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(Gasification)

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I. EDUCATIONAL QUALIFICATIONS

Ph.D., Energy Science and Technology, School of Energy Studies for Agriculture, Punjab Agricultural University (PAU), Ludhiana, India, 1991

M.S., Processing and Agricultural Structures, College of Agricultural Engineering, Punjab Agricultural University (PAU), Ludhiana, India, 1985

B.S., Agricultural Engineering, College of Agricultural Engineering and Technology, Punjabrao Krishi Vidyapeeth (PKV), Akola, India, 1983.

II. ACADEMIC WORK HISTORY

Assistant Researcher (Gasification): Oklahoma State University, Stillwater
(July 2006 –present)

Gasification of low bulk density biomass materials in fixed-bed and fluidized-bed reactors; Producer gas cleaning and quality improvement research.

Post Doctoral Research Fellow: Oklahoma State University, Stillwater;
(November 2001-June 2006)

Gasification of Switch grass and other biomass fuels and industrial wastes to generate synthesis gas for producing ethanol through bioreactor, fluidization characteristics of sand-biomass mixtures, thermo chemical analysis of biomass and other fuels.

Dept. Head/Research Engineer: Department of Thermo Chemical Conversion of Biomass, Sardar Patel Renewable Energy Research Institute, (SPRERI), India; (1992-2001).

In charge of the department's research, teaching, consultancy and extension programs on biomass based thermo chemical conversion technologies suitable for decentralized energy and power generation and for protection of environment.

Research Associate: Indian Agricultural Research Institute (IARI), New Delhi; (1991-92).

Responsible for design and development of a green house based experimental setup to study the effect of Carbon dioxide and Temperature on crop production.

III. RECENT PUBLICATIONS

Sarah, R., Dewitt, C. A., Bower, C. K., and Patil, K. N. 2008. Updraft Gasification of Salmon Processing Waste. Accepted for publication in JFS.

Patil, K. N., Huhnke, R. L. and Bellmer, D. D. 2007. Influence of Internal Baffles on Mixing Characteristics of Biomass in a Fluidized Sand Bed. CIGR Ejournal EE 06 016, Vol. IX.

Patil, K. N., Bowser T. J., Bellmer D. D., and Huhnke R. L. 2005. Fluidization characteristics of sand and chopped switchgrass-sand mixtures. *Agricultural Engineering International: the CIGR Ejournal*. Manuscript EE 04 005. Vol. VII.

Ramana, P. V., Singh, R. N. and Patil, K. N. 2005. Development and performance evaluation of a producer gas based system for hardening of steels. *Renewable Energy*; 30:773-782.

Bowser, T. J., Weckler P. R., Patil, K. N. and DeWitt, C. 2005. Design and testing of a low cost pilot-scale batch gasifier for food processing byproducts. *Applied Engineering in Agriculture*; Vol. 21(5): 901-906. American Society of Agricultural Engineers, St. Joseph, MI.

IV. SYNERGESTIC ACTIVITIES

Review of research articles and proposals:

- Energy & fuels: Published by the American Chemical Society,
- CIGR E Journal. *Agricultural Engineering International*: Published by the International Commission of Agricultural Engineering
- California Energy Commission, CA.

Membership:

- Solar Energy Society of India (SESI)
- Renewable Energy Forum of India (REFI)
- American Society of Agricultural & Biological Engineers (ASABE)
- Sigma XI
- Oklahoma Renewable Energy Council