

People

Professor San Ping Jiang



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PhD in Electrochemistry (City University, London); BEng(South China Univeristy of Technology)

POSITION	Professor
FACULTY	Faculty of Science and Engineering
SCHOOL	School of Chemical and Petroleum Engineering
DEPARTMENT	Department of Chemical Engineering
CAMPUS	Bentley Campus
LOCATION	610.142
PHONE	+618 9266 9804
FAX	+618 9266 1138
EMAIL	S.Jiang@curtin.edu.au

Employment History

1989-1990: University of Essex, UK.

1991-2001: CSIRO Division of Materials and Manufacturing Technology, Melbourne, Australia.

1992-1999: Ceramic Fuel Cells Ltd., Melbourne, Australia.

2001-2010: Nanyang Technological University, Singapore.

2010-present: Curtin University.

Teaching

1. WASM 253 - Engineering Materials
2. ChE 313 - Fundamentals of Air Pollution Control
3. ChE 221 - Process Mass Transfer

Research Interests

1. Electrochemistry, interfaces and solid state ionics;
2. Nanomaterials, meso- and nanostructured membranes and catalysts for fuel cells;
3. Solid oxide fuel cells, proton exchange membrane fuel cells, direct methanol fuel cells;

4. Electrochemical supercapacitors;

5. High temperature solid oxide electrolysis.

Publications

2015

Journal Articles (Research)

- Cheng, Y., C. Xu, L. Jia, J. D. Gale, L. Zhang, C. Liu, P. Shen, and S. Jiang. 2015. "[Pristine carbon nanotubes as non-metal electrocatalysts for oxygen evolution reaction of water splitting.](#)" *Applied Catalysis B: Environmental* 163: 96-104.
- Yang, T., R. Zhou, D. Wang, S. Jiang, Y. Yamauchi, S. Qiao, and J. Liu. 2015. "Hierarchical mesoporous yolk-shell structured carbonaceous nanospheres for high performance electrochemical capacitive energy storage." *Chemical Communications* 51: 2518-2521.
- Guo, Z., X. Xu, Y. Xiang, S. Lu, and S. Jiang. 2015. "[New anhydrous proton exchange membranes for high-temperature fuel cells based on PVDF-PVP blended polymers.](#)" *Journal of Materials Chemistry A* 3: 148-155.
- Wei, B., K. Chen, L. Zhao, Z. Lu, and S. Jiang. 2015. "Chromium deposition and poisoning at La_{0.6}Sr_{0.4}Co_{0.2}Fe_{0.8}O_{3-d} oxygen electrodes of solid oxide electrolysis cells." *Physical Chemistry Chemical Physics* 17: 1601-1609.

2014

Journal Articles (Research)

