

School of Management Sciences
Welcomes

**CV Raman Centre for Research &
Innovation**



C.V. Raman Centre for Research & Innovation



Eco-Friendly Innovation Projects

by B.Tech Students



(I) Air-O-Bike

Limca Book of Records-2014

(II) Chapter in IIS School Text Book

Limca Book of Records-2015

(III) Part of Global Warming Campaign

Limca Book of Records-2017



About

C. V Raman Center for Research & Innovation was established on 16th August 2011 under the aegis of **School of Management Sciences** and under able leadership of Shri Sharad Singh, CEO & Secretary, SMS Lucknow. The Center propagates Research & Innovation practices based on the theme “Global Techno-Managerial Principles & Practices for Organizational Development, Environmental Protection and Sustainable Development”

Aims & Objectives

- Research focusing in the areas of global concern i.e., issues of disaster management, global warming and sustainable development for managing environmental threats to save earth & humanity.
- To conduct awareness programme to contain environmental threats.

Policy

- Imparting value based research & innovation of highest standard relevant to contemporary environmental issues facing humanity.

OBJECTIVE



SAVE OUR EARTH PLANET

- by Prof. Bharat Raj Singh, Director General (Tech.)
C.V. Raman Centre for Research & Innovation, Lucknow

Are we paying attention on?

- o Save earth energy resources
- o Depletion on hydrocarbon fuel
- o Reduction in Tail Emissions
- o Ozone layer Depletion
- o Prevent Melting of Ice Cap
- o Check Sea level rise
- o Exploit Renewable Energy
- o Exploit Non-Conventional Energy Resources
- o Develop Zero Pollution Technology
- o Check Global Warming
- o Check Environment Damages
- o Check Climate Damages
- o Save Hurricanes, Tsunamis

OBJECTIVE

What can we do?

An individual there are three areas where we can make the most impact in reducing carbon emissions:

- o The electricity we use in our homes,
- o The waste we produce, and
- o The transportation we choose to use.

Are we paying attention on?

- o Technological Development
- o Use of Renewable Energy
- o Use of Non-Conventional Energy
- o Compressed Air Energy Storage
- o Use of Compressed Air-Bike/Car
- o Solar Energy Pumps
- o Use of Solar Car
- o Use of Wind Energy Potential
- o Reduction in Tail Pipe emissions
- o Depletion of Ozone layer
- o Plantation of Trees
- o Use of CFL's
- o Attention on Research and Innovation

How can we do Some great ideas to start:

- o Use less energy at home - In winter, wear a sweater and in summer, turn off the lights and use the natural light of the sun!
- o Take shorter showers- Heating shower water uses energy. Even just a few minutes can add up to a big difference over time!
- o Ride your bike!- If you live close enough to school, shop on your bike or walk. Replace car rides whenever possible.
- o Carry a reusable water bottle- Skip all that waste by getting a cool reusable one!
- o Power down - Even when they're "off," many appliances like computer continue to use energy. Ask your family to unplug these items when they're not in use.
- o Eat Your Veggies - Livestock like cows create carbon on farms. Even just one day a week of vegetarian meals can

Activity Plan

1. Innovation / Innovative Projects
2. Incubation Centre- Amethi District
3. Organizing International/National Seminar
 - Sources of Planet Energy Environment & Disaster Science (SPEEDS)- Sept. to Oct.
 - Management Conferences / Seminars- Feb. to March
4. Publications- Journal International/National, News Letter etc
 - **SAMRIDDHI** - A Journal of Physical Sciences, Engg. & Technology
ISSN : 2229-7111(print), eISSN :2454-5767(online); April, June, Sep & Dec. (**Quarterly**)
 - **Adhyayan** - A Journal of Management Sciences
ISSN: 2249-1066(Print), eISSN :2455-8656(online); June & Dec. (**Bi Annual**)
 - **News Letter** - June to Dec. (Bi Annual)
 - **Electronics Spectra Magazine**- Annual: Student Activity

Activity Plan

- **MechEra-** Annual: Student Activity
- **Wall Magazine-**Annual: Student Activity
- **Computer Gamerz-** Annual: Student Activity
- 5. **Project Carnival-** B.Tech/Diploma April (Annual)-Research Work
- 6. **Faculty Development Programme-**
 - **IIT Bombay & Kharagpur**
Through Remote Centre (RC-1247)- Two-Three Programme (Annual)
 - **Publication of Books / Book's Chapter**
 - **Publication of Research / Journal Papers**
 - **Participation in Conference/Seminar/workshop/Symposium**
- 7. **Patents-** In process of filing
- 8. **Funds Raising -** CST/DST/UGC
- 9. **Consultancy -** from Industry

HIGHLIGHTS OF FEW IMPORTANT ACTIVITIES THAT HAVE GLOBAL IMPACTS-

- ❖ **Massive Iceberg broken on 12th Jul 2017** ←
- ❖ **Air-O-Bike research acclaimed invention by –**
 - **Scientific American-Podcast** ←
 - **California Institute of Technology -89.3 KPCC Radio** ←

1.0 Innovative Project Highlights

1.1 Invention of Air-O-Bike



1.0 Innovative Project Highlights



Testing

Air-O-Bike

Worldwide huge demand of vehicles is resulting in a rapid consumption of fossil fuels and causing fast depletion of energy resources. This is affecting the environment badly due to release of huge quantities of pollutants in the atmosphere through tail pipe emission. It is ultimately causing serious threat to mankind on account of global warming and climatic changes. The contribution of CO₂ to the Green House Gases in atmosphere is 82% whereas transport sector alone is emitting the same heavily through tail pipe. The percentage of two wheeled vehicles in the European countries is 75-80 of total vehicle population that are responsible for 50-60% of pollutants released in the atmosphere. Since the enormous potential of air is freely available in the atmosphere which can be compressed and utilized as zero pollution energy source to address the Global warming issues. This has been root cause to invent 'Novel Air Turbine Engine for two wheeled vehicles.

Exhibition & Trial Run



Air-O-Bike was exhibited before President of India on 10th May 2013 at BBAU, Lucknow



[Trial Run on 24th Feb 2016](#)



[Trial Run on 18th June 2016](#)

1.0 Innovative Project Highlights



1.2 Invention of Solar Electric Car

Solar Electric Street Car

The unlimited consumptions of fossil fuels on one hand, causing faster depletion of energy resources and other hand releasing huge quantities of pollutants in the atmosphere through tail pipe emission. The heavily released Green House Gases are ultimately causing global warming, climatic changes and inviting serious threat to the mankind. The transport sector alone is emitting pollutant heavily through tail pipe due to multifold demand of vehicles. Along with this, growing industrialization all over the world is responsible for Global warming and Climate Changes. Thus, eco-friendly devices running on non-conventional resources like: Solar, Air and Water can address the reduction of huge pollutants and thereafter curbing the global warming issues. These resources can be proved energy potentials globally as they have enormous availability that too free of cost. This thought has forced us to create innovative idea to develop eco-friendly "Solar-Electric Street Car",

1.0 Innovative Project Highlights



1.2 Invention of Solar Electric Car was exhibited before President of India on **10th May 2013** at BBAU, Lucknow

1.0 Innovative Project Highlights

1.3 Invention of Solar Electric Bi-Cycle



Solar Electric Bicycle

It is a fact that bicycle was invented as the first mode of transport by using manpower through paddling, which runs approximately at the speed of 20 to 25 km. per hour. In India, nearly 70% population is residing in the rural area (villages) and their means of transport is still bicycle or motor bike. Thus there is a need to provide efficient and motorized bicycle to give them relief as well faster travel. The Solar bicycle is the answer to this issue and it has zero impact on climate change and global warming as well. With this idea development of Solar-Bicycle was carried out which can help masses of the society.

