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3093 Pualei Circle #310, Honolulu, HI 96815, USA



Education

2004		Ph. D. , Nantes Institute of Materials, Solid State Chemistry department	2001		Master's Engineering Degree at the ENSCI 'French Advanced Ceramics Engineering School'.
2001		Master's Degree (DEA) 'Materials' with 'ceramics specialization' at Limoges Science University.	1998		Bachelor of Technology (DUT) 'Physical Measurements' at the Limoges Institute of Technology (IUT).

Appointments

2005-present		Assistant Researcher (10-present) / Research Engineer (07-09) / Postdoctoral Fellow (05-06) within the Hawai'i Natural Energy Institute (HNEI) on battery diagnostics via high fidelity analysis and modeling.			
		<p>Battery performance evaluation of commercial Li-ion cells: 21 publications</p> <ul style="list-style-type: none"> Data mining and analysis via automated extraction, analysis and visualization, Path-dependent battery diagnosis and prognosis, Battery system management and cell variability. 	<p>Control, monitoring, modeling and simulation of Li-ion cells and packs: 23 publications, 2 patent (2016)</p> <ul style="list-style-type: none"> SOC, SOH and imbalance tracking in cells and packs, Invention of an operando degradation monitoring technique. Invention of an online pack level SOC & SOH recalibration algorithm. Field evaluation: EV fleet, 18 vehicles, > 100000 km & BESS systems >1MW, 250kWh. 	<p>Program management :</p> <ul style="list-style-type: none"> Started and leading HiSERF battery testing laboratory PI/Co-PI/Task leader on 10+ projects, funding \$1,500,000+. Funding from US Air Force, AFRL, ONR, US DOT, US DOE (EERE & EDER), SWRI, NAVAIR, and Better Place. Research supervision: 20+ Postdocs, students, interns, and staff. 	
2001-2004		PhD, Nantes Institute of Materials (IMN) , on the Synthesis, characterization and optimization of positive electrode materials for lithium battery applications. 7 publications			
		<p>Sol-gel synthesis: 3 patents (2004),</p> <ul style="list-style-type: none"> Developed a new synthesis route 50x faster than the state of the art, Elucidated the condensation mechanisms in sol and gel. 	<p>Electrodes optimization: 1 patent (2004),</p> <ul style="list-style-type: none"> Developed a one-step synthesis for carbon coated nano-composites, Improved cycleability from 33% to 90% retention after 50 cycles. 		
<2001	Other professional experiences:				

Scientific Production (53+2submitted)

20 h-index, 2000+ citations, details online at     & PDFs on 

Peer reviewed publications (41, 3 invited, 30 1st author), proceedings (12), and transactions (2).

Abstracts available by hyperlinks on title when available, PDFs available [here](#), * indicates student author