- Cheng, Y., C. Liu, H. Cheng, and S. Jiang. 2014. "[One-Pot Synthesis of Metal-Carbon Nanotubes Network Hybrids as Highly Efficient Catalysts for Oxygen Evolution Reaction of Water Splitting.](#)" *ACS Applied Materials and Interfaces* 6: 10089-10098.
- Cheng, Y., C. Xu, P. Shen, and S. Jiang. 2014. "[Effect of nitrogen-containing functionalization on the electrocatalytic activity of PtRu nanoparticles supported on carbon nanotubes for direct methanol fuel cells.](#)" *Applied Catalysis B: Environmental* 158-159: 140-149.
- Zhang, J., Y. Cheng, S. Lu, L. Jia, P. Shen, and S. Jiang. 2014. "[Significant promotion effect of carbon nanotubes on the electrocatalytic activity of supported Pd NPs for ethanol oxidation reaction of fuel cells: the role of inner tubes.](#)" *Chemical Communications* 50: 13732-13734.
- Wang, C. C., T. Becker, K. Chen, L. Zhao, B. Wei, and S. Jiang. 2014. "[Effect of temperature on the chromium deposition and poisoning of La_{0.6}Sr_{0.4}Co_{0.2}Fe_{0.8}O_{3-δ} cathodes of solid oxide fuel cells.](#)" *Electrochimica Acta* 139: 173-179.
- Li, M., B. Hua, S. Jiang, J. Pu, B. Chi, and L. Jian. 2014. "[BaZr_{0.1}Ce_{0.7}Y_{0.1}Yb_{0.1}O_{3-δ} as highly active and carbon tolerant anode for direct hydrocarbon solid oxide fuel cells.](#)" *International Journal of Hydrogen Energy* 39: 15975-15981.
- Jiang, S., and X. Chen. 2014. "[Chromium deposition and poisoning of cathodes of solid oxide fuel cells - A review.](#)" *International Journal of Hydrogen Energy* 39 (1): 505-531.
- Cao, X. G., and S. Jiang. 2014. "[Effect of Sr and Al or Fe co-doping on the sinterability and conductivity of lanthanum silicate oxyapatite electrolytes for solid oxide fuel cells.](#)" *International Journal of Hydrogen Energy* 39: 19093-19101.
- Cheng, Y., P. K. Shen, and S. Jiang. 2014. "[NiOx nanoparticles supported on polyethylenimine functionalized CNTs as efficient electrocatalysts for supercapacitor and oxygen evolution reaction.](#)" *International Journal of Hydrogen Energy* 39: 20662-20670.
- Chen, K., N. Ai, and S. Jiang. 2014. "[Performance and structural stability of Gd_{0.2}Ce_{0.8}O_{1.9} infiltrated La_{0.8}Sr_{0.2}MnO₃ nano-structured oxygen electrodes of solid oxide electrolysis cells.](#)" *International Journal of Hydrogen Energy* 39: 10349-10358.
- Liu, Y., K. Chen, L. Zhao, B. Chi, J. Pu, S. Jiang, and L. Jian. 2014. "[Performance stability and degradation mechanism of La_{0.6}Sr_{0.4}Co_{0.2}Fe_{0.8}O_{3-δ} cathodes under solid oxide fuel cells operation conditions.](#)" *International Journal of Hydrogen Energy* 39 (28): 15868-15876.
- Chen, X., C. Jin, L. Zhao, L. Zhang, C. Guan, L. Wang, Y. Song, C. Wang, J. Wang, and S. Jiang. 2014. "[Study on the Cr deposition and poisoning phenomenon at \(La_{0.6}Sr_{0.4}\)\(Co_{0.2}Fe_{0.8}\)O_{3-d} electrode of solid oxide fuel cells by transmission X-ray microscopy.](#)" *International Journal of Hydrogen Energy* 39 (28): 15728-15734.
- Wang, D., J. Wang, S. Lu, and S. Jiang. 2014. "[Facile synthesis of sub-monolayer Sn, Ru, and RuSn decorated Pt/C nanoparticles for formaldehyde electrooxidation.](#)" *Journal of Electroanalytical Chemistry* 712: 55-61.
- Zhang, J., J. Li, H. Tang, M. Pan, and S. Jiang. 2014. "[Comprehensive strategy to design highly ordered mesoporous Nafion membranes for fuel cells under low humidity conditions.](#)" *Journal of Materials Chemistry A* 2 (48): 20578-20587.
- Yuan, W., P. K. Shen, and S. Jiang. 2014. "[Controllable synthesis of graphene supported MnO₂ nanowires via self-assembly for enhanced water oxidation in both alkaline and neutral solutions.](#)" *Journal of Materials Chemistry A* 2: 123-129.
- Jiang, S. 2014. "[Functionalized mesoporous structured inorganic materials as high temperature proton exchange membranes for fuel cells.](#)" *Journal of Materials Chemistry A* 2: 7637-7655.
- Zhao, L., J. Drennan, C. Kong, S. Amarasinghe, and S. Jiang. 2014. "[Insight into surface segregation and chromium deposition on La_{0.6}Sr_{0.4}Co_{0.2}Fe_{0.8}O_{3-δ} cathodes of solid oxide fuel cells.](#)" *Journal of Materials Chemistry A* 2: 11114-11123.
- Chen, K., L. Fang, T. Zhang, and S. Jiang. 2014. "[New zinc and bismuth doped glass sealants with substantially suppressed boron deposition and poisoning for solid oxide fuel cells.](#)" *Journal of Materials Chemistry A* 2 (43): 18655-18665.
- Li, Z., Y. Li, S. Jiang, G. He, and P. K. Shen. 2014. "[Novel graphene-like nanosheet supported highly active electrocatalysts with ultralow Pt loadings for oxygen reduction reaction.](#)" *Journal of Materials Chemistry A* 2: 16898-16904.

