**Dr. Atul Dhar**

**Assistant Professor**

**School of Engineering, Indian Institute of Technology Mandi, Mandi**

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Phone : 01905-237993

Email : add[at]iitmandi[dot]ac[dot]in

Address: School of Engineering,

IIT Mandi, PWD Rest House 2nd floor,

Near Bus Stand, Mandi, Himachal Pradesh,

India – 175001

**Research Interests**

Alternative Fuels: Biodiesel, Biogas, Hydrogen, CNG

Engine Emission Control

Engine Management and Control

Combustion Diagnostics and Instrumentation

Particulate Characterization and Control

Long Term Engine Wear and Durability

Lubricating Oil Tribology

**Education**

B.Tech. in Mechanical Engineering (2004) from HBTI, Kanpur

M.Tech. in Mechanical Engineering (2006) from Indian Institute of Technology Kanpur, Kanpur

Ph.D. in Mechanical Engineering (2013) from Indian Institute of Technology Kanpur, Kanpur

**Work Experience**

Assistant Professor, Indian Institute of Technology Mandi, December 2013-Present

Senior Research Associate (Pool Scientist- CSIR), Indian Institute of Technology Kanpur, December 2011-November 2013

**Publications**

**Book Chapters**

* Avinash Kumar Agarwal, **Atul Dhar**, “Performance, Emission and Combustion Characteristics of Preheated and Blended Jatropha Oil”, in Book: Jatropha, Challenges for a New Energy Crop Volume 1: Farming, Economics and Biofuel, pp. 491-508, **Springer New York**, 2012, ISBN: 978-1-4614-4806-8.

**Refereed Journal Papers**

* **Atul Dhar**, Vishal Saxena, Avinash Kumar Agarwal, "Measurement of Dynamic Lubricating Oil Film Thickness between Piston Ring and Liner in a Motored Engine" Sensors and Actuators, Volume 149, Issue 1, January 2009, pp. 7-15 (ISSN # 0924-4247)
* Avinash Kumar Agarwal, **Atul Dhar**, "Performance, Emission and Combustion Characteristics of Jatropha Oil Blends in a Direct Injection Engine" SAE 2009-01-0947, **SAE Special Publication SP-2239**, 2009 (ISBN # 978-0-7680-2135-6)
* Avinash Kumar Agarwal, **Atul Dhar**, "Karanja Oil Utilization in DI Engine by Preheating: Experimental Investigations of Engine Performance, Emissions and Combustion Characteristics, Part I", **Proc. IMechE Part D: J. Automobile Engineering**, Vol. 224, pp. 73-84, June 2009 (ISSN # 09544070)
* Avinash Kumar Agarwal, **Atul Dhar**, "Karanja Oil Utilization in DI Engine by Preheating: Experimental Investigations of Engine Durability and Lubricating Oil Properties Part II", **Proc. IMechE Part D: J. Automobile Engineering,** Vol. 224, pp. 85-97,June 2009, DOI: 10.1243/09544070JAUTO1267
* Avinash Kumar Agarwal, **Atul Dhar**, "Experimental Investigation of Preheated Jatropha Oil Fuelled Direct Injection Compression Ignition Engine: Part-I, Performance, Emission and Combustion Characteristics" **Journal of ASTM International**, Vol. 7, No. 6, Paper ID JAI102414, June 2009
* Avinash Kumar Agarwal, **Atul Dhar**, "Experimental Investigation of Preheated Jatropha Oil Fuelled Direct Injection Compression Ignition Engine: Part-II, Engine Durability and Effect on Lubricating Oil" **Journal of ASTM International**, Vol.7, No. 2, Paper ID JAI102415, March, 2009
* Avinash Kumar Agarwal, **Atul Dhar**, "Comparative Performance, Emission and Combustion Characteristics of Rice-bran Oil and Its Biodiesel in a Transportation Diesel Engine", J**ournal of Engineering for Gas Turbine and Power**, **Transactions of ASME**, Volume 132, pp. 064503-1-4, June, 2010 (ISSN # 0742-4795)
* Avinash Kumar Agarwal, **Atul Dhar**, “Performance, Emissions and Combustion Characterization of Biodiesel in a Generator Engine”, **International Energy Journal**, Volume 12, Issue 2, June 2011
* **Atul Dhar**, Roblet Kevin, Avinash Kumar Agarwal, “Production of Biodiesel from High-FFA Neem oil and Its Performance, Emission and Combustion Characterization in a Single Cylinder DICI engine”, **Fuel Processing Technology**, Volume 97, May 2012, Pp. 118–129
* Avinash Kumar Agarwal , **Atul Dhar**, “Wear, durability, and lubricating oil performance of a straight vegetable oil (Karanja) blend fueled direct injection compression ignition engine”, **Journal of Renewable and Sustainable Energy**, Volume 4 (6), art no. 063138 <http://dx.doi.org/10.1063/1.4771694>, 2012
* Avinash Kumar Agarwal, **Atul Dhar**, “Experimental investigations of performance, emission and combustion characteristics of Karanja oil blends fuelled DICI engine”, **Renewable Energy**, Volume 52, April 2013, Pp. 283-291
* Avinash Kumar Agarwal, **Atul Dhar**, Dhananjay Kumar Srivastava, Rakesh Kumar Maurya, Akhilendra Pratap Singh, “Effect of fuel injection pressure on diesel particulate size and number distribution in a CRDI single cylinder”, **Fuel**, Volume 107, May 2013, Pages 84-89
* Avinash Kumar Agarwal, Dhananjay Kumar Srivastava, **Atul Dhar**, Rakesh Kumar Maurya, Pravesh Chandra Shukla, Akhilendra Pratap Singh, “Effect of fuel injection timing and pressure on combustion, emissions and performance characteristics of a single cylinder diesel engine”, **Fuel**, volume 111, 2013, pp. 374-383
* Paras Gupta, **Atul Dhar**, Avinash Kumar Agarwal, “Experimental investigations of a single cylinder genset engine with common rail fuel injection system”, Thermal Science (ISSN 2334-7163), 2013, 2013doi: 10.2298/TSCI130219083G
* **Atul Dhar,** Avinash Kumar Agarwal, “Performance, emissions and combustion characteristics of Karanja biodiesel in a transportation engine” Fuel 119, 2014 pp. 70-80

