

GEORGIA TECH FUEL CELL PUBLICATIONS AND ABSTRACTS

2007

“Development and Experimental Characterization of a Fuel cell Powered Aircraft,” T. H. Bradley, B. A. Moffitt, D. N. Mavris, and D. E. Parekh, *J. Power Sources*, in press, doi:10.1016/j.jpowsour.2007.06.215.

“A first-principles analysis for sulfur tolerance of CeO₂ in solid oxide fuel cells,” H-T. Chen, Y-M. Choi, M. Liu, and M. C. Lin, M.C., *Journal of Physical Chemistry C*, **111**, 111117-111122 (2007).

“Investigation of ether-substituted quaternary ammonium ionic liquids,” C. M. Lang and P. A. Kohl, *Journal of the Electrochemical Society*, **154**, 106-110 (2007).

“Chapter 6. Phosphoric Acid Fuel Cells (PAFC),” T. Fuller and K. Gallagher, book chapter in *Materials for Fuel Cells*, Michael Gasik editor, Woodhead Publishing Limited, Cambridge, UK (in press 2007).

“The Effect of Transient Potential Exposure on the Electrochemical Oxidation of Carbon Black in Low-Temperature Fuel Cells, K. Gallagher, D. Wong, and T. Fuller, *ECS Trans.* **11**, (1) (2007).

“Temperature Effects on PEM Fuel Cells Pt/C Catalyst Degradation,” W. Bi and T. Fuller, *ECS Trans.* **11**, (1) (2007).

“H₂O₂ Formation under Fuel-cell Conditions,” C. Chen and T. Fuller, *ECS Trans.* **11**, (1) (2007).

“Modeling of Transient State Carbon Corrosion for PEMFC Electrodes,” N. Takeuchi and T. Fuller, *ECS Trans.* **11**, (1) (2007).

“Flight test results for a fuel cell unmanned aerial vehicle,” T. H. Bradley, B. A. Moffitt, D. E. Parekh, and D. N. Mavris, *Collection of Technical Papers—45th AIAA Aerospace Sciences*, **1**, 254-261 (2007).

“Characterization of sulfur poisoning of Ni-YSZ anodes for solid oxide fuel cells using in situ Raman microspectroscopy,” Z. Cheng, and M. Liu, *Solid State Ionics*, **178**, 925-935 (2007).

“Computational study of sulfur-nickel interactions: A new S-Ni phase diagram,” J-H. Wang, and M. Liu, *Electrochemistry Communications*, **9**, 2212-2217 (2007).

“PEM Fuel Cell Pt/C Dissolution and Deposition in Nafion[®] Electrolyte,” W. Bi, G. Gray and T. Fuller), *Electrochem. Solid-State Lett.*, **10**, B101-104 (2007).

GEORGIA TECH FUEL CELL PUBLICATIONS AND ABSTRACTS

"Oxygen Reduction on LaMnO₃-based Cathode Materials in Solid Oxide Fuel Cells," Y. Choi, D. Mebane, M. C. Lin, M. Liu, *Chemistry of Materials*, **19**, 1690-1699 (2007).

"Modeling of Patterned Mixed-conducting Electrodes and the Importance of Sheet Resistance at Small Feature Sizes," R. Das, D. Mebane, E. Koep, and M. Liu, *Solid State Ionics*, **178**, 249-252 (2007).

"An Electrochemomechanical Theory of Defects in Ionic Solids, Part II. Examples," N. Swaminathan, J. Qu, and Y. Sun, *Philosophical Magazine*, **87**, 1723-1742 (2007).

"Sulfur Poisoning and Regeneration of Ni-based Anodes in Solid Oxide Fuel Cells," S. Zha, Z. Cheng, and M. Liu, *J. Electrochem. Soc.*, **154**, B201-B206 (2007).

"Nafion-bimevox Composite Membrane for Fuel Cell Applications," R. Lawson, C. Wang, J. Hong, J. Ma, B. Fang, and D. Chu, Source: *J. Electrochem. Soc.*, **154**, B48-B52 (2007).

"Ab initio Analysis of Sulfur Tolerance of Ni, Cu, and Ni-Cu Alloys for Solid Oxide Fuel Cells," Y. M., C. Compson, M.C. Lin, and M. Liu, Meilin, *Journal of Alloys and Compounds*, **427**, 25-29 (2007).