1.0 Innovative Project Highlights

1.4 Invention of Car Jack operated by Exhaust Gas

Highlights of Exhaust gas Car Jack

- Any self driven car by gents / ladies, when they need to replace any wheel of vehicle, it's tedious for self driven car driver to apply molecular effort to change the wheel of car. This engine exhaust gas operated jack technology, when implemented, may help drivers to lift the jack without any extra efforts as applied in manual or hydraulic power jack.
- The jack is so designed that can lift up to 500 kgs at single point near any wheel that is more than desired dead weight of any 4-wheeled car approx. 1200 kgs.
- The size of Jack is approx 8 inch in circular radii and having two- half metallic cups and ball bladder. The total lift from base comes to 10-11 inches.
- The Jack assembly is attached with pressure pipe and non-return solenoid valve.
- The operating pressure of Engine Exhaust Gas Jack is around 16-20 psi (i.e. 20-40 % higher than of atmospheric pressure).
- The self weight of Jack is not more than 5-7 kgs. Including its pressure pipe and other attachments.



1.0 Innovative Project Highlights



Hon'ble Minister of Technical Education exhibited the Projects on 05th Jun 2017 at SMS, Lucknow.



Hon'ble Chief Minister of Uttar-Pradesh –exhibited the Air-O-Bike on 08th Aug 2017 at Indira Pratisthan

1.0 Innovative Project Highlights



Hon'ble President of India, Shri Ramnath Kovind exhibited the Projects on 15th Dec 2017 at BBAU, Lucknow.



Hon'ble President of India, Shri Ramnath Kovind exhibited the Projects & presented Book of Air Engine on 15th Dec 2017 at BBAU, Lucknow.

1.0 Innovative Project Highlights



Hon'ble MLA and Chairman MAKSON, Gujarat Shri Dhanji Bhai Patel exhibited the Air-O-Bike for its manufacturing on 23rd Sep 2022 at SMS, Lucknow.



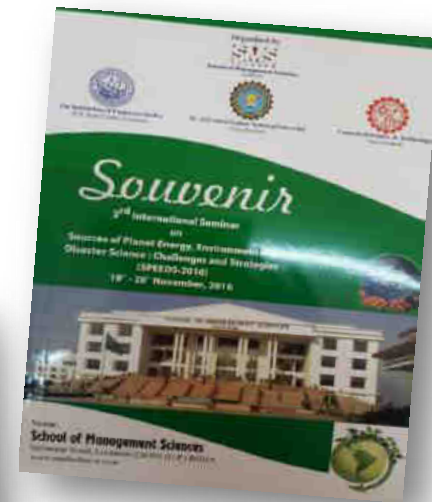
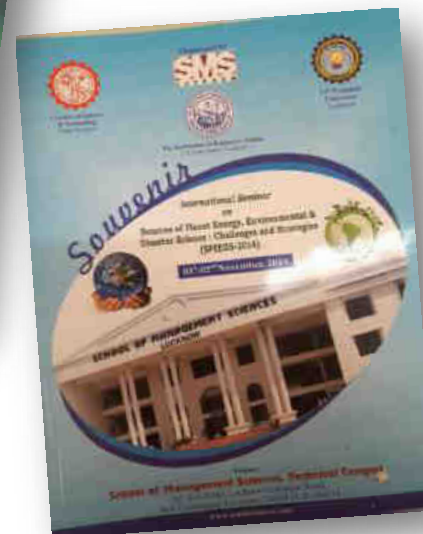
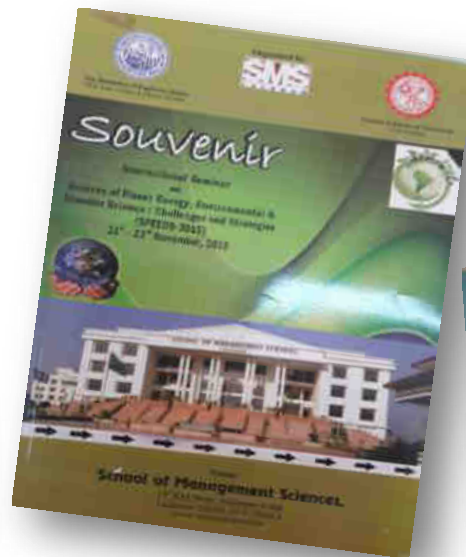
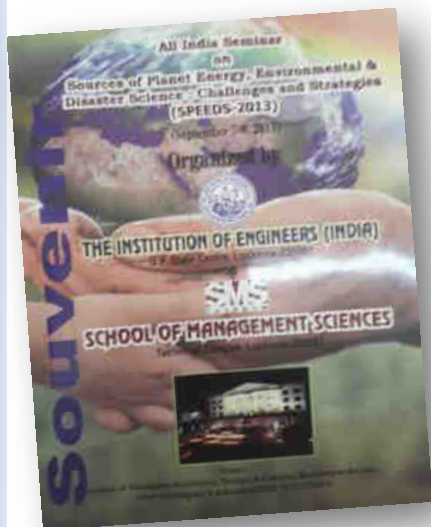
Hon'ble Chief Secretary of Uttar-Pradesh –exhibited the Air-O-Bike on 04th Jun 2022 at Indira Pratisthan

2.0 Incubation Centre of Amethi District

1. **School of Management Sciences, Lucknow** has been nominated as **Incubation Centre** for **District AMETHI**, UP by Commissioner, Industries, Kanpur and Dr. APJ Abdul Kalam Technical University.
2. **SMS** is advising the un-organized (Farmers etc) and organized sectors (Schools & Colleges students for formulating their **Innovative ideas** into Projects.

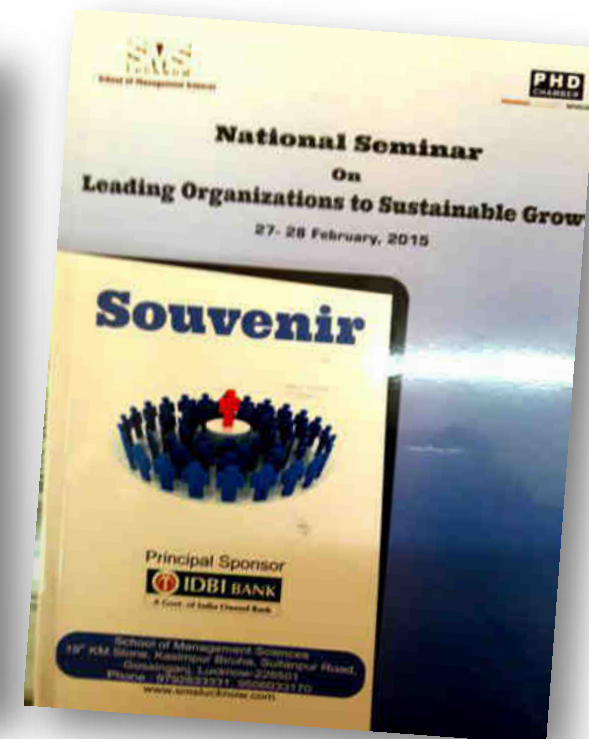
3.0 Organizing International/National Seminar

3.1 Seminar on Sources of Planet Energy, Environment and Disaster Science: SPEEDS -13,14, 15 & 16



3.0 Organizing International/National Seminar

3.2 HR Conference-2014, National Seminar on Leading Org to Sustainable Growth-2015 and National Conference on Managing Uncertainty - Prospects, Challenges & Strategies-2017

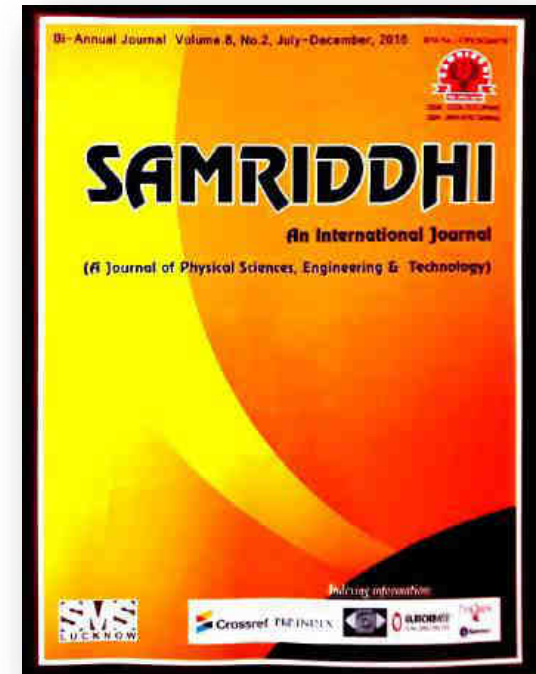


4.0 Publications- Journal International / National

4.(a) SAMRIDDHI- Journal of Physical Sciences, Engineering & Technology
ISSN:2229-7111(Print); eISSN:2454-5767(Online) & RNI No.:UPENG04179

- The journal SAMRIDDHI- A Journal of Physical Sciences, Engg. & Technology was launched in the year Jan-Jun 2010 and The current Volume of SAMRIDDHI is Vol. 15, Issue-1 is published recently.