2017	<p>Durability and Reliability of EV Batteries Under Electric Utility Grid Operations. Part2: Bidirectional Charging Impact Analysis M. Dubarry, A. Devie*, and K. McKenzie Journal of Power Sources, 358, 39-49 (2017) doi:10.1016/j.jpowsour.2017.05.015</p>	<p>State of Health Battery Estimator Enabling Degradation Diagnosis: Model and Algorithm description M. Dubarry, M. Bercibar*, A. Devie*, D. Ansean*, N. Omar and I. Villarreal Journal of Power Sources, 360, 59-59 (2017) doi.org/10.1016/j.jpowsour.2017.05.121</p>
	<p>Operando lithium plating quantification and early detection of a commercial LiFePO4 cell cycled under dynamic driving schedule D. Anseán*, M. Dubarry, A. Devie*, B. Y. Liaw, V.M. García, J.C. Viera, M. González, Journal of Power Sources, 356, 36-46 (2017) doi: 10.1016/j.jpowsour.2017.04.072</p>	<p>BESS Battery Durability and Reliability under Electric Utility Grid Operations: Analysis of 3 years of real BESS usage M. Dubarry, A. Devie*, K. Stein, M. Tun, M. Matsuura and R. Rocheleau, Journal of Power Sources, 338, p.65-73 (2017) doi: 10.1016/j.jpowsour.2016.11.034</p>
2016	<p>Durability and Reliability of EV Batteries Under Electric Utility Grid Operations. Cell-to-cell variations and preliminary testing A. Devie*, and M. Dubarry, Batteries 2(3), 28 (2016). doi:10.3390/batteries2030028</p>	<p>Overcharge Study in Li4Ti5O12 Based Lithium-ion Pouch Cell II. Experimental Investigation of the Degradation Mechanism A. Devie*, M. Dubarry, H-P. Wu, T.-H. Wu and B. Y. Liaw, Journal of the Electrochemical Society, 163(13), A2611-A2617 (2016). doi: 10.1149/2.0491613jes</p>
	<p>Fast charging technique for high power LiFePO4 batteries: a mechanistic analysis of aging D. Anseán*, M. Dubarry, A. Devie*, B. Y. Liaw, V.M. García, J.C. Viera, M. González, Journal of Power Sources, 321, p. 201-209 (2016). doi:10.1016/j.jpowsour.2016.04.140</p>	<p>Online State of Health estimation on NMC cells based on Predictive Analytics M. Bercibar*, F. Devriendt, M. Dubarry, I. Villarreal, N. Omar, W. Verbeke, J. Van Mierloz, Journal of Power Sources, 320, p.239-250 (2016). doi:10.1016/j.jpowsour.2016.04.109</p>
2015	<p>Cell-balancing current in parallel strings of a battery system M. Dubarry, A. Devie* and B. Y. Liaw, Journal of Power Sources, 321, p. 36-46 (2016). doi:10.1016/j.jpowsour.2016.04.125</p>	<p>Single-point probes for lithium-ion battery fault detection and temperature monitoring C. T. Love, K.E. Swider-Lyons, T. Reshetyenko, M. Dubarry, A. Devie and R. Rocheleau, 33rd Annual International Battery Seminar and Exhibit: Advanced Battery Technologies for Consumer, Automotive and Military Applications.</p>
	<p>Degradation Mechanisms Detection for HP and HE NMC Cells Based on Incremental Capacity Curves M. Bercibar*, M. Dubarry, I. Villarreal, N. Omar, J. Van Mierlo, Proceedings of the 2016 IEEE Vehicle Power and Propulsion Conference (VPPC), Hangzhou, China (2016). doi: 10.1109/VPPC.2016.7791648</p>	<p>Degradation Mechanisms Detection for NMC Batteries Based on Incremental Capacity Curves M. Bercibar*, M. Dubarry, N. Omar, I. Villarreal, J. Van Mierlo, Proceedings of the 2016 Electric Vehicle Symposium & Exhibition (EVS29), Montreal, Canada (2016).</p>
