

1. Research Contributions & Practical Applications (Yu, A. denotes Aiping Yu, † denotes student supervised by Yu, A., **Bold** *denotes corresponding author)

TOTOAL SUMMAERY

Refereed Journal Papers	29
Papers in <i>Science</i>	1
Papers in <i>J. of American Chemical Society</i>	7
Total Journal Citation	>1200
Patents	1
Refereed Book Chapters	1
Book in Preparation	1
Conference Presentations	15
Invited Talks	3
Invited review paper	1
Editorial board	<i>Nature Scientific Report</i>

Granted Patents (2005 – Present)

P1. Haddon, R. C.; Itkis, M. E.; Ramesh, P; **Yu, A.** “GRAPHITE NANO PLATELETS FOR THERMAL AND ELECTRICAL APPLICATIONS”, WO/2008/143692. This patent had been transferred to **Tessera, Inc.** (San Jose, California) for commercialization by University of California (UC), regents.

Refereed Book Chapters (2008 – Present)

B1. **Book in Preparation:**

Yu, A.*, Chen, Z., Zhang, J. **Electrochemical Supercapacitors – Fundamentals and Applications** for CRC, Taylor & Francis Group

B2. **Yu, A.***, Davies, A. †, Chapter 8, *Electrochemical Supercapacitors*, **Electrochemical Technologies for Energy Storage and Conversion**, Edited by Taylor & Francis Group (ISBN 978-3-527-31876-6).

Refereed Journals (2004 – Present)

J1. **Davies, A. †**; **Audette, P. †**; Farrow, B. †; **Hassan, F; †** Choi, J.; **Yu, A.***. Graphene-based Flexible Supercapacitors: Pulse-Electropolymerization of Polypyrrole on Free-standing Graphene Films, *[Journal of Physical Chemistry C](#)*, (2011) 115, 17612–17620.

J2. **Yu, A.**; Park, H.; **Davies, A. †**; Higgins, D.; Chen, Z.; Xiao, X. * Free-Standing Layer-By-Layer Hybrid Thin Film of Graphene-MnO₂ Nanotube as Anode for Lithium Ion Batteries", *[Journal of Physical Chemistry Letters](#)*, (2011), 1855-1860

J3. **Yu, A. ***; **Davies, A.†**; **Roes, I. †** “Graphene Nanoplatelets and MnO₂ hybrid structure for supercapacitors ” *[Synthetic Metals](#)*, (2011) 2049– 2054.

J4. Chen, Z.; Higgins, G.; **Yu, A.**, Zhang L. and Zhang J. “A review on non-precious metal electrocatalysts for PEM fuel cells ” *[Energy & Environmental Science](#)*, 2011, 4, 3167

J5. **Davies A. †**; **Yu A. ***. Materials Advancement in Supercapacitors-from Activated carbon to carbon nanotubes and graphene” *[Canadian Chemical Engineer Society](#)*, 2011, 89, 1342-1357.

J6. Li ,W.; **Yu, A.**; Higgins, D.; Chen Z. *, “Biologically Inspired Highly Durable Iron Phthalocyanine Catalysts for Oxygen Reduction Reaction in PEM Fuel Cells” *[Journal of American Chemical Society](#)* 2010, 132 (48), 17056–17058.

