

Munidhar S. Biruduganti

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PROFESSIONAL EXPERIENCE

Research Engineer, Argonne National Laboratory (2003 – Present)

Principle Investigator for Flexible Fuel Turbine System Project to demonstrate the feasibility and applicability of an integrated Gasifier-Microturbine system utilizing biomass derived gaseous fuels for distributed generation in US farms

Principle Investigator for Nitrogen Enrichment using Air Separation Membranes for NOx abatement in engines

Engine Researcher for Several Projects which include: Laser Ignition, Biodiesel etc.

Facilities Development Engineer: Contributed significantly towards establishing Distributed Energy Research Center (DERC)

Product Development Engineer, Caterpillar Fuel Systems (2002)

Planning, developing, and designing test matrices for testing diesel fuel injectors (hydraulically and mechanically actuated, HEUI & MEUI), engine compression brakes, and valve actuators. Developed data reduction tools to help analyze results. Implemented statistical methods (Regression Analysis and ANOVA) to study product variability, reliability, and predictability evaluation.

Internship at Detroit Diesel Corporation (2001)

Assisted in developing analytical tools for combustion analysis in diesel engines along with test cell support

EDUCATION

Master of Science in Mechanical Engineering, University of Alabama, 2002

Bachelor of Science in Mechanical Engineering, Andhra University, India, 1999

PROFESSIONAL MEMBERSHIPS AND ACTIVITIES

Society of Automotive Engineers - Member and reviewer for SAE Congress and conferences

American Society of Mechanical Engineers - Member, Regular paper author, session chair, and paper reviewer

Cambridge Who's Who - Honored Member

International Journal of Engine Research - Reviewer

SELECTED PUBLICATIONS & PATENTS

Biruduganti, M., Gupta, S., Bihari, B., McConnell, S., Sekar, R., "Air Separation Membranes- An Alternative to EGR in Large Bore natural Gas Engines," Journal of Engineering for Gas Turbines and Power GTP09-1189 (accepted for publication, paper in production).

Biruduganti, M., Gupta, S., and Sekar, R., "Low Temperature Combustion Using Nitrogen Enrichment to Mitigate NOx From Large Bore Natural Gas Fueled Engines," Journal of Engineering for Gas Turbines and Power (Vol.132, Iss.1).

Krishnan, S.R., **Biruduganti, M.**, Mo, Y., Bell, S.R., Midkiff, K.C., "Performance and Heat Release Analysis of a Pilot-ignited Natural Gas Engine," International Journal of Engine Research Vol. 3, No 3, pp. 171-184, 2002.

Biruduganti, M., Gupta, S. G., McConnell, S., and Sekar, R., "Nitrogen Enriched Combustion of a Natural Gas Engine to Reduce NOx Emissions", Patent No: US7455046

Journal Publications: 3

Peer-Reviewed Conference Publications: 8

Technical Reports: 2

Patents: 1

Invention Disclosures: 4