

HALEH ARDEBILI

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EDUCATION

Institution	Major/Area	Degree	Year
Penn State University at University Park	Engineering Science & Mechanics	B.S. Honors	1994
Johns Hopkins University	Mechanical Engineering	M.S.	1996
University of Maryland at College Park	Mechanical Engineering	Ph.D.	2001

APPOINTMENTS

Assistant Professor, University of Houston	Sep 2010 - present
Postdoctoral Research Fellow, Rice University	2009 - 2010
Lecturer, University of Houston	2004 - 2010
Research Scientist, General Electric R&D at Niskayuna	2000 - 2003

AWARDS and HONORS

- NSF CAREER Award (2013-2018)
- Texas Space Grant Consortium Award (2014-2015)
- Cullen College of Engineering Outstanding Teacher Award (2013)
- TcSUH Award (2010-2014)
- New Faculty Award (2010)
- Top selected image for “Science as Art” Exhibition and Contest at MRS Conference from over 200 original submissions (2011)
- Invention Fulcrum of Progress-General Electric Award to Inventors, 2003
- Women in Science Award from Saint John’s University, NY, 1988

PUBLICATIONS

BOOK

Ardebili, H., and Pecht, M., *Encapsulation Technologies for Electronic Applications*, Elsevier, 2009

JOURNAL

1. Li, Q., and **Ardebili, H.**, “Solid-like ionic liquid based polymer electrolyte in flexible lithium ion batteries”, *in review*, 2015.
2. Dizon-Kelly, T., and **Ardebili, H.**, “Li ion conduction in stretchable solid polymer electrolyte during tensile displacement”, *in review*, 2015.
3. Kammoun, M., Berg, S., and **Ardebili, H.**, “Flexible solid-state lithium ion batteries with polyethylene oxide-graphene oxide electrolyte”, *in review*, 2015.
4. Yuan, M., Erdman, J., Tang, C. and **Ardebili, H.**, “High performance solid polymer electrolyte with graphene oxide nanosheets”, *RSC Advances*, 2014. DOI: 10.1039/c4ra07919a
5. Li, Q. and **Ardebili, H.**, “Atomistic investigation of the nanoparticle size and shape effects on ionic conductivity of solid polymer electrolytes”, *Solid State Ionics*, DOI: 10.1016/j.ssi.2014.10.014
6. Walker, W., and **Ardebili, H.**, “Thermo-electrochemical analysis of lithium ion batteries for space applications using Thermal Desktop”, *Journal of Power Sources*, Vol. 269, pp. 486–497, 2014.
7. Kammoun, M., Lundquist, L. and **Ardebili, H.** "High proton conductivity membrane with coconut shell activated carbon" *Ionic*s (2014)
8. Li, Q., Wood, E. and **Ardebili, H.**, “Elucidating the mechanisms of ion conductivity enhancement in polymer nanocomposite electrolytes for lithium ion batteries”, *Applied Physics Letters*, 2013.
9. A. R. Adhikari, Rusakova, I, **Ardebili, H.**, Luisi, J. Panova, N. I., Laezza, F., and Chu, W-K., “Thermal property and assessment of biocompatibility of poly(lactic-co-glycolic) acid/graphene nanocomposites”, *Journal of Applied Physics* 115, 054701, 2014.
10. Tang, C., Hackenberg, K., Fu, Q., Ajayan, P.M. and **Ardebili, H.**, “High ion conducting polymer nanocomposite electrolytes using hybrid nanofillers”, *Nano Letters* 12 (3), pp.1152–1156, 2012.
11. Li, Q., Patel, C., and **Ardebili, H.**, “Mitigating the dead-layer effect in nanocapacitors using graded dielectric film”, *International Journal of Smart and Nano Materials*, Vol. 3, Issue 1, pp.23-32, 2012.
12. Tabatabaei, S., Kumar, A., **Ardebili, H.**, Loos, P.J., and Ajayan, P.M., “Synthesis of Au-Sn alloy nanoparticles for lead-free electronics with unique combination of low and high melting temperatures”, *Microelectronics Reliability*, April 2012.
13. Sharma, P., Ganti, S., **Ardebili, H.**, and Alizadeh, A., “Scaling of thermal stresses in passivated nano-interconnects”, *Journal of Applied Physics*, 95, No. 5, p 2763, 2004.
14. **Ardebili, H.**, Wong, E.H., and Pecht, M., “Hygroscopic swelling and sorption characteristics of epoxy molding compounds used in electronic packaging”, *IEEE Transactions on Components and Packaging Technologies*, Vol. 26, No.1, p.206-214, March 2003.
15. **Ardebili, H.**, Hillman, C., Natishan, M., McCluskey, Pecht, M., and Peterson, D., "A comparison of the theory of moisture diffusion in plastic encapsulated microelectronics with

moisture sensor chip and weight-gain measurements", *IEEE Transactions on Components and Packaging Technologies*, Vol. 25, No.1, pp. 132-139, March 2002.

16. Sharma, P., **Ardebili, H.** and Loman, J., "A note on the thermal stresses in passivated metal interconnects", *Applied Physics Letters*, Vol. 79, No. 11, p 1706, 2001.
17. Pecht, M., **Ardebili, H.**, Shukla, A.A., Hagge, J.K., and Jennings, D., "Moisture ingress into organic laminates", *IEEE Transactions on Components and Packaging Technologies*, Vol. 22, No.1, pp.104-110, March 1999.

INVITED TALKS

- The Minerals, Metals & Materials Society (TMS), San Diego, CA, March 2015
- Composites at Lake Louise, Canada, Nov 2015
- The Minerals, Metals & Materials Society (TMS), San Diego, CA, Feb 2014
- Composites at Lake Louise, Canada, Nov 2013
- Advances in Batteries, American Chemical Society (ACS), New Orleans, LA, April 2013
- Nanomaterials Symposium, The Minerals, Metals & Materials Society (TMS), San Antonio, TX, March 2013
- Seminar at Iowa State University, Ames, Sep 2012
- 67th Southwest Regional Meeting (SWRM2011) of the ACS, Symposium on Nanomaterials for Energy Conversion and Storage Applications, Austin, TX, Nov 2011
- International Conference and Workshop on Nanostructured Ceramics and other Nanomaterials (ICWNCN), New Delhi, India, March 2012

PATENT

Baumgartner, C.E., Fobare, D.F., DeJule, M.C., Wei, C.Y., Hennessy, W.A., Wojnarowski, R.J., **Ardebili, H.**, Burdick, Jr., W.E. "Direct CsI scintillator coating for improved digital X-ray detector assembly longevity", Patent No. 6,720,561, April 13, 2004

ACADEMIC and PUBLIC SERVICE

- Served as a reviewer for National Science Foundation, and National Research Foundation (Singapore), Nanoscale, Journal of Materials, Current Applied Physics, Journal of Visualized Experiments, Journal of Physical Chemistry, Journal of Applied Polymer Science, Journal of Applied Sciences, IEEE Transactions on Electronics Packaging Manufacturing, Microelectronics Reliability.
- Lead-organizer, MRS symposium 2013 "Transport Properties In Nanocomposites", Boston, Dec 2013; Editor of MRS TT symposium proceedings.
- Co-organizer, MRS symposium, "Mechanics of Energy Storage and Conversion", Spring 2015; Lead-organizer, MRS symposium, 2016.
- Contributor to the Houston Public Radio Program "Engines of our Ingenuity", 2012-present