- J7. **Yu, A. ***; **Davies, A. †**; **Roes, I. †**; Chen Z., Ultrathin, transparent, and flexible graphene films for supercapacitor application. [*Applied Physics Letters*](#) (2010), 96(25), 253105/1-253105/3
- J8. Sun, X.; **Yu, A.**; Ramesh, P.; E., Itkis, M. E.; and Haddon, R. C. *, Oxidized Graphite Nanoplatelets as Fillers for Thermal Interface Materials for Electronic Packaging, [*Journal of Electronic Packaging*](#), 2011, 133, 020905/1-020905/6
- J9. Liu, X; Cao, D. *; **Yu, A.** "Effects of Structure, Temperature and Strain Rate on Mechanical Properties of SiGe Nanotubes" [*The Journal of Physical Chemistry C*](#), 2010, 114, 4309–4316.
- J10. **Yu, A.**,* Su, Z. †; Roes, I, †Fan, B. †, and Haddon, R. C.. “Gram-Scale Preparation of Surfactant-Free, Carboxylic Acid Groups Functionalized, Individual Single-Walled Carbon Nanotubes in Aqueous Solution” [*Langmuir*](#) 2010, 26(2), 1221–1225
- J11. **Yu, A.**; Ramesh, P.; Haddon, R. C.*, Single-Walled Carbon Nanotubes and Graphite Nanoplatelet-Epoxy Composite for Thermal Interface Materials. [*Advanced Materials*](#), 2008, 9999,1-5
- J12. Smith, J. G., Jr.; * Connell, J. W.; Delozier, D. M.; Watson, K. A.; Bekyarova, E.; **Yu, A.**; Haddon, R. C. Preparation and Properties of Nanocomposites from Pristine and Modified SWCNTs of Comparable Average Aspect Ratios. [*High Performance Polymers*](#) 2008, 20(6), 567-587.
- J13. Itkis, M. E.; **Yu, A.**; Haddon, R. C. *, Single-Walled Carbon Nanotube Thin Film Emitter-Detector Integrated Optoelectronic Device. [*Nanoletters*](#) 2008, 08, 2224-2228
- J14. Bekyarova, E.; Thostenson E.; **Yu, A.**; Hahn,T.; Gao, J; Chou,T.; B.; Itkis, M. E.; Haddon, R. C. *, Functionalized Single-Walled Carbon Nanotubes for Carbon Fiber-Epoxy Composites [*Journal of Physical Chemistry C*](#), 2007, 111, 17865-17871
- J15. **Yu, A.**; Ramesh, P.; Itkis, M. E.; Bekyarova, E.; Haddon, R. C. *, Graphite Nanoplatelet-Epoxy Composite Thermal Interface Materials. [*Journal of Physical Chemistry C*](#), 2007, 111,7565-7569
- J16. Itkis, M. E.; Borondics, F.; **Yu, A.**; Haddon, R. C. *, Thermal Conductivity Measurements of Semitransparent Single-Walled Carbon Nanotube Films by a Bolometric Technique. [*Nanoletters*](#) 2007, 07, 900-904
- J17. Bekyarova, E.; Thostenson E.; **Yu, A.**; Hahn,T.; Gao, J; Chou,T.; B.; Itkis, M. E.; Haddon, R. C. *, Multiscale Carbon Nanotube-Carbon Fiber Reinforcement for Advanced Epoxy Composites. [*Langmuir*](#) 2007, 23, 3970-3974
- J18. Itkis, M. E.; Borondics, F.; **Yu, A.**; Haddon, R. C. *, Bolometric Infrared Photoresponse of Suspended Single-Walled Carbon Nanotube Films. [*Science*](#) 2006, 312, 413-416
- J19. **Yu, A.**; Itkis, M. E.; Bekyarova, E.; Haddon, R. C. *, Effect of Single-Walled Carbon Nanotube Purity on the Thermal Conductivity of Carbon Nanotube-Based Composites. [*Applied Physics Letter*](#) 2006, 89, (13), 133102.
- J20. **Yu, A.**; Itkis, M. E.; Bekyarova, E.; Haddon, R. C. *, Effect of Single-Walled Carbon Nanotube Purity on the Thermal Conductivity of Carbon Nanotube-Based Composites. Selected published in [*Virtual Journal of Nanoscale Science & Technology*](#) 2006
- J21. **Yu, A.**; Bekyarova, E.; Itkis, M. E.; Fakhrutdinov, D.; Webster, R.; Haddon, R. C. *, Application of Centrifugation to the Large-Scale Purification of Electric Arc Produced Single-Walled Carbon Nanotubes. [*Journal of American Chemical Society*](#) 2006, 128, (30), 9902-9908
- J22. **Yu, A.**; Hu, H.; Bekyarova, E.; Itkis, M. E.; Gao, J.; Zhao, B.; Haddon, R. C. *, Incorporation of Highly Dispersed Single-Walled Carbon Nanotubes in a Polyimide Matrix. [*Composite Science & Technology*](#) 2006, 66, (9), 1190-1197

