

Publication list (Updated on Jun. 29, 2016)

Dr. Liang LIU

Journal publications:

- L. Liu, S. Yellinek, I. Valdinger, A. Donval, D. Mandler*, Important implications of the electrochemical reduction of ITO, *Electrochim. Acta*, 176 (2015) 1374-1381
- L. Liu, S. Yellinek, N. Tal, A. Donval, D. Yadlovker, D. Mandler*, Electrochemical co-deposition of sol-gel/carbon nanotubes composite thin films for antireflection coatings and non-linear optics, *J. Mater. Chem. C*, 3 (2015) 1099-1105
- H. Ling, L. Liu, P.S. Lee, D. Mandler*, X.H. Lu*, Layer-by-layer assembly of PEDOT:PSS and WO₃ nanoparticles: Enhanced electrochromic coloration efficiency and mechanism studies by scanning electrochemical microscopy, *Electrochim. Acta*, 174 (2015) 57-65
- D.W.H. Fam, S. Azoubel, L. Liu, J.F. Huang, D. Mandler, S. Magdassi, A.I.Y. Tok*, Novel felt pseudocapacitor based on carbon nanotubes/metal oxides, *J. Mater. Sci.*, 50 (2015) 6578-6585
- L. Liu, M. Layani, S. Yellinek, A. Kamysny, H. Ling, P.S. Lee, S. Magdassi*, D. Mandler*, "Nano to nano" electrodeposition of WO₃ crystalline nanoparticles for electrochromic coatings, *J. Mater. Chem. A*, 2 (2014) 16224-16229
- L. Liu, D. Mandler*, Patterning carbon nanotubes with silane by scanning electrochemical microscopy (SECM), *Electrochem. Commun.*, 48 (2014) 56-60
- L. Liu, C.L. Tan, J.W. Chai, S.X. Wu, A. Radko, H. Zhang, D. Mandler*, Electrochemically "writing" graphene from graphene oxide, *Small*, 10 (2014) 3555-3559
- N. Metoki, L. Liu, E. Beilis, N. Eliaz, D. Mandler*, Preparation and characterization of alkylphosphonic acid self-assembled monolayers on titanium alloy by chemisorption and electrochemical Deposition, *Langmuir*, 30 (2014) 6791-6799
- M. Layani, P. Darmawan, W.L. Foo, L. Liu, A. Kamysny, D. Mandler, S. Magdassi*, P.S. Lee*, Nanostructured electrochromic films by inkjet printing on large area and flexible transparent silver electrodes, *Nanoscale*, 6 (2014) 4572-4576
- H. Ling, J.L. Lu, S. Phua, H. Liu, L. Liu, Y.Z. Huang, D. Mandler, P.S. Lee, X.H. Lu*, One-pot sequential electrochemical deposition of multilayer poly(3,4-ethylenedioxythiophene):poly(4-styrenesulfonic acid)/tungsten trioxide hybrid films and their enhanced electrochromic properties, *J. Mater. Chem. A*, 2 (2014) 2708-2717
- L. Liu, D. Mandler*, Electro-assist deposition of binary sol-gel films with graded structure, *Electrochim. Acta*, 102 (2013) 212-218
- Y.X. Lu, L. Liu, D. Mandler, P.S. Lee*, High switching speed and coloration efficiency of titanium-doped vanadium oxide thin film electrochromic devices, *J. Mater. Chem. C*, 1 (2013) 7380-7386
- Y.X. Lu, L. Liu, W.L. Foo, S. Magdassi, D. Mandler, P.S. Lee*, Self-assembled polymer layers of linear polyethylenimine for enhancing electrochromic cycling stability, *J. Mater. Chem. C*, 1 (2013) 3651-3654
- M. Raveh, L. Liu, D. Mandler*, Electrochemical co-deposition of conductive polymer-silica hybrid thin films, *Phys. Chem. Chem. Phys.*, 15 (2013) 10876-10884
- Y.Q. Yang, L. Liu, J.M. Hu*, J.Q. Zhang, C.N. Cao, Improved barrier performance of metal alkoxide-modified methyltrimethoxysilane films, *Thin Solid Films*, 520 (2012) 2052-2059
- Y.Q. Fan, H.B. Shao*, J.M. Wang, L. Liu, J.Q. Zhang, C.N. Cao, The performance of alkaline sulfide fuel cells using non-precious anode catalysts, *Acta Phys.-Chim. Sin.*, 28 (2012) 90-94
- L. Liu, R. Toledano, T. Danieli, J.Q. Zhang, J.M. Hu*, D. Mandler*, Electrochemically patterning sol-gel structures on conducting and insulating surfaces, *Chem. Commun.*, 47 (2011) 6909-6911
- Y.Q. Fan, H.B. Shao*, J.M. Wang, L. Liu, J.Q. Zhang, C.N. Cao, Synthesis of foam-like freestanding Co₃O₄ nanosheets with enhanced electrochemical activities, *Chem. Commun.*, 47 (2011) 3469-3471
- L. Liu, J.M. Hu*, J.Q. Zhang, C.N. Cao, Evaluation of protectiveness of organic coatings by means of high-frequency EIS measurement, *Corrosion Science and Protection Technology*, 22 (2010) 325-328 (in Chinese)
- K.Z. Tang, L. Liu, Y.P. Hong, J.M. Hu*, J.Q. Zhang, C.N. Cao, Fabrication of indium tin oxides