Note: SAMRIDDHI- JPSET was under **UGC** since **Jun 2019-Jan 2023** and now kept on suspended due to the cloning done at **Indore.**



4.0 Publications- Journals International / National

4.(b) ADHYAYAN- A Journal of Management Sciences, ISSN:2249-066(Print); eISSN:2455-8656(Online)

- The journal AADHYAYAN- A Journal of Management Sciences was launched in the year 2011 and The current Volume of ADHYAYAN is Vol. 14, Issue-1 is published recently.



Publications

4.0(C)SMS News Letter (Bi-annual) for Internal Circulation

- The first **NEWS LETTER** was issued from Jan-June 2010 as Vol. 1(1) and The current Volume is **Vol. 13, Issue-2 (Dec 2022)** is published recently.



5.0 Project Carnival

A Project Carnival was organized for 15- days to showcase the Innovative Projects prepared by Students at SMS. The event was inaugurated by Additional Director and sr. Scientist, Council of Science & Technology, Uttar Pradesh on May 02, 2015.

Subsequently again arranged on:

- i). **7-8 Feb 2020**-During visit of Waterman Dr. Rajendra Singh
- ii). **4th June 2022**- During Visit of **Chief Secretary, UP, Shri Durga Shanker Mishra**



5.0-(ii) Presence in Media

हिन्दुस्तान

तरक्की को चाहिए नया नजरिया

बुधवार, 09 अक्टूबर 2014, लखनऊ, पांच पेटे, 18 संस्करण, लखनऊ संस्करण

www.livehindustan.com

चलते-चलते | हिन्दुस्तान 16

लखनऊ-बुधवार 09 अक्टूबर 2014

लिम्का बुक में दर्ज हुई हवा से चलने वाली बाइक

अद्भुत

मई दिल्ली | हिन्दुस्तान टाइम्स

लिम्का बुक और निवेदिन में शामिल हुए हैं चलने वाली पेट्रोल-विहीन बाइक को फरवरी 2014 के अंक में दर्ज करने के फैसले के साथ।

एअस-ओ-बाइक लिम्का बुक और निवेदिन में शामिल होने के लिए प्रोफेसर सिंह को उपलब्ध कराया गया है। इस पेट्रोल-विहीन बाइक में 40 इंच का टायर है। लिम्का बुक और निवेदिन में इस बाइक में ई-बैल के अंतर्गत प्रोफेसर सिंह को उपलब्ध कराया गया है। इस पेट्रोल-विहीन बाइक में 40 इंच का टायर है। लिम्का बुक और निवेदिन में इस बाइक में ई-बैल के अंतर्गत प्रोफेसर सिंह को उपलब्ध कराया गया है। इस पेट्रोल-विहीन बाइक में 40 इंच का टायर है।



प्रोफेसर सिंह

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एअस-ओ-बाइक

लिम्का बुक और निवेदिन में शामिल होने के लिए प्रोफेसर सिंह को उपलब्ध कराया गया है। इस पेट्रोल-विहीन बाइक में 40 इंच का टायर है। लिम्का बुक और निवेदिन में इस बाइक में ई-बैल के अंतर्गत प्रोफेसर सिंह को उपलब्ध कराया गया है। इस पेट्रोल-विहीन बाइक में 40 इंच का टायर है।

वीर अर्जुन

करके देखो सामना
प्रकाशित: 02 सितंबर 2013

पेट्रोल नहीं, हवा से चलती है ये बाइक

महाने पेट्रोल की जगह से अगर आप बाइक का शीक चुरा नहीं कर पा रहे हैं तो खुल हो बाइक का इस बार लखनऊ महोत्सव में पेट्रोल से नहीं बल्कि हवा से चलने वाली एअस-ओ-बाइक को काफ़ी करके देखो।

इसको स्टार्ट करने के लिए जलम से कोई इलेक्ट्रिक ऊर्जा की भी आवश्यकता नहीं, बस एअर टैंक में भरवाए और फ्लैट बलिये गीली एअर गैटर और रिजर्व एअर इन्फ्लेशन, गीसाईंग की बजाए बाइक साइड फ्लैमिंग में इन्फ्लेशन की जा रही है। बाइक बनाने वाले डॉ. भरत सिंह ने बताया कि पर्यावरण सुरक्षा के प्रति लोगों की जागरूक करने के लिए यह पहल का यह हिस्सा है। एक एअर सिरेक्टर और तीन ट्यूब ट्यूबिंग विभाजन इंसुलेशन से बनी यह बाइक को पेट्रोल से नहीं चलाया जा सकता है। बस इसके ज्यूरिडिकल उपयोग और तकनीक को एअरबैल की क्लासिफिकेशन में रखे जाने में यह बाइक में यह बाइक को 40 किमी का संचालन किया जा सकता है। बाइक की कीमत 85,000 रुपये ज़की गई है।

बन रहे तकनीक

डॉ. सिंह ने बताया कि 350 पाउंड वज़न का एक सिरेक्टर बाइक में जोड़ा गया है। इसे एअर भरवाने पर 40 किमी तक की दूरी तक की जा सकती है। फ्लूट के लिए बसरी केरेबल हवा को भी पंपर की तुलना में भरवाना जा सकता है। जलम से फ्लूट रिटर्न की जरूरत नहीं है। इंसुलेशन साइड ट्यूबिंग में आठ सिरेक्टर के साथ एक बार में 5.5 इंच पावर की ताकत देती है। किसी भी तापमान पर उपयोग नहीं होने की वजह से प्रदूषण भी शून्य होता है।

स्वतंत्र भारत

प्रकाशन का वर्ष 1950

एअस-ओ-बाइक लिम्का बुक में दर्ज

डॉ. भरत सिंह ने बताया कि 350 पाउंड वज़न का एक सिरेक्टर बाइक में जोड़ा गया है। इसे एअर भरवाने पर 40 किमी तक की दूरी तक की जा सकती है। फ्लूट के लिए बसरी केरेबल हवा को भी पंपर की तुलना में भरवाना जा सकता है। जलम से फ्लूट रिटर्न की जरूरत नहीं है। इंसुलेशन साइड ट्यूबिंग में आठ सिरेक्टर के साथ एक बार में 5.5 इंच पावर की ताकत देती है। किसी भी तापमान पर उपयोग नहीं होने की वजह से प्रदूषण भी शून्य होता है।



MyCity

लखनऊ



पेट्रोल नहीं, हवा से चलने वाली बाइक

सखनऊ। महाने पेट्रोल की जगह से अगर आप बाइक का शीक चुरा नहीं कर पा रहे हैं तो खुल हो जाइए। क्योंकि इस बार लखनऊ महोत्सव में पेट्रोल से नहीं बल्कि हवा से चलने वाली 'एअस-ओ-बाइक' लखनऊ का खास उपलब्धता का कैड बनी हुई है। इसको स्टार्ट करने के लिए जलम से इलेक्ट्रिक ऊर्जा की भी

hindustantimes metro 03

innovators make it big at Mahotsav!

5.0-(iii) Presence in Media

The collage features several newspaper clippings and a book cover. At the top left is the masthead of 'Dainik Jagran' with the headline 'दैनिक जागरण' and a sub-headline 'बाराबंकी जागरण सिटी'. Below it is a clipping from 'The Times of India' with the headline 'Bike that runs on air enters Limca Book'. To the right is another clipping from 'Dainik Jagran' with the headline 'अब बिना ईंधन के दौड़ेंगे वाहन' (Now we will run without fuel). At the bottom right is the cover of the book 'A Handbook on Friction Stir Welding' by Khush Raj Singh, which includes the text 'Working Principles, Welding Processes, Applications, Advantages and Disadvantages of an Advanced Welding Technology'.