"XPS Investigation of Nafion[®] Membrane Degradation," C. Chen, G. Levitin, D. Hess, and T. Fuller), *J. Power Sources*, **169**, 288-295 (2007).

2006

"Effect of Zr-doping on the Chemical Stability and hydrogen Permeation of the Ni-BaCe_{0.8}Y_{0.2}O_{3-α} mixed protonic electronic conductor," Y. Liu and M. Liu, *Chem. of Materials*, **18**, 4643 (2006).

"Intra- and intermolecular proton transfer in 1H(2H)-1,2,3-triazole based systems," Z. Zhou, R. Liu, J. Wang, S. Li; M. Liu; J. Bredas, *J. Phys. Chem. A*, **110**, 2322 (2006).

"High-energy density, room-temperature carbonate fuel cell," C. Lang; K. Kim, and P. Kohl, *Electrochem. Solid-State Lett.*, **9**, 545 (2006).

"Microstructure optimization in fuel cell electrodes using materials design," D. Li, G. Saheli, K. Moe, H. Garmestani, *Computers, Materials and Continua*, **4**, 31 (2006).

GEORGIA TECH FUEL CELL PUBLICATIONS AND ABSTRACTS

"Microstructure and electrochemical properties of cathode materials for SOFCs prepared via pulsed laser deposition," E. Koep, C. Jin, M. Haluska, R. Das, R. Narayan, K. Sandhage, R. Snyder, M. Liu, *J. Power Sources*, **161**, 250 (2006).

"Preparation of NiO-YSZ/YSZ bi-layers for solid oxide fuel cells by electrophoretic deposition," L. Besra, S. Zha, M. Liu, *J. Power Sources*, **160**, 207 (2006).

"Findings of the Fuel Cell Workshop," T. Fuller and J. Meyers, *ECS Trans.* **1**, (6) 341 (2006).

"Applying the Lessons Learned from PAFC to PEM," T. Fuller, M. Perry, and C. Reiser, *ECS Trans.* **1**, (8) 337 (2006).

"Carbon Corrosion Induced by Partial Hydrogen Coverage," T. Fuller and G. Gray, *ECS Trans.* **1**, (8) 345 (2006).

"Oxygen reduction reactions in the SOFC cathode of Ag/CeO₂," J. Wang, M. Liu, M. C. Lin, *Solid State Ionics*, **177**, 939 (2006).

"Reduced-order transient thermal modeling for SOFC heating and cooling," D. Damm and A. Fedorov, *J. Power Sources*, **159**, 956 (2006).

"Local thermal non-equilibrium effects in porous electrodes of the hydrogen-fueled SOFC," D. Damm and A. Fedorov, *J. Power Sources*, **159**, 1153 (2006).

"Composite-hydroxide-mediated approach for the synthesis of nanostructures of complex functional-oxides," H. Liu, C. Hu, Z. L. Wang, *Nano Letters*, **6**, 1535 (2006).

"Classical, phenomenological analysis of the kinetics of reactions at the gas-exposed surface of mixed ionic electronic conductors," D. Mebane, M. Liu, *J. Solid State Electrochem.*, **10**, 575 (2006).

"Stability of materials as candidates for sulfur-resistant anodes of solid oxide fuel cells," Z. Cheng, S. Zha, M. Liu, *J. Electrochem. Soc.*, **153**, A1302 (2006).

"Identification of nickel sulfides on Ni-YSZ cermet exposed to H₂ fuel containing H₂S using Raman Spectroscopy," J. Dong, S. Zha, and M. Liu, *J. Power Sources*, **156**, 461 (2006).

"Synthesis and properties of phosphonic acid-grafted hybrid inorganic-organic polymer membranes," S. Li, Z. Zhou, H. Abernathy, M. Liu, W. Li, J. Ukai, K. Hase, M. Nakanishi, *J. Mater. Chem.*, **16**, 858 (2006).

GEORGIA TECH FUEL CELL PUBLICATIONS AND ABSTRACTS

"A solid oxide fuel cell running on H₂S/CH₄ fuel mixtures," Z. Cheng, S. Zha, L. Aguilar, D. Wang, J. Winnick, M. Liu, *Electrochem. Solid-State Lett.*, **9**, A31 (2006).

"Porous SOFC anodes prepared by sublimation of an immiscible metal oxide during sintering," Y. Liu, M. Liu, *Electrochem. Solid-State Lett.*, **9**, B25 (2006).

