SANGSEOK YU

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Career Objective:

Design and optimization of advanced power generation system including hybrid system of classical power generation system with the all feasible types of fuel cells.

Education

Ph.D., Mechanical Engineering, GPA(3.7/4.0)
Univ. of Michigan (present) , Sep.01~ Apr. 06
"Thermal Model of Proton Exchange Membrane Fuel Cell"

M.S Degree, Mechanical Engineering, GPA(3.5/4.0)
Seoul National University, Mar. 98~Feb. 00
"Contribution of Oil Film on the Cylinder Liner to Hydrocarbon Emission in SI Engines"

B.S Degree, Mechanical Engineering, GPA(3.6/4.0)
Chungnam National University, Mar. 91~Aug. 97

Work Experience

Senior Researcher at KIMM, *Dec. 06~Present*
- A System Model of the PEMFC for the Residential Power Generator
- A System Model of the 250 kW Molten Carbonate Fuel Cell (MCFC)

Research Fellow at Univ. of Michigan, *May 06~Nov. 06*
- Load Follow-up of Fuel Cell Vehicle SIMulator (FCVSIM)
- A Lumped Transient Fuel Cell System Model Simulation Considering the Transient Water Transport through the Membrane Electroyte

Graduate Research Assistant at Univ. of Michigan, *Sept. 02~Present*
- Fuel Cell Vehicle SIMulator (FCVSIM) under Matlab/Simulink® Environment
- A Lumped Transient Fuel Cell Stack Model with Cooling System Simulation
- High Fidelity 2D Thermal Model of PEMFC with Water/Thermal Management by Fortran

Assistant Researcher at IAMD(SNU), *Jan. 00 ~Aug. 01*
- Modeling of in-Cylinder Liquid Fuel Film Behavior on Hydrocarbon Emission
- Experiment: Knock Detection by Accelerometer in S.I.E and Installing LPG Single Cylinder Engine

Graduate Research Assistant and Teaching Assistance at SNU, *Mar. 98~Jan. 99*
- Performance of I.C.E: Undergraduate Course Instructor
- Modeling of Oil Layer Effect on Hydrocarbon Emission
- Improvement of Hydrogen Fueled Engine Performance by Deflector

Computer Skills

- OS Compatibility: Unix (Sun & HP), Linux, Windows, and Ms-DOS
- CFD Package: Fluent(GAMBIT), Star-CD, FEMLAB, AutoCAD, and 3D-MAX
- Language Skill: C-Language, FORTRAN, and Matlab & Simulink®
- Presentation: MS Office, Techplot, Kaleidograph, Visio, Animation Shop, Paintshop and Photoshop

Scholarships

- Fellowship: Korea Science and Engineering Foundation (KOSEF) (From '00 to '01)
- Scholarship: BrainKorea 21 project of Ministry of Education of Republic of Korea ('99)
- Scholarship: Chungnam National University (From '91 to '96)

Publications

- Yu, S., Kim, H. S., Lee, S. M., Lee, Y. D., and Ahn, K. Y., 2007, “A dynamic model of PEMFC System for the simulation of the residential power generation”, Submitted to the 5th international conference on fuel cell science and technology.
- Yu, S., Kim, H. S., Lee, S. M., Lee, Y. D., Ahn, K. Y., N., 2007, “A Numerical Model of Proton Exchange Membrane Fuel Cell with Large Active Area”, Submitted to the 8th International Symposium on Transport Phenomena.
- Yu, S., Jung, D., Assanis, D., N., 2006, “Thermal management strategy for A proton exchange membrane fuel cell with a large active cell area”, Submitted to the journal of power sources.
- Yu, S., 2006, “Thermal Modeling of Proton Exchange Membrane Fuel Cells”, Ph.D. Dissertation, Univ. of Michigan
- Yu, S., Jung, D., Assanis, D., N., 2006, “Numerical Modeling of the Proton Exchange Membrane Fuel Cell for Thermal Management”, Submitted to the journal of Energy Resources Technology.
- Yu, S., Jung, D., Assanis, D., N., 2006, “Numerical Modeling of the Proton Exchange Membrane Fuel Cell for Thermal Management”, 4th international conference on fuel cell science and technology.
- Yu, S., Jung, D., Assanis, D., N., "Thermal Management Analysis for a High Performance Large Active Area PEMFC System”, 12th Annual ARC Conference, May 2006
- Yu, S., Jung, D., Assanis, D., N., "Lumped Transient Thermal Model of PEMFC Stack with Cooling System Simulation”, 11th Annual ARC Conference, May 2005
- Yu, S., Jung, D., Assanis, D., N., "Refined Thermal Modeling of PEM fuel cell ", 10th Annual ARC Conference, May 2004
- Yu, S., Jung, D., Assanis, D., N., "Thermal Modeling of PEM fuel cell ", 9th Annual ARC Conference, May 2003
- Yu, S., Min, K.,"Effect of the Oil and Liquid Fuel Film on Hydrocarbon Emissions in Spark Ignition Engines", Journal of Automobile Engineering, IMechE, Vol 216, No. D9, pp. 759-771, Sep. 2002
- Yu, S., Yi, H., Cho, H., Kim, M., Min, K., "Modeling of the Dynamic Process of Fuel Absorption/Desorption in the Oil Film in SI Engines", JSME International Journal, Vol. 43 NO. 4, pp. 570-575, Nov., 2000
- Yu, S., Yi, H., Cho, H., Kim, M., Min, K., “Modeling of the Dynamic Process of Fuel Absorption/Desorption in the Oil Film in SI Engines”, 4th JSME-KSME Thermal Engineering Conference, Kobe, Japan, 2000
- Yu, S., “Contribution of Oil Film on the Cylinder Liner to Hydrocarbon Emission in SI Engines”, M.S. Thesis, Seoul Nat’l Univ., 2000
- Yu, S., Min, K., “Modeling of Absorption/Desorption of Fuel in Oil Film on the Cylinder Liner in SI Engines”, Journal of KSAE, 1999