

# Curriculum Vitae

Dale S.L. Dolan

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## **EDUCATION & ADDITIONAL QUALIFICATIONS**

- January 2005 – March 2009    **Ph.D. in Electrical Engineering**  
*University of Toronto, Department of Electrical and Computer Engineering*  
Toronto, Ontario, Canada  
Thesis: “Modelling and Performance Evaluation of the Virtual Air Gap Variable Reactor”  
Supervisor: Professor Peter W. Lehn
- May 2003 – April 2005        **Master of Applied Science in Electrical Engineering**  
*University of Toronto, Department of Electrical and Computer Engineering*  
Toronto, Ontario, Canada  
Thesis: “Real time wind turbine emulator suitable for power quality and dynamic control studies”  
Supervisor: Professor Peter W. Lehn
- September 1999 – May 2003    **Bachelor of Applied Science in Electrical Engineering** with honours  
(with honours - weighted average of A- for a minimum of 4 of last 6 sessions)  
*University of Toronto, Department of Electrical and Computer Engineering*  
Toronto, Ontario, Canada  
Thesis: “High Current Switch-Mode Power Supply for Low Voltage Microelectronics”
- July 1997                        **Ontario Certificate of Qualification**  
*Ontario College of Teachers, Intermediate/Senior Biology and General Science*
- September 1996 - June 1997    **Bachelor of Education, with distinction** (minimum average of A)  
*University of Western Ontario, Faculty of Education*  
London, Ontario, Canada
- September 1990 - June 1995    **Honours Bachelor of Science in Zoology**  
*University of Western Ontario, Faculty of Science*  
London, Ontario, Canada

## **EMPLOYMENT AND PROFESSIONAL ACTIVITIES**

**Windy Hills Caledon Renewable Energy**    *Board of Directors: Chair/President* (May 2006 – May 2010),  
*Treasurer* (May 2004 – July 2007) Led organization whose objective is to install large scale (~10 MW) community wind turbine project. Technical lead for Connection Impact Assessment process with Hydro One Networks, Principal for administering Ontario Trillium Foundation two year Grant, application and implementation of Ministry of Energy Community Conservation Initiatives program, technical presentations at community meetings and for individual stakeholders, collaboration with Town of Caledon municipal planning officials. \*Solely or largely responsible for obtaining four large separate grants.

- Ontario Trillium Foundation, 2005-2007, \$150,000 Feasibility Grant
- Ontario Ministry of Energy, 2006-2007, \$23,500 Community Conservation Initiatives Grant
- Federation of Canadian Municipalities, 2007-2008, \$100,000 Green Municipal Funds Grant
- Ontario Community Power Fund, 2007-2009, \$300,000 Project Development Grant

**DTD Renewable Energy Consulting Ltd.** *President and Technical Consultant* (May 2005 – Sept 2012)  
Coordination of consulting services, renewable energy project feasibility, wind assessment sub-contracting, aeronautical clearances, site assessments, land lease negotiations.

**World Wind Energy Conference 2008.** *Executive Committee Member* (December 2006 – August 2008)  
Executive management of all aspects of 7<sup>th</sup> annual World Wind Energy Conference 2008: Community Power – Energy Autonomy for Local Economies. Kingston, Ontario June 2008.

**Ontario Sustainable Energy Association (OSEA)** *Board of Directors: Chair* (November 2007 - 2009), *Director* (September 2005 - 2009), *Chair Interview Committee* for executive director position, *Interview Committee* for staff positions, *Advisor/Reviewer* for community power guidebooks. OSEA is an umbrella organization formed to implement community sustainable energy projects across Ontario with an annual operating budget of ~\$500,000. OSEA proposed Standard Offer Contracts in Ontario and hosted the 2008 (WWEA) World Wind Energy Association Conference in Kingston, Ontario.

