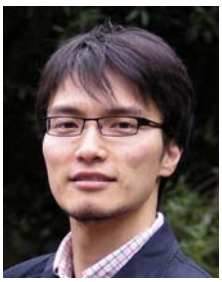
Goki Eda, Ph.D.



The Royal Society Newton International Fellow
Department of Materials, Imperial College London
Exhibition Road, London, United Kingdom, SW7 2AZ
Phone: +44 (0)797 245 5267 Fax: +44 (0)20 7594 5017
E-mail: g.eda@imperial.ac.uk

Date of Birth: Feb 25th, 1981

Qualifications:

Ph.D.	Materials Science and Engineering	Rutgers, The State University of New Jersey, Piscataway, NJ	Oct 2009
M.Sc.	Materials Science and Engineering	Worcester Polytechnic Institute, Worcester, MA	May 2006
B.A.	Physics	International Christian University, Mitaka, Tokyo	June 2003

Current Appointment:

2009 – Present Newton International Fellow, The British Academy/The Royal Society, Department of Materials, Imperial College London.

Previous Appointments:

2006 – 2009 Ph.D. Graduate Assistantship, Department of Materials Science and Engineering, Rutgers University, NJ.

2004 – 2006 M.Sc. Teaching and Research Assistantship, Department of Mechanical Engineering, Worcester Polytechnic Institute, MA.

Current Research and Synergistic Activities:

- Conducting multiple research projects including growth and chemical synthesis of graphene, electronic transport studies on graphene-based systems and development of graphene-based electrical, opto-electrical, and electro-acoustic devices.
- Co-supervising internal and external graduate students on their research projects
- Monitoring and maintaining laboratory safety procedures.
- Assisting in procuring research grants.

Previous Research:

Ph.D. dissertation: Solution-processed thin film electronic materials from single-walled carbon nanotubes and graphene. Fabricated solution-processed thin film electronic devices consisting of single-walled carbon nanotubes and graphene and investigated their opto-electronic properties.

M.Sc. dissertation: Effects of solution rheology on electrospinning of polystyrene. Fabricated electrospun polymer fibers and evaluated its structural dependence on various rheological parameters.

B.A. dissertation: Nitrogen-doped diamond cathode for multi-beam electron lithography. Synthesized polycrystalline diamond, tested its field emission properties and evaluated its applicability in electron beam lithography.

Funding:

- The British Academy/The Royal Society, “Large-Area Thin Films from Graphene,” £100,000, Aug 2009 – July 2011.
- European Materials Research Society, Travel bursary, $1,000, June 2009.
- Rutgers University, Merit stipend, $1,000, April 2009.
- IDTechEx Ltd., Travel bursary, $1,000, Dec 2008.
- The Japanese Ministry of Education, Culture, Sports, Science and Technology, “Effects of Solution Rheology on Electrospinning of Polystyrene,” $30,000, Aug 2004 – July 2006.

Awards:

- Outstanding Young Scientist Award, European Materials Research Society, June 2009.
- Dean's Award for Excellence in Graduate Research, Rutgers University, April 2009.
- Sigma Xi Research Award, Sigma Xi Scientific Research Society Worcester Polytechnic Institute Chapter, April 2006.
- Academic Scholarship for Japanese Scholars Overseas, the Japanese Ministry of Education, Culture, Sports, Science and Technology, 2004-2006.

Invited Talks:

- "Structural Disorder and Electronic Properties of Chemically Derived Graphene" International Conference on Science and technology of Synthetic Metals 2010 (Kyoto, Japan)
- "Graphene-based large-area thin films as flexible and transparent electronic materials" E-MRS 2009 (Strasbourg, France)
- "Graphene-based thin films for transparent and flexible electronics" Printed Electronics USA 2008 (San Jose, CA)

List of Publications:

(IF: impact factor, C: number of citations as of Sept 2010)

1. P. H. Wöbkenberg, **G. Eda**, D.-S. Leem, J. C. de Mello, D. D. C. Bradley, M. Chhowalla and T. D. Anthopoulos "Graphene electrodes for large area organic electronics" Under review at Nat. Mater.
2. J. Chen, C. Li, **G. Eda**, Y. Zhang, W. Deng, W. Lei, D. Chu, B. Wang, M. Chhowalla, and W. I. Milne "Incorporation of reduced graphene oxide in quantum dot sensitized solar cell based on ZnO nanorod" Under review at ACS nano.
3. W. Ki, J. Li, **G. Eda** and M. Chhowalla "Direct white light emission from inorganic-organic hybrid semiconductor bulk materials" J. Mater Chem. In Press (DOI: 10.1039/c0jm02213f). [IF: 4.8]
4. K. P. Loh, Q. Bao, **G. Eda**, and M. Chhowalla "Graphene Oxide as a Chemically Tunable Platform for Optical Applications" Nat. Chem. To appear.
5. **G. Eda** and M. Chhowalla "Chemically derived graphene oxide: Towards large-area thin film electronics and opto-electronics" Adv. Mater. 22, 2392 (2010). [IF: 8.38] (Most accessed article in Advanced Materials in May 2010).
6. P. Matyba, H. Yamaguchi, **G. Eda**, M. Chhowalla, L. Edman and N. D. Robinson "Graphene and mobile ions: The key to all-plastic, solution-processed light-emitting devices" ACS Nano 4, 637-642 (2010). [IF: 7.49] (Most accessed article in ACS Nano during Feb 2010. Featured in The Economist http://www.economist.com/sciencetechnology/displayStory.cfm?story_id=15543667 and a number of technology reviews)
7. H. Yamaguchi, **G. Eda**, C. Mattevi, H. Kim, and M. Chhowalla "Highly uniform 300 mm wafer-scale deposition of single and multi-layered chemically derived graphene thin films" ACS Nano 4, 524-528 (2010). [IF: 7.49] (Most read article in ACS Nano during Feb 2010. Featured in Nanotechweb: http://nanotechweb.org/cws/article/tech/41673)
8. **G. Eda**, Y.-Y. Lin, C. Mattevi, H. Yamaguchi, H.-A. Chen, I.-S. Chen, C.-W. Chen, and M. Chhowalla "Blue photoluminescence from chemically derived graphene oxide" Adv. Mater. 22, 505-509 (2009). [IF: 8.38] (Most accessed article in Advanced Materials in Nov 2009. Featured in Nanotechweb: http://nanotechweb.org/cws/article/tech/40577)
9. **G. Eda**, C. Mattevi, H. Yamaguchi, H. Kim and M. Chhowalla "Insulator to semi-metal transition in graphene oxide" J. Phys. Chem. C 113, 15768 (2009). [IF: 4.22]
10. H.E. Unalan, Y. Zhang, P. Hiralal, S. Dalal, D. Chu, **G. Eda**, K.B.K. Teo, M. Chhowalla W.I. Milne and G.A.J. Amaratunga "Zinc oxide nanowire networks for macroelectronic devices" Appl. Phys. Lett. 94, 163501 (2009). [IF: 3.55] (Research Highlight in Nature Nanotechnology: http://www.nature.com/nnano/reshigh/2009/0509/full/nnano.2009.120.html)
11. C. Mattevi, **G. Eda**, S. Agnoli, S. Miller, K.A. Mkhoyan, O. Celik, D. Mastrogiovanni, G. Granozzi, E. Garfunkel and M. Chhowalla "Evolution of electrical, chemical, and structural properties of transparent and conducting chemically derived graphene thin films" Adv.