"A mechanistic study of H₂S decomposition on Ni- and Cu-based anode surfaces in a solid oxide fuel cell," Y. M. Choi, C. Compson, M. C. Lin, M. Liu, *Chem. Phys. Letters*, **421**, 179 (2006).

"Fabrication and characterization of hermetic solid oxide fuel cells without sealant," C. Compson, M. Liu, *Solid State Ionics*, **177**, 367 (2006).

"Microfabricated fuel cell with composite glass/nafiion proton exchange membrane," J. Li, C. Moore, D. Bhusari, S. Prakash, P. Kohl, *J. Electrochem. Soc.*, **153**, A343 (2006).

"Synthesis and properties of imidazole-grafted hybrid inorganic-organic polymer membranes," S. Li, Z. Zhou, M. Liu, W. Li, J. Ukai, K. Hase, M. Nakanishi, *Electrochem. Acta*, **51**, 1351 (2006).

Nelson, G. and Haynes, C., "Parametric Studies of Constriction Resistance Effects upon Solid Oxide Cell Transport", *Proceedings of the 2006 ASME Advanced Energy Systems Division AES*, in press.

Green, C., Streater, J. and Haynes, C., "Modeling Leakage with Mica-Based Compressive Seals For Solid Oxide Fuel Cells", *Proceedings of the 2006 ASME Advanced Energy Systems Division Publication AES*, in press.

Smith, T. and Haynes, C., "Hardware-Based Simulation of a Fuel Cell Turbine Hybrid Response to Imposed Fuel Cell Load Transients", *Proceedings of the 2006 ASME Advanced Energy Systems Division AES*, in press.

Tucker, D., VanOsdol, J., Liese, E., Lawson, L., Zitney, S., Gemmen, R., Ford, C. and Haynes, C., "Evaluation of Methods for Thermal Management in a Coal-Based SOFC Turbine Hybrid through Numerical Simulation," *ICEPAG 2006*, Irvine, CA, Sept. 2006.

McCarthy, L. and Haynes, C.L., "Steady And Pulsed Performance Trends Of High Concentration DMFCs", *Proceedings of 4th International ASME Conference on Fuel Cell Science, Engineering and Technology, FUELCELL2006*, v 2006, 9p.

Tucker, D., Smith, T.P., Lawson, L., and Haynes, C.L., "Evaluation of Cathodic Air Flow Transients in a Hybrid System Using Hardware Simulation",

GEORGIA TECH FUEL CELL PUBLICATIONS AND ABSTRACTS

Proceedings of 4th International ASME Conference on Fuel Cell Science, Engineering and Technology, FUELCELL2006, v 2006, 10p.

Liese, E.A., Gemmen, R.S., Smith, T. and Haynes, C.L., "A Dynamic Bulk SOFC Model used in a Hybrid Turbine Controls Test Facility", ASME (IGTI) Turbo Expo, GT2006-90383, Barcelona, Spain, May 8-11, 2006.

2005

"1H-1,2,4-triazole: An effective solvent for proton-conducting electrolytes," S. Li, Z. Zhou, Y. Zhang, M. Liu, and W. Li, *Chem. of Materials*, **17**, 5884 (2005).

"Promotion of proton conduction in polymer electrolyte membranes by 1H-1,2,3-triazole," Z. Zhou, S. Li, Y. Zhang, M. Liu, and W. Li, *J. Amer. Chem. Soc.*, **127**, 10824 (2005).

"Applying the lessons learned from PAFC to PEM fuel cells," T. Fuller, M. Perry, and C. Reiser, Meeting Abstracts, 208th Meeting of The Electrochemical Society, Meeting Abstracts, 2005, p 2263.

"Carbon corrosion induced by partial hydrogen coverage," T. Fuller, G. Gray, Meeting Abstracts, 208th Meeting of The Electrochemical Society, Meeting Abstracts, 2005, p 2266.

"2-dimensional model of partial hydrogen coverage," T. Fuller, 2005 AIChE Spring National Meeting, Conference Proceedings, 2005, p. 3275.

"Design of a UAV to optimize use of fuel cell propulsion technology," D. Soban, E. Upton, InfoTech at Aerospace: Advancing Contemporary Aerospace Technologies and Their Integration, 4, Collection of Technical Papers, 2075-2089 (2005).

