
Referred Journal Publications

1. Yang M., Li, L., Zhang S., Zhao H., Preparation, characterisation and sensing application of inkjet-printed nanostructured TiO₂ photoanode, *Sensors and Actuators B*. Accepted 12 March 2010 (**IMPACT FACTOR: 3.122**)
2. Huang L, Zhang S., Peng F., Wang H., Yu H., Yang J., Zhang S., Zhao H., Electrodeposition Preparation of Octahedral Cu₂O loaded TiO₂ Nanotube Arrays for Visible Light-Driven Photocatalysis" *Scripta Materialia*, accepted on 16 March 2010 (**IF=2.887, ARC A* journal**)
3. Yu H., Zhang S., Zhao H., Zhang H., Photoelectrochemical quantification of electron transport resistance of TiO₂ photoanodes for dye-sensitized solar cells, *Physical Chemistry Chemical Physics*, 2010, accepted on 26 Feb. 2009 (**IMPACT FACTOR: 4.06, ARC A* journal**)
4. Zhang H., Liu P., Wang H., Yu H., **Zhang S.**, Zhu H., Peng F., and Zhao H., Facile Formation of Branched Titanate Nanotubes to Grow a Three- Dimensional Nanotubular Network Directly on a Solid Substrate, *Langmuir*, 2010, 26 (3), pp 1574–1578. (**IMPACT FACTOR: 4.097, ARC A* journal**)
5. Li J., He H., **Zhang S.**, Zhao H., Miao Y., A Uniquely Configured Acetylcholinesterase-lecithin Biomimetic Sensing Structure at Organic/water Interface for Electrochemical Determination of Fenthion, *Electroanalysis*, 2009 Accepted. . (**IMPACT FACTOR 3.080**)
6. Han Y., **Zhang S.**, Zhao H., Wen W., Zhang H., Photoelectrochemical Characterization of a Robust TiO₂/BDD Heterojunction Electrode for Sensing Application in Aqueous Solutions, *Langmuir*, 2009, In press. (**IMPACT FACTOR: 4.097, ARC A* journal**)
7. Zeng X, Wu J., Zhang D., Li G., **Zhang S.**, Zhao H., An T., Wang X. Fu J., Sheng G., Degradation of toluene gas at the surface of ZnO/SnO₂ photocatalysts in a baffled bed reactor, *Res Chem Intermed.*, 2009 35:827–838 (**IMPACT FACTOR: 0.65**)
8. **Zhang S.**, Li H., Zhao H., A portable photoelectrochemical probe for rapid determination of chemical oxygen demand in wastewaters, *Environmental Science and Technology*, 2009, 43, 7810–7815. (**IMPACT FACTOR: 4.458, ARC A* journal**)
9. Zhang H., Zhao H., P. Liu, **S. Zhang**, G. Li, Direct growth of hierarchically structured titanate nanotube filtration membrane for removal of waterborne pathogens, *Journal of Membrane Science*, 2009, 343, 212–218. (**IMPACT FACTOR: 3.247, ARC A* journal**)
10. Yu H., **Zhang S.**, Zhao H., etc High-Performance TiO₂ Photoanode with an Efficient Electron Transport Network for dye-sensitized solar cells *Journal of physical Chemistry C*, 2009, 113(36), 16277-16282. (**IMPACT FACTOR: 3.396, ARC A* journal**)
11. **Zhang S.**, Wen W., Zhang H., Zhao H., In-situ photoelectrochemical measurement of phthalic acid on titania, *Journal of Photochemistry and Photobiology, A: Chemistry*, 2009, 208, 97–103. (**IMPACT FACTOR 2.362**)
12. **Zhang S.**, Li H., Zhao H., Li G., A portable miniature UV-LED based photoelectrochemical sensing system for determination of chemical oxygen demand in wastewater, *Sensors & Actuators: B. Chemical*, 2009, 141, 634–640 (**IMPACT FACTOR: 3.122**)
13. Wen, W., Zhao, H., **Zhang, S.**, Rapid Photoelectrochemical Method for in Situ Determination of Effective Diffusion Coefficient of Organic Compounds. Reply to comment, *Journal of Physical Chemistry C* 2009, 113(24), 10830-10832 (**IMPACT FACTOR: 3.396, ARC A* journal**)
14. Zhao, H., Shen Y., **Zhang S.**, and Zhang H., A Vapor Phase Hydrothermal Modification Method Converting a Honeycomb Structured Hybrid Film into Photoactive TiO₂ Film, *Langmuir*, 2009, 25(18), 11032-11037. (**IMPACT FACTOR: 4.097, ARC A* journal**)