**Town of Caledon Wind Solutions Business Case Committee** *Co-Chair* (May 2005 – 2009), Town of Caledon committee whose objective is to investigate feasibility of wind energy projects in the Town of Caledon and feasibility of municipal involvement.

**OPA Transmissions Constraint and Generation Options Working Group** (February 2007 – August 2007), Ontario Power Authority working group whose objective was to resolve transmission constraint issues around Bruce Peninsula.

**University of Toronto** *NSERC Summer Studentship* (May-Aug 2002) Devised and executed a genetic circuit research project that included lab techniques in cloning as well as a literature review to enumerate operon parameters.

## TEACHING/ACADEMIC EXPERIENCE

- |                     |  |
|---------------------|--|
| <b>2019-Present</b> | <b>Professor</b><br><b>Department of Electrical Engineering</b><br><b>California Polytechnic State University, California</b><br>Faculty in power systems group with focus on power electronics, renewable energy technologies and policy.                         |
| <b>2014-2019</b>    | <b>Associate Professor</b><br><b>Department of Electrical Engineering</b><br><b>California Polytechnic State University, California</b><br>Faculty in power systems group with focus on power electronics, renewable energy technologies and policy.               |
| <b>2013-2015</b>    | <b>Sustainable Energy and Infrastructure Initiative Coordinator</b><br><b>College of Engineering</b><br><b>California Polytechnic State University, California</b><br>Led and developed college wide focusing initiative on Sustainable Energy and Infrastructure. |

- 2010-2014**                    **Hood Assistant Professor**  
**Department of Electrical Engineering**  
**California Polytechnic State University, California**  
Faculty in power systems group with focus on power electronics, renewable energy technologies and policy.
- 2013**                         **Instructor – Cal Poly Epic Program**  
**College of Engineering**  
**California Polytechnic State University, California**  
Developed and delivered “Understanding Solar” laboratory experiments for high school students in EPIC summer program.
- 2011-2012**                 **Stem Diversity FLC (Faculty Learning Community)**  
**Center for Teaching and Learning (CTL)**  
**California Polytechnic State University, California**  
A full year training and mentorship program run by the CTL to develop the skills of faculty and expose them to diversity issues with the STEM fields.
- 2009-2010**                 **Assistant Professor**  
**Department of Electrical Engineering**  
**California Polytechnic State University, California**  
Faculty in power systems group with focus on power electronics, renewable energy technologies and policy.
- 2009-2010**                 **JFLC (Junior Faculty Learning Community)**  
**Center for Teaching and Learning (CTL)**  
**California Polytechnic State University, California**  
A full year training and mentorship program run by the CTL to develop the skills of junior faculty and expose them to colleagues from other colleges and departments.
- June 2010**                 **Train the Trainer in Inclusive Excellence**  
**California Polytechnic State University, California**  
A 3 day workshop designed to train Cal Poly trainers in diversity awareness and inclusive excellence.
- 2003-2008**                 **Research Assistant**  
**Faculty of Applied Science and Engineering**  
**University of Toronto**
- 2007**                         **PPIT Program (Prospective Professors in Training)**  
A full year training and mentorship program run by the Faculty of Applied Science and Engineering at the University of Toronto that trains future professors in the three main areas of teaching, research and administrative service. Topics covered include teaching, evaluation, research planning, funding proposals, managing time, money and students etc., such that there is an elevation of the level of skill, understanding and engagement in the widest range of academic and teaching issues possible within the time constraints of the program.
- 2007**                         **MIE3002 – Engineering, Teaching and Learning**  
A course that examines effective teaching practices and issues in undergraduate engineering education.

