A great kind of friends, which makes you successful.
- 50 Project your qualification
- 51 ESP Enhancement
- 52 IQ Enhancement
- 53 Brain waves and their manipulation for success.
- 54 Right uses of Energies
- 55 Will Culture
- 56 How to develop the Will Power?
- 57 Dos Do not in Will Culture
- 58 Use Power of Affirmation
- 59 Use Power of Negation/Releasing

3rd Round [Eradication of Negative Elements]

- 60 Overcome shyness
- 61 Skilled Communication
- 62 Public Speaking - An Element of Leadership.
- 63 Staying focused - A great power
- 64 Fears and Phobias - A great darkness.
- 65 Memory - A great friend and foe.
- 66 Stage fright - A great hindrance.



- 67 Influence - A great element of success.
- 68 Assassinate stress - a merciless killer.
- 69 Depression - A son of Ignorance.
- 70 Anxiety - A nature of dull mind.
- 71 Anger - A guise of Fear.
- 72 Commitment - A chord.
- 73 Gratitude - a connectivity to the server.
- 74 Body Language - A rebellion.
- 75 Release the past - A compulsion for Development.
- 76 Obsession - A nature of ridiculous.
- 77 Look behind appearance.
- 78 Live beyond so-called religions.
- 79 Cultivation of meritorious deeds.
- 80 Fight or fly.
- 81 Forgetfulness - A great friend and foe.
- 82 Emotion
- 83 Judgment
- 84 Understand your need.
- 85 Luck - A false imagination.

4th Round [Maintenance of Developed Faculties]

- 86 Yogic Postures for mental strength
- 87 Breathing Techniques
- 88 Yogic locks
- 89 Yogic gestures
- 90 Meditation
- 91 Attentiveness
- 92 Watching your Thoughts
- 93 Develop your psychic faculties.
- 94 Precognition
- 95 Hypnosis for Self-Development.
- 96 Reprogramming Your Subconscious Mind
- 97 Your Mental Screen
- 98 Self Analysis
- 99 Soul Retrieval and Integration
- 100 Living in trance



Solarised Secured Electric Vehicle

Sachin Kumar
Cochin, India

The first INDIAN "RAMESH" who was awarded with "SIR HENRY ROYCE AWARD" for the year of 2008. by IET (UK). He was awarded with this non-valuable award for the project design "solarised secured electric vehicle".

India is a developing nation in the world. The main disadvantage in India is the petrol hike. The petrol hike increases with much unbearable price in day to day life. This sparked the need to find a solution: to design & engineer a non polluting vehicle, cost effective, environ friendly and uses non conventional and Renewable energy - source.

Description of the project:

- A vision with concern environment
- A vision with confidence on our future

The concept being approached is an electric car, which has a battery that can charge using solar power. Dc motor is used for traction purpose and controlled by toroidal transformer. Security system used in the car to detect the unauthorized person by alarm and emergency call through owner mobile phone. The electric backup is to overcome the drawback of solar power, with sizeable size and weight of solar panels, etc this prototype electric vehicle presently needs few critical parts, such as the axle, solar charger, etc, which should be highly reliable. Though these can be developed and manufactured indigenously, when the requirement volume is sufficient to warrant a cost effective batch production, thus earmarking these as derivative backward integration of the basic concept. However, major items will be manufactured locally with locally available materials, facilities and skills. This Project is sure to be a viable success, conceptually, ethically, garnering the approval of government and the public and will be ideally suited for the projected future market scenario, not only within India but even globally.

Motivation of the project:

to help the people by avoiding
-petrol consumption
-environmental pollution

-Easy Usage by all Range of People

- -Energy Conversion (Solar form to Mechanical form)

Disadvantages of Existing System:

- Does not have proper controlling unit.
- It Consumes Large Volume of Batteries.
- Does not have the option of Multi-Level charging.
- Limited & Constant Speed.

Advantages of Proposed System:

- Consists of Reliable Control Unit.
- Compactable and Highly Configured Batteries.
- The option of Multi-Level charging viz (Solar Energy Charging, External Electrical Charging, Motional Charging).
- Variable and High Speed.

CONCLUSION:

- Thus a solar powered electric vehicle, which runs at a maximum speed of 25-30 kmph and has a loading capacity of 120 kg.
- The vehicle is environmental friendly, noiseless, & consumes fewer resources. The running cost of the vehicle was effectively reduced. The various calculations regarding the load, vehicle design and component selection were done.