Zhu, J., S. Jiang, R. Wang, K. Shi, and P. K. Shen. 2014. "One-pot synthesis of a nitrogen and phosphorus-dual-doped carbon nanotube array as a highly effective electrocatalyst for the oxygen reduction reaction." *Journal of Materials Chemistry A* 2: 15448-15453.

- Cao, X. G., and S. Jiang. 2014. "Synthesis and characterization of lanthanum silicate oxyapatites co-doped with A (A = Ba, Sr, and Ca) and Fe for solid oxide fuel cells." *Journal of Materials Chemistry A* 2 (48): 20739-20747.
- Zhou, Y., J. Yang, H. Su, S. Jiang, and W. Goddard. 2014. "Insight into Proton Transfer in Phosphotungstic Acid Functionalized Mesoporous Silica-Based Proton Exchange Membrane Fuel Cells." *Journal of the American Chemical Society* 136: 4954-4964.
- Chen, K., J. Hyodo, K. O'Donnell, W. D. Rickard, T. Ishihara, and S. Jiang. 2014. "Effect of Volatile Boron Species on the Electrocatalytic Activity of Cathodes of Solid Oxide Fuel Cells III. Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3-d} Electrodes." *Journal of the Electrochemical Society* 161: 1163-1170.
- Zhao, L., J. Zhang, T. Becker, and S. Jiang. 2014. "Raman Spectroscopy Study of Chromium Deposition on La_{0.6}Sr_{0.4}Co_{0.2}Fe_{0.8}O_{3-d} Cathode of Solid Oxide Fuel Cells." *Journal of the Electrochemical Society* 161 (6): F687-F693.
- Wang, C. C., K. Chen, and S. Jiang. 2014. "Sulfur Deposition and Poisoning of La_{0.6}Sr_{0.4}Co_{0.2}Fe_{0.8}O_{3-d} Cathode Materials of Solid Oxide Fuel Cells." *Journal of the Electrochemical Society* 161: F1133-F1139.
- Yan, W. Y., S. Lu, Y. Xiang, and S. Jiang. 2014. "Pt-based nanoparticles on non-covalent functionalized carbon nanotubes as effective electrocatalysts for proton exchange membrane fuel cells." *RSC Advances* 4: 46265-46284.
- Jiang, S. 2014. "Functionalized mesoporous materials as new class high temperature proton exchange membranes for fuel cells." *Solid State Ionics* 262: 307-312.

Conference Articles (Research)

- Yuan, W., and S. Jiang. 2014. "ECS Transactions." In *224th ECS Meeting: Electrochemical Synthesis of Fuels 2, Oct 27, 2013*, San Francisco, CA: The Electrochemical Society.

2013

Books (Research) - Edited

- Jiang, S., and Y. Yan. ed. 2013. *Materials for High-Temperature Fuel Cells*. Weinheim, Germany: Wiley-VCH.
- Jiang, S., and P. Shen. ed. 2013. *Nanostructured and Advanced Materials for Fuel Cells*. New York, USA: CRC PR INC.

Book Chapters (Research)

- Chen, K., and S. Jiang. 2013. "Degradation and Durability of Electrodes of Solid Oxide Fuel Cells." In *Materials for High-Temperature Fuel Cells*, ed. San Ping Jiang, Yushan Yan, 245-307. Germany: Wiley-VCH Verlag GmbH & Co. KGaA.
- Zhao, L., and S. Jiang. 2013. "Advanced electrode materials for solid oxide fuel cells." In *Nanostructured and Advanced Materials for Fuel Cells*, ed. San Ping Jiang, Pei Kang Shen, 15-44. New York, USA: CRC PR INC.
- Jiang, S., and P. Shen. 2013. "Introduction." In *Nanostructured and Advanced Materials for Fuel Cells*, ed. San Ping Jiang, Pei Kang Shen, 1-14. New York, USA: CRC PR INC.

