LIST OF PUBLICATIONS

I. Peer Reviewed Publications

1. N. Wongyao, A. Therdthianwong*, S. Therdthianwong, **S. M. Senthil Kumar**, Keith Scott, A comparison of direct methanol fuel cell degradation under different modes of operation, ***International J. Hydrogen Energy,*** in press

2. C. J. Pan, W. N. Su, **S. M. Senthil Kumar**, C. C. Al Andra, S. J. Yang, H. Y. Chen, B. J. Hwang, An Electrochemical Approach for Estimation of Intrinsic Active Area and Activation of Pt/C Nano-catalysts of direct methanol fuel cell degradation under different modes of operation, ***J. Chinese Chem. Soc***, 53 (**2012**) 1303-1312.

3. Yujie Feng*, X. Shi, X. Wang, H. Lee, J. Liu, Y. Qu, W. He, **S. M. Senthil Kumar**, B. H. Kim, N. Ren, Effects of sulfide on microbial fuel cells with platinum and nitrogen-doped carbon powder cathodes, ***Biosensors and Bioelectronics***, 35 (**2012**) 413-415.

4. Olubukun Oloniyo*, **S. M. Senthil Kumar**, Keith Scott, Performance of MnO_2 phases in rechargeable Lithium-Air oxygen cathode, ***J. Electronic Materials,*** 41 (**2012**) 921-927.

5. X. Shi, Yujie Feng*, X. Wang, H. Lee, J. Liu, Y. Qu, W. He, **S. M. Senthil Kumar**, N. Ren, Application of nitrogen-doped carbon powders as low-cost and durable cathodic catalyst to air-cathode microbial fuel cells, ***Bioresource Technology***, 108 (**2012**) 89-93.

6. Georgina, M. Mamlouk, **S. M. Senthil Kumar**, Keith Scott*, Preparation and characterization of carbon-supported palladium nanoparticles for oxygen reduction in low temperature PEM fuel cells, ***J. Applied Electrochemistry,*** 41 (**2011**) 925-937.

7. M. Mamlouk*, **S. M. Senthil Kumar**, Pascal Gouerec, Keith Scott, Electrochemical and fuel cell evaluation of Co based catalyst for oxygen reduction in anion exchange polymer membrane fuel cells, ***J. Power Sources,*** 196 (**2011**) 7594-7600.

8. **S. M. Senthil Kumar***, N. Hidyatai, J. S. Herrero, S. Irusta, Keith Scott, Efficient tuning of the Pt nano-particle mono-dispersion on Vulcan XC-72R by selective pretreatment and electrochemical evaluation of hydrogen oxidation and oxygen reduction reactions, ***International J. Hydrogen Energy,*** 39 (**2011**) 5345-5357.

9. **S. M. Senthil Kumar**[*], J. S. Herrero, S. Irusta, Keith Scott, The effect pretreatment of Vulcan XC-72R carbon on morphology and electrochemical oxygen reduction kinetics of supported Pd nano-particle in acidic electrolyte, ***J. Electroanalytical Chemistry,*** 647 (**2010**) 211-221.

10. N. Duteanu[*], B. Erable, **S. M. Senthil Kumar**, M. M. Ghangrekar, Keith Scott, Effect of chemically modified Vulcan XC-72R on the performance of air-breathing cathode in a single-chamber microbial fuel cell. ***Bioresource Technology,*** 101 (**2010**) 5250-5255.

11. **S. M. Senthil Kumar**[*], K. Chandrasekara Pillai, A kinetic study of the electrocatalytic oxidation of reduced glutathione at Prussian blue film-modified electrode using rotating-disk electrode voltammetry, ***Electrochimica Acta,*** 54 (**2009**) 7374-7381.

12. B. Erable[*], N. Duteanu, **S. M. Senthil Kumar**, Yujie Feng, M. M. Ghangrekar, Keith Scott, Nitric acid activation of graphite granules to increase the performance of the non-catalyzed oxygen reduction reaction (ORR) for MFC application. ***Electrochemistry Communications,*** 11 (**2009**) 1547-1549.