	<p>State-of-Charge Determination in Lithium-Ion Battery Packs Based on Two-Point Measurements in Life M. Dubarry, C. Truchot*, A. Devie* and B. Y. Liaw, J. Electrochem. Soc, 162(6), p. A877 (2015). doi:10.1149/2.0201506jes</p>	<p>Overcharge Study in Li4Ti5O12-based Lithium-ion Pouch Cell. Part 1: Quantitative Diagnosis of Degradation Modes A. Devie*, M. Dubarry and B. Y. Liaw, J. Electrochem. Soc, 162(6), p. A1033 (2015). doi:10.1149/2.0941506jes</p>
	<p>SOH estimation and prediction for NMC cells based on degradation mechanism detection M. Bercibar, N. Omar, M. Garmendia, I. Villarreal, P. Van den Bossche, J. Van Mierlo, M. Dubarry, Proceedings of the 2015 IEEE Vehicle Power and Propulsion Conference (VPPC), Montreal, Canada (2015). doi: 10.1109/VPPC.2015.7353020</p>	<p>Evaluation of Commercial Lithium-ion Cells Based on Composite Positive Electrode for PHEV Applications. Part IV. Over-Discharge Phenomena. M. Dubarry, C. Truchot*, A. Devie*, B. Y. Liaw, K. Gering, S. Sazhin, D. Jamison, C. Michelbacher, J. Electrochem. Soc., 162(9), p. A1-A6 (2015). doi:10.1149/2.0481509jes</p>
2014	<p>Cell Degradation in Commercial LiFePO4 Cells with High-Power and High-Energy Designs M. Dubarry, C. Truchot*, and B. Y. Liaw, J. Power Sources, 258, p.408 (2014). doi:10.1016/j.jpowsour.2014.02.052</p>	<p>State-of-Charge Estimation and Uncertainty for Lithium-ion Battery Strings C. Truchot*, M. Dubarry, and B. Y. Liaw, Applied Energy, 119, p.218 (2014). doi:10.1016/j.apenergy.2013.12.046</p>
	<p>The Value of Battery Diagnostics and Prognostics M. Dubarry, A. Devie* and B. Y. Liaw, Journal of Energy and Power Sources, 1(5), p. 242-249, (2014), invited paper.</p>	<p>Diagnostics of Li-Ion Commercial Cells, Experimental Case Studies. A. Devie*, M. Dubarry and B. Y. Liaw, ECS Transactions, 58(48), p.193 (2014). doi:10.1149/05848.0193ecst</p>
2013	<p>The Value of Battery Diagnostics and Prognostics B. Y. Liaw, A. Devie* and M. Dubarry, Proceedings of the 46th Power Sources Conference, 33-5, (2014).</p>	<p>Evaluation of commercial lithium-ion cells based on composite positive electrode for plug-in hybrid electric vehicle applications. Part III. Effect of thermal excursions without prolonged thermal aging M. Dubarry, C. Truchot*, and B. Y. Liaw, K. Gering, S. Sazhin, D. Jamison, C. Michelbacher, J. Electrochem. Soc, 160(2), p. A191 (2013). doi:10.1149/2.063301jes</p>
2012	<p>Synthesize battery degradation modes via a diagnostic and prognostic model M. Dubarry, C. Truchot*, and B. Y. Liaw, J. Power Sources, 219, p.204 (2012). doi:10.1016/j.jpowsour.2012.07.016</p>	<p>A Unique Mechanistic Model for Battery Diagnosis and Prognosis M. Dubarry, C. Truchot*, and B. Y. Liaw, Proceedings of the 45th Power Sources Conference, p. 127 (2012).</p>
2011	<p>Evaluation of Commercial Lithium-ion Cells Based on Composite Positive Electrode for Plug-in Hybrid Electric Vehicle (PHEV) Applications. II. Degradation Mechanism under 2 C Cycle Aging M. Dubarry, C. Truchot*, M. Cugnet, B. Y. Liaw, K. Gering, S. Sazhin, D. Jamison, C. Michelbacher, J. Power Sources, 196(23), p. 10336 (2011). doi:10.1016/j.jpowsour.2011.08.078</p>	<p>Evaluation of Commercial Lithium-ion Cells Based on Composite Positive Electrode for Plug-in Hybrid Electric Vehicle (PHEV) Applications. Part I. Initial Characterizations M. Dubarry, C. Truchot*, M. Cugnet, B. Y. Liaw, K. Gering, S. Sazhin, D. Jamison, C. Michelbacher, J. Power Sources, 196(23), p. 10328 (2011). doi:10.1016/j.jpowsour.2011.08.077</p>