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- L.K. Wu, L. Liu, J. Li, J.M. Hu*, J.Q. Zhang, C.N. Cao, Electrodeposition of cerium (III)-modified bis-[triethoxysilylpropyl]tetra-sulphide films on AA2024-T3 (aluminum alloy) for corrosion protection, *Surf. Coat. Technol.*, 204 (2010) 3920-3926
 - M. Li, Y.Q. Yang, L. Liu, J.M. Hu*, J.Q. Zhang, Electro-assisted preparation of dodecyltrimethoxysilane/TiO₂ composite films for corrosion protection of AA2024-T3 aluminum alloy, *Electrochim. Acta*, 55 (2010) 3008-3014
 - H.J. Wang, J.M. Wang*, W.B. Fang, H. Wan, L. Liu, H.Q. Lian, H.B. Shao, W.X. Chen, J.Q. Zhang, C.N. Cao, Structural and electrochemical properties of a porous nanostructured SnO₂ film electrode for lithium-ion batteries, *Electrochem. Commun.*, 12 (2010) 194-197
 - L. Liu, W.G. Ji, J.M. Hu*, J.Q. Zhang, C.N. Cao, Corrosion performance of epoxy coatings by chemical modification with silanes, *Electrochemistry*, 15 (2009) 163-169 (in Chinese)
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 - Y.P. Hong, L. Liu, K.Z. Tang, J.M. Hu*, Self-assembly technology and its application in electrochemical analysis, *Surface Technology*, 38 (2009) 72-76 (in Chinese)
 - S.Z. Ding, L. Liu, J.M. Hu*, J.Q. Zhang, C.N. Cao, Nitrate ions as cathodic alkalization promoters for the electro-assisted deposition of sol-gel thin films, *Scr. Mater.*, 59 (2008) 297-300
 - W.G. Ji, J.M. Hu*, L. Liu, J.Q. Zhang, C.N. Cao, Enhancement of corrosion performance of epoxy coatings by chemical modification with GPTMS silane monomer, *J. Adhes. Sci. Technol.*, 22 (2008) 77-92
 - L. Liu, J.M. Hu*, W.H. Leng, J.Q. Zhang, C.N. Cao, Novel bis-silane/TiO₂ bifunctional hybrid films for metal corrosion protection both under ultraviolet irradiation and in the dark, *Scr. Mater.*, 57 (2007) 549-552
 - J.M. Hu*, L. Liu, J.Q. Zhang, C.N. Cao, Electrodeposition of silane films on aluminum alloys for corrosion protection, *Prog. Org. Coat.*, 58 (2007) 265-271
 - W.G. Ji, J.M. Hu*, L. Liu, J.Q. Zhang, C.N. Cao, Improving the corrosion performance of epoxy coatings by chemical modification with silane monomers, *Surf. Coat. Technol.*, 201 (2007) 4789-4795
 - L. Liu, J.M. Hu*, J.Q. Zhang, C.N. Cao, Improving the formation and protective properties of silane films by the combined use of electrodeposition and nanoparticles incorporation, *Electrochim. Acta*, 52 (2006) 538-545
 - L. Liu, J.M. Hu*, J.Q. Zhang, C.N. Cao, Progress in anti-corrosive treatment of metals by silanization, *Journal of Chinese Society for Corrosion and Protection*, 26 (2006) 59-64 (in Chinese)
 - J.M. Hu*, L. Liu, J.Q. Zhang, C.N. Cao, Effects of electrodeposition potential on the corrosion properties of bis-1,2-[triethoxysilyl] ethane films on aluminum alloy, *Electrochim. Acta*, 51 (2006) 3944-3949
 - J.M. Hu*, L. Liu, J.Q. Zhang, C.N. Cao, Preparation of DTMS films on LY12 aluminum alloys via electrochemical deposition and their anti-corrosive performance, *Chem. J. Chin. Univ.-Chin.*, 27 (2006) 1121-1125 (in Chinese)
 - W.G. Ji, J.M. Hu*, L. Liu, J.Q. Zhang, C.N. Cao, Water uptake of epoxy coatings modified with γ -APS silane monomer, *Prog. Org. Coat.*, 57 (2006) 439-443
 - Y.Y. Hou, J.M. Hu*, L. Liu, J.Q. Zhang, C.N. Cao, Effect of calcination temperature on electrocatalytic activities of Ti/IrO₂ electrodes in methanol aqueous solutions, *Electrochim. Acta*, 51 (2006) 6258-6267
 - J.M. Hu*, L. Liu, J.T. Zhang, J.Q. Zhang, C.N. Cao, Studies of surface treatment of aluminum alloys by BTSE silane agent, *Acta Metall. Sin.*, 40 (2004) 1189-1194 (in Chinese)