**Refereed Conference Papers**

* **Atul Dhar,** Avinash Kumar Agarwal, “Effect of Multiple Injections on Particulate Size-Number Distributions in a Common Rail Direct Injection Engine Fueled with Karanja Biodiesel Blends” SAE Paper 2013-01-1554, **SAE International World Conference**, April 2013, Detroit, USA
* [Avinash Kumar Agarwal](http://asmedl.aip.org/vsearch/servlet/VerityServlet?KEY=ASMEDL&possible1=Agarwal%2C+Avinash+Kumar&possible1zone=author&maxdisp=25&smode=strresults&pjournals=AMREAD%2CJAMCAV%2CJBENDY%2CJCNDDM%2CJCISB6%2CJDSMAA%2CJEPAE4%2CJERTD2%2CJETPEZ%2CJEMTA8%2CJFEGA4%2CJFCSAU%2CJHTRAO%2CJMSEFK%2CJMDEDB%2CJMDOA4%2CJMOEEX%2CJPVTAS%2CJSEEDO%2CJOTRE9%2CJOTUEI%2CJVACEK%2CASMECP%2CJTSEBV%2CJEPOA8%2CJMDEEC%2CJMTDDK%2CJLUTAT%2CJVADDM&aqs=true)**,** [**Atul Dhar**](http://asmedl.aip.org/vsearch/servlet/VerityServlet?KEY=ASMEDL&possible1=Dhar%2C+Atul&possible1zone=author&maxdisp=25&smode=strresults&pjournals=AMREAD%2CJAMCAV%2CJBENDY%2CJCNDDM%2CJCISB6%2CJDSMAA%2CJEPAE4%2CJERTD2%2CJETPEZ%2CJEMTA8%2CJFEGA4%2CJFCSAU%2CJHTRAO%2CJMSEFK%2CJMDEDB%2CJMDOA4%2CJMOEEX%2CJPVTAS%2CJSEEDO%2CJOTRE9%2CJOTUEI%2CJVACEK%2CASMECP%2CJTSEBV%2CJEPOA8%2CJMDEEC%2CJMTDDK%2CJLUTAT%2CJVADDM&aqs=true)**, “**Experimental Investigations of Engine Durability and Lubricating Oil Properties of Jatropha Oil Blends Fuelled DI Diesel Engine”, ASME Conf. Proc. ICEF2009 (2009), [**ASME 2009 Internal Combustion Engine Division Fall Technical Conference**](http://asmedl.aip.org/dbt/dbt.jsp?KEY=ASMECP&Volume=2009&Issue=43635)**,** September 2009,Lucerne, Switzerland
* Avinash Kumar Agarwal, Atul Dhar, “Performance, Emission and Combustion Characteristics of Jatropha Oil Blends in a Direct Injection Engine”, SAE Paper 2009-01-0947, SAE International World Conference, April 2009, Detroit, USA
* **Atul Dhar,** Avinash Kumar Agarwal, Vishal Saxena "Measurement of Lubricating Oil Film Thickness between Piston Ring-liner Interface in an Engine Simulator", SAE Paper No. 2008-28-0071, **SAE INDIA International Mobility Conference-2008**, pp. 494-499, January 2008, New Delhi, India

**Teaching**