Journal Articles (Research)

- Zeng, J., B. He, K. Lamb, R. De Marco, P. Shen, and S. Jiang. 2013. "Anhydrous Phosphoric Acid Functionalized Sintered Mesoporous Silica Nanocomposite Proton Exchange Membranes for Fuel Cells." *ACS Applied Materials and Interfaces* 5: 11240-11248.
- Li, J., H. Tang, L. Chen, R. Chen, M. Pan, and S. Jiang. 2013. "Highly ordered and periodic mesoporous Nafion membranes via colloidal silica mediated self-assembly for fuel cells." *Chemical Communications* 49: 6537-6539.
- Zeng, J., B. He, K. Lamb, R. De Marco, P. Shen, and S. Jiang. 2013. "Phosphoric acid functionalized pre-sintered meso-silica for high temperature proton exchange membrane fuel cells." *Chemical Communications* 49: 4655-4657.
- Cheng, Y., and S. Jiang. 2013. "Highly effective and CO-tolerant PtRu electrocatalysts supported on poly(ethyleneimine) functionalized carbon nanotubes for direct methanol fuel cells." *Electrochimica Acta* 99: 124-132.
- Chen, K., N. Ai, and S. Jiang. 2013. "Chemical Compatibility between Boron Oxides and Electrolyte and Cathode Materials of Solid Oxide Fuel Cells." *Fuel Cells* 13 (6): 1101-1108.
- Su, R., Z. Lu, S. Jiang, Y. Shen, W. Su, and K. Chen. 2013. "Ag decorated (Ba,Sr)(Co,Fe)O₃ cathodes for solid oxide fuel cells prepared by electroless silver deposition." *International Journal of Hydrogen Energy* 38: 2413-2420.
- Cao, X. G., and S. Jiang. 2013. "Identification of oxygen reduction processes at (La,Sr)MnO₃ electrode/La_{9.5}Si₆O_{26.25} apatite electrolyte interface of solid oxide fuel cells." *International Journal of Hydrogen Energy* 38: 2421-2431.
- Ai, N., K. Chen, S. Liu, and S. Jiang. 2013. "Performance and stability of nano-structured Pd and Pd_{0.95}M_{0.05} (M | Mn, Co, Ce, and Gd) infiltrated Y₂O₃eZrO₂ oxygen electrodes of solid oxide electrolysis cells." *International Journal of Hydrogen Energy* 38: 16569-16578.
- Zeng, J., B. Jin, P. Shen, B. He, K. Lamb, R. De Marco, and S. Jiang. 2013. "Stack performance of phosphotungstic acid functionalized mesoporous silica (HPW-mesosilica) nanocomposite high temperature proton exchange membrane fuel cells." *International Journal of Hydrogen Energy* 38: 12830-12837.
- Khine, M., L. Chen, S. Zhang, J. Lin, and S. Jiang. 2013. "Syngas production by catalytic partial oxidation of methane over (La_{0.7}A_{0.3})BO₃ (A|Ba, Ca, Mg, Sr, and B | Cr or Fe) perovskite oxides for portable fuel cell applications." *International Journal of Hydrogen Energy* 38: 13300-13308.

