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EDUCATION

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McMaster University
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EMPLOYMENT HISTORY

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7/99 – 6/02 **Associate Professor**

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7/2003 – 6-2004 **McCalla Professor**

9/1994-4/1995 **Research Associate**
Royal Military College of Canada
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6/1992-8/1994 **Postdoctoral Fellow**
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2/1982-8/1986 **Instructor**
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PUBLICATIONS (Since 2015)**1) Refereed Journal Publications, (published or accepted):**

- (1) C. Sun, J. Li, S. Shuang, H. Zeng, J.L. Luo,* “Effect of defect on corrosion behavior of electroless Ni-P coating in CO₂-saturated NaCl solution,” *Corrosion Science*, <https://doi.org/10.1016/j.corsci.2018.01.041>.
- (2) Subiao Liu, **Xian-Zong Wang, Hongbiao Tao, Tengfei Li**, Qi Liu, Zhenghe Xu, Xian-Zhu Fu, Jing-Li Luo,* “Ultrathin 5-Fold Twinned Sub-25 nm Silver Nanowires Enable Highly Selective Electroreduction of CO₂ to CO,” *Nano Energy*, **45**, pp. 456–462 (2018).
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- (4) Ying Yang, Yimin Zeng, Babak S. Amirkhiz, Jing-Li Luo, Ning Yan,* “Promoting the ambient-condition stability of Zr-doped barium cerate: Toward robust solid oxide fuel cells and hydrogen separation in syngas,” *Journal of Power Sources*, **378**, 134–138(2018).
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- (6) **Subiao Liu**, Hong Luo, Yihang Li, Qingxia Liu,* Jing-Li Luo,* “Structure-Engineered Electrocatalyst Enables Highly Active and Stable Oxygen Evolution Reaction over Layered Perovskite LaSr₃Co_{1.5}Fe_{1.5}O_{10-δ},” *Nano Energy*, **40**, pp. 115–121 (2017).
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- (9) Yimin Zeng,* **Kaiyang Li**, Robin Hughes, Jing-Li Luo, “Corrosion Mechanisms and Materials Selection for the Construction of Flue Gas Component in Advanced Heat and Power Systems,” *Industrial & Engineering Chemistry Research*, **56**, pp. 14141-14154 (2017).
- (10) Bin Hua, Meng Li, **Yi-Fei Sun**, Jian-Hui Li, Jing-Li Luo,* “Enhancing perovskite electrocatalysis of solid oxide cells through controlled exsolution of nanoparticles,” *ChemSusChem*, **10**, pp. 3333-3341 (2017).
- (11) Da-Hai Xia, Yashar Behnamian, Jing-Li Luo,* and Stan Klimas, “Detection of SCC by Electrochemical Noise and In-Situ 3-D Microscopy,” *Corrosion Science and Technology*, **16**, pp.194-200 (2017).
- (12) **Yashar Behnamian**,* Amir Mostafaei, Alireza Kohandehghan, Babak Shalchi Amirkhiz, Jian Li, Wenyue Zheng, David Guzonas, Markus Chmielus, Weixing Chen,* Jing-Li Luo,* “Characterization of oxide layer and micro-crack initiation in alloy 316L stainless steel after 20,000 h exposure to supercritical water at 500 °C,” *Materials Characterization*, **131**, pp.532–543 (2017).
- (13) **Ya-Qian Zhang, Hong-Biao Tao, Jun Liu, Yi-Fei Sun**, Jian Chen, Bin Hua,* Thomas Thundat, Jing-Li Luo,* “A Rational Design for Enhanced Oxygen Reduction: Strongly Coupled Silver Nanoparticles and Engineered Perovskite Nanofibers,” *Nano Energy*, **38**, pp. 392–400 (2017).

