

Shabbir Ahmed

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Professional Experience

- **Present.** Argonne National Laboratory.
 - The Department of Energy's (DOE's) Hydrogen Quality Working Group
 - Principal Investigator (PI), autothermal reformer-based fuel processor development, a work-for-others project with the Japan Institute of Energy
 - PI, high pressure reforming of ethanol
 - PI, system design for ICE operating on reformed ethanol
 - PI, FASTER – project to study the fast start capability of on-board fuel processors
 - PI, Natural Gas Fuel Processor development, a work-for-others project with H2fuel LLC.
 - Fuel processor development for fuel cell systems
 - Modeling of a solid oxide fuel cell
 - Modeling of a municipal solid waste combustor

Education

- Ph.D., Chemical Engineering, University of Nebraska, Lincoln
- M.Sc., Chemical Engineering, Bangladesh University of Engineering and Technology, Dhaka
- B.Sc., Chemical Engineering, Bangladesh University of Engineering and Technology, Dhaka

Awards

- Partnership for a New Generation of Vehicles (PNGV) award
- R&D 100 Award
- Argonne Director's Award
- Argonne Pacesetter Award
- Federal Laboratory Consortium Award

Professional Activities

- Publication & Proposal Reviewer
 - Journal of Power Sources
 - International Journal of Hydrogen Energy
 - Fuel

- SAE
- DOE/HFCIT
- Review Panels
 - DOE's Hydrogen Program Review
 - Auto21 Canada
 - Institute of Regulatory Science

Publications & Patents

- Publications and Presentations: More than 100
- Patents: 12

Selected Publications

D. Papadias, S. Ahmed, R. Kumar, and F. Joseck, "Hydrogen Quality for Fuel Cell Vehicles - A Modeling Study of the Sensitivity of Impurity Content in Hydrogen to the Process Variables in the SMR-PSA Pathway," *International Journal of Hydrogen Energy*, 34 (2009) 6021-6035.

S. Ahmed, R. Ahluwalia, S. H. D. Lee, and S. Lottes, "A Gasoline Fuel Processor Designed to Study Quick-Start Performance," *Journal of Power Sources*, Volume 154, Issue 1, 214–222 (March 2006).

S. H. D. Lee, D. V. Applegate, S. Ahmed, S. G. Calderone, and T. L. Harvey, "Hydrogen from Natural Gas: Part I - Autothermal Reforming in an Integrated Fuel Processor," *International Journal of Hydrogen Energy*, 30(8), 829–842 (2005).

S. Ahmed and M. Krumpelt, "Hydrogen from Hydrocarbon Fuels for Fuel Cells," *International Journal of Hydrogen Energy*, 24(4), 291–301 (2001).

"Unraveling the maze: Understanding of diesel reforming through the use of simplified fuel blends," J.P. Kopasz, , D. Applegate, L. Miller, H. K. Liao, and S. Ahmed, *International Journal of Hydrogen Energy*, 30 (11), pp. 1243-1250, 2005.

"Characterization of Kilowatt-Scale Autothermal Reformer for Production of Hydrogen from Heavy Hydrocarbons," D. J. Liu, T. D. Kaun, H.-K. Liao, and S. Ahmed, *International Journal of Hydrogen Energy*, 29(10), pp. 1035-1046, 2004.

"Water Balance in a Polymer Electrolyte Fuel Cell System," S. Ahmed, J. Kopasz, R. Kumar, M. Krumpelt, *Journal of Power Sources*, 112, pp. 519-530, 2002.