- Liu, Y., F. Wang, B. Chi, J. Pu, L. Jian, and S. Jiang. 2013. "A stability study of impregnated LSCF–GDC composite cathodes of solid oxide fuel cells." *Journal of Alloys and Compounds* 578: 37-43.
- Chen, X., and S. Jiang. 2013. "Highly active and stable (La_{0.24}Sr_{0.16}Ba_{0.6})(Co_{0.5}Fe_{0.44}Nb_{0.06})O_{3-δ} (LSBCFN) cathodes for solid oxide fuel cells prepared by a novel mixing synthesis method." *Journal of Materials Chemistry A* 1: 4871-4878.
- Lu, J., Q. Fang, S. Li, and S. Jiang. 2013. "A novel phosphotungstic acid impregnated meso-Nafion multilayer membrane for proton exchange membrane fuel cells." *Journal of Membrane Science* 427: 101-107.
- Zhao, L., J. Hyodo, K. Chen, N. Ai, S. Amarasinghe, T. Ishihara, and S. Jiang. 2013. "Effect of Boron Deposition and Poisoning on the Surface Exchange Properties of LSCF Electrode Materials of Solid Oxide Fuel Cells." *Journal of the Electrochemical Society* 160 (6): F682-F686.
- Chen, K., N. Ai, L. Zhao, and S. Jiang. 2013. "Effect of Volatile Boron Species on the Electrocatalytic Activity of Cathodes of Solid Oxide Fuel Cells." *Journal of the Electrochemical Society* 160: F301-F308.
- Chen, K., N. Ai, L. Zhao, and S. Jiang. 2013. "Effect of Volatile Boron Species on the Electrocatalytic Activity of Cathodes of Solid Oxide Fuel Cells I. (La,Sr)MnO₃ based electrodes." *Journal of the Electrochemical Society* 160 (2): F183-F190.
- Chen, K., J. Hyodo, L. Zhao, N. Ai, T. Ishihara, and S. Jiang. 2013. "Effect of Volatile Boron Species on the Microstructure and Composition of (La,Sr)MnO₃ and (La,Sr)(Co,Fe)O₃ Cathode Materials of Solid Oxide Fuel Cells." *Journal of the Electrochemical Society* 160 (9): F1033-F1039.
- He, C., S. Jiang, and P. Shen. 2013. "Large-scale and Rapid Synthesis of Disk-Shaped and Nano-Sized Graphene." *Scientific Reports* 3.
- Ai, N., K. Chen, and S. Jiang. 2013. "A fundamental study of infiltrated CeO₂ and (Gd,Ce)O₂ nanoparticles on the electrocatalytic activity of Pt cathodes of solid oxide fuel cells." *Solid State Ionics* 233: 87-94.

Conference Articles (Research)

- Tang, H., J. Li, Z. Wang, H. Zhang, M. Pan, and S. Jiang. 2013. "Self-Assembly of Nanostructured Proton Exchange Membranes for Fuel Cells." In *243rd American Chemical Society National Meeting, Mar 25, 2012*, United States: American Chemical Society.

2012

Journal Articles (Research)