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- (15) Bin Hua, Meng Li, **Ya-Qian Zhang, Yi-Fei Sun**, Jing-Li Luo,* “All-in-one Perovskite Catalyst: Smart Controls of Architecture and Composition towards Enhanced Oxygen/Hydrogen Evolution Reactions,” *Advanced Energy Materials*, DOI: 10.1002/aenm.201700666.
- (16) **S. Liu**, Q. Liu, J.L. Luo,* “The excellence of La(Sr)Fe(Ni)O₃ as an active and efficient cathode for direct CO₂ electrochemical reduction at elevated temperatures,” *J. Mater. Chem. A*, **5**, pp. 2673–2680 (2017).
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- (18) Ning Yan,* Sandrine Zanna, Lorena H. Klein, Milad Roushanafshar, Babak S. Amirkhiz, Yimin Zeng, Gadi Rothenberg, Philippe Marcus,* Jing-Li Luo,* “The surface evolution of La_{0.4}Sr_{0.6}TiO_{3+δ} anode in solid oxide fuel cells: Understanding the sulfur-promotion effect,” *Journal of Power Sources*, **343**, pp. 127 -134 (2017).
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- (20) Jay Pandey, Bin Hua, Wesley Ng, Ying Yang, Koen van der Veen, Jian Chen, Norbert J. Geels, Jing-Li Luo, Gadi Rothenberg, Ning Yan,* “Developing Hierarchically Porous MnOx/NC Hybrid Nanorods for Oxygen Reduction and Evolution Catalysis,” *Green Chemistry*, **19**, pp. 2793–2797 (2017).
- (21) Amir Reza Hanifi*, Navjot K Sandu, Thomas H Etsell, Jing-Li Luo, Partha Sarkar, “Fabrication and Characterization of a Tubular Ceramic Fuel Cell Based on BaZr_{0.1}Ce_{0.7}Y_{0.1}Yb_{0.1}O_{3-δ} Proton Conducting Electrolyte,” *Journal of Power Sources*, **341**, pp. 264-269 (2017).
- (22) **Chen Shen**, Da-Hai Xia, Hong-Qiang Fan, **Yashar Behnamian**, Artin Afacan, Stan J. Klimas, Jing-Li Luo,* “Passivation Degradation of Alloy 800 in Boiling Solution Containing Thiosulphate,” *Electrochimica Acta*, **233**, pp. 13–25 (2017).
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- (33) **Y.F. Sun**, **Y.Q. Zhang**, J. Chen, J.H. Li,* Y.T. Zhu, Y.M. Zeng, B.S. Amirkhiz, J. Li, B. Hua*, J.L. Luo,* “New Opportunity for *in Situ* Exsolution of Metallic Nanoparticles on Perovskite Parent,” *Nano Letters*, **16**(8), pp. 5303–5309 (2016).
- (34) **Yifei Sun**, Yi-Yang Wu, **Yaqian Zhang**, Jian-hui Li, Yu Luo, Yi-Xiang Shi,* Bin Hua,* Jing-Li Luo,* “A Bifunctional Solid Oxide Electrolysis Cell for Simultaneous CO₂ Utilization and Synthesis Gas Production,” *Chem. Commun.*, **52**, pp. 13687-13690 (2016).
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- (36) D. Eisenberg,* P. Prinsen, N.J. Geels, W. Stroek, N. Yan, B. Hua, J.L. Luo and G. Rothenberg,* “The evolution of hierarchical porosity in self-templated nitrogen-doped carbons and its effect on oxygen reduction electrocatalysis,” *RSC Adv.*, (2016), Issue 84, DOI: 10.1039/c6ra16606g.
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- (47) **Y. Behnamian**,* A. Mostafaei, A. Kohandehghan, B.S. Amirkhiz, D. Serate, Y.F. Sun, S. Liu, E. Aghaie, Y. Zeng, M. Chmielus, W. Zheng, D. Guzonas, W. Chen,* J.L. Luo,* “A Comparative Study of Oxide Scales Grown on Stainless Steel and Nickel-Based Superalloys in Ultra-High Temperature Supercritical Water at 800 °C”, *Corrosion Science*, **106**, pp. 188 – 207 (2016).
- (48) **C. Shen**, A. Afacan, J.L. Luo,* J. Ulaganathan, S.J. Klimas, “Solid-Liquid Mass Transfer under Flow Boiling Condition,” *Journal of the Electrochemical Society*, **163**, pp. H618-H624 (2016).
- (49) M. Li, B. Hua, J.L. Luo, S.P. Jiang,* J. Pu, B. Chi, J. Li,* “Enhancing Sulfur Tolerance of Ni-Based Cermet Anodes of Solid Oxide Fuel Cells by Ytterbium-Doped Barium Cerate Infiltration,” *ACS Applied Materials & Interfaces*, **8**, pp. 10293–10301 (2016).
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- (60) A. Garcia, N. Yan,* A. Vincent, A. Singh, J.M. Hill, K.T. Chuang, J.L. Luo,* “Highly Cost-Effective and Sulfur/coking Resistant VO_x-Grafted TiO₂ Nanoparticles as an Efficient Anode Catalyst for Direct Conversion of Dry Sour Methane in Solid Oxide Fuel Cells,” *J. Mater. Chem. A*, 3, pp. 23973-23980 (2015).
- (61) D.H. Xia,* Y.F. Sun, C. Shen, X.Y. Chen, H.Q. Fan, J.L. Luo,* “A Mechanistic Study on Sulfur-Induced Passivity Degradation on Alloy 800 in Simulated Alkaline Crevice Chemistries at Temperatures Ranging from 21 °C to 300 °C,” *Corrosion Science*, 100, pp. 504–516 (2015).
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- (2) J.L. Luo, K.T. Chuang and A.R. Sanger, Paraffin Fuel Cell, US Patent No. 8,377,606 B2 (Feb. 19, 2013).
- (3) J.L. Luo, K.T. Chuang, **Z. Xu** and A.R. Sanger, Anode Catalyst and Methods of Making and Using the Same, US Patent 8,318,384 B2 (Nov. 27, 2012).
- (4) J.L. Luo, K.T. Chuang and A.R. Sanger, Paraffin Fuel Cell, US Patent No. 8,039,167 (Oct. 18, 2011).
- (5) J.L. Luo, K.T. Chuang and A.R. Sanger, Paraffin Fuel Cell, US Patent No. 7,977,006 B2 (July 12, 2011).
- (6) K.T. Chuang, A.R. Sanger, J. Luo and S.V. Slavov, Electrochemical Process for Oxidation of Alkanes to Alkenes, US Patent No. 7,338,587 B2 (March 4, 2008).

