

DAN STEINGART

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Education

University of California, Berkeley, CA — PhD in Materials Science and Engineering, 2006
Dissertation on Printed, On-Chip Electrochemical Storage

University of California, Berkeley, CA — MS in Materials Science and Engineering, 2002
Thesis on Zinc-Air Fuel Cells

Brown University, Providence, RI — ScB with Honors in Engineering, 2000

Work Experience

Lecturer, University of California Berkeley, CA - 2007

Taught an upper division materials production course

Postdoctoral Specialist, University of California Berkeley, CA - 2007

Ran a laboratory specializing in printing standard and novel materials for energy production, including batteries, capacitors, thermoelectrics and piezoelectrics

Co-founder and CTO, Wireless Industrial Technologies Berkeley, CA 2006-2007

Began a company using wireless mesh networks to optimize electricity use and minimize emissions in large-scale, distributed primary metals production plants

Consultant, Bokler Berkeley, CA 2006

Developed a system for relaying messages between paramedics for front line triage

Consultant, LV Sensors Emeryville, CA 2006

Advised on power systems for automotive sensor networks

Researcher, Nanotechnology Research Institute AIST Tsukuba, Japan 2005

Worked on a purely additive process to printed nano-structured and micron-structured conductive and dielectric elements, as well as electrochemical structures

Graduate Student Researcher, University of California Berkeley, CA 2000 - 2006

Worked in laboratories exploring electrochemical processing of materials, battery fabrication, alternative fuel cell design, and application spaces of wireless sensor networks

Awards Received

ISSCC Design Award for "Picocube" – 2008

NSF SBIR Phase 1 Awardee - 2007

Noyce Student Fellow - Intel Corporation - 2003 - 2006

Summer Fellow - Japan Society for the Promotion of Science - 2005

EAPSI Summer Grant Recipient - National Science Foundation - 2005

Cubiciotti Student Award - Electrochemical Society - 2005

Management of Technology Fellowship - University of California, Berkeley - 2002

Jane Lewis Fellowship - University of California, Berkeley - 2000 - 2002

Publications

Steingart D, Roundy S, Wright PK, Evans JW "Micropower for Microsensors" *MRS Bulletin* April 2008

Steingart D, Evans J Redfern A, Wright P, Dando N, Xu W, Gershenson M, Van der Meyden H "Wireless Measurement of Duct Temperatures on Aluminum Smelting Pots: Correlation to Roofline HF Concentration" *TMS Light Metals* 2008

Steingart D, Evans J, Wright P, Ziegler D "Experiments on Wireless Measurement of Anode Currents in Hall Cells" *TMS Light Metals* 2008

Steingart D, Ho C, Salminen J, Evans JW, Wright PK "Dispenser Printing of Solid Polymer-Ionic Liquid Electrolytes for Lithium Ion Cells" *IEEE Polytronics 2007*, pp. 261 - 264 (2007)

Marcolongo P, Evans JW, Steingart D "A Novel, Inexpensive and Rugged Probe for Measuring Gas Bubbles in Liquid Metals" *Light Metals 2007*, pp 673-677 M. Sorlie ed., TMS, Warrendale, PA (2007)

Otis B, Gambini S, Shah R, Steingart D, Quévy E, Rabaey J, Wright PK "Modeling and Simulation Techniques for Highly Integrated, Low Power Wireless Sensor Networks" *IET Comput. Digit. Tech.*, pp. 528 – 531(2007)

Steingart D, Evans JW, "Simulation of granular flow in 2-D hoppers using the Caram - Hong model" *Chemical Engineering Science* 62(4) pp. 1155-1160. 2007

Schneider M, Steingart D, Evans JW, Wright PK, Ziegler D "Further Results from the Wireless Instrumentation of Hall-Héroult Cells" *Light Metals 2006*, pp. 331-335 ,H. Kvande ed., TMS, Warrendale, PA (2006)