Funct. Mater. 19, 1-7 (2009). [IF: 6.99 C: 21]

12. **G. Eda** and M. Chhowalla "Graphene-based composite thin films for electronics" Nano Lett. 9, 814-818 (2009). [IF: 9.99 C: 43] (Featured in Nanotechweb: http://nanotechweb.org/cws/article/tech/37670)
13. K.A. Mkhoyan, A.W. Contryman, J. Silcox, D.A. Stewart, **G. Eda**, C. Mattevi, S. Miller and M. Chhowalla "Atomic and electronic structure of graphene oxide" Nano Lett. 9, 1058-1063 (2009). [IF: 9.99 C: 40]
14. **G. Eda**, H.E. Unalan, N.L. Rupesinghe, G.A.J. Amaratunga and M. Chhowalla "Field emission from graphene based composite thin films" Appl. Phys. Lett. 93, 233502 (2008). [IF: 3.55 C: 21]
15. **G. Eda**, Y.-Y. Lin, S. Miller, C.-W. Chen, W.-F. Su and M. Chhowalla "Transparent and conducting electrodes for organic electronics from reduced graphene oxide" Appl. Phys. Lett. 92, 233305 (2008). [IF: 3.55 C: 27]
16. **G. Eda**, G. Fanchini, A. Kanwal and M. Chhowalla "Bundling dynamics of single walled carbon nanotubes in aqueous suspensions" J. Appl. Phys. 103, 093118 (2008). [IF: 2.07]
17. **G. Eda**, G. Fanchini and M. Chhowalla "Large-area ultrathin films of reduced graphene oxide as a transparent and flexible electronic material" Nature Nanotech. 3, 270-274 (2008). [IF: 26.3 C: 244] (See also News and Views by Prof. John A. Rogers [Rogers Nature Nanotech. 3, 254 (2008)]. Featured in several technology reviews.)
18. B.B. Parekh, G. Fanchini, **G. Eda** and M. Chhowalla "Improved conductivity of transparent single-wall carbon nanotube thin films via stable postdeposition functionalization" Appl. Phys. Lett. 90, 121913 (2007). [IF: 3.55 C: 52]
19. **G. Eda** and S. Shivkumar "Bead-to-fiber transition in electrospun polystyrene" J. Appl. Polym. Sci. 106, 475-487 (2007). [IF: 1.20]
20. **G. Eda**, J. Liu and S. Shivkumar "Flight path of electrospun polystyrene solutions: Effects of molecular weight and concentration" Mater. Lett. 61, 1451-1455 (2007). [IF: 1.94]
21. **G. Eda**, L. Liu and S. Shivkumar "Solvent effects on jet evolution during electrospinning of semi-dilute polystyrene solution" Eur. Polym. J. 43, 1154-1167 (2007). [IF: 2.3 C: 13]
22. **G. Eda** and S. Shivkumar "Bead structure variations during electrospinning of polystyrene" J. Mater. Sci. 41, 5704-5078 (2006). [IF: 1.47]

References:

Prof. Manish Chhowalla
Professor
Department of Materials Science and Engineering
Rutgers, The State University of New Jersey
607 Taylor Road, Piscataway
NJ 08854,USA
Tel: +1 (732) 445 5619
Fax: +1 (732) 445 3258
Email: manish1@rci.rutgers.edu

Prof. Bill Milne
Professor
Department of Engineering
Electrical Engineering Division, CAPE Building
University of Cambridge
9 JJ Thomson Avenue
Cambridge CB3 0FA, UK
Tel: +44 (0)12 2374 8333
Fax: +44 (0)12 2374 8348
E-mail: wim1@cam.ac.uk

Prof. Lesley Cohen
Professor
Department of Physics
Imperial College London
London SW7 2AZ, UK
Tel: +44 (0)20 7594 7598
E-mail: l.cohen@imperial.ac.uk