



CV of Rajesh Kumar Prasad

Present Address

Z-22, SBRA
IIT Kanpur,
Kanpur-208016
Uttar Pradesh

Permanent Address

241 Nehru Avenue
C-Zone,
Durgapur-713205,
West Bengal
Email: rajeshpd2010@gmail.com;
rajeshpd@iitk.ac.in
Phone: 08853992752 (Mob)
08707064178 (Mob)
91 512 2595882 (Residence)

Areas of Interest: Engine Combustion; Gaseous fuels: CNG, hydrogen, Hythane; Laser diagnostic techniques: Schliren, Shadowgraphy; Laser ignition of combustible mixtures.

Date of Birth: June 29th, 1974

Nationality: Indian

Academic Qualifications:

<i>Degree/ Examination</i>	<i>Year</i>	<i>Institution/ University</i>	<i>CGPA/ % marks</i>
Ph.D. (Mech. Eng.)*	2018	Indian Institute of Technology, Kanpur	7.00 CGPA
M.Tech. (Heat Power Engg.)	2012	College of Engineering Pune	9.36 CGPA
AMIE (Mech. Eng.)	2002	Institution of Engineers (INDIA)	55.02
H.S.C.	1995	B.I.E.C	59.11
S.S.C	1992	W.B.B.S.E	68
• Thesis defense awaited			

Ph.D. Thesis Title: “Laser Plasma Ignited Hydrogen Enriched Compressed Natural Gas Engine Development and Experimental Evaluation”.

Thesis Supervisor: Dr. Avinash Kumar Agarwal

Professor, Mechanical Engineering Department, IIT Kanpur

M-Tech Thesis Title: “Prediction and validation of NO_x in DI Diesel Engine”.

Thesis Supervisor: Dr. M. R. Nandgaonkar

Associate Professor, Mechanical Engineering Department, COE Pune

Achievements (Awards):

- I. **Best Prize winner** in the segment of ‘*Alternate fuel and Alternative Ignition Sources*’ of Poster presented in 2nd ISEES conference on “*H₂ enriched CNG as an fuel for internal combustion engine*” organized at Indian Institute Of Sciences Bangalore, INDIA held on 31st December 2017-3rd January 2018.
- II. **Second Prize winner** of Poster presented in ISEES conference on “*Laser Ignition and Flame kernel characterisation of Hythane in a constant volume combustion chamber*” organized at Jadavpur university,Kolkata (INDIA) held on 4-6th Jan 2015.
- III. **Second Prize winner** in Eassy competition on “*Energy efficient building*” held on 23rd October 2010” Conducted by ISHRAE in Pune, Maharashtra.

Professional Experience:

S. No.	Position	Duration	Industry/ Institutes
01	Principal KKCEM & HOD Mechanical Engg.	August 2018- till now	K. K. University, Nalanda Bihar
01	Senior Student Research Associate	March 2018 – 21 July 2018	Indian Institute of Technology Kanpur; Project Title: Investigation of Combustion and Soot Process in a Compression Ignition Engine Fueled with Biodiesel. Project No.: CE/DST/2015111
02	Project Engineer	July 2011- June 2012	Power Train Engineering , ARAI, Pune, India
03	Lecturer	May 2008- June 2010	Baba Saheb Ambedkar polytechnic, Uttam Nagar, New Delhi
04	Technical Editor	August 2005-April 2008	Jain Brothers (New Delhi) Publishers & Distributor, Karol Bagh, New Delhi

Technical Foreign Visit			
01	Scientific visit “Laser Ignition of Engines”	2 weeks (August 2- 16, 2015)	Photonics Institute at Vienna University of Technology, Vienna, Austria

Equipment handled:

Solid state laser, High speed camera, Data acquisition system (Synergy, AVL Indimodule), laser Beam Profilometer, Aalborg gaseous fuel mixing unit, Horiba emission analyser, Dynamometer.