Steingart D, Ho C, Redfern A, Evans JW, Wright PK "Jonny Galvo: A Wireless, Low Cost, Nanoamp Resolution Galvanostat", *ECS Transactions* Vol 1, 2006

Steingart D, Evans JW, "Measurements of granular flows in two-dimensional hoppers by particle image velocimetry. Part 1: experimental method and results" *Chemical Engineering Science* 60 (4), pp. 1043-1051, 2005

Schneider MH, Ziegler D, Wright PK, Steingart D, and Evans JW, "Experiments on Wireless Instrumentation of Potlines", 'Light Metals 2005', pp. 407-412, H. Kvande ed., TMS, Warrendale, PA (2005)

Roundy S, Steingart D, Frechette L, Wright P, and Rabaey J, "Power Sources for Wireless Sensor Networks," *Lecture Notes in Computer Science* 2920, pp.1-17 2004

Jian KQ, Shim HS, Tuhus-Dubrow D, Bernstein S, Woodward C, Steingart D, Pfeffer M, Gournay T, Sachsmann S, Crawford GP, Hurt RH, "Liquid crystal surface anchoring of mesophase pitch" *Carbon* 41(11), 2003

Mazumdar D, Seybert C, Steingart D, Evans JW, "Transient Flow Phenomena in Steelmaking Ladles: A Computational and Experimental Study," *Journal of the International Steel Institute of Japan* 43 (1), pp. 132-134, 2003

Presentations

Steingart, D "Trends in Wireless Sensor Networks: Power Sources and Applications", Keynote Address WSAW 2007, Albacete Spain

Steingart D, Ho C, Salminen J, Evans JW, Wright PK "Dispenser Printing of Solid Polymer – Ionic Liquid Electrolytes for Lithium Ion Cells" *IEEE Polytronics Tokyo 2007*, Invited

Steingart D, Ho C, Salminen J, Evans JW, Wright PK "Dispenser Printing of Thick Film Lithium Polymer Ion Batteries" presented at the *Electrochemical Society Meeting*, Cancun Fall 2006

Steingart D, Ho C, Redfern A, Evans JW, Wright PK, "Modeling and Stencil/Screen Print Fabrication of Thick Film Lithium Polymer Ion Microbatteries for Smart Dust Applications" presented at the *Electrochemical Society Meeting*, Los Angeles Fall 2005, Invited

Steingart D, Ho C, Redfern A, Evans JW, Wright PK, "A Small, Low Cost Wireless Galvanostat based on Open Source Hardware and Software" presented at the *Electrochemical Society Meeting*, Los Angeles Fall 2005

Steingart D, Wilson J, Romero R, Lim L, Redfern A, Patton C, Wright P "Augmented Cognition for Fire Emergency Response: An Iterative User Study" presented on 7/27/05 at HCI International

Steingart D, "Methods of Using a Sol-Gel Derived V2O5 Electrode in a Solid State Li-Ion Microbattery Implementation," presented at the Naval Research Laboratory on 4/1/2005

Steingart D, Ho C, Evans JW, Wright PK, "Design of an On-Chip Secondary Lithium Ion Polymer Microbattery for Millimeter-Scale Wireless Nodes" *Advanced Materials for Energy Conversion II*, TMS 2004 pp. 339-343, presented at TMS 2004

Steingart D, "Micro Power Systems Overview" presented for the *Power Systems Workshop on Nanotechnology for the Intelligence Community* at the National Academy of Sciences, 10/09/03

Steingart D, Evans JW "Measurement and Modeling of Zinc Particle Motion through a Packed Bed" presented at TMS 2003, San Diego

Patents Pending

Steingart D, Kumai C, Redfern A, Ho C "Wireless Nanoamp Resolution Potentialstat Galvanostat" Assignee: The Regents of the University of California

Evans JW, Schneider MH, Steingart D, Wright PK, Ziegler DP, "Wireless Measurement Of Operating Parameter" Assignee: The Regents of the University of California

Steingart D, Evans JW "Apparatus For Determining The Current In A Conductor" Assignee: Wireless Industrial Technologies