15. Yu. H. **Zhang S.**, Zhao H., Will G. Liu P. An efficient and low-cost TiO₂ compact layer for performance improvement of dye-sensitized solar cells, *Electrochimica Acta*, 2009, 54 (4), 1319-1324. (**IMPACT FACTOR: 3.078**)
16. **Zhang S.**, Zhao H., A new Approach Prevailing Over Chloride Interference in Photoelectrochemical Determination of Chemical Oxygen Demand, *Analyst*, 2008, 133(12), 1684-91. (**IMPACT FACTOR: 3.761, ARC A* journal**)
17. An T.; Liu T; Li G.; **Zhang S.**; Zhao H.; Zeng S, Structural and photocatalytic degradation characteristics of hydrothermally treated mesoporous TiO₂, *Applied Catalysis A: General*, 2008, 350 (2), 237-243. (**IMPACT FACTOR: 3.190**)
18. Wen W., Zhao H., **Zhang S.**, and Pires V., A Rapid Photoelectrochemical Method for *in situ* Determination of Effective Diffusion Coefficient of Organic Compounds, *Journal of physical Chemistry C*, 2008, 112(10), 3875 -3880. (**IMPACT FACTOR: 3.396, ARC A* journal**)
19. *Haimin Zhang, Zhao H., **Zhang S.**, and Xie Quan, Photoelectrochemical Manifestation of Photoelectron Transport Properties of Vertically Aligned Nanotubular TiO₂ Photoanodes, *ChemphysChem*, 2008, 9(1), 117-23. (**IMPACT FACTOR: 3.636**)
20. Ding X., An T., Guiying Lia, **Zhang S.**, Huijun Zhao etc. Preparation and characterization of hydrophobic TiO₂ pillared clay: the effect of acid hydrolysis catalyst and doped Pt amount on photocatalytic activity, *Journal of Colloid and interface Science*, 2008, 320(2), 501-507. (**IMPACT FACTOR: 2.443**)
21. Zheng J., Yu H., Li X., **Zhang S.**,* Enhanced photocatalytic activity of TiO₂ nano-structured thin film with a silver hierarchical configuration, *Applied Surface Science*, 2008, 254(6), 1630-1635. (**IMPACT FACTOR: 1.576**)
22. *Zhao H., Jiang, D., **Zhang S.**, Wen, William. Photoelectrocatalytic oxidation of organic compounds at nanoporous TiO₂ electrodes in a thin-layer photoelectrochemical cell. *Journal of Catalysis*, 2007, 250(1), 102-109. (**IMPACT FACTOR: 5.167, ARC A* journal**)
23. *Jiang D., **Zhang S.**, Zhao H., Photocatalytic degradation characteristics of different organic compounds at TiO₂ nanoporous film electrodes with mixed anatase/rutile phases, *Environmental Science and Technology*, 2007, 41, 303-308. (**IMPACT FACTOR: 4.458**)
24. ***Zhang S.**, Jiang D., Zhao H., Development of chemical oxygen demand on-line monitoring system based on photoelectrochemical degradation principle, *Environmental Science and Technology*, 2006, 40, 2363-2368. (**IMPACT FACTOR: 4.458, ARC A* journal**)
25. *Zhao H., Jiang D., **Zhang S.**, Catterall K., and John R., Development of a direct photoelectrochemical method for rapid determination of chemical oxygen demand. *Analytical Chemistry*, 2004, 76(1), 155-160. (**IMPACT FACTOR: 5.712, ARC A* journal**)
26. *Li, W., Teasdale P.R., **Zhang S.**, R John, and Zhao H., Application of a poly(4-styrenesulfonate) liquid binding layer for measurement of Cu²⁺ and Cd²⁺ with the diffusive gradients in thin-films technique. *Analytical Chemistry*, 2003, 75(11), 2578-2583. (**IMPACT FACTOR: 5.712, ARC A* journal**)
27. *Jiang D., Zhao H., **Zhang S.**, John R., Kinetic study of photocatalytic oxidation of adsorbed carboxylic acids at TiO₂ porous films by photoelectrolysis, *Journal of Catalysis*, 2004, 223, 212-220. (**IMPACT FACTOR: 5.167, ARC A* journal**)
28. *Jiang D., Zhao H., **Zhang S.**, John R., Characterisation of photoelectrocatalytic processes at nanoporous TiO₂ film electrodes - photocatalytic oxidation of glucose. *Journal of Physical Chemistry B*, 2003, 107, 12774-12780. (**IMPACT FACTOR: 4.189, ARC A* journal**)
29. ***Zhang, S.**, Zhao H., and John R., Development of a quantitative relationship between inhibition percentage and both incubation time and inhibitor concentration for inhibition biosensors-theoretical