- Xiang, Y., S. Lu, and S. Jiang. 2012. "Layer-by-layer self-assembly in the development of electrochemical energy conversion and storage devices from fuel cells to supercapacitors." *Chemical Society Reviews* 41: 7291-7321.
- Jiang, S., and H. Tang. 2012. "Methanol crossover reduction by Nafion modification via layer-by-layer self-assembly techniques." *Colloids and Surfaces A - Physicochemical and Engineering Aspects* 407: 49-57.
- Veder, J., K. Patel, M. Sohail, S. Jiang, M. James, and R. De Marco. 2012. "An Electrochemical Impedance Spectroscopy/Neutron Reflectometry Study of Water Uptake in the Poly(3,4-Ethylenedioxythiophene):Poly(Styrene Sulfonate)/Polymethyl Methacrylate-Polydecyl Methacrylate Copolymer Solid-Contact Ion-Selective Electrode." *Electroanalysis* 24: 140-145.
- Chen, K., N. Ai, C. Lievens, J. Love, and S. Jiang. 2012. "Impact of volatile boron species on the microstructure and performance of nano-structured (Gd,Ce)O₂ infiltrated (La,Sr)MnO₃ cathodes of solid oxide fuel cells." *Electrochemistry Communications* 23: 129-132.
- Chen, K., N. Ai, and S. Jiang. 2012. "Reasons for the high stability of nano-structured (La,Sr)MnO₃ infiltrated Y₂O₃–ZrO₂ composite oxygen electrodes of solid oxide electrolysis cells." *Electrochemistry Communications* 19: 119-122.
- Zhang, J., Y. Liang, N. Li, Z. Li, C. Xu, and S. Jiang. 2012. "A remarkable activity of glycerol electrooxidation on gold in alkaline medium." *Electrochimica Acta* 59: 156-159.
- Li, Z., Y. Liang, S. Jiang, X. Shan, M. Lin, and C. Xu. 2012. "Electrooxidation of methanol and ethylene glycol mixture on platinum and palladium in alkaline medium." *Fuel Cells* 12: 677-682.
- Su, Y., M. Zhang, X. Liu, Z. Li, X. Zhu, C. Xu, and S. Jiang. 2012. "Development of Au Promoted Pd/C Electrocatalysts for Methanol, Ethanol and Isopropanol Oxidation in Alkaline Medium." *International Journal of Electrochemical Science* 7: 4158-4170.
- Zhang, Y., K. Chen, C. Xia, S. Jiang, and M. Ni. 2012. "A model for the delamination kinetics of La_{0.8}Sr_{0.2}MnO₃ oxygen electrodes of solid oxide electrolysis cells." *International Journal of Hydrogen Energy* 37: 13914-13920.
- Zheng, L., X. Wang, L. Zhang, J. Wang, and S. Jiang. 2012. "Effect of Pd-impregnation on performance, sulfur poisoning and tolerance of Ni/GDC anode of solid oxide fuel cells." *International Journal of Hydrogen Energy* 37: 10299-10310.
- Chen, K., N. Ai, and S. Jiang. 2012. "Enhanced electrochemical performance and stability of (La,Sr)MnO₃-(Gd,Ce)O₂ oxygen electrodes of solid oxide electrolysis cells by palladium infiltration." *International Journal of Hydrogen Energy* 37: 1301-1310.
- Jiang, S. 2012. "Nanoscale and nano-structured electrodes of solid oxide fuel cells by infiltration: Advances and challenges." *International Journal of Hydrogen Energy* 37: 449-470.
- Babaei, A., L. Zhang, E. Liu, and S. Jiang. 2012. "Performance and carbon deposition over Pd nanoparticle catalyst promoted Ni/GDC anode of SOFCs in methane, methanol and ethanol fuels." *International Journal of Hydrogen Energy* 37: 15301-15310.
- Chen, K., N. Ai, and S. Jiang. 2012. "Performance and stability of (La,Sr)MnO₃-Y₂O₃-ZrO₂ composite oxygen electrodes under solid oxide electrolysis cell operation conditions." *International Journal of Hydrogen Energy* 37: 10517-10525.
- Cao, X., and S. Jiang. 2012. "Sinterability and conductivity of barium doped aluminium lanthanum oxyapatite La_{9.5}Ba_{0.5}Si_{5.5}Al_{0.5}O_{26.5} electrolyte of solid oxide fuel cells." *Journal of Alloys and Compounds* 523: 127-133.
- Lu, J., H. Tang, C. Xu, and S. Jiang. 2012. "Nafion membranes with ordered mesoporous structure and high water retention properties for fuel cell applications." *Journal of Materials Chemistry* 22: 5810-5819.

- Zeng, J., P. Shen, S. Lu, Y. Xiang, L. Li, R. De Marco, and S. Jiang. 2012. "Correlation between proton conductivity, thermal stability and structural symmetries in novel HPW-meso-silica nanocomposite membranes and their performance in direct methanol fuel cells." *Journal of Membrane Science* 397-398: 92-101.
- Lu, J., Z. Li, S. Jiang, P. Shen, and L. Li. 2012. "Nanostructured tungsten carbide/carbon composites synthesized by a microwave heating method as supports of platinum catalysts for methanol oxidation." *Journal of Power Sources* 202: 56-62.
- Kim, Y., X. Chen, S. Jiang, and J. Bae. 2012. "Effect of strontium content on chromium deposition and poisoning in Ba_{1-x}Sr_xCo_{0.8}Fe_{0.2}O_{3-d} (0.3=x=0.7) cathodes of solid oxide fuel cells." *Journal of the Electrochemical Society* 159 (2): B185-B194.
- Yung, H., L. Jian, and S. Jiang. 2012. "Polarization Promoted Chemical Reaction between Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3-d} Cathode and Ceria Based Electrolytes of Solid Oxide Fuel Cells." *Journal of the Electrochemical Society* 159 (11): F794-F798.
- Ai, N., K. Chen, S. Liu, Z. Lu, W. Su, and S. Jiang. 2012. "Effect of characteristics of (Sm,Ce)O₂ powder on the fabrication and performance of anode-supported solid oxide fuel cells." *Materials Research Bulletin* 47 (1): 121-129.