"Microfabricated fuel cells with composite proton exchange membranes," J. Li, C. Moore, D. Bhusari; S. Prakash, and P. Kohl, 208th Meeting of The Electrochemical Society, Meeting Abstracts, 2005, p 1884.

"Sulfur tolerant anodes for solid oxide fuel cells," S. Zha, Z. Cheng, M. Liu, 208th Meeting of The Electrochemical Society, Meeting Abstracts, 2005, p 1990.

"Findings of the fuel-cell workshop," T. Fuller, H. Gasteiger, T. Van Nguyen, and J. Meyers, 208th Meeting of The Electrochemical Society, Meeting Abstracts, 2005, p 1743.

"3D membrane electrode assemblies (MEAs) for direct methanol fuel cells (DMFCs)," A. Tse, and D. Rosen, v 45, Proceedings of the ASME Advanced Energy Systems Division 2005, p 471-479.

GEORGIA TECH FUEL CELL PUBLICATIONS AND ABSTRACTS

“Creep deformation of Ni/YSZ cermet in SOFCs,” W. Liu, and J. Qu, *Ceramic Engineering and Science Proceedings*, **26**, n 4, *Advances in Solid Oxide Fuel Cells. A Collection of Papers Presented at the 29th International Conference on Advanced Ceramics and Composites*, 2005, p 299-306.

“A numerical simulation tool for fracture analysis in solid oxide fuel cells,” J. Johnson, J. Qu, *Ceramic Engineering and Science Proceedings*, **26**, n 4, *Advances in Solid Oxide Fuel Cells. A Collection of Papers Presented at the 29th International Conference on Advanced Ceramics and Composites*, 307 (2005).

“Computational approach to solid-gas interactions in SOFCs,” Y.M. Choi, H. Abernathy, R. Williams, M. Liu, *Proceedings of the Electrochemical Society*, **PV 2005-07**, *Solid Oxide Fuel Cells IX, SOFC IX: Cells, Stacks, and Systems - Proceedings of the International Symposium*, 2005, p 792-795.

“Study of sulfur-nickel interactions using raman spectroscopy,” J. Dong, S. Zha, M. Liu, *Proceedings of the Electrochemical Society*, PV 2005-07, *Solid Oxide Fuel Cells IX, SOFC IX: Materials - Proceedings of the International Symposium*, 2005, p 1284-1293.

“Power based sizing method for aircraft consuming unconventional energy,” T. Nam, D. Soban, D. Mavris, 43rd AIAA Aerospace Sciences Meeting and Exhibit - Meeting Papers, 2005, p 14163-14175.

“Simplified thermal analysis of the SOFC transients during startup/shutdown,” D. Damm, A. Fedorov, *Proceedings of the ASME Summer Heat Transfer Conference*, v 4, HT 2005, 2005, p 17-26.

“Analysis of hydrogen permeation through sub-micron-thick palladium alloy membranes,” L. McLeod, F. Levent Degertekin, A. Fedorov, *Proceedings of the ASME Summer Heat Transfer Conference*, v 4, HT 2005, 2005, p 59-63.

“A generalized aircraft sizing method and application to electric aircraft,” T. Nam, D. Soban, D. Mavris, *Collection of Technical Papers - 3rd International Energy Conversion Engineering Conference*, v 1, 2005, p 598-615.

“FTIR studies of oxygen reduction reaction on SOFC cathode materials,” H. Abernathy, Q. Wu, M. Liu, *Proceedings of the Electrochemical Society*, PV 2003-30, *Fundamental Understanding of Electrode Processes, in Memory of Professor Ernest B. Yeager—Proceedings of the International Symposium*, 2005, p 199-211.

“Spectral radiative heat transfer analysis of the planar SOFC,” D. Damm, A. Fedorov, *J. Fuel Cell Science and Tech.*, **2**, 258 (2005).

GEORGIA TECH FUEL CELL PUBLICATIONS AND ABSTRACTS

“Development of P-doped SiO₂ as proton exchange membrane for microfuel cells,” D. Bhusari, J. Li, P. Jayachandran, C. Moore, and P. Kohl, *Electrochemical and Solid-State Letters*, **8**, A588 (2005).

“Simplified model for oxygen transport with reaction in a polymer-electrolyte fuel cell,” L. Forney, M. Brown, B. Kadlubowski, and J. Sommerfeld, *Canadian Journal of Chemical Engineering*, **83**, 500 (2005).