- 2007**                    **Course Instructor**  
**Faculty of Applied Science and Engineering**  
**University of Toronto**  
Course: *APS 112 - Engineering Strategies and Practices II*  
Monitored students and supervised TAs for 3 sections of co-operative based learning design course.
- 2006**                    **DEEP Instructor for Engineering for Educators (E4E) program**  
**Faculty of Applied Science and Engineering**  
**University of Toronto**  
Course: *Environmental Engineering*  
Developed and delivered curriculum for da Vinci Engineering Enrichment Program (DEEP). E4E program designed to provide secondary school teachers with activities and techniques to promote and bring aspects of engineering into their classrooms.
- 2004-2008**            **Teaching Assistant**  
**Department of Electrical and Computer Engineering**  
**University of Toronto**  
Courses:  
ECE463 – *Electric Drives* (Prof. P.W. Lehn) 2008  
ECE315 – *Electromechanical Energy Conversion* (Prof. F.P. Dawson) 2007  
ECE212 – *Circuit Theory* (Prof. A. Prodic and L. DeWindt) 2007  
ECE315 – *Electromechanical Energy Conversion* (Prof. F.P. Dawson) 2006  
ECE413 – *Energy Systems and Distributed Generation* (Prof. R. Iravani) 2006  
ECE315 – *Electromechanical Energy Conversion* (Prof. F.P. Dawson) 2005  
ECE212 – *Circuit Theory* (Prof. R. Iravani and L. DeWindt) 2005  
ECE315 – *Electromechanical Energy Conversion* (Prof. F.P. Dawson) 2004  
ECE315 – *Electromechanical Energy Conversion* (Prof. F.P. Dawson and Prof J.D. Lavers) 2004
- July 2006**            **DEEP Course Instructor**  
**Faculty of Applied Science and Engineering**  
**University of Toronto**  
Course: *Alternative Power Generation*  
Developed and delivered curriculum for da Vinci Engineering Enrichment Program (DEEP) summer program course to gifted senior high school students.
- 1999-2009**            **Secondary School Occasional Teacher**  
**Dufferin Peel Catholic District School Board**  
Taught and monitored grade 9-OAC classes in various subjects.
- 1998-2002**            **Summer School and Night School Teacher**  
**Father Michael Goetz S.S., Phillip Pocock S.S.**  
**Dufferin Peel Catholic District School Board**  
Prepared, taught and evaluated OAC Calculus and Finite Mathematics classes.
- 1997-1999**            **Secondary School Science and Mathematics Teacher**  
**Dufferin Peel Catholic District School Board**  
Prepared, taught and evaluated classes in Science & Math at the grade 10-OAC levels.

## ACADEMIC AWARDS & ACHIEVEMENTS

- **Academic Senate Distinguished Scholarship Award Finalist** (2020), Cal Poly Academic Senate, California Polytechnic State University, San Luis Obispo – To be presented at 2020 Fall Conference
- **IATPP Faculty Scholar** (2013-Present), Cal Poly Institute for Advanced Technology and Public Policy, California Polytechnic State University, San Luis Obispo
- **CIE Fellow** (2014-Present), Cal Poly Center for Innovation and Entrepreneurship, California Polytechnic State University, San Luis Obispo
- **Richard and Julie Hood Professorship in Electrical Engineering** (2018-2019), California Polytechnic State University, San Luis Obispo
- **Richard and Julie Hood Professorship in Electrical Engineering** (2017-2018), California Polytechnic State University, San Luis Obispo
- **Lockheed Martin Endowed Professorship** (2014-2016), College of Engineering, California Polytechnic State University, San Luis Obispo
- **CFA Distinguished Educator** (2013), California Polytechnic State University, San Luis Obispo
- **Electrical Engineering Department Solar Award** (2012), California Polytechnic State University, San Luis Obispo
- **IEEE Power and Energy Society Central Coast Chapter, High Performing Chapter Award**, (2012), California Polytechnic State University, San Luis Obispo – received 1<sup>st</sup> ever high performing chapter award as Chair of the Chapter (only 45 of ~225 worldwide chapters received this award)
- **IEEE Region 6 Outstanding Student Branch** (2012), California Polytechnic State University, San Luis Obispo – as advisor won outstanding student branch award for region 6 (Region 6 has nearly 50,000 members and ~100 student branches)
- **Outstanding Engineer Award** (2011), IEEE Power and Energy Society, Central Coast Chapter
- **Sustainability Advisory Committee** (2011-2013), Appoint by College of Engineering, California Polytechnic State University, San Luis Obispo
- **Hood Endowed Professor – Electrical Engineering** (2010-2015), California Polytechnic State University, San Luis Obispo
- **OGSST Postgraduate Scholarship** (2007), Government of Ontario/University of Toronto
- **Gordon R. Slemon Scholarship** (2007), University of Toronto
- **NSERC Postgraduate Scholarship D2 (PGS D2)** (2005-2009), NSERC/University of Toronto
- **NSERC Postgraduate Scholarship A (PGS A)** (2003-2005), NSERC/University of Toronto
- **Dietmar Koslowski Bursary in Electrical Engineering** (2002), University of Toronto
- **NSERC Undergraduate Student Research Award** (2002) NSERC/University of Toronto
- **Dean's Honour List** (2000, 2001, 2002, 2003), University of Toronto
- **Dean's Honour List** (1991, 1997), University of Western Ontario
- **CIAU Academic All Canadian** (1997) – Recognition for athletes obtaining overall “A” averages.
- **Canada Scholar** (1990 - 1992) - Government of Canada for excellence in the field of Science.
- **Faculty of Science Admission Scholarship** (1990 - 1992) - University of Western Ontario.