Book sections:

- L. Liu, D. Mandler, Chapter 12: Sol-gel coatings by electrochemical deposition, *The Sol-Gel Handbook*, Edited by D. Levy and M. Zayat, Wiley-VCH, 2015
- L. Liu, Section 4.1-4.6, *Electrochemical Measurement Technology*, Edited by J.Q. Zhang,

Chemical Industry Press, Sep. 2010, Beijing (A textbook in Chinese)

Conferences and seminars:

Seminars:

- L. Liu, *IEK-9, Jülich Research Center*, Oct. 22, 2014, Jülich, Germany
- L. Liu, *Laboratoire de Chimie Physique et Microbiologie pour l'Environnement (LCPME), CNRS-Université de Lorraine*, Oct. 24, 2014, Nancy, France
- L. Liu, *Electrochemistry Seminar, Tel Aviv University*, Apr. 15, 2015, Tel Aviv, Israel
- L. Liu, *Department of Chemistry, Bar-Ilan University*, Jun. 10, 2015, Ramat Gan, Israel
- L. Liu, *Department of Chemical Engineering, Ben-Gurion University*, Jul. 14, 2015, Beer Sheva, Israel

Invited lecture:

- L. Liu, D. Mandler, Electrodeposition of sol-gel films: An overview and recent developments, *The International Conference of Young Researchers on Advanced Materials (ICYRAM 2012)*, Jul. 1-6, 2012, Singapore

Oral presentations:

- L. Liu, D. Mandler, Electrodeposition of nano-objects, *The 65th Annual Meeting of the International Society of Electrochemistry*, Aug. 31-Sep. 5, 2014, Lausanne, Switzerland
- L. Liu, S. Yellinek, A. Kamyshny, M. Layani, H. Ling, P.S. Lee, S. Magdassi*, D. Mandler*, Electrodeposition from WO₃ nanoparticle dispersion to nano-structured WO₃ film with enhanced electrochromic performance, *Israelectrochemistry 2013*, Jun. 10, 2013, Tel Aviv, Israel
- L. Liu, D. Mandler*, Patterning carbon nanomaterials by direct mode scanning electrochemical microscopy, *7th Workshop on Scanning Electrochemical Microscope (SECM) and Related Techniques*, Feb. 17-21, 2013, Ein Gedi, Israel
- L. Liu, D. Mandler*, Electrodeposition of Binary Sol-gel Composite Films: A Method for Preparing Graded Materials, *The 63th Annual Meeting of the International Society of Electrochemistry*, Aug. 19-24, 2012, Prague, Czech Republic
- J.Q. Zhang*, L. Liu, J.M. Hu, C.N. Cao, Electro-assist deposition of protective silane films, *The 6th Cross-Strait Conference on Materials Corrosion and Protection*, Nov. 9-12, 2008, Hualien, Taiwan
- L. Liu, X.J. Sun, J.M. Hu*, J.Q. Zhang, C.N. Cao, Preliminary investigation on the degradation of Ti/IrO₂-PbO₂ composite anodes in 4-chlorophenol aqueous solution, *The 6th Cross-Strait Conference on Materials Corrosion and Protection*, Nov. 9-12, 2008, Hualien, Taiwan
- L. Liu, J.M. Hu*, J.Q. Zhang, C.N. Cao, Improving the formation and protective properties of silane films by the combined use of electrodeposition and nanoparticles incorporation, *14th Asian-Pacific Corrosion Control Conference*, Oct. 21-24, 2006, Shanghai, China

Poster presentations:

- L. Liu, S. Yellinek, I. Valdinger, A. Donval, T.F. Masliah, D. Mandler*, Electrochemical reduction of ITO: prevent and use, *Israelectrochemistry 2014*, Sep. 16, 2014, Haifa, Israel
- L. Liu, S. Yellinek, I. Valdinger, A. Donval, T.F. Masliah, D. Mandler*, Electrochemical reduction of ITO: prevent and use, *The 65th Annual Meeting of the International Society of Electrochemistry*, Aug. 31-Sep. 5, 2014, Lausanne, Switzerland
- L. Liu, D. Mandler*, Electrodeposition of nano-objects, *The 79th Annual Meeting of the Israel Chemical Society*, Feb. 4-5, 2014, Tel Aviv, Israel
- L. Liu, M. Raveh, R. Toledano, D. Mandler*, Electrodeposition of sol-gel based composite films, *NanoIsrael 2012*, Mar. 26-27, 2012, Tel Aviv, Israel
- L. Liu, J.M. Hu*, J.Q. Zhang, C.N. Cao, Anodic electrodeposition of silane films on glassy carbon electrodes, *The 60th Annual Meeting of the International Society of Electrochemistry*, Aug. 16-21, 2009, Beijing, China

Patents:

- J.M. Hu*, L.K. Wu, **L. Liu**, J.Q. Zhang, A silane-modified cathodic electrophoretic protective coating and its applications, *Chinese Patent*, CN201110024332.X
- J.M. Hu*, L.K. Wu, **L. Liu**, J.Q. Zhang, A metal alkoxide modified cathodic electrophoretic protective coating and its applications, *Chinese Patent*, CN201110024331.5
- J.M. Hu*, Y.Q. Yang, **L. Liu**, J.Q. Zhang, Surface treatment of metals by silane and its applications, *Chinese Patent*, CN201010218377.6
- J.M. Hu*, Y.Q. Yang, **L. Liu**, J.Q. Zhang, Homogeneous modification of silane precursors by certain additives: The method and its applications, *Chinese Patent*, CN200910153862.7
- J.M. Hu*, W.G. Ji, **L. Liu**, J.Q. Zhang, C.N. Cao, The preparation method and applications of siloxane oligomers, *Chinese Patent*, CN200910099100.3