“Microfabricated fuel cells with thin-film silicon dioxide proton exchange membranes,” C. Moore, J. Li, P. Kohl, *J. Electrochem. Soc.*, **152**, A1606 (2005).

“Hydrogen generation in a reverse-flow microreactor: 1. Model formulation and scaling,” N. Kaisare, J. Lee, A. Fedorov, *AIChE Journal*, **51**, 2254 (2005).

“A sulfur-tolerant anode material for SOFCs Gd₂Ti_{0.4}Mo_{0.6}O₇,” S. Zha, Z. Cheng, M. Liu, *Electrochemical and Solid-State Letters*, **8**, A406 (2005).

“Chemical, electrical, and thermal properties of strontium doped lanthanum vanadate,” Z. Cheng, S. Zha, L. Aguilar, M. Liu, *Solid State Ionics*, **176**, 1921 (2005).

“Microfabricated fuel cells with thin-film silicon dioxide proton exchange membranes,” C. Moore, J. Li, P. Kohl, 2005 AIChE Spring National Meeting, Conference Proceedings, 2005, p 3265-3273.

“Electrical properties and sulfur tolerance of La_{0.75}Sr_{0.25}Cr_{1-x}Mn_xO₃ under anodic conditions,” S. Zha, P. Tsang, Z. Cheng, and M. Liu, *J. Solid State Chemistry*, **178**, 1844 (2005).

“Radiation heat transfer in SOFC materials and components,” D. Damm, and A. Fedorov, *J. Power Sources*, **143**, 158 (2005).

“Dual-scale porous electrodes for solid oxide fuel cells from polymer foams,” Y. Zhang, S. Zha, and M. Liu, *Advanced Materials*, **17**, 487 (2005).

“Charging effects on electron-stimulated desorption of cations from gadolinia-doped ceria surfaces,” H. Chen, Y. Chen, A. Aleksandrov, J. Dong, Liu, M. Meilin, and T. Orlando, *Applied Surface Science*, **243**, 166 (2005).

“Growth of aligned square-shaped SnO₂ tube arrays,” Y. Liu, and M. Liu, *Advanced Functional Materials*, **15**, 57 (2005).

“Functionally graded cathodes fabricated by sol-gel/slurry coating for honeycomb SOFCs,” S. Zha, Y. Zhang, and M. Liu, *Solid State Ionics*, **176**, 25 (2005).

GEORGIA TECH FUEL CELL PUBLICATIONS AND ABSTRACTS

"A photolithographic process for investigation of electrode reaction sites in solid oxide fuel cells," E. Koep, C. Compson, M. Liu, and Z. Zhou, *Solid State Ionics*, **176**, 1 (2005).

2004

"Impedance spectroscopy characterization of hermetically sealed SOFCs," Compson Charles, Liu, Meilin Meeting Abstracts, 2004 Joint International Meeting - 206th Meeting of the Electrochemical Society/2004 Fall Meeting of the Electrochemical Society of Japan, MA 2004-02, 2004, p 2052

"Study of patterned $\text{La}_{0.8}\text{Sr}_{0.2}\text{MnO}_3$ electrodes for solid oxide fuel cells," Koep, Erik, Compson, Charles; Liu, Meilin; Zhou, Zhiping Meeting Abstracts, 2004 Joint International Meeting - 206th Meeting of the Electrochemical Society/2004 Fall Meeting of the Electrochemical Society of Japan, MA 2004-02, 2004, p 2602

"Measurement of oxygen diffusivity of SOFC cathode materials using FTIR emission spectroscopy," Abernathy, Harry, Liu, Mellin Meeting Abstracts, 2004 Joint International Meeting - 206th Meeting of the Electrochemical Society/2004 Fall Meeting of the Electrochemical Society of Japan, MA 2004-02, 2004, p 1705

"Spectral radiative heat transfer analysis of the planar SOFC," Damm, David L., Fedorov, Andrei G. American Society of Mechanical Engineers, Heat Transfer Division, (Publication) HTD, v 375, n 2, Proceedings of the ASME Heat Transfer Division - 2004, 2004, p 399-405

"Modeling approach for analysis and optimization of a long-duration Mars airplane," Rohrschneider, Reuben R. Olds, John R.; Braun, Robert D.; Hutchinson Jr., Virgil; Kuhl, Christopher A.; Steffes, Stephen R. Collection of Technical Papers - 10th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, v 1, Collection of Technical Papers - 10th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, 2004, p 134-147