Software used:

Matlab, Autocad, Origin, Data ray software for beam profiling, High speed camera software,

Publications

International Peer Reviewed Journals:

1. **Rajesh Kumar Prasad**, Siddhant Jain, Gaurav Verma, Avinash Kumar Agarwal. “Laser ignition and flame kernel characterization of HCNG in a constant volume combustion chamber”. **Fuel** 190 (2017) 318–327. (I.F: 4.601)
2. Gauarv Verma, **Rajesh Kumar Prasad**, Rashmi A. Agarwal, Siddhant Jain, Avinash Kumar Agarwal. “Experimental investigations of combustion, performance and emission characteristics of a hydrogen enriched natural gas fuelled prototype spark ignition engine”. **Fuel** 178 (2016) 209–217. (I.F: 4.601)
3. Avinash Kumar Agarwal, Abhay Shrivastava, **Rajesh Kumar Prasad**. “Evaluation of toxic potential of particulates emitted from Jatropha biodiesel fuelled engine”. **Renewable Energy** 99 (2016) 564-572. (I.F: 4.9)
4. Avinash Kumar Agarwal, Pravesh Chandra Shukla, Jai Gopal Gupta, Chetankumar Patel, **Rajesh Kumar Prasad**, Nikhil Sharma. “Unregulated emissions from a gasohol (E5, E15, M5, and M15) fuelled spark ignition engine”. **Applied Energy** 154 (2015) 732–741. (I.F: 7.9)
5. Avinash Kumar Agarwal, Pravesh Chandra Shukla, Chetankumar Patel, Jai Gopal Gupta, Nikhil Sharma, **Rajesh Kumar Prasad**, Rashmi A. Agarwal. “Unregulated emissions and health risk potential from biodiesel (KB5, KB20) and methanol blend (M5) fuelled transportation diesel engines”. **Renewable Energy** 98 (2016) 283-291. (I.F: 4.9)

6. **RK Prasad**, MR Nandgaonkar, NH Walke, Bhaskar RS, “Prediction and Validation of NO_x in DI Diesel Engine” **Global J. of Mech., Engg. & Comp. Sciences**, 2013: Vol. 3, No.1, pp: 10-14, 2013.
7. **Rajesh Kumar Prasad**, Avinash Kumar Agarwal. “Comparative Study of Effect of Spark Timing on SI Vs. LI Systems on HCNG Fuelled Engine”. **(Under Preparation)**
8. **Rajesh Kumar Prasad**, Avinash Kumar Agarwal. “Study of Combustible limit of HCNG blends Using Laser in a Constant Volume Combustion Chamber” **Applied Optics**”. **(Under Preparation)**
9. **Rajesh Kumar Prasad**, Avinash Kumar Agarwal. “Effect of Laser ignition on Combustion, Performance and Emissions of dynamically blended HCNG mixtures fuelled naturally aspirated Engine”. **(Under Preparation)**
10. **Rajesh Kumar Prasad**, Avinash Kumar Agarwal. “Effect of Laser ignition on Combustion, Performance and Emissions of dynamically blended HCNG mixtures fuelled Supercharged Engine”. **(Under Preparation)**
11. **Rajesh Kumar Prasad**, Avinash Kumar Agarwal. “Hydrogen fuelled laser ignited supercharged engine- Low emissions futuristic technology”. **(Under Preparation)**
12. **Rajesh Kumar Prasad**, Avinash Kumar Agarwal. “Laser ignited Hydrogen/ Compressed natural gas/ HCNG fuelled internal combustion engines challenges and roadmap for application in automotive sector- A Review”. **(Under Preparation)**

International Conference Papers:

1. RK Prasad, AK Agarwal. “Development of Laser Ignited Hydrogen Fueled Supercharged Engine”. Optics InfoBase Conference Papers, Part F67-LIC 2017 (LWA5. 7).
2. Agarwal, A.K., Prasad, R.K. “Laser ignition of hydrogen enriched compressed natural gas (HCNG) fueled supercharged engine”. Optics InfoBase Conference Papers, Part F67-LIC 2017.
3. RK Prasad, AK Agarwal. “Effect of spark timing on Combustion, Performance and Emissions Parameters of SI as well as LI Ignited Single Cylinder Engine Fuelled with HCNG”. Abstract selected, Abstract ID: SEEC-2018-0035. Conference Venue: IISc Bangalore; 31st Dec 2017- 3rd Jan 2018.