6. Faculty Development Programme

a) IIT-Bombay & Kharagpur - through Remote Centre (RC-1247) & Spoken Tutorial conducted`

- **Aakash Workshop** on Aakash for Education, at SMS, Lucknow held on 10-11 Nov. 2012 .
- **Research Methods in Educational Technology**, at SMS, Lucknow held on 2-9 Feb. 2013.
- **Aakash Android Application Programming**, at SMS, Lucknow held on 23-24th Feb and 2-3rd March' 2013.
- **Database Management System**, at SMS, Lucknow held on 21-31st May' 2013.
- **C++, SciLab, Python, etc.** regular courses to Students through Spoken Tutorials....July –April 2017,
- **Many more every year**
- April 2023...Spoken Tutorial continuing

6. Faculty Development Programme

6(a). Faculty Development Programme-International

- i) Prof. Bharat Raj Singh presenting papers at : Honolulu Hawaii (USA)
ISROMAC12 held on February 17-22, 2008



6. Faculty Development Programme

6(a). Faculty Development Programme-International

ii) Prof. Bharat Raj Singh presenting papers at: Kuwait (UAE) Energy Congress(EC2009) held on November 2-6,2009



6. Faculty Development Programme

6(b). Publication of Books / Books Chapters / Articles Publications- Up to Dec 2022

- Book Publications- (27)
- Book Chapters Publications-(112)
- Journal Publications UGC / Scopus- more than.... ([50](#)) nos.

Publication of Energy Books

i).Development and Analysis of a Novel Air Engine-

Authored by: Prof. Bharat Raj Singh
Published by: LAP Lambert
 Academic, Publishing, London
Year of Publication: 2011



Development and Analysis of Air Engine is an alternative to fossil fuel driven engines for light vehicles. Researchers focus on search for alternative to fossil fuel has led to emergence of compressed air as one of the potential options. The use of existing compressed air engine technologies are still under development. The novel air turbine introduced here works on the reverse working principle of air compressor. The compressed air stored in a cylinder has enough power for running air turbine. The power requirement for running motorbike is considered approx 4-5kW (5.2-6.5HP) and use of such air engine is emission free. Though the air is compressed by using electricity. The air powered engine is an driving & is good alternative to fossil fuel. Thermodynamic modeling includes power and fuel flow to flow and expansion process. The performance efficiency of air engine is determined considering the input and output. The investigations and analysis are done by varying the rotor and casing diameters, valve angle, injection angle and injection pressure. The air engine is fabricated for required capacity & experimental setup is carried out for validation of theoretical results.

Prof. (Dr.) Bharat Raj Singh

**Development and Analysis
of a Novel Air Engine**
 Could air engine technology curb 50-60% emission,
if implemented widely on Motorbikes?



Prof. (Dr.) Bharat Raj Singh

Received B.E. (Mechin) 1972, M.E. Designin 1986, and Ph.D in 2011. Served Govt & Academics for 20 years. Was recipient of many recognitions and awards. Published more than 50 papers in leading National, International Journals and Conferences. Specialized in Energy, Environment and new pollution engines. Website: www.ceem-1985.org



978-3-0443-8171-9



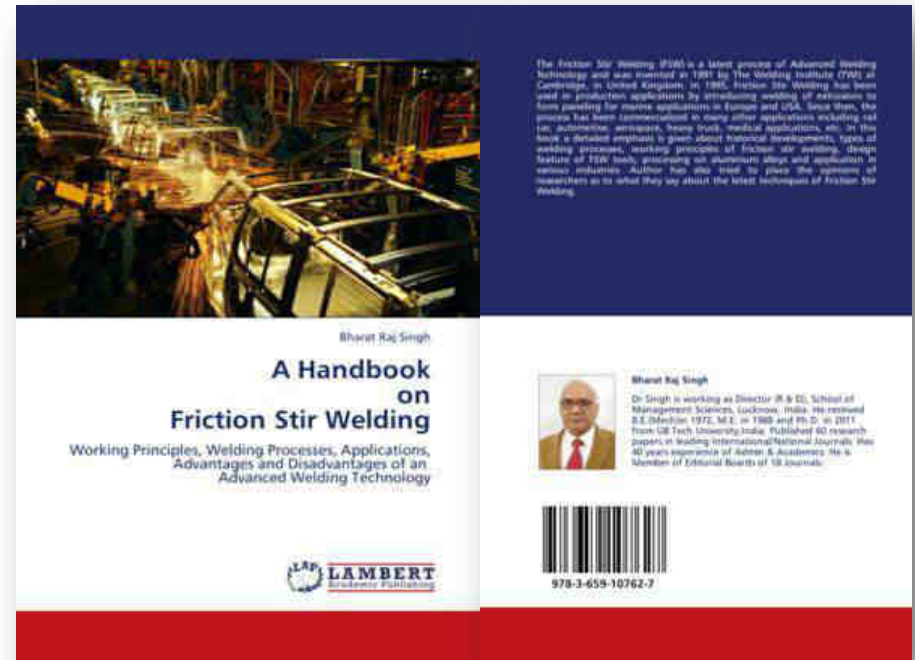
➤ **Highlights....see next page**

ii).A Handbook on Friction Stir Welding

Authored by: Prof. Bharat Raj Singh

Published by: LAP Lambert
Academic, Publishing, London

Year of Publication: 2012



➤ **Highlights....see next page**

iii).Global Warming-Impact and Future Perspective

Edited by: Prof. Bharat Raj Singh
Published by: INTECH Publishers,
Croatia
Year of Publication: Sep' 2012



➤ **Highlights....**see next page

Global Warming-Impact and Future Perspective Page-110

3.7.2. Major storms could submerge New York city in next decade

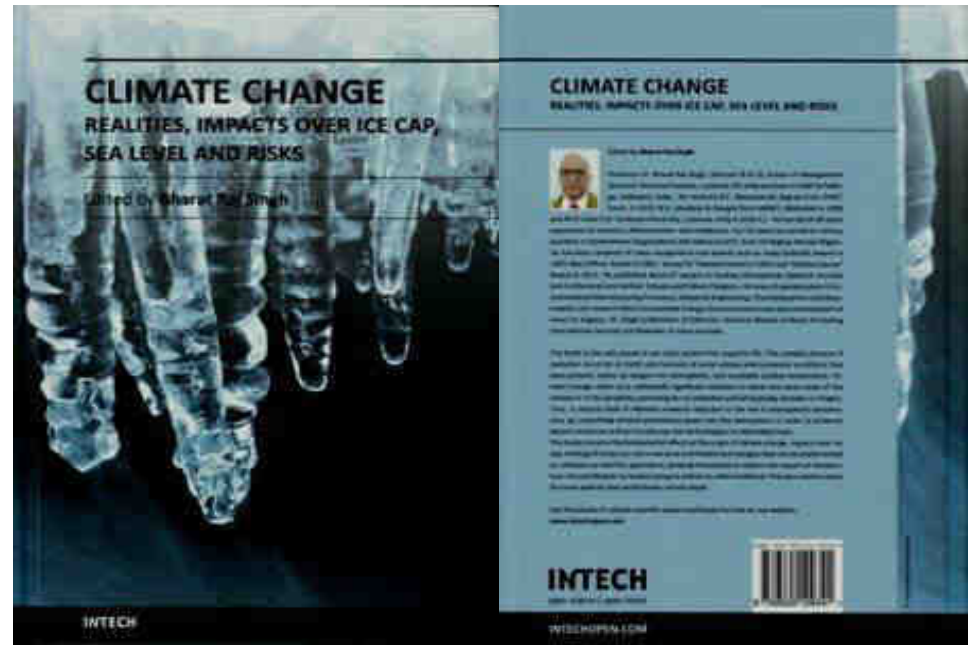
Sea-level rise due to climate change could cripple the city in Irene-like storm scenarios, new climate report claims Irene-like storms of the future would put a third of New York City streets under water and flood many of the tunnels leading into Manhattan in under an hour because of climate change, a new state government report warns Wednesday 16th Nov' 2011 (Fig.9).