"Flight system options for a long-duration Mars airplane," Rohrschneider, Reuben R. Olds, John R.; Braun, Robert D.; Hutchinson Jr., Virgil; Kuhl, Christopher A.; Steffes, Stephen R. Collection of Technical Papers - AIAA 3rd "Unmanned-Unlimited" Technical Conference, Workshop, and Exhibit, v 2, Collection of Technical Papers - AIAA 3rd "Unmanned-Unlimited" Technical Conference, Workshop, and Exhibit, 2004, p 833-846

"Microfabricated direct methanol fuel cells with silicon dioxide proton exchange membranes," Moore, Christopher W. Li, Jun; Kohl, Paul A. Meeting Abstracts, Meeting Abstracts - 205th Meeting of The Electrochemical Society, MA 2004 01, 2004, p 330

GEORGIA TECH FUEL CELL PUBLICATIONS AND ABSTRACTS

“Enhanced DMFC performance via electro-hydraulic pulsing,” Haynes, Comas McCarthy, Larry; Leahy, Scott; Parekh, David; Lay, Leonard American Society of Mechanical Engineers, Advanced Energy Systems Division (Publication) AES, v 44, Proceedings of the ASME Advanced Energy Systems Division - 2004, 2004, p 67-74

“Nanostructured and functionally graded cathodes for intermediate temperature solid oxide fuel cells,” Liu, Ying, Compson, Chuck; Liu, Meilin Meeting Abstracts, Meeting Abstracts - 205th Meeting of The Electrochemical Society, MA 2004 01, 2004, p 392

“Synthesis of 3-dimensional multi-scale porous electrodes for SOFCs,” Zhang, YueLan, Zha, Shaowu; Liu, Meilin Meeting Abstracts, Meeting Abstracts - 205th Meeting of The Electrochemical Society, MA 2004 01, 2004, p 393

“Vibration and displacement testing of the electromagnetic microvalve actuator,” Bintoro, J.S. Papania, A.D.; Berthelot, Y.H.; Hesketh, P.J. Electrochemical Society Proceedings, v 9, Microfabricated Systems and MEMS VII - Proceedings of the International Symposium, 2004, p 288-302

“Quantitative techniques for analysis of large data sets in renewable distributed generation,” Pregelj, Aleksandar ,Begovic, Miroslav; Rohatgi, Ajeet 2004 IEEE PES Power Systems Conference and Exposition, v 2, 2004 IEEE PES Power Systems Conference and Exposition, 2004, p 892

“Nanoporous electrodes enable higher-performance fuel cells,” Liu, Meilin Advanced Materials and Processes, v 162, n 12, December, 2004, p 10

“Porous electrodes for low-temperature solid oxide fuel cells fabricated by a combustion spray process,” Liu, Ying, Liu, Meilin Journal of the American Ceramic Society, v 87, n 11, November, 2004, p 2139-2142

“Nanostructured and functionally graded cathodes for intermediate temperature solid oxide fuel cells,” Liu, Ying, Compson, Charles; Liu, Meilin Journal of Power Sources, v 138, n 1-2, Nov 15, 2004, p 194-198

“Investigation of acidic methanol solution as a fuel for microchannel fuel cells,” Li, Jun, Moore, Christopher; Kohl, Paul A. Journal of Power Sources, v 138, n 1-2, Nov 15, 2004, p 211-215

“Sulfur-tolerant materials for the hydrogen sulfide SOFC,” Aguilar, Luis, Zha, Shaowu; Li, Siwen; Winnick, Jack; Liu, Meilin Electrochemical and Solid-State Letters, v 7, n 10, 2004, p A324-A326

GEORGIA TECH FUEL CELL PUBLICATIONS AND ABSTRACTS

"Nanocomposite electrodes fabricated by a particle-solution spraying process for low-temperature SOFCs," Liu, Ying, Zha, Shaowu; Liu, Meilin Chemistry of Materials, v 16, n 18, Sep 7, 2004, p 3502-3506

"GDC-based low-temperature SOFCs powered by hydrocarbon fuels," Zha, Shaowu, Moore, Ashley; Abernathy, Harry; Liu, Meilin Journal of the Electrochemical Society, v 151, n 8, 2004, p A1128-A1133

"A solid oxide fuel cell operating on hydrogen sulfide (H_2S) and sulfur-containing fuels," Aguilar, Luis, Zha, Shaowu; Cheng, Zhe; Winnick, Jack; Liu, Meilin Journal of Power Sources, v 135, n 1-2, Sep 3, 2004, p 17-24

