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B.S. in Chemical Engineering
National Cheng Kung University, 1978
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Research and Professional Interests
Electro-optical Materials and Devices
Transparent electrochromic batteries
Dye-sensitized solar cells
Nano thin film electrochemistry
Electrochemical Engineering/Technology
Nano-porous membranes
Green chemistry and nanomaterials
Metal-organic frameworks
Chemical and biological sensors

Journal Papers

1. C. T. Li, C. T. Lee, S. R. Li, C. P. Lee, I. T. Chiu, R. Vittal, N. L. Wu, S. S. Sun and **K. C. Ho**, "Composite films of carbon black nanoparticles and sulfonated-polythiophene as flexible counter electrodes for dye-sensitized solar cells", *Journal of Power Sources*, 302, 155-163, 2016(Jan), (SCI,EI), (工合著)

2. Y. F. Lin, C. T. Li and **K. C. Ho**, "A template-free synthesis of the hierarchical hydroxymethyl PEDOT tube-coral array and its application in dye-sensitized solar cells", *Journal of Materials Chemistry A*, 4(2), 384-394, 2016, (SCI)

3. **K. C. Ho**, A. Rougier and L. C. Chen, "Guest Editorial Eleventh International Meeting on Electrochromism (IME-11)", *Solar Energy Materials and Solar Cells*, 145, 1, 2016(Feb), (SCI,EI)

4. M. S. Fan, S. Y. Kao, T. H. Chang, R. Vittal and **K. C. Ho**, "A high contrast solid-state electrochromic device based on nano-structural Prussian blue and poly(butyl viologen) thin films", *Solar Energy Materials and Solar Cells*, 145, 35-41, 2016(Feb), (SCI,EI)

5. S. Y. Kao, C. W. Kung, H. W. Chen, C. W. Hu and **K. C. Ho**, "An electrochromic device based on all-in-one polymer gel through in-situ thermal polymerization", *Solar Energy Materials and Solar Cells*, 145, 61-68, 2016(Feb), (SCI,EI)

6. L. M. Huang, C. W. Hu, C. Y. Peng, C. H. Su and **K. C. Ho**, "Integration of polyelectrolyte based electrochromic material in printable photovoltaic electrochromic module", *Solar Energy Materials and Solar Cells*, 145, 69-75, 2016(Feb), (SCI,EI)

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14178-14191, 2016, (SCI,EI)

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Conference Papers

1. Y. F. Lin, C. T. Li, Y. J. Huang and **K. C. Ho**, "A Template-Free Synthesis of the Hierarchical PEDOT-MeOH Tube-Coral Array and Its Application in EDLC", The 5th International Conference on Advanced Capacitors (ICAC 2016), Otsu Japan, 2016(May)

2. Y. J. Huang, C. P. Lee, M. S. Fan, C. T. Li, R. Vittal and **K. C. Ho**, "Multiple-Yolk-Shells of Cobalt Diselenide for Capacitors: A Template-Free Synthesis", The 5th International Conference on Advanced Capacitors (ICAC 2016), Otsu Japan, 2016(May)

3. Y. J. Huang, C. P. Lee, M. S. Fan, C. T. Li, R. Vittal and **K. C. Ho**, "Pencil-urchin-like Structure of Cobalt Diselenide Catalytic Film as Counter Electrodes for Dye-Sensitized Solar Cells", The 67th Annual Meeting of the International Society of Electrochemistry (ISE), The Netherlands, 2016(Aug)

4. Y. L. Chen, M. S. Fan, Y. J. Huang and **K. C. Ho**, "Flower-Like Phosphorus-Doped Nickel Oxide as Low-Cost Counter Electrode for Dye-Sensitized Solar Cells", The 67th Annual Meeting of the International Society of Electrochemistry (ISE), The Netherlands, 2016(Aug)

5. H. C. Lu, S. Y. Kao and **K. C. Ho**, "Viologen-Based Electrochromic Devices Utilizing Polymeric Ionic Liquids", The 12th International Meeting on Electrochromism (IME-12), The Netherlands, 2016(Aug)