FUTURE DEVELOPMENT:

- The vehicle can be improved on the basis of higher speed, better body design, medium weight batteries, and more efficient solar panels. The efficiency of solar panels should be high so that fewer numbers of panels are used to produce charge for the batteries.
- The use of medium weight batteries would lead to lesser weight of the vehicle. With high hp motors .It can made with low cost, good efficiency, environment pollution free etc.



My Sweet Journey from a Village in Bihar to California

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India is developing and so there is a trend to migrate from a village to a city in search of better education and job opportunities. I am one of them. My father is a farmer and like all father he too wanted me to have a good education. I was born in a rural village in Jehanabad district (Bihar, India) where there were no signs of urban facilities. Even now there is no electricity, sanitation facilities, a good school, road and access of medical facilities. Thanks to the cell phone technology that is the only source of telecommunication now.

I started primary education in the Government Primary School in my village along with other students (total about 30 combing Standard I through 5). The school building was very small with 2 rooms and some open space. The school itself was in very poor condition with no sanitation facility, no class bench, a few semi-working blackboards, no books, and all classes' students use to sit together. Many things are still true and there is yet no toilet for students. There was only one teacher and he was very well respected by both students and parents. I do not want to go in detail about my primary schooling and life then (which by the way was a good life with no stress) as it is very difficult to express in words for me and it will be difficult for you to appreciate if you have not experienced yourself. None of my city friends from India and abroad believe it when I tell my story as it might sound filmy. After standard four in village parents sent me to an English medium school in a "Block center" in Jehanabad district, where I did my class 5 through 7. I moved from a Block city to Jehanabad district city and completed my high school degree from a Government High School and then Intermediate education (ISc) from a Government college. My parents wanted me to appear for various job tests including the dream job of all Biharis (IAS) after graduation. That time one of my elder brothers went to Patna for a coaching class to prepare for engineering entrance examination and he told me about state and India level engineering colleges. I also went to Patna to prepare for the engineering entrance tests and this was the time when I first traveled to Patna and other places in Bihar out of Jehanabad for tests. Due to my financial condition I stayed with a cousin in Patna

and joined a coaching class. This was the first time when I had access to good books like the famous Physics book by Prof. H. C. Verma. Anyway that year I got admission in BIT Sindri, a premier engineering college in Bihar now in Jharkhand. I was very happy though but I wanted to study in an IIT, so I appeared again in IIT entrance examination (JEE) being in BIT Sindri and got admission in IIT Kharagpur in 1995. This made me, my family, my school and college very proud and I moved out of Bihar.

Getting admission in an IIT is probably the biggest success in my life till today. The learning experience, friends, and education environment were amazing. I had friends from all parts of India with various premier educational backgrounds compared to mine. First time I had access to proper sports and education facilities. After completing my integrated master degree in Exploration Geophysics I joined an oil company based in Mumbai as Petroleum Geophysicist. I became a metropolitan boy from a village boy. Many of my friends from IIT went abroad for higher education that motivated me to give it a try. After working for one year in Mumbai I too applied for higher education in USA and joined The University of Texas at Austin in 2001 for PhD in Geophysics. The education system in USA is quite different from India. The most impressive in USA university education to me was the friendly and helpful nature of professors. It was very easy to meet and discuss with world famous professors there. My interaction was mostly with science and engineering students and professors. I found that science and engineering students were equally respected, unlike in India where engineering is preferred to science education and I think this disparity is due to the better job prospects to engineering students in India. In 3.5 years of my graduate education towards PhD, I developed friendships with students from various countries, met world renowned scientists, professionals and professors, and visited various parts of USA and other countries for conferences. During my graduate study I was fortunate to receive full financial support from the university and lived like a normal people. I was able to afford a car (a dream in India for me but a necessity in USA), visited various places in USA and traveled to India every year



to see my family. After my PhD I desired to return to India, but I wanted to support my family and I stayed in USA to help my family and gain professional experience. I joined an international oil company in 2005 where I am working as Research Geophysicist based in California.

My journey from a village in Bihar to California was slow but steady, and this re-iterates “slow and steady wins the race.” I feel I have a long way to go to become a good professional and a good person. I believe in setting high standards and in sincere hard

working in achieving that goal; however your luck is equally important. To me, the change in moving to a Block center/district center from village was much bigger than in moving from Mumbai to USA, even though the life style and culture in USA is very different from India. Right now I am associated with various professional and social groups in India and interested to collaborate with them. If a village boy from Bihar like me can reach California, there is nothing impossible. I hope my story will motivate some common people to dream high and achieve high.