"Design, fabrication, and testing of a near constant pressure fuel delivery system for miniature fuel cells," Luharuka, Rajesh, Wu, Chi-Fu; Hesketh, Peter J. Sensors and Actuators, A: Physical, v 112, n 2-3, May 1, 2004, p 187-195

"Improving binder distribution in extruded ceramic paste," Clark, Justin (Materials Science and Engineering, Georgia Institute of Technology); McCoy, Tammy; Hurysz, Kevin; Cochran, Joe Ceramic Transactions, v 154, Innovative Processing and Synthesis of Ceramics, Glass and Composites VII, Proceedings, 2004, p 135-144

"Bulk shear stress modeling of pastes made from low maximum solids content raw materials," Hurysz, K.M., Cochran, J.K. Ceramic Transactions, v 154, Innovative Processing and Synthesis of Ceramics, Glass and Composites VII, Proceedings, 2004, p 165-175

"Pre-reforming of propane for low-temperature SOFCs," Chen, Fengzhen, Zha, Shaowu; Dong, Jian; Liu, Meilin Solid State Ionics, v 166, n 3-4, Jan 30, 2004, p 269-273

"Ni-Ce_{0.9}Gd_{0.1}O_{1.95} anode for GDC electrolyte-based low-temperature SOFCs," Zha, Shaowu, Rauch, William; Liu, Meilin Solid State Ionics, v 166, n 3-4, Jan 30, 2004, p 241-250

"Fabrication of Sm_{0.5}Sr_{0.5}CoO_{3- δ} -Sm_{0.1}Ce_{0.9}O_{2- δ} cathodes for solid oxide fuel cells using combustion CVD," Liu, Ying Rauch, William; Zha, Shaowu; Liu, Meilin, Solid State Ionics, v 166, n 3-4, Jan 30, 2004, p 261-268

"Novel nanostructured electrodes for solid oxide fuel cells fabricated by combustion chemical vapor deposition (CVD)," Liu, Ying Zha, Shaowu; Liu, Meilin Advanced Materials, v 16, n 3, Feb 3, 2004, p 256-260

2003

Tom Fuller
(770) 528-7075
tom.fuller@qtri.gatech.edu

10

Meilin Liu
(404) 894-6114
meilin.liu@mse.gatech.edu

GEORGIA TECH FUEL CELL PUBLICATIONS AND ABSTRACTS

"Powerful change part 1: Batteries and possible alternatives for the mobile market," Starner, Thad E. IEEE Pervasive Computing, v 2, n 4, October/December, 2003, p 86-88

"A structure of bistable electromagnetic actuated microvalve fabricated on a single wafer, implementing the SLA and PDMS technique," Bintoro, Jemmy Sutanto, Luharuka, Rajesh; Wong, Edward W.; Hesketh, Peter J. American Society of Mechanical Engineers, Micro-Electromechanical Systems Division Publication (MEMS), v 5, Micro-Electro-Mechanical Systems (MEMS) - 2003, 2003, p 411-417

"Radiation heat transfer analysis of the monolith type solid oxide fuel cell," Murthy, Sunil, Fedorov, Andrei American Society of Mechanical Engineers, Heat Transfer Division, (Publication) HTD, v 374, n 2, Proceedings of the ASME Heat Transfer Division - 2003 Volume 2: Gas Turbine Heat Transfer, Heat Transfer in Electronic Equipment, Heat Transfer in Energy Systems, Low-Temperature Heat Transfer, 2003, p 351-355

"Polyhedral shapes of CeO₂ nanoparticles," Wang, Zhong Lin, Feng, Xiangdong Journal of Physical Chemistry B, v 107, n 49, Dec 11, 2003, p 13563-13566

"LSM-GDC Composite Cathodes Derived from a Sol-Gel Process: Effect of Microstructure on Interfacial Polarization Resistance," Xia, Changrong, Zhang, Yuelan; Liu, Meilin Electrochemical and Solid-State Letters, v 6, n 12, December, 2003, p A290-A292

"Radiation heat transfer analysis of the monolith type solid oxide fuel cell," Murthy, Sunil, Fedorov, Andrei G. Journal of Power Sources, v 124, n 2, Nov 24, 2003, p 453-458

