

## Poster Titles - Penn State Hydrogen Day 2003

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### General Display

1. "Installation of a Hydrogen Fueling Station at Penn State"  
J. Anstrom
2. "The H<sub>2</sub>E Center at Penn State University" (Out Front)  
B. E. Logan
3. "The COE Environmental Institute"  
B. E. Logan
4. "The Electrochemical Engine Center"  
M.M. Mench and C.Y. Wang
5. "Hydrogen Energy Research at ARL"  
M. Klanchar and J. Peters
6. "The Materials Characterization Lab at Penn State" Jeff Shallenberger
7. "Penn State Institutes of the Environment" Patricia Craig
8. "The Energy Institute at Penn State: Projects Related to Renewable Energy Research"  
by Caroline Burgess, Joel Morrison, Elizabeth Young.

### Hydrogen Use

9. "Highly Accurate Embedded Nanosensors and Thermal Parameter Characterization of Polymer Electrolyte Fuel Cells"  
D. Burford, T. Davis, M. Early and M. M. Mench
10. "Distributed Effects of Fuel Reformation on Fuel Cell Performance"  
Q. L. Dong, O. Finckh, M. M. Mench and C. Y. Wang
11. "Distributed Species Measurement in Polymer Electrolyte Fuel Cells"  
Q. L. Dong, M. M. Mench
12. "Experimental Diagnostics of Low-Humidity Fuel Cells"  
N. Burke, G. Lu, X. G. Yang, and C. Y. Wang
13. "Micro Direct Methanol Fuel Cell Development"  
G. Lu, Y. Pan, and C. Y. Wang
14. "Comparative Study of Direct and Indirect Methanol Fuel Cell Systems"  
K. Bahtia, J. Gonder and C. Y. Wang

15. "Computational Fuel Cell Dynamics"

H. Meng, S. Um, U. Pasaogullari, Y. Wang, H. Ju, and C. Y. Wang

16. "Polymers for High-Temperature Fuel Cell Membranes"

Y. Chang, J. Cho, Z. Lu, E. Manias, and D.D. Macdonald

17. "System Modeling of Fuel Cell/ Battery Hybrid Vehicles"

K. Smith and C. Y. Wang

18. "Polyphosphazene- Based Polymer Electrolyte Membrane Fuel Cells"

S. N. Lvov, X. Zhou, E. Chalkova, J. A. Weston, C. M. Ambler, A. E. Maher, R. M. Wood and H. R. Allcock

19. "Hydrogen Fueled Hybrid Vehicle"

D.Haworth

20. "Distributed Power Generation from Fuel Cell and Hybrid Vehicles"

S. Pflumm

21. "Simulation and Control of Morton Carbonate Fuel Cell Power Plants". Kwang Lee

### **Hydrogen Storage**

22. "Use of Exfoliated Anthracite for Hydrogen Adsorption"

C. Burgess

23. "Synthesis of NanoTabular Powders for Metal Electrodes"

D. O. Yener, C. A. Randall, J. H. Adair

24. "Effect of Sulfur Containing Compounds in Acidic Aqueous Solutions on Hydrogen Absorption by Iron"

F. M. Al-Faqeer and H. W. Pickering

25. "Dilation- Enhanced Hydrogen Adsorption in Nanotube Bundles"

M. Calbi, M. Cole

26. "Novel Phases of Gases in Nanotube Bundles"

S. Gatica

27. "Gas and Isotope Separation Using Carbon Nanotubes"

R. A. Trasca, M. Kostov

28. "Neutron Studies of adsorption and diffusion of H<sub>2</sub> on carbon nanotubes". D.G.

Narehood, P.C. Eklund and P.E. Sokol.

### **Hydrogen Generation**

29. "Fundamental Studies of Hydrogen Production and Utilization: Experiments and Modeling"  
D. Haworth, R. Santoro, S. Turns and R. Yetter
30. "Genetic Engineering of Clostridium Acetobutylicum for Enhanced Production of Hydrogen Gas"  
J. Xu, P. Schrader, B. Logan, M. Guiltinan, J. Regan
31. "DNA Fingerprinting of the Microbial Communities in an H<sub>2</sub>- Producing Bioreactor"  
P. Iyer, M. A. Bruns
32. "Scenario Analysis and Policy Options for Hydrogen Production"  
S. Potashnik, S. Lobdell and D. Farber
33. "In Situ Generation of Hydrogen Peroxide from Hydrogen and Oxygen and Its Use in Catalytic Oxidations"  
A. Sen, J. Remias
34. "Hydrogen Production Using Anaerobic Wastewater Treatment Processes"  
S.W. Van Ginkel, S. Oh and B. E. Logan
35. "Turning Pennsylvania's Waste Into Energy"  
S. W. Van Ginkel, S. Oh and B. E. Logan
36. "Biological Hydrogen Production Using a Membrane Bioreactor"  
S. Oh, B. E. Logan
37. "Pre- reforming of Liquid Hydrocarbon Fuels over Supported Metal Catalysts for Micro- Fuel Cells"  
J. Zheng, J. Strohm, W. Pan and C. Song
38. "Oxidative Steam Reforming of Liquid Fuels for Solid Oxide Fuel Cell Applications"  
J. Zheng and C. Song
39. "Lithium/ Water Systems"  
M. U. Macdonald
40. "Hydrogen production by integrating coal/biomass gasification and mineral CO<sub>2</sub> sequestration" by Mercedes Maroto-Valer, Zhong Tang and Scott Bair.
41. "Nuclear Production of Hydrogen for the Hydrogen Economy". S. Lobdell, D. Farber, K. Shultz, and E. Klevens

### **Miscellaneous**

42. "Role of Oxide Films in Electro Catalysis"

A. Sun and D.D. Macdonald

43. "H<sub>2</sub> Sensors"

R. McGrath, R. Messier and M. Horn

44. "Flame Stability of Hydrocarbon/Oxygen Burner for Hydrogen Production Purpose"

J. D. Moore, G. A. Risha, R. B. Wehrman, B. Zhang, and K. K. Kuo

45. "Stable Hydrogen Isotope Analyses of Biomarkers as a Proxy for Paleohydrological Conditions in Lower Cretaceous Rift Basins of West Africa"

N. Pedentchouk, K. H. Freeman, N. B. Harris