- and practical considerations. *Biosensors & Bioelectronics*, **2001**, 16(9-12), 1119-1126. (**IMPACT FACTOR: 5.143**)
30. **Zhang S.**, Wen W. Jiang D., Zhao H., John R Wilson, G. Will G., Photoelectrochemical characterisation of TiO₂ thin films derived from microwave hydrothermally processed nanocrystalline colloids, *Journal of Photochemistry and Photobiology, A: Chemistry*, **2006**, 179, 305-313. (**IMPACT FACTOR 2.362**)
 31. Jiang D., **Zhang S.**, Zhao H., Comparison of photocatalytic degradation kinetic characteristics of different organic compounds at anatase TiO₂ nanoporous film electrodes *Journal of Photochemistry and Photobiology A: Chemistry*, **2006**, 177, 253-260. (**IMPACT FACTOR 2.362**)
 32. Li G., An T., Chen J., Sheng G., Fu J., Chen F., **Zhang S.** Zhao H., Photoelectrocatalytic decontamination of oilfield produced wastewater containing refractory organic pollutants in the presence of high concentration of chloride ions, *Journal of Hazardous Materials*, **2006**, B138, 392-400. (**IMPACT FACTOR 2.975**)
 33. **Zhang S.**, Zhao H., John R., Oxygen dependence in a dual-phase electrochemical biosensing system. *Electroanalysis*, **2005**, 17, 239-245. (**IMPACT FACTOR 3.080**)
 34. **Zhang S.**, Zhao H., Jiang D., John R, Photoelectrochemical determination of chemical oxygen demand based on an exhaustive degradation model in a thin-layer cell. *Analytica Chimica Acta*, **2004**, 514, 89-97. (**IMPACT FACTOR 3.146**)
 35. Jiang, D., Zhao H., **Zhang S.**, John R., and Will G.D., Photoelectrochemical measurement of phthalic acid adsorption on porous TiO₂ film electrodes. *Journal of Photochemistry and Photobiology, A: Chemistry*, **2003**, 156(1-3), 201-206. (**IMPACT FACTOR 2.362**)
 36. Li, W., Zhao H., Teasdale P.R., John R., and **Zhang S.**, Application of a cellulose phosphate ion exchange membrane as a binding phase in the diffusive gradients in thin films technique for measurement of trace metals. *Analytica Chimica Acta*, **2002**, 464(2), 331-339. (**IMPACT FACTOR 3.146**)
 37. Li, W., Zhao H., Teasdale P.R., John R., and **Zhang S.**, Synthesis and characterisation of a polyacrylamide-polyacrylic acid copolymer hydrogel for environmental analysis of Cu and Cd. *Reactive & Functional Polymers*, **2002**, 52(1), 31-41. (**IMPACT FACTOR 2.039**)
 38. **Zhang, S.**, Zhao H., and John R., A dual-phase biosensing system for the determination of phenols in both aqueous and organic media. *Analytica Chimica Acta*, **2001**, 441(1), 95-105. (**IMPACT FACTOR 3.146**)
 39. **Zhang, S.**, Zhao H., and John R., A theoretical model for immobilized enzyme inhibition biosensors. *Electroanalysis*, **2001**, 13(18), 1528-1534. (**IMPACT FACTOR 3.080**)
 40. **Zhang, S.**, Zhao H., and John R., Development of a generic microelectrode array biosensing system. *Analytica Chimica Acta*, **2000**, 421(2), 175-187. (**IMPACT FACTOR 3.146**)
 41. Killard, A.J., **Zhang S.**, Zhao H., John R., Iwuoha E.I., and Smyth M.R., Development of an electrochemical flow injection immunoassay (FIIA) for the real-time monitoring of biospecific interactions. *Analytica Chimica Acta*, **1999**, 400(1-3), 109-119. (**IMPACT FACTOR 3.146**)
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Patents: (Active and commercialised)