6. H. F. Yu, S. Y. Kao, H. C. Lu, Y. F. Lin, H. Feng, J. J. Lin and **K. C. Ho**, "A Quasi-Solid-State Electrochromic Device Based on Nanofiber of Polymeric Ionic Liquid", The 12th International Meeting on Electrochromism (IME-12), The Netherlands, 2016(Aug)

7. S. Y. Kao, H. F. Yu, H. C. Lu, H. Feng and **K. C. Ho**, "High Luminance Contrast Electrochromic Device with Panchromatic Feature", The 12th International Meeting on Electrochromism (IME-12), The Netherlands, 2016(Aug)

8. T. H. Chang, C. W. Kung, H. C. Lu, M. H. Lee, S. Y. Kao and **K. C. Ho**, "Multi-Color Electrochromic Devices Based on Phenyl and Heptyl Viologens Immobilized by an UV-Cured Polymer Electrolyte", The 12th International Meeting on Electrochromism (IME-12), The Netherlands, 2016(Aug)

9. C.W. Kung, Y. S. Li, M. H. Lee, S. Y. Wang, W. H. Chiang and **K. C. Ho**, "In-Situ Growth of Porphyrinic Metal-Organic Framework Nanocrystals on Graphene Nanoribbons for Electrocatalytic Oxidation of Nitrite", The 5th International Conference on Metal-Organic Frameworks & Open Framework Compounds (MOF 2016), Long Beach, California USA, 2016(Sep)

10. C. T. Lin, M. S. Fan, R. Vittal and **K. C. Ho**, "Facile Thermal Conversion of Prussian Blue to FeSe2 as the Counter Electrode in a Dye-Sensitized Solar Cell", 2016-ICGET, Taipei, Taiwan, 2016(Sep)

11. F. S. Lin, M. S. Fan, J. J. Lin and **K. C. Ho**, "A Spacer-Free Quasi-Solid-State Dye-Sensitized Solar Cell based on an Electrospun Polymer Electrolyte", 2016-ICGET, Taipei, Taiwan, 2016(Sep)

12. H. Feng, M. H. Lee, T. H. Chan and **K. C. Ho**, "Metal-Organic Framework Interconnected by Conducting PEDOT:PSS as High-performance Electrode Materials for Supercapacitors", The 21st Topical ISE Meeting, Szeged, Hungary, 2017(Apr)

13. T. H. Chang, M. H. Lee, H. Feng and **K. C. Ho**, "Supercapacitors based on Nanoporous Carbons Derived from MOF-525", The 21st Topical ISE Meeting, Szeged, Hungary, 2017(Apr)

14. M. H. Lee, S. Y. Wang, H. Feng, T. Y. Huang, M. H. Yeh, Kevin C. W. Wu, W. H. Chiang and **K. C. Ho**, "Synthesis of Platinum Nanoparticles/Graphene Nanoribbon Composites for Biosensing Application", The 21st Topical ISE Meeting, Szeged, Hungary, 2017(Apr)

15. H. F. Yu, S. Y. Kao, Y. S. Lin, M. K. Leung and **K. C. Ho**, "A High Contrast Complementary Electrochromic Device based on Two Conducting Polymer Thin Films", The 21st Topical ISE Meeting, Szeged, Hungary, 2017(Apr)

16. S. L. Jian, Y. J. Huang, M. H. Yeh and **K. C. Ho**, "Zeolitic Imidazolate Framework-derived ZnSe/N-doped Carbon Cube Hybrid Electrocatalyst as the Counter Electrode for Dye-Sensitized Solar Cells", The 68th Annual Meeting of the International Society of Electrochemistry, Providence, Rhode Island, USA, 2017(Aug)

17. Y. J. Huang, C. P. Lee and **K. C. Ho**, "Pencil-Urchin-Like $CoSe_2$ Catalytic Film as the

Electrodes for Dye-Sensitized Solar Cell and Hydrogen Evolution Reaction", The 68th Annual Meeting of the International Society of Electrochemistry, Providence, Rhode Island, USA, 2017(Aug)

