

**The Percy Nicholls Award**  
For Notable Scientific or Industrial Achievement  
In the Field of Solid Fuels  
In recognition of the Outstanding Achievement of

**Ashwani K. Gupta**

*In the field of solid fuels, the Fuels and Combustion Technologies Section of Power Division of the American Society of Mechanical Engineers, and the Coal Division of the American Institute of Mining, Metallurgical and Petroleum Engineers jointly confer upon him the*

**2010 Percy Nicholls Award**

*for*

**“Significant scientific and practical contributions in the field of solid fuels”**

Ashwani Gupta has made outstanding contributions in the areas of gasification and pyrolysis of solid fuels that have lead to cleaner and efficient combustion of biomass, coal, wastes and low grade fuels. His major achievements include:

- Ultra high temperature steam gasification that has been demonstrated to provide negligible char and tar and high heating value synthetic gas (called syngas). The technology is now used to recover energy from a wide range of solid materials, (such as, wastes, biomass and low heating value fuels) efficiently and effectively.
- Distributed combustion with controlled temperature in furnaces combined with high and uniform heat flux in the entire combustion zone at high efficiency using wide range of fuels.
- Ultra low emissions of NO<sub>x</sub>, CO and particulate matter.
- Biofuels (syngas and liquid fuel) production from coals, biomass and solid waste fuels at very high efficiency.
- Education and training to engineers for sustained future workforce development for industry and academia.

Professor Ashwani Gupta is Distinguished University Professor at the University of Maryland College Park since 2008. He joined The University of Maryland College Park in 1983 and has been Professor of Mechanical Engineering since 1988. His academic experience includes six years as Member of Research Staff in the Energy Laboratory and Department of Chemical Engineering, MIT, three years as Senior Research Associate and independent Research Worker in Chemical Engineering and Fuel Technology, Sheffield University, UK. He spent four months in Japan as consultant to Nippon Furnace and many other companies. He has served as international consultant to Japanese government, MITI on the High Temperature Air Combustion Project. At the University of Maryland he embarked the Combustion Laboratory to which he serves as the Laboratory Director.

His main research interests and contributions have been in the fields of Combustion,

Propulsion, High Temperature Air Combustion, Swirl Flows, Diagnostics, Fuel Spray, Sensors, Micro-scale Combustion, Hazardous Wastes, solid fuels combustion, Fuel Reforming, and Pollution. He has co-authored three books entitled '*Swirl Flows*', '*Flowfield Modeling and Diagnostics*', and '*High Temperature Air Combustion: from energy conservation to pollution reduction*'. He has published over 500 archival papers in various journals, refereed symposia and conference proceedings.

Professor Ashwani Gupta received his PhD and higher doctorate, D.Sc, from the University of Sheffield, UK.