	<p>Investigation of path dependence in commercial lithium-ion cells chosen for plug-in hybrid vehicle duty cycle protocols. <i>K. L. Gering, S. V. Sazhin, D. K. Jamison, C. J. Michelbacher, B. Y. Liaw, M. Dubarry, M. Cugnet*</i>, J. Power Sources, 196(7), p. 3395 (2011). doi:10.1016/j.jpowsour.2010.05.058</p>	<p>Identifying battery aging mechanisms in large format Li ion cells <i>M. Dubarry, B. Y. Liaw, M.-S. Chen, S.-S. Chyan, K.C. Han, W.-T. Sie, S.H. Wu</i>, J. Power Sources, 196(7), p. 3420 (2011). doi:10.1016/j.jpowsour.2010.07.029</p>
2010	<p>Origins and accommodation of cell variations in Li-ion battery pack modeling <i>M. Dubarry, N. Vuillaume* and B. Y. Liaw</i>, International Journal of Energy Research 34(2), p.216 (2010), invited paper. doi:10.1002/er.1668</p>	<p>Peukert's Law of a Lead-Acid Battery Simulated by a Mathematical Model <i>M. Cugnet, M. Dubarry and B. Y. Liaw</i>, ECS Transactions, 25 (35) 223-233 (2010). doi:10.1149/1.3414021</p>
	<p>Comparison of Photovoltaic Module Performance at Pu'u Wa'a Wa'a <i>S. Busquet, J. Torres, M. Dubarry, M. Ewan, B. Y. Liaw, L. Cutshaw, R. Rocheleau</i>, PV conference, PVSC 35, pp 2666-2671, Honolulu, HI, USA, June 20-25, 2010. doi:10.1109/PVSC.2010.5617104</p>	<p>Ultrafast Synthesis of $\text{Li}_{1+x}\text{V}_3\text{O}_8$ Gel Precursors for Lithium Batteries Applications <i>M. Dubarry, J. Gaubicher, N. Dupré, C. Grey and D. Guyomard</i>, Solid State Ionics, 180(32-35) p. 1511 (2009). doi:10.1016/j.ssi.2009.09.010</p>
2009	<p>Identify Capacity Fading Mechanism in a Commercial LiFePO_4 Cell. <i>M. Dubarry and B.Y Liaw</i>, J. Power Sources, 194(1), p. 541 (2009). doi:10.1016/j.jpowsour.2009.05.036</p>	<p>From single cell model to battery pack simulation for Li-ion batteries <i>M. Dubarry, N. Vuillaume* and B. Y. Liaw</i>, J. Power Sources, 186(2), p. 500 (2009). doi:10.1016/j.jpowsour.2008.10.051</p>
2008	<p>From Li-ion single cell model to battery pack simulation <i>M. Dubarry, N. Vuillaume*, and B. Y. Liaw</i>, Proceedings of the IEEE International Conference on Control Applications 2008, Article number 4629598, p. 708 (2008). doi:10.1109/CCA.2008.4629598</p>	<p>Uncommon potential hysteresis in the $\text{Li} / \text{Li}_x\text{VO}(\text{H}_{2-x}\text{PO}_4)_2$ ($0 < x < 2$) system <i>M. Dubarry, J. Gaubicher, G. Wallez, P. Moreau, M. Quarton and D. Guyomard</i>, Electrochim. Acta, 53(13), p. 4564 (2008). doi:10.1016/j.electacta.2007.12.085</p>
	<p>Diagnostic of a Battery Pack Reliability and Life via Modeling and Simulation <i>M. Dubarry and B. Y. Liaw</i>, Proceedings of the 43rd Power Sources Conference, p. 43 (2008).</p>	<p>Analysis of a Hybrid Power Source Using Fuzzy Logic Recognition Tool <i>M. Dubarry, N. Vuillaume*, and B. Y. Liaw</i>, Proceedings of the 43rd Power Sources Conference, p. 237 (2008).</p>
	<p>Battery State of Health Monitoring Using Electrochemical Techniques <i>M. Dubarry and B. Y. Liaw</i>, Proceedings of the 43rd Power Sources Conference, p. 437 (2008).</p>	
2007	<p>Capacity and Power Fading Mechanism Identification From a Commercial Cell Evaluation <i>M. Dubarry, V. Svoboda, R. Hwu*, B.Y. Liaw</i>, J. Power Sources, 165(2), 566 (2007). doi:10.1016/j.jpowsour.2006.10.046</p>	<p>From Driving Cycle Analysis to Understanding Battery Performance in Real-Life Electric Hybrid Vehicle Operation <i>B. Y. Liaw and M. Dubarry</i>, J. Power Sources, 174(1), p. 76 (2007). invited paper on the Special Issue on Hybrid Electric Vehicles. doi:10.1016/j.jpowsour.2007.06.010</p>