13. B. J. Hwang[*], **S. M. Senthil Kumar**, C. H. Chen, R. W. Cheng, D. G. Liu, J. F. Lee, Size and Alloying Extent Dependent Physicochemical Properties of Pt-Ag/C Nanoparticles synthesized by the Ethylene Glycol Method. ***J. Phys. Chem. C***, 112 (**2008**) 2370-2377.

14. B. J. Hwang[*], **S. M. Senthil Kumar**, C. H. Chen, Monolisa, M. Y. Cheng, D. G. Liu, J. F. Lee, An Investigation of Structure-Catalytic Activity Relationship for Pt-Co/C Bimetallic Nanoparticles toward the Oxygen Reduction Reaction. ***J. Phys. Chem. C***, 111 (**2007**) 15267-15276.

15. L. S. Sarma, C. H. Chen, **S. M. Senthil Kumar**, G. R. Wang, S. C. Yen, D. G. Liu, H. S. Sheu, K.L. Yu, M. T. Tang, J. F. Lee, C. Bock, K.H. Chen, B.J. Hwang[*], Formation of Pt–Ru Nanoparticles in Ethylene Glycol Solution: An in Situ X-ray Absorption Spectroscopy Study. ***Langmuir***, 23 (**2007**) 5802-5809.

16. R. Thangamuthu, **S. M. Senthil Kumar,** K. Chandrasekara Pillai[*], Direct amperometric determination of L-ascorbic acid (Vitamin C) at octacyanomolybdate-doped-poly(4-vinylpyridine) modified electrode in fruit juice and pharmaceuticals. ***Sensors and Actuators B: Chemical***, 120 (**2007**) 745-753.

17. R. Thangamuthu, **S. M. Senthil Kumar**, K. Chandrasekara Pillai[*], Octacyanomolybdate-doped-poly(4-vinylpyridine) ionomer film electrode for the electrocatalytic oxidation of L-ascorbic acid. ***Journal of Solid State Electrochemistry***, 11 (**2007**) 126-133.

18. **S. M. Senthil Kumar,** K. Chandrasekara Pillai*, Cetyltrimethyl Ammonium Bromide Surfactant-Assisted Morphological and Electrochemical Changes in Electrochemically Prepared Nanoclustered Iron(III) hexacyanoferrate. ***J. Electroanalytical Chemistry***, 589 (**2006**) 167-175.

19. **S. M. Senthil Kumar,** K. Chandrasekara Pillai*, Compositional Changes in Unusually Stabilised Prussian Blue by CTAB Surfactant: Application to Electrocatalytic Reduction of H_2O_2. ***Electrochemistry Communications***, 8 (**2006**) 621-626.

20. K. Chandrasekara Pillai*, G. Illngovan, **S. M. Senthil Kumar,** Electroreduction of monomeric molybdate(VI) on glassy carbon electrode in H_2SO_4 solutions. ***Proceeding of Indian National Science Academy***, 70 A (**2004**) 503-514.

II. Non-peer reviewed publications

1. R. Thangamuthu**, S. M. Senthil Kumar**, G. Muthuraman and K. Chandrasekara Pillai, "Octacyanomolybdate-doped-poly(4-vinylpyridine) ionomer film electrode for electrocatalytic determination of L-ascorbic acid in pharmaceutical and food samples" in *"Extended Abstract of Seventh International Symposium on Advances in Electrochemical Science and Technology (ISAEST-VII)",* (2002) pp.B54 - B56.

2. **S. M. Senthil Kumar**, R. Thangamuthu**,** G. Muthuraman and K. Chandrasekara Pillai, "Electrocatalytic behavior of Prussian blue modified electrode as amperometric sensor", in *"Extended Abstract of Seventh International Symposium on Advances in Electrochemical Science and Technology (ISAEST-VII)",* (2002) pp.B57 - B61.

III. List of Patents

1. Catalytic Liquid Fuel, Submitted to Taiwan, Republic of China, Patent Office, Application No. 095120470 (**2006**).

2. Catalytic Liquid Fuel, Submitted to U. S. Patent Office, Application No. US20080066376A1, (**2008**).

3. Catalytic Liquid Fuel, Submitted to European Patent Office, Application No. EP 2 001 068 A1, (**2008**).

IV. Papers Presented/Participation in International/National Conferences

1. **S. M. Senthil Kumar**, presented in "Theme meeting on Synchrotron based EXAFS: Techniques and Applications", Indore, India, during September, 27-28, 2012. (**invited talk**)

2. **S. M. Senthil Kumar**, R. Thangamuthu, B.Subramanian, A.B. Panda and M. Jayachandran, presented in "17th National Convention of Electrochemists (NCE-17)", Chennai, India, during September, 14-15, 2012.