"Synthesis and conductivity of proton-electrolyte membranes based on hybrid inorganic-organic copolymers," Li, Siwen, Liu, Meilin Electrochimica Acta, v 48, n 28, Dec 15, 2003, p 4271-4276

"Composite cathode based on yttria stabilized bismuth oxide for low-temperature solid oxide fuel cells," Xia, Changrong, Zhang, Yuelan; Liu, Meilin Applied Physics Letters, v 82, n 6, Feb 10, 2003, p 901-903

"Modeling the transport processes within multichannel molten carbonate fuel cells," Ma, Z., Jeter, S.M.; Abdel-Khalik, S.I. International Journal of Hydrogen Energy, v 28, n 1, January, 2003, p 85-97

2002

Tom Fuller
(770) 528-7075
tom.fuller@qtri.gatech.edu

11

Meilin Liu
(404) 894-6114
meilin.liu@mse.gatech.edu

GEORGIA TECH FUEL CELL PUBLICATIONS AND ABSTRACTS

“Removal of hydrogen sulfide from a fuel gas stream by electrochemical membrane separation,” Burke, Alan, Winnick, Jack; Xia, Changrong; Liu, Meilin Journal of the Electrochemical Society, v 149, n 11, November, 2002, p D160-D166

“Microstructures, conductivities, and electrochemical properties of $\text{Ce}_{0.9}\text{Gd}_{0.1}\text{O}_2$ and GDC-Ni anodes for low-temperature SOFCs,” Xia, Changrong, Liu, Meilin Solid State Ionics, v 152-153, December, 2002, p 423-430

“Enhancing the performance evaluation and process design of a commercial-grade solid oxide fuel cell via exergy concepts,” Haynes, Comas, Wepfer, William J. Journal of Energy Resources Technology, Transactions of the ASME, v 124, n 2, June, 2002, p 95-104

“In situ potential-dependent FTIR emission spectroscopy: A novel probe for high temperature fuel cell interfaces,” Lu, Xinyu, Faguy, Peter W.; Liu, Meilin Journal of the Electrochemical Society, v 149, n 10, October, 2002, p A1293-A1298

“Functionally graded cathodes for honeycomb solid oxide fuel cells,” Xia, Changrong, Rauch, William; Wellborn, William; Liu, Meilin Electrochemical and Solid-State Letters, v 5, n 10, October, 2002, p A217-A220

“Simulating process settings for unslaved SOFC response to increases in load demand,” Haynes, Comas, Journal of Power Sources, v 109, n 2, Jul 1, 2002, p 365-376

“Transport and surface properties of $\text{Sr}_{0.25}\text{Bi}_{0.5}\text{FeO}_{3-\delta}$ mixed conductor,” Lu, Xinyu, Liu, Meilin Solid State Ionics, v 149, n 3-4, Aug 2, 2002, p 299-307

“Novel cathodes for low-temperature solid oxide fuel cells,” Xia, Changrong, Liu, Meilin Advanced Materials, v 14, n 7, Apr 4, 2002, p 521-523

“ $\text{Sm}_{0.5}\text{Sr}_{0.5}\text{CoO}_3$ cathodes for low-temperature SOFCs,” Xia, Changrong, Rauch, William; Chen, Fanglin; Liu, Meilin Solid State Ionics, v 149, n 1-2, July, 2002, p 11-19

2001

“A simple and cost-effective approach to fabrication of dense ceramic membranes on porous substrates,” Xia, Changrong, Liu, Meilin Journal of the American Ceramic Society, v 84, n 8, August, 2001, p 1903-1905

GEORGIA TECH FUEL CELL PUBLICATIONS AND ABSTRACTS

“Reduced-temperature solid oxide fuel cells fabricated by screen printing,” Xia, Changrong, Chen, Fanglin; Liu, Meilin *Electrochemical and Solid-State Letters*, v 4, n 5, May, 2001, p A52-A54

“Low-temperature SOFCs based on $\text{Gd}_{0.1}\text{Ce}_{0.9}\text{O}_{1.95}$ fabricated by dry pressing,” Xia, C., Liu, M. *Solid State Ionics*, v 144, n 3-4, Dec 11, 2001, p 249-255

“Characterizing heat transfer within a commercial-grade tubular solid oxide fuel cell for enhanced thermal management,” Haynes, C., Wepfer, W.J. *International Journal of Hydrogen Energy*, v 26, n 4, 2001, p 369-379