2011

Journal Articles (Research)

- Yang, H., C. Guo, G. H. Guai, Q. Song, S. Jiang, and C. M. Li. 2011. "Reduction of Charge Recombination by an Amorphous Titanium Oxide Interlayer in Layered Graphene/Quantum Dots Photochemical Cells." *ACS Applied Materials and Interfaces* 3 (6): 1940-1945.
- Veder, J., R. De Marco, G. J. Clarke, S. Jiang, K. Prince, E. Pretsch, and E. Bakker. 2011. "Water uptake in the hydrophilic poly(3,4-ethylenedioxythiophene):poly(styrene sulfonate) solid-contact of all-solid-state polymeric ion-selective electrodes." *Analyst* 136: 3252-3258.
- Wang, D., S. Lu, Y. Xiang, and S. Jiang. 2011. "Self-assembly of HPW on Pt/C nanoparticles with enhanced electrocatalysis activity for fuel cell applications." *Applied Catalysis B: Environmental* 103: 311-317.
- Cui, Z., S. Jiang, and C. M. Li. 2011. "Highly dispersed MoO_x on carbon nanotube as support for high performance Pt catalyst towards methanol oxidation." *Chemical Communications* 47: 8418-8420.
- Lu, J., S. Lu, and S. Jiang. 2011. "Highly ordered mesoporous Nafion membranes for fuel cells." *Chemical Communications* 47: 3216-3218.
- Tang, H., M. Pan, and S. Jiang. 2011. "Self assembled 12-tungstophosphoric acid-silica mesoporous nanocomposites as proton exchange membranes for direct alcohol fuel cells." *Dalton Transactions* 40 (19): 5220-5227.
- Barczuk, P. J., A. Lewera, K. Skorupska, S. Jiang, C. M. Li, and P. J. Kulesza. 2011. "Enhancement of activity of PtRu nanoparticles towards oxidation of ethanol by supporting on poly(diallyldimethylammonium)-functionalized carbon nanotubes and modification with phosphomolybdate." *Electrocatalysis* 2: 52-59.
- Kim, Y., X. Chen, S. Jiang, and J. Bae. 2011. "Chromium deposition and poisoning at Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O₃ cathode of solid oxide fuel cells." *Electrochemical and Solid State Letters* 14 (4): B41-B45.
- Wang, S., S. Jiang, X. Wang, and J. Guo. 2011. "Enhanced electrochemical activity of Pt nanowire network electrocatalysts for methanol oxidation reaction of fuel cells." *Electrochimica Acta* 56: 1563-1569.
- Wang, S., S. Jiang, and X. Wang. 2011. "Microwave-assisted one-pot synthesis of metal/metal oxide nanoparticles on graphene and their electrochemical applications." *Electrochimica Acta* 56: 3338-3344.
- Yip, K. V., M. Xu, C. Li, S. Jiang, and H. Wu. 2011. "Biochar as a fuel: 3. Mechanistic understanding on biochar thermal annealing at mild temperatures and its effect on biochar reactivity." *Energy & Fuels* 25: 406-414.
- Chen, X., L. Zhang, E. Liu, and S. Jiang. 2011. "A fundamental study of chromium deposition and poisoning at (La_{0.8}Sr_{0.2})_{0.95}(Mn_{1-x}Co_x)O_{3 ± d} (0.0= x =1.0) cathodes of solid oxide fuel cells." *International Journal of Hydrogen Energy* 36 (1): 805-821.
- Chen, K., and S. Jiang. 2011. "Failure mechanism of (La,Sr)MnO₃ oxygen electrodes of solid oxide electrolysis cells." *International Journal of Hydrogen Energy* 36: 10541-10549.