Sea level rise due to climate change would leave lower Manhattan dangerously exposed to flood surges during major storms, the report, which looks at the impact of climate change across the entire state of New York, warns. The risks and the impacts are huge, said Art deGaetano, a climate scientist at Cornell University and lead author of the ClimAID study. Clearly areas of the city that are currently inhabited will be uninhabitable with the rising of the sea.

On 31st Oct 2012, Coastal area of New York was submerged with Sandy Hurricane and 15 days planes were grounded, power cut observed and 4 lakh people shifted to safe place....

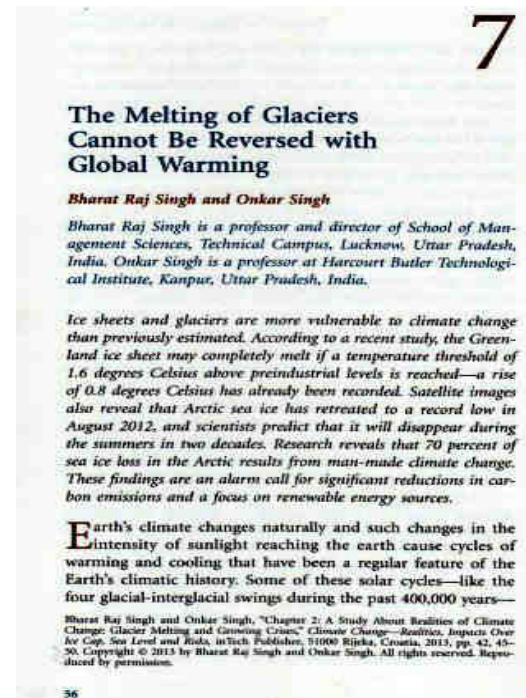
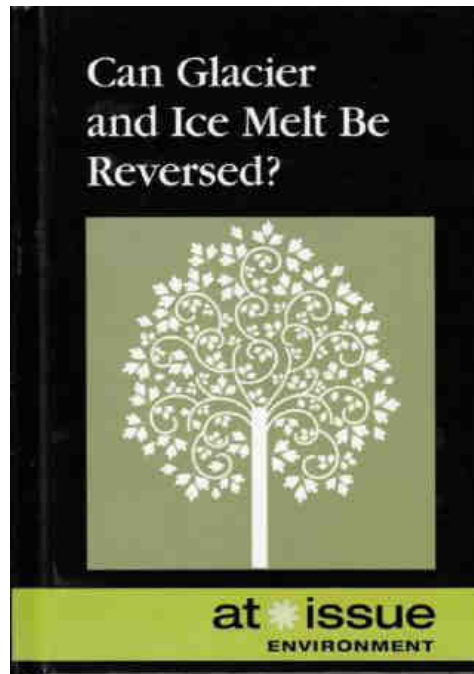
iv).Climate Change- Realities, Impacts Over Ice Cap, Sea Level and Risk

Edited by: Prof. Bharat Raj Singh
Published by: INTECH Publishers,
Croatia
Year of Publication: Jan' 2013



➤ **Highlights**.....see next page

Contents of Pages-41 to 50 of book: Climate Change- Realities, Impacts Over Ice Cap, Sea Level and Risk –reprint in the book:



Chapter-7 has been included in the US High School Text....

v).Global Warming (II)- Causes, Impacts and Remedies

Edited by: Prof. Bharat Raj Singh
Published by: INTECH Publishers,
Croatia
Year of Publication: Jan' 2015



Chapter-3 Pages: 47-72 has been considered by Alberta University & NASA for further research....

**vi). Modeling and Simulation of Dynamics of Half Car Using Bond Graph,
ISBN:978-3-659-61086-8**

Authored by: Manoj Kumar, Prof. Bharat Raj Singh & Prof. MA Faruqi

Published by: -Lambert Academic Publishing, GmbH & Co. KG, Germany, UK.

Year of Publication: Sep' 2014



Manoj Kumar Singh
Bharat Raj Singh
MA Faruqi

**Modeling And Simulation
Of Dynamic Half Car Using
Bond Graph**

Automobiles Continue to be Central Present Day
Human Activities and Literature Exists on Their
Evolution and Adaptation

 **LAMBERT**
Academic Publishing

Publication Book Chapters

6.2 Book Chapters



i).Chapter-8, pg 159-180: Influence of the Air Engine on Global Warming Issues - 21st Century Fuel Technology_- by Bharat Raj Singh and Onkar Singh InTech Open Access Publisher, published 30 Aug 2011, DOI:[10.5772/16708](https://doi.org/10.5772/16708) in the **Book- The Impact of Air Pollution on Health, Agriculture and Technology"** -edited by: Dr. Mohamed Khallaf ; ISBN:978-953-307-528-0DOI:[10.5772/1000](https://doi.org/10.5772/1000).



ii).Chapter-8, pg 167-192: Global Trends of Fossil Fuel Reserves and Climate Change in the 21st Century - by Bharat Raj Singh and Onkar Singh; InTech Open Access Publisher, published 14 March 2012, DOI:[10.5772/38655](https://doi.org/10.5772/38655) in the **Book-"Fossil Fuel and The Environment"** -edited by: Assoc. Prof. Dr. Shahriar Khan; ISBN 979-953-307-561-6, DOI: [10.5772/2315](https://doi.org/10.5772/2315).



iii).Chapter-3, pg 93-118: Study of Impacts of Global Warming on Climate Change: Rise in Sea Level and Disaster Frequency_- by Bharat Raj Singh and Onkar Singh; InTech Open Access Publisher, published 19 September 2012, DOI: [10.5772/50464](https://doi.org/10.5772/50464) in the **Book-Global Warming - Impacts and Future Perspective"** -Book edited by: Prof. Dr. Bharat Raj Singh; ISBN:979-953-307-820-4.

6.2 Book Chapters

- iv). **Chapter-13, pg 337-352:** Impact of Uses of 3-Dimensional Electronics IC Devices and Computing Systems on the Power Consumptions and Global Warming Issues by Karl Cheng, Bharat Raj Singh and Alan Cheng; InTech Open Access Publisher, published 19 September 2012, DOI: [10.5772/52230](https://doi.org/10.5772/52230) in the **Book- Global Warming - Impacts and Future Perspective"** -Book edited by: Prof. Dr. Bharat Raj Singh; ISBN:979-953-307-820-4.
- v). **Chapter-2, pg 39-66:** A Study About Reality of Climate Change: Glacier Melting and Growing Crises - by Bharat Raj Singh and Onkar Singh; InTech Open Access Publisher, published 16 January 2013, DOI: [10.5772/54968](https://doi.org/10.5772/54968) in the **Book - Climate Change - Realities, Impacts Over Ice Cap, Sea Level and Risks"** - edited by : Prof. Bharat Raj Singh; ISBN:978-953-51-0934-1.
- vi). **Chapter 7, pg :** The Melting of Glaciers Cannot be reversed with Global Warming- by Singh Bharat Raj and Onkar Singh in the **Book-Can Glacier and Ice Melt Be Reversed?"At Issue Series: US High School Text Book-** Authored by : Roman Espejo; ISBN: 978-073-77-6826-8, Publisher: Cengage Learning Publishing, USA; reprint from a Book: Climate Change-Realities, Impacts Over Ice Cap, Sea Level and Risks" - Book edited by : Prof. Bharat Raj Singh; ISBN:978-953-51-0934-1.