- J23. Gao, J.; Zhao, B.; Itkis, M. E.; Bekyarova, E.; Hu, H.; Kranak, V.; **Yu, A.**; Haddon, R. C. *, Chemical Engineering of the Single-Walled Carbon Nanotube-Nylon 6 Interface. [*Journal of American Chemical Society*](#) 2006, 128, (3), 7492-7496
- J24. Hu, H.; **Yu, A.**; Kim, E.; Zhao, B.; Itkis, M. E.; Bekyarova, E.; Haddon, R. C. *, Influence of the Zeta Potential on the Dispersability and Purification of Single-Walled Carbon Nanotubes. [*Journal of Physical Chemistry B*](#) 2005, 109, 11520-11524
- J25. Zhao, B.; Hu, H.; **Yu, A.**; Perea, D.; Haddon, R. C. *, Synthesis and Characterization of Water Soluble Single-Walled Carbon Nanotube Graft Copolymers. [*Journal of American Chemical Society*](#) 2005, 127, 8197-8203
- J26. Bekyarova, E.; Itkis, M. E.; Cabrera, N.; Zhao, B.; **Yu, A.**; Gao, J.; Haddon, R. C. *, Electronic Properties of Single-Walled Carbon Nanotube Networks [*Journal of American Chemical Society*](#) 2005, 127, 5990-5995
- J27. Gao, J. B.; Itkis, M. E.; **Yu, A.**; Bekyarova, E.; Zhao, B.; Haddon, R. C. *, Continuous Spinning of a Single-Walled Carbon Nanotube-Nylon Composite Fiber. [*Journal of American Chemical Society*](#) 2005, 127, 3847-3854
- J28. Gao, J.; **Yu, A.**; Itkis, M. E.; Bekyarova, E.; Zhao, B.; Niyogi, S.; Haddon, R. C. *, Large-Scale Fabrication of Aligned Single-Walled Carbon Nanotube Array and Hierarchical Single-Walled Carbon Nanotube Assembly. [*Journal of American Chemical Society*](#) 2004, 126, 16698-16699
- J29. Itkis, M. E.; Perea, D.; Niyogi, S.; Love, J.; Tang, J.; **Yu, A.**; Haddon, R. C. *, Optimization of the Ni-Y Composition in Bulk Electric Arc Synthesis of Single-Walled Carbon Nanotubes by Using Near-Infrared Spectroscopy. [*Journal of Physical Chemistry B*](#) 2004, 108, 12770-12775

Recent Conference Presentations (2005 – Present)

- C1. Davies, A.; **Yu, A.**, 61st Canadian Chemical Engineering Conference (CSCChE 2011) London, Ont. October 2011, “Transparent and flexible supercapacitor electrode prepared from in-situ synthesis of graphene with carbon nanotubes.
- C2. **Yu, A.**, * Davies, A. Electrochemical Society, ECS 218, Las Vegas, 2010. “Ultrathin, transparent, and flexible graphene films for supercapacitor application”
- C3. Chen, Z.; **Yu, A.**, * Electrochemical Society, ECS 218, Las Vegas, 2010. “Ultrathin, transparent, and flexible graphene films for supercapacitor application”
- C4. Davies, A, **Yu, A.**, * International Conference on Nanotechnology, Ottawa, 2010 “Graphene Nanoplatelets/Polypyrrole Composite for Supercapacitor Application”
- C5. Roes I.; **Yu, A.**, * International Conference on Nanotechnology, Ottawa, 2010 “Graphene Nanoplatelets/MnO₂ nanowire Composite for Supercapacitor Application”
- C6. Sy A.; **Yu, A.**, * Electrochemical Society, ECS 217, Vancouver, Canada, 2010 “Graphene Nanoplatelets/MnO₂ nanoparticle Composite for Supercapacitor”
- C7. Su, L.; **Yu, A.**, * Particle Technology Research Centre Conference, West Ontario, 2009 “Obtaining Surfactant ant Free, Individual Single-Walled Carbon Nanotube in aqueous solution
- C8. Roes I.; **Yu, A.**, * Particle Technology Research Centre Conference West Ontario, 2009 “Multi-functional epoxy nanocomposite from graphene sheets”
- C9. **Yu, A.**, 8th World Congress of Chemical Engineering, Montreal, 2009 “Graphene nanoplatelet and carbon nanotube hybrid filler for composites for thermal Management”
- C10. **Yu, A.**; Ramesh, P.; Itkis M.; Bekyarova, E.; Haddon, R. C. Presentation at the International Microelectronics And Packaging Society (IMAPS) meeting, 09/2007, San Jose, CA “Graphite Nanoplatelet-Epoxy Composite for Thermal Interface Materials”
- C11. **Yu, A.**; Itkis M.; Bekyarova, E.; Haddon, R. C. IMAPS meeting, 09/2007, San Jose, CA

