

ScienceWatch Home
Interviews

Featured Interviews
 Author Commentaries
 Institutional Interviews
 Journal Interviews
 Podcasts

Analyses

Featured Analyses
 What's Hot In...
 Special Topics

Data & Rankings

Sci-Bytes
 Fast Breaking Papers
 New Hot Papers
 Emerging Research Fronts
 Fast Moving Fronts
 Research Front Maps
 Current Classics
 Top Topics
 Rising Stars
 New Entrants
 Country Profiles

About Science Watch

Methodology
 Archives
 Contact Us
 RSS Feeds

scienceWATCH.com

TRACKING TRENDS & PERFORMANCE IN BASIC RESEARCH

Interviews

Analyses

Data & Rankings

2008 : September 2008 - New Hot Papers : Avinash Kumar Agarwal

NEW HOT PAPERS - 2008
September 2008


Avinash Kumar Agarwal talks with *ScienceWatch.com* and answers a few questions about this month's New Hot Paper in the field of Engineering.



Article Title: Biofuels (alcohols and biodiesel) applications as fuels for internal combustion engines

Authors: Agarwal, AK
 Journal: PROG ENERG COMBUST SCI
 Volume: 33
 Issue: 3
 Page: 233-271
 Year: JUN 2007

* Indian Inst Technol, Dept Mech Engn, Kanpur 208016, Uttar Pradesh, India.

* Indian Inst Technol, Dept Mech Engn, Kanpur 208016, Uttar Pradesh, India.

SW: Why do you think your paper is highly cited?

I think that this paper is highly cited because it covers a full spectrum of investigations carried out on **biofuels**, along with a very comprehensive review of the literature. More than half of this paper is about research done in my laboratory, while the remainder is a review of the literature and that seems to have been much appreciated by international researchers at work in this field.

SW: Does it describe a new discovery, methodology, or synthesis of knowledge?

This paper describes some of the most comprehensive research and experimental techniques which were applied to biofuels research for the first time. Analytical chemistry is used to answer some of the complicated mechanical engineering related problems.

SW: Would you summarize the significance of your paper in layman's terms?

The paper covers all aspects of biofuels (biodiesel and alcohol), starting from the production stage and fuel characterization, along through detailed engine tests involving performance, emission, and long-term investigations into aspects other than the mere combustion of these alternative fuels. Various engine-out emissions—both regulated as well as unregulated—have also been investigated and reported in this paper.

SW: How did you become involved in this research, and were there any problems along the way?

This subject was the focus of both my Master's degree and Ph.D. dissertation and was followed during

"This research is going to change the way we allocate our hydrocarbon resources in the future."

my career as a Professor at the Indian Institute of Technology in Kanpur. I have faced enormous technical challenges during the course of this research, as I am a mechanical engineer by training and this research involved plenty of background knowledge in both chemistry and tribology.

SW: Where do you see your research leading in the future?

The future seems to be really bright since we are moving into a new era of higher-priced carbon energy resources and it will make economic sense to grow our own energy sources (biodiesel fuels and alcohols) in order to operate various machines, which are such an essential part of modern living.

SW: Do you foresee any social or political implications for your research?

Yes. This research is going to change the way we allocate our hydrocarbon resources in the future. Research into biofuels is going to grow in importance as the price of hydrocarbon fuel increases.

Dr. Avinash K. Agarwal
Associate Professor
Department of Mechanical Engineering
Indian Institute of Technology Kanpur(IITK)
Kanpur, India

[Web](#)

RELATED> Also see the Special Topic of [Biofuels](#)

Keywords: biofuels, biodiesel and alcohol, internal combustion engines, analytical chemistry, engine-out emissions, higher-priced carbon energy resources, hydrocarbon fuel.

 [PDF](#)

[back to top](#) 

2008 : [September 2008 - New Hot Papers](#) : Avinash Kumar Agarwal

[Scientific Home](#) | [About Scientific](#) | [Site Search](#) | [Site Map](#)

[Copyright Notices](#) | [Terms of Use](#) | [Privacy Statement](#)