**RESEARCH GRANTS HELD / DONATIONS (Students involved underlined)**

- 2020 Cal Poly College of Engineering Summer Undergraduate Research Program  
“*Photovoltaic Array Soiling Reduction through Optimization of Stowing Angle*”  
Investigators: D. Dolan (PI), Sophie Spencer (Student)  
Amount: \$5,500
- 2020 Cal Poly College of Engineering Summer Undergraduate Research Program  
“*Optimization of Backtracking Parameters in the Cal Poly Goldtree Solar Farm*”  
Investigators: D. Dolan (PI), Shayla Schoensee (Student)  
Amount: \$5,500
- 2020-2021 The Wyss Foundation Donation  
“*Sustainable Energy Lab Development*”  
Investigators: D. Dolan (PI)  
Amount: \$40,000
- 2020-2021 Cal Poly Facilities Management and Development: Energy, Utilities, and  
Sustainability / REC Solar  
“*Performance Improvement at Cal Poly Goldtree Solar Project*”  
Investigators: D. Dolan (Co-PI), A. Davol (Co-PI), J. Belanger (Co-PI), Patrick  
Salter (Student), Andy Kim (Student)  
Amount: \$4,750
- 2019-2020 Cal Poly College of Engineering R-IDC Funding  
“*Solar Photovoltaic Single Axis Backtracking Testing Infrastructure*”  
Investigators: D. Dolan (PI), Helen Rice (Student), Delaney Berger (Student),  
Avishek Maitra (Student), Ezra Pramona (Student)  
Amount: \$4,895
- 2019 Cal Poly College of Engineering Summer Undergraduate Research Program  
“*Cooling PV Panels for Increased Electrical Performance*”  
Investigators: D. Dolan (PI), Logan Cable (Student), Jack Puckett (Student)  
Amount: \$8,500
- 2019 Cal Poly College of Engineering Summer Undergraduate Research Program  
“*Effective Backtracking Algorithms for Twin Cell Solar Panels versus Single Cell  
Solar Panels*”  
Investigators: D. Dolan (PI), Patrick Salter (Student), Filippo Cheein (Student)  
Amount: \$8,500
- 2018 Cal Poly College of Engineering Summer Undergraduate Research Program  
“*Design and Development of Solar PV Emulator*”  
Investigators: D. Dolan (PI), Hayden Tam (Student)  
Amount: \$4,000
- 2018 Cal Poly College of Engineering Summer Undergraduate Research Program  
“*Design and Development of Laboratory Dual Axis Single PV Module Tracker*”  
Investigators: D. Dolan (PI), Rory McDermott (Student)  
Amount: \$4,000