“Effect of Single-Walled Carbon Nanotube Purity on the Thermal Conductivity of Carbon Nanotube-Based Composites”

- C12. **Yu, A.**; Itkis M.; Bekyarova, E.; Haddon, R. C. Presentation at the Center for Nanoscience Innovation for Defense (CNID) meeting, 12/2006, Riverside, US. “Suspended transparent film of purified single-walled carbon nanotubes for infrared bolometer”
- C13. **Yu, A.**; Bekyarova, R.; Haddon, R. C. Presentation at the Material Research Society (MRS) meeting, 11/2006, Boston, MA. “Effect of single-walled carbon nanotube purity on the performance of nanotube-based composites for thermal management”
- C14. **Yu, A.**; Bekyarova, R.; Haddon, R. C. Presentation at CNID meeting, 06/2006, Los Angeles, US “Large Scale Preparation of ultra-pure and transparent SWNT film for bolometric detector”
- C15. **Yu, A.**; E.; Itkis, M. E.; R.; Haddon, R. C. Presentation at the CNID meeting, 06/2005, Riverside, “Ultra-pure Single-Walled Carbon Nanotubes production and Field Effect Transistor application”

2. Other Evidence of Impact & Contributions

Editor of Nature [Scientific Report](http://www.nature.com/srep/eap-ebm/index.html#eb), Nature Publishing Group,
<http://www.nature.com/srep/eap-ebm/index.html#eb>

I am active reviewer for world leading scientific journals, such as *J. Phys. Chem.*, *Nanoscale*, *Materials of Chemistry*, *Journal of Nanoparticle Research*, *Electrochemistry Communication*, *Langmuir*, etc .

Honors and Awards

1. **Yu, A.** et al [Applied Physics Letters](#) 2010, 96, 253105, Honorably published by online journal [Virtual Journal of Nanoscale Science & Technology](#)
2. Co-op student of **Yu, A.** group, Lisa Su, won the best presentation award at the “Particle Technology Research Centre PTRC Conference”, University of West Ontario,
3. Paper Itkis, M. E.; Borondics, F.; **Yu, A.**; Haddon, R. C. [Science](#) 2006, 312, 413-416.

Highlighted by the report media: <http://www.azonano.com/news.asp?newsID=2186>

& <http://www.photonics.com/content/news/2006/May/9/82649.aspx>

& <http://nanotechwire.com/news.asp?nid=3222&ntid=&pg=1>

& <http://www.universityofcalifornia.edu/news/article/8105>

& <http://www.nano.org.uk/forum/viewtopic.php?t=915>

4. **Yu, A.**, et al [Applied Physics Letters](#) 2006, 89, (13), 133102.

Highlighted by journal [Nature Nanotechnology](#)

<http://www.Nature.com/nnano/reshigh/2006/1006/full/nnano.2006.98.html>

5. **Yu, A.**, et al . [J. of American Chemical Society](#) 2006, 128, (30), 9902-9908.

Highlighted by journal [Nature Nanotechnology](#)

<http://www.Nature.com/nnano/reshigh/2006/0706/full/nnano.2006.22.html>

6. **Student Competition Award**

International Microelectronics And Packaging Society conference, 2007, San Jose, USA