AWARDS

- Fellow of the Canadian Academy of Engineering, 2016.
- Canadian Metal Chemistry Award, MET SOC, 2014.

- Canadian Research Chair in Alternative fuel cells, Canadian Research Chair Program, 2004-2015.
- Member of the Year for Exemplar Performance in the year, Association of Chinese Canadian Professors, 2004.
- McCalla Professorship, University of Alberta, 2003-2004.
- Morris Cohen Award 2002, MET SOC.
- NSERC Women's Faculty Award, 1995-2000.
- Honourable Poster on Student Poster Session, NACE annual meeting, Ohio, March 11-15, 1991.
- Student Presentation Award, the 29th Conference of Metallurgists, Ontario, August, 26-30, 1990.

PROFESSIONAL ACTIVITIES (Since 2015)

- Scientific committee member for the 4th international conference of Chemical Engineering & Industrial Biotechnology (ICCEIB), Kuala Lumpur, Malaysia, August 1-2, 2018.
- Chair of Poster Session, NACE International, 2017 Northern Area Western Conference, Edmonton, Alberta, Canada, Feb. 13-16, 2017.
- Board Committee Member - Fuel cells, the International Academy of Electrochemical Energy Science (IAOEES), July, 2016 -
- International Corrosion Council, 2005-
- Scholarship Co-Chair, NACE International, Edmonton Section Executive, 2011-

JOURNAL EDITORSHIPS

- Member of Editorial Board, Electrochemical Energy Reviews (EER) (Springer-Nature publishing group), June, 2017 -
- The member of Editorial Board of Corrosion Science, Feb., 2017-
- The member of International Editorial Board of Journal of Chemical Engineering and Industrial Biotechnology (JCEIB), Oct. 2016-
- Review Editor, Editorial Board of Nanoenergy Technologies and Materials, Frontiers in Energy Research and Materials, 2015-