6.2 Book Chapters

बालू अड्डा

यहां से भी सब ठीक है

दूरी- 10.8 KM

इकाना स्टेडियम

NPT

नवभारत टाइम्स

कोरोना से डरें नहीं, लड़ें

4

STAY HOME

युवाओं के लिए नए अवसर

YOUNG INDIA > YOUNG PAPER

दिनांक: 14/05/2020

पृष्ठ: 14

आकार: 100x150

दस्तावेज: 100x150

Vol. 2, no. 125

एसएमएस के पर्यावरण वैज्ञानिक प्रो. भरत राज सिंह की लिखी पुस्तक क्लाइमेट चेंज का दो-अध्याय हुआ शामिल

नासा में पढ़े जाएंगे प्रो. भरत की किताब के पाठ

■ एनबीटी, लखनऊ: विश्व के प्रतिष्ठित अमेरिकी शोध संस्थान नासा में लखनऊ के पर्यावरण वैज्ञानिक प्रो. भरत राज सिंह की पुस्तक क्लाइमेट चेंज के दो अध्यायों को अनुसंधान प्रकाशन में शामिल किया गया है। इसे वहां के शोधार्थी पढ़ेंगे। प्रो. सिंह की पुस्तक जलवायु परिवर्तन पर लिखी गई है। इससे पहले भी उनकी कई पुस्तकें अंतरराष्ट्रीय स्तर पर ख्याति प्राप्त कर चुकी हैं।



शोध में उपयोग के लिए भी जोड़ा

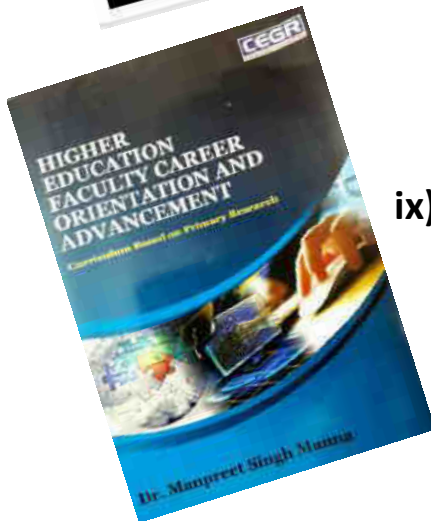
प्रो. भरत विख्यात पर्यावरण वैज्ञानिक और वैदिक विज्ञान केंद्र लखनऊ के अध्यक्ष हैं। साथ ही एकेटीयू से संबद्ध कॉलेज स्कूल ऑफ मैनेजमेंट साइंसेज लखनऊ के महानिदेशक भी हैं। तकनीकी प्रो. सिंह की जलवायु परिवर्तन पर आधारित पुस्तक 'क्लाइमेट चेंज' जो क्रोशिया से 2013 में प्रकाशित हुई थी। इसके दो अध्यायों को विश्व के अनुसंधानकर्ताओं के अग्रिम शोध में उपयोग के लिए जोड़ा गया है। क्लाइमेट चेंज के चैप्टर 9 व 14 को नैशनल स्नो और आइस डेटा सेंटर नासा में शामिल किया गया है, जिसका उपयोग अनुसंधानकर्ता रिसर्च के लिए कर सकेंगे।

6.2 Book Chapters



vii).Chapter-2, pg 21-45: Study of Impacts on Continue Shrinkage of Arctic Sea & Sea Level Rise – Can Glaciers be Growing and Creating New Challenges to UK & USA? DOI: [10.5772/58766](https://doi.org/10.5772/58766) - by Bharat Raj Singh and Onkar Singh; InTech Open Access Publisher, published 15 April 2015, in the **Book- Global Warming - Causes, Impacts and Remedies"** -Book edited by: Prof. Dr. Bharat Raj Singh; ISBN:[978-953-51-4123-5](https://www.isbn-international.org/product/978-953-51-4123-5), DOI:[10.5772/58506](https://doi.org/10.5772/58506).

viii). Chapter-3, pg 47-72: Dire Consequences on Little Shifting of the Earth's Spinning Angle – An Investigation Whether Polar Ice Shrinkage may be the Cause? DOI: [10.5772/58708](https://doi.org/10.5772/58708) - by Bharat Raj Singh and Onkar Singh; InTech Open Access Publisher, in the **Book- Global Warming - Causes, Impacts and Remedies"** -Book edited by: Prof. Dr. Bharat Raj Singh; ISBN:[978-953-51-4123-5](https://www.isbn-international.org/product/978-953-51-4123-5), DOI:[10.5772/58506](https://doi.org/10.5772/58506).



ix).Chapter 19 pg 236-253: Innovating Thinking and Internet Browsing, - by *Bharat Raj Singh, Director, School of management Sciences, Lucknow*; Bharti Publication, New Delhi, in the **Book- Higher Education- Faculty Career Orientation and Advancement"** -Book edited by: Dr. Manpreet Singh Manna, Director, AICET, ND; ISBN:978-81-933475-9-1.

6.2 Book Chapters



- vii). **Chapter-2, pg 21-45:** Study of Impacts on Continue Shrinkage of Arctic Sea & Sea Level Rise – Can Glaciers be Growing and Creating New Challenges to UK & USA? DOI: [10.5772/58766](https://doi.org/10.5772/58766) - by Bharat Raj Singh and Onkar Singh; InTech Open Access Publisher, published 15 April 2015, in the **Book- Global Warming - Causes, Impacts and Remedies"** -Book edited by: Prof. Dr. Bharat Raj Singh; ISBN:[978-953-51-4123-5](https://www.in-tech.com/ISBN/978-953-51-4123-5), DOI:[10.5772/58506](https://doi.org/10.5772/58506).
- viii). **Chapter-3, pg 47-72:** Dire Consequences on Little Shifting of the Earth's Spinning Angle – An Investigation Whether Polar Ice Shrinkage may be the Cause? DOI: [10.5772/58708](https://doi.org/10.5772/58708) - by Bharat Raj Singh and Onkar Singh; InTech Open Access Publisher, in the **Book- Global Warming - Causes, Impacts and Remedies"** -Book edited by: Prof. Dr. Bharat Raj Singh; ISBN:[978-953-51-4123-5](https://www.in-tech.com/ISBN/978-953-51-4123-5), DOI:[10.5772/58506](https://doi.org/10.5772/58506).

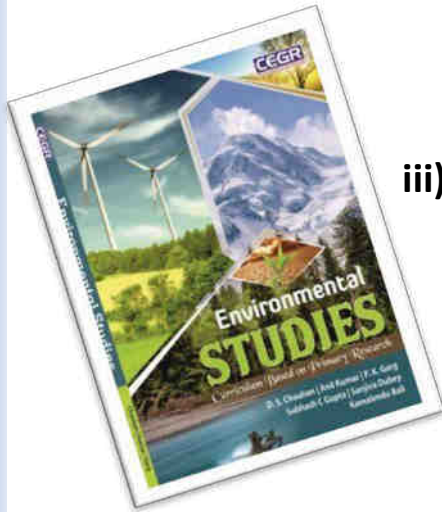
6.3 Book Chapters- CEGR



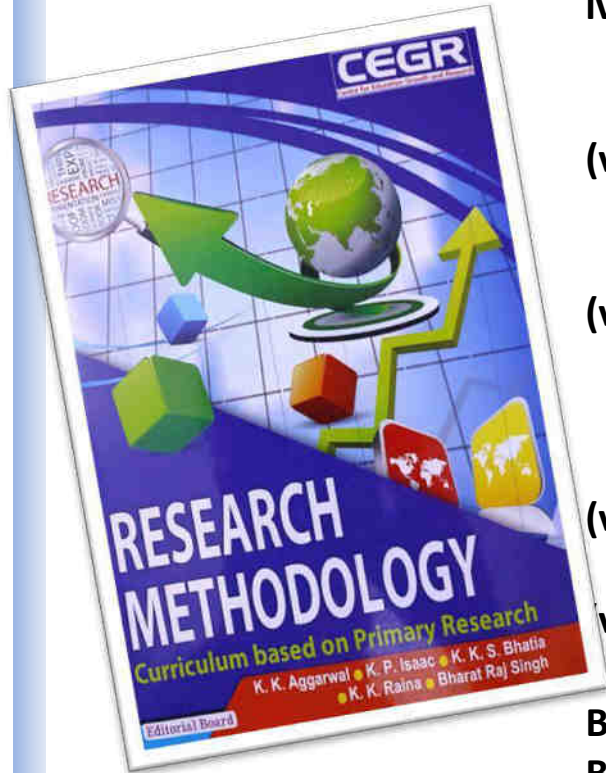
i). **Chapter 19** pg 236-253: Innovating Thinking and Internet Browsing, - by *Bharat Raj Singh, Director, School of management Sciences, Lucknow*; Bharti Publication, New Delhi, in the **Book- Higher Education- Faculty Career Orientation and Advancement" -Book** edited by: Dr. Manpreet Singh Manna, Director, AICET, ND; ISBN:978-81-933475-9-1.

ii). **Full Chapter-13** - Renewable and Clean Energy - by *Bharat Raj Singh, Director General (Technical), School of Management Sciences, Lucknow, Environmental Studies" -Book* edited by: **Dr. DS Chauhan, Dr Anil Kumar et al., CEGR, New Delhi; ISBN:[978-81-933475-0-3](https://doi.org/10.1007/978-81-933475-0-3)**, Publisher: Center for Education Growth & Research(CEGR), Dec2017

iii) **Full Chapter-15** - Civil Society and Environment - by *Bharat Raj Singh, Director General (Technical), School of Management Sciences, Lucknow. Environmental Studies" -Book* edited by: **Dr. DS Chauhan, Dr Anil Kumar et al., CEGR, New Delhi; ISBN:[978-81-933475-0-3](https://doi.org/10.1007/978-81-933475-0-3)**, Publisher: Center for Education Growth & Research(CEGR), Dec 2017.