42. *Zhao, H., **Zhang, S.**, Water analysis using a photoelectrochemical method. PCT Int. Patent. (2007) WO 2007016740

43. *Zhao, H., **Zhang, S.**, Improved water analysis. PCT Int. Patent. (2008) WO 2008077191
44. *Zhao, H., **Zhang, S.**, Improved online water analysis. PCT Int. Patent. (2008) WO 2008077192
45. Zhao, H., Imisides, M., **Zhang, S.**, Fabrication of titania photocatalytic nanoparticles for photoelectrodes. (2009), PCT Int. 2009062248

Editorials

An "all-in-one" generic biosensing probe. What's New, *Anal. Chem.* Dec 1999

Conference Presentations:

1. **Zhang S.**, Zhao H., John R., Microdisc array electrodes based organic phase phenol biosensors, (Oral Presentation) presented in *ASB 99/Asia-Pacific Biosensors*, Oct. 1999, Gold Coast, Australia.
2. **Zhang S.**, John R., Zhao H., Membrane based microdisc array electrodes for biosensor application (Oral Presentation) presented in *ASB 99/Asia-Pacific Biosensors*, Oct. 1999, Gold Coast, Australia.
3. **Zhang S.**, John R., Zhao H., Membrane based microdisc array biosensor with extremely low acetylcholinesterase loading for the detection of paraoxon, (Poster) *Biosensors 2000*, May 2000, San Diego, USA.
4. **Zhang S.**, Zhao H., John R., Development of a theoretical model for immobilised enzyme inhibition biosensors, (Oral presentation), *Eleventh Australasian electrochemistry conference*, Dec. 2000, Sydney, Australia.
5. Li W., Teasdale P., Zhao H., John R., **Zhang S.**, Scheleich R., Warnken J., New Binding phase for in-situ measurement of trace metals in natural waters using diffusive gradients in thin films (poster), *Interact 2002*, Sydney, Australia.
6. *Wen W., **Zhang S.**, Jiang D., Zhao H., A Rapid Photoelectrochemical Method for Determination of Diffusion Coefficient (poster), *Interact 2004*, Gold Coast, Australia.
7. *Fogelman S., Zhao H., Blumenstein M., **Zhang S.**, Estimation of oxygen demand levels using UV-Vis spectroscopy and artificial neural networks as an effective tool for real-time, wastewater treatment control, *1st Australian Young Water Professionals Conference*, 2006, Sydney, Australia.
8. ***Zhang S.**, Wen W., Zhao H., In-situ photoelectrochemical study of adsorption of phthalate and water on titania (Oral Presentation), *233rd American Chemical Society National Meeting & Exposition*, 2007, Chicago, USA.
9. ***Zhang S.**, Yu H., Zhao H., Fabrication of high performance TiO₂ photoanode with continuous electron transport network for DSSCs, the 2nd Australia-China Symposium on Science, Technology and Education, 2008, Gold Coast, Australia.
10. *Gan W., Amal R., Chiang K., Zhao H., **Zhang S.**, Photoelectron Transport Properties of Mesoporous Titanium Dioxide Films, *17th International Conference on Photochemical Conversion and Storage of Solar Energy*, 2008, Sydney, Australia
11. *Gan W., Chiang K., Zhao H., **Zhang S.**, Amal R., Synthesis of Mesostructured Titanium Dioxide Thin Film Electrodes, *Chemeca 2007*, Melbourne, Australia