4. RK Prasad, AK Agarwal and Dhananjay Kumar. “H₂ Enriched CNG as Alternative fuel for Internal Combustion Engine” Abstract selected, Abstract ID: SEEC-2018-0034. Conference Venue: IISc Bangalore; 31st Dec 2017- 3rd Jan 2018.

Book Chapters:

1. **Rajesh Kumar Prasad**, Avinash Kumar Agarwal, “Laser Ignited HCNG Engine Technology for Internal Combustion Engines”.Accepted for publication in Book Title “Methanol and Alternate Fuel Economy” (Editors: Avinash K Agarwal, Anirudh Gautam, Nikhil Sharma,Akhilendra P Singh)..December 2018 Published by , Springer Singapore.
2. **Rajesh Kumar Prasad**, Avinash Kumar Agarwal, “Prospect and Challenges of DI CNG Technologies”.Accepted for publication in Book Title “Advanced Engine Concepts and Technologies” December 2018 in Spinger Singapore, (Editors: Editors:Avinash K Agarwal, Jai Gopal Gupta, Nikhil Sharma, Akhilendra P Singh)

List of Conferences, Short term Courses, etc. participated:

International workshop (Participation)			
S. No.	Theme	Duration	Organizer
01	Sustainable Energy, Environment and Safety with Railway Centric Theme	31 st December 2017 to 3 rd January 2018	International Society for Energy, Environment and Sustainability at Bangalore, India
02	Sustainable Energy, Environment and Safety with Railway Centric Theme	21 st to 23 rd December 2015	International Society for Energy, Environment and Sustainability at Lucknow, India
03	Sustainable Energy, Power and Propulsion	5 th to 7 th January 2015	International Society for Energy, Environment and Sustainability at Jadavpur University, Kolkata, India
04	Novel Combustion Concepts for Sustainable Energy Development	2 nd to 4 th January 2014	International Society for Energy, Environment and Sustainability at IIT Kanpur, India
Poster Participation			
S. No.	Poster Title	Duration	Organizer
01	Hydrogen Enriched Compressed Natural Gas as an IC Engine Fuel	31 st December-3 rd January 2018	International Society for Energy, Environment and Sustainability at Bengaluru, India

02	Laser Ignition and Flame Kernel Characterization of HCNG Mixtures at Different H/ C Ratios	21st to 23rd December 2015	International Society for Energy, Environment and Sustainability at Lucknow, India
03	Laser Ignition and Flame Kernel Characterization of Hytane in a Constant Volume Combustion Chamber	5 th to 7 th January 2015	International Society for Energy, Environment and Sustainability at Jadavpur University, Kolkata, India

Books Published for AMIE:

1. **Fundamental of Design and Manufacturing**, Published by Jain Brother's, New Delhi (2005; Fourth edition 2009), R. S. Vaishwanar, **Rajesh Prasad**, Subhash Chander.(ISBN 81-8360-057-3)
2. **Material Science and Engineering**, Published by Jain Brother's, New Delhi (2005), I. P. Singh, Subhash Chander, **Rajesh K Prasad**.(ISBN 81-8360-095-6)
3. **Manufacturing Technology**, Published by Jain Brother's, New Delhi (Sixth edition 2014), R. S. Vaishwanar, **Rajesh K. Prasad**.(ISBN 81-8360-080-8)
4. **Production Management**, Published by Jain Brother's, New Delhi (Second edition 2011), **Rajesh K. Prasad**, Bijoya Prasad.(ISBN 81-8360-163-4)
5. **Non-conventional Energy Sources**, Published by Jain Brother's, New Delhi (Fourth edition 2014), **Rajesh K. Prasad**, T.P. Ojha.(ISBN 81-8360-080-6)

Membership of Professional Bodies/Societies

1. Life Member, International Society of Energy, Environment and Sustainability (ISEES)
2. Member, Institution of Engineers (India)

References:

Name	Address	Email/contact	Contact No
Prof. A. K. Agarwal	Department of Mechanical Engineering, IIT Kanpur, India	akag@iitk.ac.in	09415405879
Dr. M. R. Nandgaonkar	Department of Mechanical Engineering, College of Engineering, Pune	mrn.mech@coep.ac.in	08668415047

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