6.3 Book Chapters- CEGR



iv). Chapter-7 - *Methods and Techniques of Primary Data Collection*
Pages: 83-102- by Bharat Raj Singh, Director General (Technical),
School of Management Sciences, Lucknow.

(v) Chapter-8 - *Methods and Techniques of Secondary Data Collection*
Pages: 103-120- by Bharat Raj Singh, Director General (Technical),
School of Management Sciences, Lucknow.

(vi)Full Chapter-12 - *Parametric Tests* Pages: 162-176 - by Bharat Raj
Singh, Director General (Technical), SMS, Lucknow.

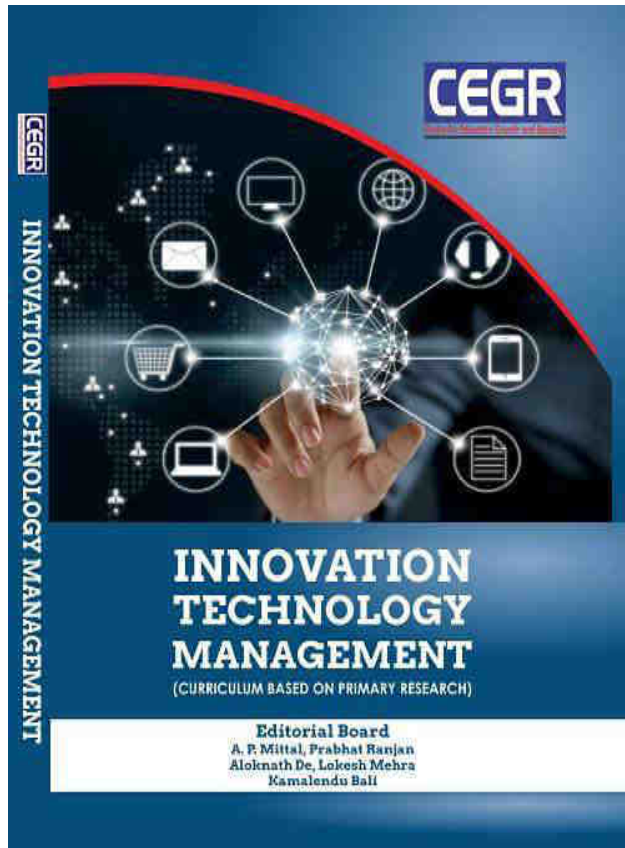
(iv)Full Chapter-13 - *Non-Parametric Tests* Pages: 177-197 - by
Bharat Raj Singh, Director General (Technical), SMS, Lucknow

(vii)Full Chapter-21 - *Data Validity & Reliability* Pages: 331-350 - by
Bharat Raj Singh, Director General (Technical), SMS, Lucknow.

viii)Full Chapter-22 - *Big Data Usage in Research* Pages: 351-367 - by
Bharat Raj Singh, Director General (Technical), SMS, Lucknow.

**Book- "Research Methodology" -Book edited by: Dr. KK Agrawal, Dr
Bharat Raj Singh et al., CEGR, New Delhi; ISBN:978-81-935740-2-7,
Publisher: Center for Education Growth & Research(CEGR).This book is
published in Oct 2018.**

6.3 Book Chapters- CEGR



(ix) **Full Chapter-4** - *Innovation in Digital World* Pages: 42-67 - by Bharat Raj Singh, Director General (Technical), SMS, Lucknow.

(x) **Full Chapter-7** - *Technology Transitions* Pages: 90-118 - by Bharat Raj Singh, Director General (Technical), SMS, Lucknow.

(xi) **Full Chapter-10** - *Developing Technology Strategy and Adoption* Pages: 142-167 - by Bharat Raj Singh, Director General (Technical), School of Management Sciences, Lucknow.

"Innovation Technology Management" -Book edited by: Dr. AP Mittal, Dr Prabhat Mittal et al., CEGR, New Delhi; ISBN:978-81-935740-3-4, Publisher: Center for Education Growth & Research(CEGR).This book is published in Dec 2019.

Many more.....

7.0 Other Activities

7.1 Global Presence

7.2 Project Trainings

7.3 Social Activities

- Awareness Programmes
- Helping Poor Students

Many more.....additions

7.1 Global Presence



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July 6, 2010 | [20 comments](#)

Design Boosts Chances for Air-Powered Motorcycle

Mathematical modeling shows viability of a motorcycle that could run on compressed air. Karen Hopkin reports.

E-MAIL PRINT COMMENT



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[More 60-Second Science](#) | [All Podcasts](#)

Die-hard advocates of alternate energy might fantasize about cars that could one day run on [water](#). But scientists in India have gone a step further.

They've mathematically modeled an engine that should allow a motorcycle to run on air—compressed air, that is. Their design is described in the *Journal of Renewable and Sustainable Energy*.

[Bharat Raj Singh and Onkar Singh, <http://bit.ly/bF43d0>]

The hunt is on for alternatives to [fossil fuels](#). Internal combustion engines convert the energy in gasoline's molecular bonds into motion. But what if there were another way to make engine parts move?

Scientists in India were thinking of a well-directed wind. And after crunching the numbers on pressure and flow, they've concluded that a tank of compressed air could generate enough power to run a motorcycle for up to 40 minutes. The air would spin a turbine, which would then get things rolling.

The Economist

Technology
[Babbage](#)

Running on empty, literally

Jun 30th 2010, 11:33 by J.P. | LONDON

IT SOUNDS too good to be true. Two Indian engineers [have conceptually designed a motorcycle engine](#) which, they claim, could use compressed air to turn a small air turbine, generating enough power to run a motorcycle for up to 40 minutes.

Their design, described in a recent issue of the *Journal of Renewable and Sustainable Energy*, could be combined with a compressed air cylinder as a replacement for traditional internal combustion engines. In areas where motorcycles are a major source of public transportation, such a technology could cut emissions substantially if widely implemented.

According to [Bharat Raj Singh](#), one of the two authors on the paper and a researcher at the SMS Institute of Technology in Lucknow, India, some 50 to 60 percent of present emissions in some areas could be reduced with the new technology, though a number of technical challenges remain. Designing a compact but high-capacity air tank to store sufficient "fuel" for long rides is a major hurdle. Existing tanks would require someone to stop about every 30 km (19 mi) to swap tanks.

But don't rush off to sell your oil-major stocks just yet. (Though you've probably been ditching BP's anyway.) The nub lies in the word "conceptually". What Dr Singh and his colleague and namesake Onkar Singh have done is to elaborate "a mathematical model of a small capacity compressed air driven multivane air turbine" ([here](#) is the paper's abstract).

This is in no way to detract from their fascinating work. But it does bear noting that the path from conceptual number crunching to churning out a viable product, or just a prototype, is a tortuous one. Though perhaps less so than navigating Lucknow's streets on a tattered two-stroke.

Link: <http://www.economist.com/node/21008033>

Or http://www.economist.com/blogs/babbage/2010/06/babbage_1

7.1 Global Presence

SPACE DAILY your portal to space

CAR TECH

New Design For Motorcycle Engines Powered By Compressed Air

by Staff Writers
College Park MD (SPX) Jun 25, 2010

Most motorcycles in the world today use engines that burn gasoline, contributing to greenhouse gasses and adding air pollution to the surrounding area.