	<p>A Roadmap to Understand Battery Performance in Electric and Hybrid Vehicle Operation <i>M. Dubarry, V. Svoboda, R. Hwu*, B.Y. Liaw</i>, J. Power Sources, 174(2), 366 (2007). doi:10.1016/j.jpowsour.2007.06.237</p>	<p>Development of a Universal Modeling Tool for Rechargeable Lithium Batteries <i>M. Dubarry and B.Y. Liaw</i>, J. Power Sources, 174(2), p. 856 (2007). doi:10.1016/j.jpowsour.2007.06.157</p>
	<p>Capacity Loss in Rechargeable Lithium Cells During Cycle Life Testing: The Importance of Determining SOC <i>M. Dubarry, V. Svoboda, R. Hwu*, B.Y. Liaw</i>, J. Power Sources, 174(2), 1121 (2007). doi:10.1016/j.jpowsour.2007.06.185</p>	<p>Vehicle Evaluation, Battery Modeling, and Fleet-Testing Experiences in Hawaii: A Roadmap to Understanding Evaluation Data and Simulation <i>M. Dubarry, N. Vuillaume*, B. Y. Liaw and T. Quinn</i>, Journal of Asian Electric Vehicles, 5(2), p. 1033 (2007). doi:10.4130/jaev.5.1033</p>
2006	<p>Formation of $\text{Li}_{1+n}\text{V}_3\text{O}_8/\beta\text{-Li}_{1/3}\text{V}_2\text{O}_5/\text{C}$ Nanocomposites by Carbo-reduction and Resulting Improvement in Li Capacity Retention <i>M. Dubarry, J. Gaubicher, P. Moreau, and D. Guyomard</i>, J. Electrochem. Soc, 153 (2), p. A295 (2006). doi:10.1149/1.2142210</p>	<p>Atypical $\text{Li}_{1.1}\text{V}_3\text{O}_8$ prepared by novel synthesis route <i>A. Deptula, M. Dubarry, A. Noret*, J. Gaubicher, T. Olczak, W. Łada and D. Guyomard</i>, Electrochem. Solid State Lett., 9 (1), p. A16 (2006). doi:10.1149/1.2128124</p>
	<p>Formation of $\text{Li}_{1+n}\text{V}_3\text{O}_8/\beta\text{-Li}_{1/3}\text{V}_2\text{O}_5/\text{C}$ nanocomposites by carbo-reduction and resulting improvements of the capacity retention <i>M. Dubarry, J. Gaubicher, P. Moreau, and D. Guyomard</i>, Journal of Physics and Chemistry of Solids, 67(5-6), p.1312 (2006). doi:10.1016/j.jpics.2006.01.090</p>	<p>Incremental Capacity Analysis and Close-to-Equilibrium OCV Measurements to Quantify Capacity Fade in Commercial Rechargeable Lithium Batteries <i>M. Dubarry, V. Svoboda, R. Hwu* and B.L. Liaw</i>, Electrochem. Solid State Lett., 9(10), p. A454 (2006). doi:10.1149/1.2221767</p>
	<p>Sol Gel synthesis of $\text{Li}_{1+x}\text{V}_3\text{O}_8$. Part II, From Xerogel to the Anhydrous Material <i>M. Dubarry, J. Gaubicher, N. Steunou, N. Dupre, C. Grey, J. Livage and D. Guyomard</i>, Chem. Mater., 18, p. 629 (2006). doi:10.1021/cm051508+</p>	
2005	<p>Sol Gel Synthesis of $\text{Li}_{1+x}\text{V}_3\text{O}_8$. Part I, From Precursors to Xerogel <i>M. Dubarry, J. Gaubicher, O. Durupthy, N. Steunou, N. Dupre, C. Grey, J. Livage and D. Guyomard</i>, Chem. Mater., 17, p. 2276 (2005). doi:10.1021/cm047845k</p>	<p>Analysis of Electric Vehicle Usage of a Hyundai Santa Fe Fleet in Hawaii <i>M. Dubarry, M. Bonnet*, B. Dailliez*, A. Teeters and B. Y. Liaw</i>, Journal of Asian Electric Vehicles, 3(1), p. 657 (2005). doi:10.4130/jaev.3.657</p>
2004	<p>$\text{Li}_{1+x}\text{V}_3\text{O}_8$ gel and xerogel : A New Insight <i>M. Dubarry, J. Gaubicher, N. Steunou, J. Livage and D. Guyomard</i>, Chem. Mater., 16, p. 4867 (2004). doi:10.1021/cm0491734</p>	<p>$\text{Li}_x\text{VO}(\text{PO}_4)_2$: Synthesis, structure and electrochemical behavior <i>M. Dubarry, J. Gaubicher, G. Wallez, P. Moreau, M. Morcrette, M. Quarton and D. Guyomard</i>, Proceedings of the Symposium "Lithium and Lithium ion batteries", Orlando, Florida, October 2003. Vol. PV 2003-28, 2005.p. 321 (2004).</p>

