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(2) "<http://www.researcherid.com/rid/A-4206-2011>"
(3) "<http://www.linkedin.com/pub/chia-liang-sun/1a/539/476>"
(4) "<http://scholar.google.com/citations?hl=en&user=O8vBC7sAAAAJ>"
(5) "<http://www.suncl.idv.tw>" (Lab's home page)
(6) "<http://www.facebook.com/sunclgroup>" (Lab's Facebook page)

EDUCATION

Ph.D., Materials Science and Engineering 1998-2002
National Chiao-Tung University, Taiwan
Thesis Supervisor: Professor San-Yuan Chen (陳三元 教授, MSE Dept.)
Co-supervisor: Professor Albert Chin (荊鳳德 教授, EE Dept.; **IEEE Fellow**)

B.Eng., Materials Science and Engineering 1994-1998
National Tsing-Hua University, Taiwan

PROFESSIONAL EXPERIENCE

Associate Professor, Dept. of Chemical and Materials Eng. 2013-present
Chang Gung University, Taiwan

Assistant Professor, Dept. of Chemical and Materials Eng. 2008-2013
Chang Gung University, Taiwan

Physical Science Research Associate, Synchrotron Radiation Laboratory, SLAC 2008
Stanford University, USA
Research Advisor: Dr. Anders Nilsson

Postdoctoral Fellow, (Military Service) Institute of Atomic and Molecular Science 2003-2008
Academia Sinica, Taiwan
Research Advisors: Drs. Kuei-Hsien Chen (陳貴賢 教授)
& Li-Chyong Chen (林麗瓊 教授 at CCMS, NTU; **MRS Fellow**)

Visiting Scholar, Institute for Chemical Processing and Environmental Technology 2006
National Research Council, Canada
Research Advisors: Drs. Barry MacDougall & Christina Bock
(Dr. Barry MacDougall was the former president of the Electrochemical Society (ECS).)

AWARDS AND HONORS

- **1st Place Award** — in American Vacuum Society (AVS) Art Zone competition, Oct. 2007
AVS 54th International Symposium & Exhibition
- Travel Grant from Foundation for the Advancement of Outstanding Scholarship 2005
(獲得傑出人才發展基金會對博士後研究人員出國發表論文的補助)
- Member of the Phi Tau Phi Scholastic Honor Society, Taiwan 2003
(2003年以當年度第一名的成績拿到交大材料所的博士學位)

PROFESSIONAL SOCIETIES AND ACTIVITIES

- **Journal Referee** — 1. Energy & Environmental Science 2. Materials Today 3. Biomaterials 4. Chemical Communications 5. Biosensors & Bioelectronics 6. Journal of Materials Chemistry A 7. The Journal of Physical Chemistry 8. Langmuir 9. Analytica Chimica Acta 10. Sensors and Actuators B: Chemical 11. Electrochimica Acta 12. New Journal of Chemistry 13. Industrial & Engineering Chemistry Research 14. Nanoscale Research Letters 15. Talanta 16. Separation and Purification Technology 17. Journal of Solid State Electrochemistry 18. Thin Solid Films 19. Polymer Chemistry 20. Current Nanoscience 21. Advanced Powder Technology 22. Asia-Pacific Journal of Chemical Engineering 23. Sensor Letters 24. Journal of the Chinese Institute of Engineers 25. Applied Catalysis A: General 26. ACS Applied Materials & Interfaces 27. Scientific Reports 28. Analytical Methods
- **Congress Chair** — in local organizing committee Sept. 2014
International Symposium on Chemical-Environmental-Biomedical Technology (isCEBT 2014), Tao-Yuan, Taiwan.
- **Executive Secretary** — in local committee of the American Vacuum Society (AVS)- Jan. 2005
International Conference of One-Dimensional Nanomaterials (ICON), Taipei, Taiwan.