Now two scientists in India have conceptually designed a new, cleaner motorcycle engine that uses compressed air to turn a small air turbine, generating enough power to run a motorcycle for up to 40 minutes.



In areas where motorcycles are a major source of public transportation, such a technology could cut emissions substantially if widely implemented.

Their design, described in a recent issue of the Journal of Renewable and Sustainable Energy, could be combined with a compressed air cylinder as a replacement for traditional internal combustion engines.

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Designing a compact but high-capacity air tank to store sufficient "fuel" for long rides is a major hurdle. Existing tanks would require someone to stop about every 30 km (19 mi) to swap tanks.

Related Links: [American Institute of Physics](#)



technology.

Promoting the vital contribution of engineers, engineering and

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Compressed air engines

June 23, 2010



Engineers in India have devised a new motorcycle engine that uses compressed air to turn a small air turbine. It generates enough power to run a motorcycle for up to 40 minutes. As opposed to conventional motorcycle engines that run on gas or petrol, contributing to the pollution in its environment, the new engine does not contribute at all to greenhouse gas emissions.

According to one of the two developers of the engine, Bharat Raj Singh from the SMS Institute of Technology in Lucknow, India, some 50 to 60 per cent of present emissions in some areas could be reduced with the new technology, though a number of technical challenges remain.

Their development could be combined with a compressed air cylinder to replace a conventional internal combustion engine.

Developing a small but high-capacity air tank that can store enough -fuel|| for long journeys remain the team's greatest hurdle.

An article describing the engine is published in the Journal of Renewable and Sustainable Energy.

Combustion

[Meet a Role Model who develops engines.](#)

Link: http://www.engineeringuk.com/viewitem.cfm?eit_id=383468

Date Published: June 23, 2010

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7.2 Project Trainings / Internships

- (i) **5-Students of Petroleum University, Dehradun**-took 6-months training to develop motor-bike run by compressed air from Jun2 2012 to Jan 2013.
- (ii) **2- Students from Hisar Institute of Technology, Punjab** took training to develop magnetic engine July 2013 to Aug 2013.
- (iii) **1- Student from IIT, Kharagpur** took details for Zero Pollution engine.
- (iv) **1- Student from NIT, Meghalaya-** took guidance to develop air engine.
- (v) **2- Students from Pune, Maharashtra** took booking for 6- months training for zero pollution engine.
- (vi) **1- Student from Abu-Dhabi-** wanted to do research work for abrasion finishing.
- (vii) **1- Prof. from France** took guidance on compressed air engine
- (viii) **2 – Students from National Institute of Design, Paldi, Ahmedabad** took internship of two months on Zero Pollutin Engine.

7.3 Social Activities

Students / Faculty members are encouraged to participate in Social Works such as:

- Consultancy & Testing
- Green Quest-**SAVE EARTH - SAVE LIFE**
- Awareness Programme about to Protect Environment
 - ❖ Roof Top Solar Power Plant
 - ❖ Documentary / Live telecast

Consultancy & Testing

i).Consultancy & Testing

CV Raman Centre had received financial aids from Govt. for conducting symposium / workshops and Seminars:

a).UP CST

▶ 2014-15	Rs. 50,000
▶ 2015-16	Rs. 50,000
▶ 2016-17	Rs. 50,000
▶ 2017-18	Rs.50,000 -(Process)

b). IE(I), UP State Centre

☐ 2013-14	Rs. 20,000
☐ 2014-15	Rs. 20,000
☐ 2015-16	Rs. 30,000
☐ 2016-17	Rs. 30,000
☐ 2017-18	Rs.30,000

Centre is seriously concerned to take up Consultancy Projects in near future.



Green Quest-Presence in Times of India



Spreading The Green Cover







Shree Anand Prasad,
Minister of Tourism & Culture,
Government of UP

"We are pleased to witness the Green Quest event which is a great initiative to spread awareness about environmental issues among the youth of our state. We wish to see more such initiatives in the future."

Green Camaraderie

The month long event of Green Quest, an inter-school environment quiz competition, witnessed over 90 schools comprising of over 15,000 students





V. A. Ghoshal,
Secretary, Uttar Pradesh,
Ministry of Education

"Green Quest is a very good initiative to spread awareness about environmental issues among the youth of our state. We wish to see more such initiatives in the future."



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Inauguration of 40 kilo- Watts **SAUR URJA** Plant by Min. (Tech. Edu.)
(5th June'2017)



Solar Street Car Trial

iii)a-Awareness Programme

TEN BASIC TIPS TO HELP STOP CLIMATE CHANGE

Don't have a lot of time, but want to take action? Here are ten, simple, everyday things each of us can do to help stop climate change. Pick one, some, or all. Every little effort helps and adds up to a whole lot of good.

1. **Change a light-** Replacing a regular light bulb with a compact fluorescent one saves 150 pounds of carbon dioxide each year.
2. **Drive less-** Walk, bike, and carpool; take mass transit, and/or trip chain. All of these things can help reduce gas consumption and one pound of carbon dioxide for each mile you do not drive.
3. **Recycle more and buy recycled-** Save up to 2,400 pounds of carbon dioxide each year just by recycling half of your household waste. By recycling and buying products with recycled content you also save energy, resources and landfill space!

4. **Check your tyres-** Properly inflated tyres mean good gas mileage. For each gallon of gas saved, 20 pounds of carbon dioxide is also never produced.
5. **Use less hot water-** It takes a lot of energy to heat water. Reducing the amount used means big savings in not only your energy bills, but also in carbon dioxide emissions. Using cold water for your wash saves 500 pounds of carbon dioxide a year, and using a low flow showerhead reduces 350 pounds of carbon dioxide. Make the most of your hot water by insulating your tank and keeping the temperature at or below 120 degree.
6. **Avoid products with a lot of packaging-** Preventing waste from being created in the first place means that there is less energy wasted and fewer resources consumed. When you purchase products with the least amount of packaging, not only do you save money, but you also help the environment! Reducing your garbage by 10% reduces carbon dioxide emissions by 1,200 pounds.
7. **Adjust your thermostat-** Keeping your thermostat at 68 degrees in winter and 78 degrees in summer not only helps with your energy bills, but it can reduce carbon dioxide emissions as well. No matter where you set your dial, two degrees cooler in the winter or warmer in the summer can mean a reduction of 2,000 pounds of carbon dioxide a year.
8. **Plant a tree-** A single tree can absorb one ton of carbon dioxide over its lifetime.

9. **Turn off electronic devices when not in use-** Simply turning off your TV, DVD Player, music system, computer and other electronic devices can save each household thousands of pounds of carbon dioxide each year.

10. **Stay informed-** Use the Earth 911 Website to help stay informed about environmental issues, and share your knowledge with others. Together, we can and do Make Every Day Earth Day!

iii)b-Awareness by Documentary/ Live Telecast

- 1) [Lucknow-Global Warming-05072014](#)
- 2) [Lucknow-Air-O-Bike and Solar-DD1-Pahal13092015](#)
- 3) [IBN7-Sabash India-11092015](#)
- 4) [Lucknow-Climate Change-09122015](#)
- 5) [IBN7-Top10-SabashIndia-27122015](#)
- 6) [Lucknow-Bundel Khand-06012016](#)
- 7) [India24x7-Patal Lok-28032016](#)
- 8) [Lucknow-GlobalTempRise-19042016](#)
- 9) [Lucknow-Fire in Forest-07052016](#)
- 10) [India24x7-SolarPlant-13052016](#)
- 11) [Lucknow-HeatWaveInLko-19052016](#)
- 12) [ZeeNews-SolarPower-21052016](#)
- 13) [Lucknow-Bole UP-02062016](#)
- 14) [Lucknow-Air Poisonous for Health-08112016](#)
- 15) [Snowfall and Storm-IndiaNews-23122016](#)
- 16) [NewsWorld-Himyug-30012017](#)
- 17) [NewsWorld-Iceberg-13072017](#)

Thank You