2002

3D piezoelectric structures made by Ink Jet Printing

G. Senlis, [M. Dubarry](#), M. Lejeune and T. Chartier, *Ferroelectrics*, **273**, p. 279 (2002).
doi:10.1080/00150190211767

Book Chapters (2)

Lead-Acid Battery Modeling

M. Cugnet*, [M. Dubarry](#) and B. Y. Liaw,
Modeling. In: Juergen Garche, Chris Dyer, Patrick Moseley, Zempachi Ogumi, David Rand and Bruno Scrosati, editors. Encyclopedia of Electrochemical Power Sources, Vol 4. Amsterdam: Elsevier; 2009. p. 816.
ISBN: 978-0-444-52745-5

A Roadmap to Understand Battery Performance in Electric and Hybrid Vehicle Operation

[M. Dubarry](#) and B. Y. Liaw,
In: Gianfranco Pistoia, editor, Electric and Hybrid Vehicles. Elsevier, 2010, p. 375.
DOI: 10.1016/B978-0-444-53565-8.00015-4

Patents (4+1 pending)

Apparatus & Method for Estimating the State of Health of a Battery via updating the OCV and SOC relationship

[M. Dubarry](#) and A. Devie,
Patent with University of Hawaii. #15/444.163 Filed 02/27/2017

Matériau nanostructuré, procédé pour sa fabrication (Nanostructured material, method for the preparation thereof).

J. Gaubicher, D. Guyomard, [M. Dubarry](#), P. Moreau et M. Deschamps,
French Patent CNRS-BATSCAP n°0411243, 10/22/2004. International extension WO/2006/045923, 05/04/2006.

Oxyde de lithium et de vanadium $Li_{1+x}V_3O_8$, procédé pour sa préparation, (Lithium and vanadium oxide $Li_{1+x}V_3O_8$, method for the preparation thereof)

J. Gaubicher, B. Morel*, [M. Dubarry](#), D. Guyomard et M. Deschamps,
French Patent CNRS-BATSCAP n°0411310, 10/22/2004. International extension WO/2006/045922, 05/04/2006.

Procédé de fabrication de γ - LiV_2O_5 (Method for the preparation of γ - LiV_2O_5).

[M. Dubarry](#), B. Morel*, J. Gaubicher, D. Guyomard et M. Deschamps,
French Patent CNRS-BATSCAP n°0411312, 10/22/2004. International extension WO/2006/045921, 05/04/2006.

Procédé de préparation d'un oxyde de lithium et de vanadium du type $Li_{1+x}V_3O_8$ (Method for preparing a lithium and vanadium oxide of the $Li_{1+x}V_3O_8$ type).

D. Guyomard, [M. Dubarry](#), J. Gaubicher et M. Deschamps,
French Patent CNRS-BATSCAP n°0401799, 02/23/2004. International extension WO/2005/090237, 09/29/2005.

Invited lectures (19)

Oral communications: 120 (37+82 by co-authors) including 63 keynotes & invited lectures (19+44 by co-authors)

Posters communications: 41, 2 awards.

2 travel awards. Full listing available on demand.