- Cui, Z., P. J. Kulesza, C. M. Li, W. Xing, and S. Jiang. 2011. "Pd nanoparticles supported on HPMo-PDDA-MWCNT and their activity for formic acid oxidation reaction of fuel cells." *International Journal of Hydrogen Energy* 36 (14): 8508-8517.
- Liang, F., W. Zhou, B. Chi, J. Pu, S. Jiang, and L. Jian. 2011. "Pd-YSZ composite cathodes for oxygen reduction reaction of intermediate-temperature solid oxide fuel cells." *International Journal of Hydrogen Energy* 36: 7670-7676.
- Zhang, L., H. Q. He, H. Wu, C. Li, and S. Jiang. 2011. "Synthesis and characterization of doped La₉Asi₆O_{26.5} (A = Ca, Sr, Ba) oxyapatite electrolyte by a water-based gel-casting route." *International Journal of Hydrogen Energy* 36: 6862-6874.
- Ai, N., K. Chen, S. Jiang, Z. Lu, and W. Su. 2011. "Vacuum-assisted electroless copper plating on Ni/(Sm,Ce)O₂ anodes for intermediate temperature solid oxide fuel cells." *International Journal of Hydrogen Energy* 36: 7661-7669.
- He, H. Q., L. Zhang, A. Babaei, X. Wang, and S. Jiang. 2011. "Co₂MnO₄ spinel-palladium co-infiltrated La_{0.7}Ca_{0.3}Cr_{0.5}Mn_{0.5}O_{3-δ} cathodes for intermediate temperature solid oxide fuel cells." *Journal of Alloys and Compounds* 509 (40): 9708-9717.
- Babaei, A., L. Zhang, E. Liu, and S. Jiang. 2011. "Performance and stability of La_{0.8}Sr_{0.2}MnO₃ cathode promoted with palladium based catalysts in solid oxide fuel cells." *Journal of Alloys and Compounds* 509 (14): 4781-4787.
- Yang, J., Y. Zhou, H. Su, and S. Jiang. 2011. "Theoretical study on the effective methanol decomposition on Pd(1 1 1) surface facilitated in alkaline medium." *Journal of Electroanalytical Chemistry* 662: 251-256.
- Lu, J., H. Tang, S. Lu, H. Wu, and S. Jiang. 2011. "A novel inorganic proton exchange membrane based on self-assembled HPW-meso-silica for direct methanol fuel cells." *Journal of Materials Chemistry* 21 (18): 6668-6676.
- Wang, S., S. Jiang, and X. Wang. 2011. "Synthesis and characterization of Pd-on-Pt and Au-on-Pt bimetallic nanosheaths on multiwalled carbon nanotubes." *Journal of Nanoparticle Research* 13: 2973-2979.

- Wang, D., S. Lu, P. J. Kulesza, C. Ming Li, R. De Marco, and S. Jiang. 2011. "Enhanced oxygen reduction at Pd catalytic nanoparticles dispersed onto heteropolytungstate-assembled poly(diallyldimethylammonium)- functionalized carbonw nanotubes." *Physical Chemistry Chemical Physics* 13: 4400-4410.
- Zeng, J., Y. Zhou, L. Li, and S. Jiang. 2011. "Phosphotungstic acid functionalized silica nanocomposites with tunable bicontinuous mesoporous structure and superior proton conductivity and stability for fuel cells." *Physical Chemistry Chemical Physics* 13 (21): 10249-10257.
- Cui, Z., C. M. Li, and S. Jiang. 2011. "PtRu catalysts supported on heteropolyacid and chitosan functionalized carbon nanotubes for methanol oxidation reaction of fuel cells." *Physical Chemistry Chemical Physics* 13: 16349-16357.
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