12. *Li. L., Zhao. H., **Zhang S.**, and Fogelman. S., Photoelectrocatalytic Oxidation for Determination of Chemical Oxygen Demand at Nanoporous TiO₂ electrodes. Proceedings of the 1st Australian Young Water Professionals Conference, 2008, Sydney , Australia
13. *Liu P., Zhang H., **Zhang S.**, and Zhao H., Hydrothermal synthesis of titanate nanotubes via a seeded-growth mechanism, Australia Research Network for Advanced Materials, 2008 Melbourne, Australia
14. *Zhang H., **Zhang S.**, Zhao H., Effect of pH on Photoelectrocatalysis Process at Nanostructured TiO₂ Film Electrodes, Australia Research Network for Advanced Materials, 2008 Melbourne, Australia
15. *Yu H., **Zhang S.**, and Zhao H., An Organo-sol Modified TiO₂ Nanoporous Electrode for Dye-Sensitized Solar Cells Applications, Australia Research Network for Advanced Materials, 2008 Melbourne, Australia
16. *Li L., **Zhang S.**, and Zhao H., Synergetic Photoelectrocatalytic Oxidation of Linear Aliphatic Acids at TiO₂ Nanoparticulate Electrodes, Australia Research Network for Advanced Materials, 2008 Melbourne, Australia
17. *Yang M., **Zhang S.**, Wen W., and Zhao H., Photoelectrocatalytic Activity of TiO₂/Carbon Nanotube Nanocomposite, Australia Research Network for Advanced Materials, 2008 Melbourne, Australia.
18. *Li G, **Zhang S.**, An T., and Zhao H., Photoelectrocatalytic Oxidation of Uracil at Nanoparticulate TiO₂ Photoanodes, Australia Research Network for Advanced Materials, 2008 Melbourne, Australia.
19. *Wen W., **Zhang S.**, Zhao H., Study of Adsorption on TiO₂ photocatalyst by an in-situ Photoelectrochemical Method, Australia Research Network for Advanced Materials, 2008 Melbourne, Australia.
20. ***Zhang S** Portable photoelectrochemical probe for photoelectrochemical determination of chemical oxygen demand in water, 5th National conference for environmental chemistry, 2009 Dalian, China
21. Li L., Zhang S., Zhao H., "*Synergetic Photoelectrocatalytic Oxidation of Difficultly Oxidisable Organic Compounds at TiO₂ Nanoparticulate Film Electrode*", 4th International Conference on Surfaces, Coatings and Nanostructured Materials (NanoSMat-2009), Rome, Italy.
22. Yu H., **Zhang S.**, Li X., and Zhao H., Dependence of Photoelectrocatalytic activity on the sintering temperature of TiO₂ film electrodes doped by Ni, the 2010 International conference on environmental science and development, Singapore, 26-28 Feb 2010.
23. Liu P., Zhang H., **Zhang S.**, Zhao H., *Direct Hydrothermal Formation of Titanate Nanotube Films on Solid Substrate via a Seeded-Growth Mechanism*, NanoSMat-2009 (4th International Conference on Surfaces, Coatings and Nanostructured Materials), 19-22 Oct 2009, Rome, Italy
24. Yu H., **Zhang S.**, Zhao H., Photoelectrocatalytic Investigation of TiO₂/La₂O₃ Film Electrodes, Vinice, Italy, Oct. 2009