<p>Non-intrusive operando battery diagnosis and prognosis M. Dubarry 12th Pacific Rim Conference on Ceramic and Glass Technology, Waikoloa, HI, USA, May 2017.</p>	<p>Hawai'i Energy Storage Overview Jay Griffin, Marc Matsuura, Matthieu Dubarry and Richard Rocheleau Hawaii Public Utility Commission Briefing, Honolulu, HI, December 2016.</p>
<p>EV Cell Degradation under Electric Utility Grid Operations: Impact of Calendar Aging & Vehicle to Grid Strategies M. Dubarry and A. Devie, Next Generation Energy Storage, San Diego, CA, April 2016.</p>	<p>Affordable, dynamic battery health indicator M. Dubarry and A. Devie University of Hawaii Technology Showcase Honolulu, HI, USA, May 2016.</p>
<p>Overcharge Study in $Li_4Ti_5O_{12}$ Based Lithium-Ion Pouch Cell M. Dubarry, A. Devie, and B. Y. Liaw, International Battery Association (IBA 2016), Nantes, France, March 2016.</p>	<p>Two-point state-of-charge determination in Li-ion battery packs M. Dubarry, A. Devie, and B. Y. Liaw, International Battery Association (IBA 2015), Waikoloa, HI, USA, January 2015.</p>
<p>Renewable Energies M. Dubarry, Summer Alternative Energy Workshop, Honolulu, HI, June 2014 Keynote speaker</p>	<p>Battery Diagnostic & Prognosis via emulation M. Dubarry, A. Devie, Battery Modelling for Industrial Applications workshop, Coventry, UK, Sept. 2014 Keynote speaker</p>
<p>Mechanistic Li-ion battery degradation diagnosis and prognosis M. Dubarry, C. Truchot and B.Y. Liaw, International Battery Association (IBA 2013), Barcelona, Spain, March 2013.</p>	<p>Battery diagnostics, High fidelity analysis and modeling M. Dubarry, and B.Y. Liaw, A lecture delivered at CICenergigune, Vitoria, Spain, March 2013.</p>
<p>Mechanistic model of battery degradation for diagnosis and prognosis M. Dubarry, C. Truchot and B.Y. Liaw, International Battery Association (IBA 2012), Waikoloa, HI, USA, January 2012.</p>	<p>Degradation of commercial Li-ion cells: diagnosis and prognosis via testing and simulation M. Dubarry, and B.Y. Liaw, A lecture delivered at the Institut des Matériaux, Nantes, France, January 2012.</p>
<p>Degradation of commercial Li-ion cells based on composite cathodes M. Dubarry, C. Truchot, B.Y. Liaw, European Material Research Society (EMRS 2011), Nice, France, June 2011.</p>	<p>Quantifying and accommodating cell-to-cell variations in a battery pack via testing and modeling M. Dubarry and B.Y. Liaw, International Battery Association (IBA 2010), Waikoloa, HI, USA, January 2010.</p>
<p>Battery systems for energy storage M. Dubarry and B.Y. Liaw, Asia Pacific Clean Energy Summit and Expo, Honolulu, HI, USA, August 2010.</p>	<p>Understanding Battery Pack Performance Issues M. Dubarry, N. Vuillaume and B.Y. Liaw, 2008 Battery Power, Dallas, USA, November 2008.</p>
<p>How to Identify Capacity Fading Mechanisms from Commercial Cells Evaluation M. Dubarry, V. Svoboda, R. Hwu and B.Y. Liaw, International Battery Association - Hawaii Battery Conf. (IBA-HBC 2006), Waikoloa, HI, USA, January 2006.</p>	<p>$Li_{1.1}V_3O_8$, from gel to solid: a new insight M. Dubarry, J. Gaubicher, N. Dupré, N. Steunou, C. Grey, J. Livage and D. Guyomard, International Battery Association (IBA 2004), Graz, Austria, April 2004.</p>

Recent Proposal History

Awarded	<p>Advanced Battery Research (ABR) Program #DE-AC07-05ID14517 Li-ion Battery Degradation Analysis and Life Prediction for PHEV Application Task leader, responsible for all aspects on research Period of Performance: 1/6/2008-31/5/2013 Amount awarded: ~\$600,000 <i>Sponsor: Department of Energy</i></p> 	<p>Asia Pacific Research Initiative for Sustainable Energy Systems 2015 (APRISSES15) Evaluation and modeling of commercial battery systems. Task leader, responsible for all aspects on research, personnel and budget Period of Performance: 1/9/2016-1/9/2020 Amount awarded: \$255,469 <i>Sponsor: Office of Naval Research</i></p> 
	<p>Electric Vehicle Transportation Center PPPR#1 - DOT Project #DTRT13-G-UTC51 Subtask 9: Electric Vehicle Battery Durability and Reliability Under Electric Utility Grid Operations Task leader, responsible for all aspects on research, personnel and budget Period of Performance: 1/9/2014-12/31/2016 Amount awarded: \$385,303 <i>Sponsor: Department of Transportation</i></p> 	<p>Asia Pacific Research Initiative for Sustainable Energy Systems 2016 (APRISSES16) Evaluation and modeling of commercial battery systems. Task leader, responsible for all aspects on research, personnel and budget Period of Performance: 1/9/2017-1/9/2021 Amount awarded: \$250,000 <i>Sponsor: Office of Naval Research</i></p> 

Further experience in applications to arpa-e, NSF and DOE. Details available on request