3. **S. M. Senthil Kumar**, presented in "17th National Convention of Electrochemists (NCE-17)", Chennai, India, during September, 14-15, 2012. (**invited talk**)

4. **S. M. Senthil Kumar** and Keith Scott, presented in "17th National Convention of Electrochemists (NCE-17)", Chennai, India, during September, 14-15, 2012.

5. N. Wongyao, **S. M. Senthil Kumar**, Keith Scott, A. Therdthianwong, S. Therdthianwong, presented in "3rd International conference on Fuel Cells and Hydrogen Technology", Kuala Lumpur, Malaysia, during November, 22-23, 2011.

6. N. Wongyao, **S. M. Senthil Kumar**, Keith Scott, A. Therdthianwong, S. Therdthianwong, presented in "2nd Regional Electrochemistry Meeting of South East Asia 2010", Bangkok, Thailand, during November, 16-19, 2010.

7. B. J. Hwang, H. L. Chou, K. Chandrasekara Pillai, M. C. Tsai, **S. M. Senthil Kumar**, F. Taufann, presented in "User Conference of High-Performance Center" at National Center for High Performance Computing, Hsinchu Science Park, Hsinchu, Taiwan, during November, 4, 2010.

8. **S. M. Senthil Kumar** and Keith Scott, presented in "61st Annual Meeting of the International Society of Electrochemistry, Nice, France, during September, 26-30, 2010.

9. **S. M. Senthil Kumar** and Keith Scott, presented in "European Cost Action Project-543 meeting" held at KTH Royal Institute of Technology, Stockholm, Sweden, during March, 25-26, 2009.

10. **S. M. Senthil Kumar** and Keith Scott, presented in "International Energy Association, Annex XVI, Fall Workshop" held at Fraunhofer ICT, Pfinztal, Germany, during December, 8-9, 2008.

11. B. J. Hwang, **S. M. Senthil Kumar**, C. H. Chen, Monalisa, D. G. Liu, and J. F. Lee, presented in 211th ECS meeting, held at Chicago, Illinois, USA, during May 6-11, 2007.

12. **S. M. Senthil Kumar** and K. Chandrasekara Pillai, presented in the "National Conference on Application Oriented Nanomaterials (NANOMAT-2005)" held at Alagappa University, Karaikudi, India, during March, 10-11, 2005.

13. **S. M. Senthil Kumar** and K. Chandrasekara Pillai, presented in the "7th CRSI National Symposium in Chemistry" held at Indian Association for the Cultivation of Science, India, during February, 4-6, 2005.

14. K. Chandrasekara Pillai and **S. M. Senthil Kumar** presented in the "23rd Indian Council of Chemists Conference", held at K.C.College, Churchgate, Mumbai, India, October, 2004.

15. K. Chandrasekara Pillai, R. Thangamuthu and **S. M. Senthil Kumar**, presented in "International conference on Stabilisation of enzymes and Biosensors", held at V.H.S, Chennai, India, during 26-28, November,2001.

16. R. Thangamuthu, **S. M. Senthil Kumar**, and K. Chandrasekara Pillai, presented in "Tenth National Convention of Electrochemists", held at CECRI Karaikudi, India, during 26-27, April, 2001.

17. K. Chandrasekara Pillai, R. Thangamuthu and **S. M. Senthil Kumar**, presented in "International Conference on Advances in Surface science and Engineering" held at University of Madras, Chennai, India, during 21-23, February, 2001. (***Adjudicated for the best paper award***).

18. K. Chandrasekara Pillai, R. Thangamuthu and **S. M. Senthil Kumar**, presented in "Workshop cum Seminar on Electroanalytical Chemistry and Allied topics (ELAC-2000)", held at BARC, Mumbai, India, during 27, Nov, to 1, Dec., 2000. (***Adjudicated for the best paper award***).