EXPERTISE AREAS AND MAJOR CONTRIBUTION

- Synthesis and integration of **sp²-nanocarbon** materials (carbon nanotube, graphene, graphene nanoribbons ... etc.) for **electrochemical biosensor** applications (2015 B&B, 2014 B&B, 2012 Electrochim. Acta; 2011 B&B (No. 18 Top Paper for Taiwan in Biology & Biochemistry), ACS Nano)
- Synthesis and integration of **sp²-nanocarbon** supports with the decoration of **size-selected nanoparticles** for **energy conversion and storage** applications (fuel cell, Li-ion battery, solar cell ... etc.) (2014 JPS, 2013 Electrochem. Commun.; 2012 Carbon, IJHE; 2009 JES, 2007 Electrochem. Commun.; 2006 ESSL x 2, JVSTB; 2005 Chem. Mater.)
- Visualization for in-depth understanding of **atomic-scale and electronic structures** of novel materials with the help of both **calculations and experimental characterizations** (2013 Nanoscale; 2011 J. Mater. Chem.; 2010 JPCC; 2006 JACS)

Publications (journal paper no.): **50**

h-index: **22** (based on Google scholar online)

Papers in Journals with Impact Factors > 5.0: **17**

Top Papers for Taiwan: **1** ((1) 2011, as the 1st and corresponding author; **No. 18** for Taiwan in Biology & Biochemistry)

PUBLICATIONS

(A) Journal Papers (within 5 years, 2012-2016)

1. Y. W. Lan*, C. M. Torres, X. Zhu, C. L. Sun, S. Zhu, C. D. Chen*, K. L. Wang, “Self-aligned Graphene Oxide Nanoribbon Stack with Gradient Bandgap for Visible-light Photodetection” *Nano Energy* **27**, 114 (2016). (IF = 11.553, N/M = 11/271 = 4.1% – Nanotechnology, Materials Science) DOI: 10.1016/j.nanoen.2016.06.039
2. E. A. Monyoncho, S. Ntais, N. Brazeau, J. J. Wu, C. L. Sun, E. A. Baranova*, “Role of the Metal-Oxide Support in the Catalytic Activity of Pd Nanoparticles for Ethanol Electrooxidation in Alkaline Media” *ChemElectroChem* **3** (2), 218 (2016). DOI: 10.1002/celec.201500432
3. R. Zhang, C. L. Sun, Y. J. Lu, W. Chen*, “Graphene Nanoribbons-Supported PtPd Concave Nanocubes for Electrochemical Detection of TNT with High Sensitivity and Selectivity” *Anal. Chem.* **87**, 12262 (2015). (IF = 5.636, N/M = 4/74 = 5.4% – Chemistry, Analytical) DOI: 10.1021/acs.analchem.5b03390
4. C. L. Sun*, J. S. Su, S. Y. Lai, Y. J. Lu, “Size Effects of Pt Nanoparticle/Graphene Composite Materials on the Electrochemical Sensing of Hydrogen Peroxide” *J. Nanomat.*, Article ID 861061 (2015). DOI: 10.1155/2015/861061
5. X. Lu, H. Chan, C. L. Sun, C. M. Tseng, C. Zhao*, “Interconnected Core-Shell Carbon Nanotube/Graphene Nanoribbon Scaffolds for Anchoring Cobalt Oxides as Bifunctional Electrocatalysts for Oxygen Evolution and Reduction” *J. Mater. Chem. A* **3**, 13371 (2015). (IF = 7.443, N/M = 20/259 = 7.7% – Materials Science, Multidisciplinary) DOI: 10.1039/C5TA02967H
6. C. L. Sun*, J. S. Tang, N. Brazeau, J. J. Wu, S. Ntais, C. W. Yin, H. L. Chou, E. A. Baranova, “Particle size effects of sulfonated graphene supported Pt nanoparticles on ethanol electrooxidation” *Electrochim. Acta* **162**, 282 (2015). (IF = 4.504) DOI: 10.1016/j.electacta.2014.12.099
7. C. W. Lin, K. C. Wei, S. S. Liao, C. Y. Huang, C. L. Sun, P. J. Wu, Y. J. Lu, H. W. Yang*, C. C. M. Ma*, “A reusable magnetic graphene oxide-modified biosensor for vascular endothelial growth factor detection in cancer diagnosis” *Biosens. Bioelectron.* **67**, 431 (2015). (IF = 6.409, N/M = 1/28 = 3.6% – Electrochemistry) DOI: 10.1016/j.bios.2014.08.080

8. N. W. Pu, G. N. Shi, Y. M. Liu, X. Sun, J. K. Chang, C. L. Sun^{*}, M. D. Ger^{*}, C. Y. Chen, P. C. Wang, Y. Y. Peng, C. H. Wu, S. Lawes, “Graphene grown on stainless steel as a high-performance and ecofriendly anti-corrosion coating for polymer electrolyte membrane fuel cell bipolar plates” *J. Power Sources* **282**, 248 (2015). (IF = 6.217, N/M = 2/28 = 7.4% – Electrochemistry) DOI: 10.1016/j.jpowsour.2015.02.055
9. C. L. Sun^{*}, C. H. Su, J. J. Wu, “Synthesis of short graphene oxide nanoribbons for improved biomarker detection of Parkinson's disease” *Biosens. Bioelectron.* **67**, 327 (2015). (IF = 6.409, N/M = 1/28 = 3.6% – Electrochemistry) DOI: 10.1016/j.bios.2014.08.046
10. M. H. Yeh, L. Y. Lin, C. L. Sun^{*}, Y. A. Leu, J. T. Tsai, C. Y. Yeh^{*}, R. Vittal, K. C. Ho^{*}, “Multi-walled carbon nanotube@reduced graphene oxide nanoribbon as the counter electrode for dye-sensitized solar cells” *J. Phys. Chem. C* **118** (30), 16626 (2014). (IF = 4.772) DOI: 10.1021/jp412542d
11. Y. J. Lu, C. W. Lin, H. W. Yang, K. J. Lin, S. P. Wey, C. L. Sun, K. C. Wei, T. C. Yen, C. C. M. Ma, J. P. Chen^{*}, “Biodistribution of PEGylated graphene oxide nanoribbons and their application in cancer chemo-photothermal therapy” *Carbon* **74**, 83 (2014). (IF = 6.196) DOI: 10.1016/j.carbon.2014.03.007
12. M. H. Yeh, L. Y. Lin, J. S. Su, Y. A. Leu, R. Vittal, C. L. Sun^{*}, K. C. Ho^{*}, “Nanocomposite Graphene/Pt Electrocatalyst as the Economical Counter Electrode for Dye-Sensitized Solar Cells” *ChemElectroChem* **1** (2), 416 (2014). DOI: 10.1002/celec.201300081
13. C. L. Sun^{*}, J. S. Su, J. H. Tang, M. C. Lin, J. J. Wu, N. W. Pu, G. N. Shi, M. D. Ger, “Investigation of the adsorption of size-selected Pt colloidal nanoparticles on high-surface-area graphene powders for methanol oxidation reaction” *J. Taiwan Inst. Chem. Eng.* **45**, 1025 (2014). (IF = 3.000) DOI: 10.1016/j.jtice.2013.08.011
14. J. M. Yang^{*}, S. A. Wang, C. L. Sun, M. D. Ger, “Synthesis of size-selected Pt nanoparticles supported on sulfonated graphene with polyvinyl alcohol for methanol oxidation in alkaline solutions” *J. Power Sources* **254**, 298 (2014). (IF = 6.217, N/M = 2/28 = 7.1% – Electrochemistry) DOI: 10.1016/j.jpowsour.2013.12.120
15. L. Y. Lin, M. H. Yeh, J. T. Tsai, Y. H. Huang, C. L. Sun^{*}, K. C. Ho^{*}, “Novel core-shell heterostructure of multi-walled carbon nanotube@graphene oxide nanoribbons as the potential supercapacitor material” *J. Mater. Chem. A* **1**, 11237 (2013). (IF = 7.443, N/M = 20/259 = 7.7% – Materials Science, Multidisciplinary) DOI: 10.1039/C3TA12037F
16. C. L. Sun^{*}, C. W. Pao, H. M. Tsai, J. W. Chiou, S. C. Ray^{*}, H. W. Wang, M. Hayashi, L. C. Chen, H. J. Lin, J. F. Lee, L. Chang, M. H. Tsai, K. H. Chen, W. F. Pong^{*}, “Atomistic nucleation sites of Pt nanoparticles on N-doped carbon nanotubes” *Nanoscale* **5**, 6812 (2013). (IF = 7.394, N/M = 21/259 = 8.1% – Materials Science, Multidisciplinary) DOI: 10.1039/C3NR01234D
17. P. C. Juan^{*}, C. L. Sun, C. H. Liu, C. L. Lin, F. C. Mong, J. H. Huang, H. S. Chang, “Effects of Zirconium Substitution on the Electrical and Physical Properties of Metal-Ferroelectric (BiFeO₃)-

Insulator (HfO₂)-Silicon Structures for Non-Volatile Memories” *Microelectron. Eng.* **109**, 142 (2013). (IF = 1.197) DOI: 10.1016/j.mee.2013.03.091

18. C. L. Sun^{*}, W. C. Cheng, T. K. Hsu, C. W. Chang, J. L. Chang, J. M. Zen^{**}, “Ultrasensitive and highly stable nonenzymatic glucose sensor by a CuO/graphene-modified screen-printed carbon electrode integrated with flow-injection analysis” *Electrochem. Commun.* **30**, 91 (2013). (IF = 4.847) DOI: 10.1016/j.elecom.2013.02.015
19. D. Jana^{*#}, C. L. Sun[#], L. C. Chen^{*}, K. H. Chen, “Effect of chemical doping of Boron and Nitrogen on the Electronic, Optical, and Electrochemical properties of Carbon Nanotubes” *Prog. Mater. Sci.* **58**, 565 (2013). (IF = 27.417, N/M = 3/259 = 1.2% – Materials Science, Multidisciplinary) ([#] These authors contributed equally to this work.) DOI: 10.1016/j.pmatsci.2013.01.003
20. J. T. H. Tsai^{*}, W. S. Wang, S. H. Chen, C. L. Sun, “Self-aligned gate dielectric in carbon nanotube field-effect transistors by anodic oxidation of aluminium” *J. Exp. Nanosci.* **8** (2), 138 (2013). (IF = 0.981) DOI: 10.1080/17458080.2011.561451
21. L. Wang, R. T. Yang^{*}, C. L. Sun, “Graphene and other carbon sorbents for selective adsorption of thiophene from liquid fuel” *AIChE J.* **59** (1), 29 (2013). (IF = 2.748) DOI: 10.1002/aic.13896
22. C. H. Wang, C. H. Wu, J. W. Wu, M. T. Lee, J. K. Chang^{*}, M. D. Ger, C. L. Sun, “The effects of ionic liquid on the electrochemical sensing performance of graphene- and carbon nanotube-based electrodes” *Analyst* **138**, 576 (2013). (IF = 4.107) DOI: 10.1039/C2AN36263E
23. Y. W. Hsu, T. K. Hsu, C. L. Sun^{*}, Y. T. Nien, N. W. Pu, M. D. Ger, “Synthesis of CuO/graphene nanocomposites for nonenzymatic electrochemical glucose biosensor applications” *Electrochim. Acta* **82**, 152 (2012). (IF = 4.504) DOI: 10.1016/j.electacta.2012.03.094
24. C. Y. Chu, J. T. Tsai, C. L. Sun^{*}, “Synthesis of PEDOT-modified Graphene Composite Materials as Flexible Electrodes for Energy Storage and Conversion Applications” *Int. J. Hydrogen Energy* **37**, 13880 (2012). (IF = 3.313) DOI: 10.1016/j.ijhydene.2012.05.017
25. M. H. Yeh, C. L. Sun, J. S. Su, L. Y. Lin, C. P. Lee, C. Y. Chen, C. G. Wu, R. Vittal, K. C. Ho^{*}, “A low-cost counter electrode of ITO glass coated with a graphene/Nafion composite film for use in dye-sensitized solar cells” *Carbon* **50**, 4192 (2012). (IF = 6.196) DOI: 10.1016/j.carbon.2012.05.001

(B) Conference Papers (within 5 years, 2012-2016)

1. T. E. Lin, C. L. Sun, Y. J. Lu, J. P. Chen, A. Lesch, H. Girault, “Label-free Detection of Graphene Oxide Nanoribbon in Mouse Liver Tissue Sections by Scanning Electrochemical Microscopy,” *Bioanalytical Sensors Gordon Research Conference (From Atoms to Organisms: Bioanalytical Sensors Elucidating Physicochemical Properties of Multiscale Systems)* (New Port, RI, USA), (Jun. 26- Jul. 1, 2016).

2. C. L. Sun, S. Y. Lai, C. H. Kuo, C. F. Pan, C. H. Su, "Synthesis of Short and ZnCl₂-treated Graphene Oxide Nanoribbons and Their Electrochemical Properties," 2016 The 10th International Conference on New Diamond and Nano Carbons (Xi'an, China), (May 22-26, 2016).
3. C. L. Sun, "Microwave-assisted synthesis of graphene oxide nanoribbons and their applications," The Sixteenth International Conference on the Science and Technology of Nanotubes 2015 (Nagoya, Japan), (June 29-July3, 2015).
4. C. L. Sun, "Synthesis of Graphene Oxide Nanoribbons for Biomarker Detection of Parkinson's Disease," 9th International Conference on New Diamond and Nano Carbons 2015 (Shizuoka Granship, Japan), (May 24-28, 2015).
5. C. L. Sun, M. H. Yeh, L. Y. Lin, Y. A. Leu, K. C. Ho, "Synthesis of Nanocarbon-based Counter Electrodes for Dye-sensitized Solar Cells," International Symposium of Chemical-Environmental-Biomedical Technology (Taoyuan, Taiwan), (September 10-14, 2014).
6. H. C. Shih, Y. H. Lin, H. P. Liou, C.L. Sun, "Synthesis of Multicomponent Metal Nanocomposite/graphene Materials for Electrochemical Oxidation of Glucose in Neutral Solutions," International Symposium of Chemical-Environmental-Biomedical Technology (Taoyuan, Taiwan), (September 10-14, 2014).
7. P. T. Chen, C.L. Sun, M. Hayashi, "Efficient Oxidation Reduction Reaction Occurred on N-Doped Graphene Nano Ribbons," International Symposium of Chemical-Environmental-Biomedical Technology (Taoyuan, Taiwan), (September 10-14, 2014).
8. C. H. Su, C.L. Sun, Y. C. Liao, "Synthesis of short graphene oxide nanoribbons for improved biomarker detection of Parkinson's disease," International Symposium of Chemical-Environmental-Biomedical Technology (Taoyuan, Taiwan), (September 10-14, 2014).
9. W. H. Huang, J. J. Wu, C. W. Yin, C.L. Sun, "Synthesis of Graphene-based Electrocatalysts with Binary Nanoparticles for Direct Ethanol Fuel Cell Applications," International Symposium of Chemical-Environmental-Biomedical Technology (Taoyuan, Taiwan), (September 10-14, 2014).
10. C. L. Sun, M. H. Yeh, L. Y. Lin, Y. A. Leu, K. C. Ho, "Synthesis of Graphene-based Nanomaterials as Counter Electrodes for Dye-sensitized Solar Cells," 65th Annual Meeting of the International Society of Electrochemistry (Lausanne, Switzerland), (August 31-September 5, 2014).
11. J. J. Wu, C. H. Su, C. L. Sun, "Synthesis of Short Graphene Oxide Nanoribbons for Improved Electrochemical Biosensing," Biosensors 2014 (24th World Anniversary Congress on Biosensors) (Melbourne, Australia), (May 27-30, 2014).
12. C. L. Sun, J. T. Tsai, Y. H. Huang, C. Y. Chiu, P. T. Chen, M. Hayashi, "Efficient Oxygen Reduction Reaction on N-doped Graphene Nanoribbons: a Combined Theoretical and Experimental Study," 15th Topical Meeting of the International Society of Electrochemistry (Niagara Falls, Canada), (April 27-30, 2014).

13. C. L. Sun, J. T. Tsai, Y. H. Huang, C. Y. Chiu, P. T. Chen, M. Hayashi, "Synthesis of N-doped Graphene Oxide Nanoribbons for Oxygen Reduction Reactions," 14th Topical Meeting of the International Society of Electrochemistry (Nanjing, China), (March 29-April 1, 2014).
14. C. L. Sun, "The development of sp^2 nanocarbons: from carbon nanotubes, graphene to graphene nanoribbons," 2013 International Graphene Conference (Hsinchu, Taiwan), (November 4-5, 2013).
15. C. L. Sun, Y. H. Huang, H. C. Shi, "Development of graphene-based nanocatalysts for an implantable biofuel cell of the brain-machine interface," The 6th Asia-Pacific Congress on Catalysis (Taipei, Taiwan), (October 13-17, 2013).
16. C. Y. Chiu, C. L. Sun, "Ultrahigh surface area graphene oxide nanoribbons for electrochemical detection of ascorbic acid, dopamine and uric acid," 2013 International Symposium of Chemical-Environmental-Biomedical Technology (Iwanuma, Japan), (September 8-12, 2013).
17. C. L. Sun, "Nanocarbon-based materials for energy conversion, energy storage and biosensing," 6th East Asia Symposium on Functional Dyes and Advanced Materials (Hsinchu, Taiwan), (September 3-6, 2013).
18. H. C. Shih, C. L. Sun, "Synthesis of NiO/graphene nanocomposite for nonenzymatic glucose sensor applications," 9th World Congress of Chemical Engineering (Seoul, Korea), (August 18-23, 2013).
19. C. L. Sun, C. H. Sun, Y. H. Huang, "Synthesis of graphene-based nanomaterials for electrochemical biosensing," 14th International Symposium on Electroanalytical Chemistry (Changchun, China), (August 17-20, 2013).
20. Y. H. Huang, C. L. Sun, "Effects of adding anion-conducting binders on the electrochemical detection of hydrogen peroxide using N-doped graphene nanoribbons," E-MRS 2013 Spring Meeting (Strasbourg, France), (May 27-31, 2013).
21. J. H. Tang, J. S. Su, C. L. Sun, E. Baranova, "Synthesis of size-selected Pt nanoparticles supported on graphene for ethanol oxidation reaction," 2012 Taiwan-Japan Symposium on Polyscale Technologies for Biomedical Engineering and Environmental Sciences (PT-BMES 2012) (Hsinchu, Taiwan), (September 5-6, 2012).
22. J. S. Su, J. H. Tang, C. L. Sun, "Electrochemical Detection of Hydrogen Peroxide Using N-doped Graphene Nanoribbons," The ninth International Symposium on Advancing the Chemical Sciences: Challenges in Nanoscience (ISACS9) (Xiamen, China), (August 31-September 3, 2012).
23. J. S. Su, J. H. Tang, C. L. Sun, "Electrochemical Detection of Hydrogen Peroxide Using N-doped Graphene Nanoribbons," 63rd Annual Meeting of the International Society of Electrochemistry (Prague, Czech Republic), (August 19-24, 2012).
24. J. Wang, J. Zhou, C. L. Sun, T. K. Sham, W. F. Pong, Y. Liang, H. Dai, "Chemical imaging and spatially-resolved XANES of graphene nanomaterials by the scanning transmission X-ray microscopy (STXM)," 11th International Conference on X-ray Microscopy (XRM 2012) (Shanghai,

China) (August 5-10, 2012).

25. J. S. Su, M. C. Lin, C. L. Sun, “Investigation of the adsorption of size-selected Pt colloidal nanoparticles on high-surface-area graphene powders for methanol oxidation reaction”, The 6th Pacific Basin Conference on Adsorption Science and Technology (PBAST-6) (Taipei, Taiwan), (2012).
26. J. S. Su, J. H. Tang, C. L. Sun, “Electrochemical detection of hydrogen peroxide using graphene/size-selected Pt nanocomposites”, The 10th Spring Meeting of International Society of Electrochemistry (Perth, Australia), (2012).

(C) Invited Book Chapters

1. “Catalysis for Direct Methanol Fuel Cells”, C. Bock, B. MacDougall, and C. L. Sun, Chapter 10, pp. 369-412, in László Guzzi and András Erdőhelyi, Eds., *Catalysis for Alternative Energy Generation*, Springer, 2012.
2. “Catalysis in Fuel Cells and Hydrogen Production”, H. L. Chou, B. J. Hwang, and C. L. Sun, Chapter 9, pp. 217-270, *New and Future Developments in Catalysis. Batteries, Hydrogen Storage and Fuel Cells*, Elsevier, 2013.