Teaching and Tutoring Experience

<p>Electrochemical Power Sources, Undergraduate, 3 credits (Spring 2015) Design and taught the class (8 students, Teaching Evaluation Mean Score: 4.37/5).</p>	<p>Tutoring Visiting scholars & postdocs (6) 2004-present Master's Degree (1) 2009-2012 Summer interns for European Degree programs (16)</p>
<p>Towards state-of-health diagnosis and prognosis of Li- and Na-ion cells: Incremental capacity and differential voltage analyses Short course, 2016 ECS PRIME, Honolulu, HI, USA, 2016</p>	<p>Battery History and Anatomy EV and Battery Technology Workshop at the EV Summit and Transportation Summit, Cocoa Beach, FL, USA, 10/2016.</p>
<p>Li-ion Batteries EV Technology Workshop at the EV Transportation and Technology Summit, Cocoa Beach, FL, USA, 10/2016.</p>	<p>Li-ion testing: Understanding the degradation EV Technology Workshop at the EV Transportation and Technology Summit, Cocoa Beach, FL, USA, 10/2016.</p>

Awards (5)

<p>University of Hawaii Faculty Travel Fund Award (\$2000). E-MRS Spring Meeting, Nice, France, May 2011.</p>	<p>Travel Grant award (\$2000) recognizing promising students in the science and engineering areas of electrochemical energy storage and conversion. 212th Meeting of the Electrochemical Society, Washington DC, USA, October 2007.</p>
<p>Best poster award 3rd price. International Battery Association (IBA 2004), Graz, Austria, April 2004.</p>	<p>Best poster award 1st price. ICPES2, India, December 2004.</p>
<p>Doctor-Engineer National PhD grant (~\$50,000) October 2001 - October 2004.</p>	

Outreach

<p>Hawaii State Of Clean Energy: Batteries & Storage Matthieu Dubarry and Marc Matsuura, ThinkTech Hawaii WebTV/Radio 30 min podcast, Honolulu, HI, June 2017.</p>	
<p>Hawai'i Energy Storage Overview Jay Griffin, Marc Matsuura, Matthieu Dubarry and Richard Rocheleau Hawaii Public Utility Commission Briefing, Honolulu, HI, December 2016.</p>	<p>Affordable, dynamic battery health indicator M. Dubarry and A. Devie University of Hawaii Technology Showcase Honolulu, HI, USA, May 2016</p>
<p>When will we have better batteries than lithium-ion for gadgets and electric vehicles? M. Dubarry and A. Devie, Article for TheConversation.com, a popular science website, May 2015.</p>	<p>Renewable Energies M. Dubarry, Summer Alternative Energy Workshop, Honolulu, HI, June 2014</p>

Consulting:

	<p>Voltaiq Battery degradation modeling April-May 2016</p>	
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Academic Service

Society membership



Editorial board



Conference chairmanships

Electrochemical Society (2012-present)
International Battery Association (2012-present)

Other professional service



Electrochemical Society Battery Division
2016-present.



Panelist, 2017 Office of Science Basic Research Needs for Electrical Energy Storage Workshop, Gaithersburg, USA.

Panelist

2014 Battery Modelling for Industrial Applications workshop, Warwick, UK.

PhD Committee Examining member

2014 Elixabet Zabala, Mondragón, Spain

Proposal Evaluation

French National Research Agency (2013-), Fonds de recherche du Québec– Nature & technologies (2016-)

Peer Review Summary

Matthieu Dubarry

















<https://publons.com/a/874600>

Awards on Publons

Top reviewers for Sentinels of Science: Materials Science (Oct. 2015 - Sept. 2016)

Peer Review Summary

Performed 89 reviews for journals including *Journal of Power Sources* and *IET Electrical Systems in Transportation*; placing in the 98th percentile for verified review contributions on Publons up until June 2017.

-  **35** Journal of Power Sources
-  **11** IET Electrical Systems in Transportation
-  **10** Electrochimica Acta
-  **10** Journal of the Electrochemical Society
-  **6** Energies
-  **3** Applied Energy
-  **3** Batteries
-  **2** IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems
-  **2** Ionics
-  **1** The Journal of Physical Chemistry
-  **1** Advanced Functional Materials
-  **1** European Journal of Inorganic Chemistry
-  **1** Physica Status Solidi (B)
-  **1** Circuits and Systems
-  **1** Journal of Energy Storage
-  **1** Energy Technology

Source:

