

VENKATASUBRAMANIAN VISWANATHAN

Ph.D Candidate,
Flow Physics and Computational Engineering,
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Educational Qualifications

Year	Degree	Institute	CGPA	Rank
2008-	Ph.D. Mechanical Engineering	Stanford University	4.1/4.0	
2003-08	B.Tech/M.Tech Mechanical Engineering Major: Energy Technology	IIT Madras	9.18/10.0	1

Awards

2010	ECS Daniel Cubicciotti Award for electrochemistry research		
2009-10	United Technologies Fellow for Sustainable Energy research		
2009	ECS Herbert H. Uhlig Summer Fellow		
2008	Massachusetts Institute of Technology Energy Initiative Fellowship		
2008	California Institute of Technology Dean's Fellowship		
2008	Cornell University Graduate Fellowship		
2008	Best All-rounder award at IIT Madras Excellence in academics, co-curricular and extra-curricular activities		
2008	Bosch Best Thesis prize at IIT Madras Best research project at Graduate level, IIT Madras		
2008	Institute Merit prize at IIT Madras Awarded for the best academic record in Mechanical Engineering, IIT Madras		
2008	CAMD Summer School Fellowship , Technical University of Denmark		
2007	GE Foundation Scholar Awarded for excellence in academics and leadership skills		
2003	Gold Medalist , Indian National Chemistry Olympiad		

Research Internships/Visiting Researcher

Jun - Sep 2010	Battery Modelling group	BOSCH RTC, PALO ALTO
Aug 2008	Center for Atomic Scale Material Design Department of Physics	TECHNICAL UNIVERSITY OF DENMARK
May-Jul 2008	Department of Computer Science and Mathematics	TECHNICAL UNIVERSITY OF EINDHOVEN
May-Oct 2007	Flow Physics and Computational Engineering	STANFORD UNIVERSITY
May-Aug 2006	Department of Mechanical Engineering	

Publications

1. V. VISWANATHAN, G. GIRISHKUMAR, A. LUNTZ, K. THYGESEN, J.S. HUMMELSHØJ AND J. K. NØRSKOV, *Electrical conductivity in Li_2O_2 and its role in determining capacity limitations in non-aqueous Li- O_2 batteries*, J. Chem. Phys., 135, 214704 (2011).
2. V. VISWANATHAN, AND F. WANG, *Theoretical analysis of the effect of particle size and support on the kinetics of oxygen reduction reaction on Platinum nanoparticles*, ACS Catalysis (in revision)
3. V. VISWANATHAN, H. A. HANSEN, J. ROSSMEISL, T. JARAMILLO, H. PITSCH, AND J. K. NØRSKOV, *Simulating cyclic voltammetry from first-principles: Application to water discharge reaction on Pt and $Pt_3Ni(111)$* , J. Phys. Chem. C, (2011) DOI:10.1021/jp210802q.
4. D. FRIEBEL, V. VISWANATHAN, D. J. MILLER, A. LARSEN, T. ANNIYEV, H. OGASAWARA, A. NILSSON, AND J. K. NØRSKOV, *Balance of nanostructure and bimetallic interactions in Pt model fuel cell catalysts: An in situ XAS and DFT study*, J. Am. Chem. Soc., (2011) (submitted).
5. B.C. HAN, V. VISWANATHAN, AND H. PITSCH, *First-principles based analysis of electrocatalytic activity of Pt(100) surface for oxygen reduction reaction*, J. Phys. Chem. C, (2011) (in revision).
6. V. VISWANATHAN, F. WANG, AND H. PITSCH, *Generalized Monte-Carlo based framework for simulating catalytic and electrocatalytic systems*, Computing in Science and Engineering, DOI: 10.1109/MCSE.2011.40 .
7. V. VISWANATHAN, V. RAI, AND H. PITSCH, *First-principles-based reaction kinetics model for oxygen reduction reaction on $Pt_3Ni(111)$* , ECS Transactions 25 (1), 1353 (2009).
8. J.S. HUMMELSHØJ,...,V. VISWANATHAN,..., AND T. VEGGE, *DFT based screening of ternary alkali-transition metal borohydrides - a computational materials design project*, J. Chem. Phys. **131** 014101 (2009).
9. V. VISWANATHAN, M. SANKARAN, B. VISWANATHAN, AND R. SUBRAMANIAN, *Tungsten carbide as possible support for Pt in electrochemical reactions*, Bull. Cat. Soc. India, 7 (2008) 146-152.

Research talks

- Dec 2011 Role of new materials in Catalysis, IIT Madras
- Dec 2011 GM, GE, Shell R& D, India
- Apr 2010 United Technologies Research Center, Hartford, CT
- Mar 2010 American Chemical Society National Meeting, San Francisco
- Oct 2009 Electrochemical Society Meeting, Vienna
- May 2009 Electrochemical Society Meeting, San Francisco
- Mar 2009 American Chemical Society National Meeting, Salt Lake City
- Aug 2008 Seminar, Technical University of Denmark, Netherlands
- Jul 2008 Chemical Engineering Colloquium, Technical University of Eindhoven, Netherlands
- Jun 2008 van Marum Colloquia, Leiden University, Netherlands