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19. H. W. Pang, Y. J. Huang, H. F. Yu, R. Vittal and **K. C. Ho**, "Nanofibers of Imino-Imidazolium Iodide Grafted Hexafluoropropylene as the Quasi-Solid-State Electrolyte for Dye-Sensitized Solar Cells", The 68th Annual Meeting of the International Society of Electrochemistry, Providence, Rhode Island, USA, 2017(Aug)

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21. Y. A. Lu, T. H. Chang, H. C. Lu and **K. C. Ho**, "One-Step Surface Modification of Perovskite Thin Films via Impurity Cation Doping: A-Site Cation Exchange and Ostwald Ripening", 2017 MRS Fall Meeting, Boston, Massachusetts, USA, 2017(Nov)

22. Y. C. Wang, H. C. Lu, L. Y. Hsiao and **K.C. Ho**, "A Complementary Electrochromic Device Composed of Fe(II)-based Metallo-Supramolecular Polymer and Nanoparticulated Ruthenium Purple", 2017 MRS Fall Meeting, Boston, Massachusetts, USA, 2017(Nov)

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25. B. X. Wang, Y. A. Lu, K. I. Chen, T. H. Chang, H. C. Lu and **K. C. Ho**, "Electrochromic Devices with Improved Stability Based on the Novel Viologen Possessing Bulky Substituents", The 13th International Meeting on Electrochromism (IME), Chiba, Japan, 2018(Aug)

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33. F. Y. Kuo, M. S. Fan, F. S. Lin and **K. C. Ho**, "Vanadium Diselenide with Different Morphology as the Counter Electrode in Dye-Sensitized Solar Cells", The 69th International Society of Electrochemistry (69th ISE), Bologna, Italy, 2018(Sep)

34. S. B. Ann, Y. J. Huang, C. P. Lee and **K. C. Ho**, "Flower-like Nickel Selenide-based Counter Electrode for Pt-free Dye-Sensitized Solar Cells", The 69th International Society of Electrochemistry (69th ISE), Bologna, Italy, 2018(Sep)

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36. C. H. Chuang, L. Y. Hsiao, M. H. Yeh, Y. C. Wang and **K. C. Ho**, "Regulating the cobalt to iron ratio through Prussian blue analogues derived metal oxides as electrocatalysts in oxygen evolution reaction", The 69th International Society of Electrochemistry (69th ISE), Bologna, Italy, 2018(Sep)

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40. G. L. Fong, L. Y. Hsiao and **K. C. Ho**, "Improving the memory effect and long-term stability of the Ru(II)-based metallo-supramolecular polymer", The 3rd International Conference on Materials Science and Research (ICMSR 2019), Kuala Lumpur,

Malaysia, 2019(Nov)

41. H. F. Yu, C. T. Chang, P. W. Chen, T. F. Ko and **K. C. Ho**, "Nanofibrous polymeric ionic liquid formed by the electrospun process as quasi-solid electrolyte for a WO3/Prussian blue electrochromic device", The 3rd International Conference on Materials Science and Research (ICMSR 2019), Kuala Lumpur, Malaysia, 2019(Nov)

42. C. H. Lin, Y. C. Lin, C. L. Yeh and **K. C. Ho**, "Cobalt phosphide derived from ZIF-11@ZIF-12 for oxygen evolution reaction", The 2020 International Conference on Green Electrochemical Technologies (2020 ICGET-Tw), Taichung, Taiwan, 2020 (Nov)

Book Chapter

1. **K. C. Ho**, C. W. Hu, and T. S. Varley, "Electrochromic Devices based on Metal Hexacyanometallate/Viologen Pairings," in *Electrochromic Materials and Devices*, (R. J. Mortimer, D. R. Rosseinsky, P. M. S. Monk, eds.), ISBN 978-3-527-33610-4, Chap. 5, Wiley-VCH, Weinheim, Germany (2015).

2. **K. C. Ho**, H. W. Chen, and C. Y. Hsu, "Photoelectrochromic Materials and Devices," in *Electrochromic Materials and Devices*, (R. J. Mortimer, D. R. Rosseinsky, P. M. S. Monk, eds.), ISBN 978-3-527-33610-4, Chap. 22, Wiley-VCH, Weinheim, Germany (2015).

3. C. P. Lee and **K. C. Ho**, "Ionic Liquid-based Polymers and Crystals for Dye-sensitized Solar Cells," in *Polymerized Ionic Liquids*, RSC book series of Smart Materials, (A. Eftekhari ed.), ISBN 978-1-78262-960-3, Chap. 18, The Royal Society of Chemistry, London, UK (2018).

4. L. Y. Lin and **K. C. Ho**, "Dye-Sensitized Solar Cells," in *The Encyclopedia of Modern Optics*, 2nd Edition, (B. Guenther ed.), ISBN 978-0-12809-283-5, Chap. X, Academic Press, Cambridge, MA, USA (2018).

5. **K. C. Ho**, H. C. Lu, and H. F. Yu, "*Viologens-based Electrochromic Materials and Devices*, in *Electrochromic Smart Materials: Fabrication and Applications*, RSC book series of Smart Materials, (J. W,. Xu ed.), ISBN 978-1-78801-143-3, Chap. 12, The Royal Society of Chemistry, London, UK (2019).

Honors and Others

1. Honorary Scientific Committee, The International Conference on Advanced Batteries and Accumulators, Brno, Czech Republic (2001-present).

2. International Advisory Editorial Board, Sensors (2002-present).

3. Editorial Board, Analytical & Bioanalytical Electrochemistry (2008-present).

4. Editorial Board, Progress in Photovoltaics: Research and Applications (2009-present).

5. Editorial Board, International Journal of Photoenergy (2009-present).

6. Outstanding Research Award, The Ministry of Science and Technology (MOST) of Taiwan (2017).

7. The Young Scientist Award (to Mr. Chung-Wei Kung, 龔仲偉同學), in recognition of an outstanding paper contributed to Symposium L "Chromogenic Materials and Devices" at the E-MRS 2014 Spring Meeting, Lille, France, May 26-30 (2014).

8. The Young Scientist Award (to Mr. Jia-De Pong, 彭嘉德同學), in recognition of an outstanding paper contributed to Symposium Y "Advanced Materials and Characterization Techniques for Solar Cells II" at the E-MRS 2014 Spring Meeting, Lille, France, May 26-30 (2014).

9. 財團法人徐有庠先生紀念基金會「第 12 屆有科技庠講座」(綠色科技類) (2014).

10. 指導林燁雍同學榮獲科林博士論文優等獎 (2014)

11. 指導林宜鋒同學榮獲科林碩士論文頭等獎 (2016)

12. 指導陳貝瑜、李君婷、李權倍、范妙璇、高聖淵、黃子晏、龔仲偉與張廷祥同學論文榮登著名期刊封面與內頁封面(2015, 2017).

13. 指導朱德峻同學榮獲國科會 101 年度大專生研究計畫研究創作獎(2013)

14. 指導莊蕙閔同學榮獲國科會 102 年度大專生研究計畫研究創作獎(2014)

15. 指導陳貝瑜同學榮獲 103 年度科技部大專生研究計畫研究創作獎(2015)

16. 指導陳泰螢同學榮獲 105 年度科技部大專生研究計畫研究創作獎(2017)

International Cooperation Project

1. Multiresponsive, Hierarchically Organized Mesoporous Materials for Biosensors, Biofuel cells, Controlled Release, and Cell Culture Platform
新型多響應具層級式有序中孔洞材料於生物感測器,生物燃料電池,藥物控制釋放及細胞培養平台之開發與應用 (台灣-日本雙邊國際合作計畫)
Kuo-Chuan Ho, sponsored by the National Science Council, NSC103-2923-E-002-008 -MY3, NT$ 1,339,000, 1/1/2016-12/31/2016

Conference or Special Event Host or Cohost

1. The Eleventh International Meeting on Electrochromism (IME-11), August 31-September 4, 2014, Taipei, Taiwan (136 participants).