- 2017-2020            Cal Poly Solar Academic Lab (Estimated completion: Fall 2020)  
 Joint project with Electrical Engineering, Cal Poly Facilities, and REC Solar  
 Investigators: D. Dolan , Dennis Elliot, Bill Ahlgren, Ali Shaban, Taufik, Ahmad Nafisi  
 Amount:    ~\$325,000
- 2017                    Cal Poly College of Engineering Summer Undergraduate Research Program  
 “*Evaluation of Commercially Available Solar PV Emulators and MPPT Microinverter Performance*”  
 Investigators: D. Dolan (PI), Gabriel Sartori (Student), David Juarez (Student)  
 Amount:    \$7,500
- 2017                    Cal Poly College of Engineering Summer Undergraduate Research Program  
 “*Development of Lithium Ion Battery Charging and Discharging Cycles using Arbin BT-2000 Modular Battery Testing System*”  
 Investigators: D. Dolan (PI), Joshua Wong (Student)  
 Amount:    \$4,000
- 2017                    Cal Poly College of Engineering Summer Undergraduate Research Program  
 “*Evaluation of Power and Energy Generation of Stationary Cycle interfaced with Grid Tie Inverter*”  
 Investigators: D. Dolan (PI), Patrick Zailaa (Student)  
 Amount:    \$3,500
- 2016-2017            U.S. Department of Energy: Marine and Hydrokinetic Testing Infrastructure Development  
 “*California Wave Energy Test Center (CalWave: Phase II)*”  
 Investigators: Sam Blakeslee (PI), D. Dolan (Cal Poly Technical Lead and CalWave Leadership Team), and others  
<http://www.iatpp.calpoly.edu/projects/energyinitiative.asp>  
 Amount:    \$1,500,000
- 2016-2017            Cal Poly College of Engineering R-IDC Funding  
 “*Energy Storage System Development for the Microgrid Laboratory*”  
 Investigators: D. Dolan (PI), Taufik (Co-PI)  
 Amount:    \$4,950
- 2016-2018            California State University: Campus as a Living Lab Project  
 “*Sustainable Energy Based Microgrid Development: Phase I*”  
 Investigators: D. Dolan (PI), Dennis Elliot (Co-PI), Ali Shaban (Co-PI)  
 Amount:    \$68,094
- 2014-2016            California Energy Commission: Alternative and Renewable Fuel and Vehicle Technology Program  
 “*Cal Poly Electric Vehicle Charging Infrastructure Initiative*”  
 Investigators: D. Dolan (PI), Cindy Campbell, Dennis Elliot  
 Amount:    \$185,182
- 2014-2016            U.S. Department of Energy: Marine and Hydrokinetic Testing Infrastructure Development  
 “*California Wave Energy Test Center (CalWave)*”  
 Investigators: Sam Blakeslee (PI), D. Dolan (Cal Poly Technical Lead), and others  
 Amount:    \$1,151,408



- 2014-2015            **Western Digital Sponsored Research Grant**  
**“Data Acquisition Board”**  
**Investigators: D. Dolan (PI), Vladimir Prodanov (Co-PI), Charmaine Guintu (Student)**  
**Amount:    \$40,000**
- 2013-2015            **Airbus Defense and Space, Inc. Sponsored Research Grant**  
**“AIRBUS DSI-CP-01: MEA (More Electric Aircraft) Failure Simulations”**  
**Investigators: D. Dolan (PI), Vladimir Prodanov (Co-PI), Cory Kross (Student)**  
**Amount:    \$20,000**
- 2014                    **Electricore, Inc. Sponsored Research Grant**  
**“EADS Battery Technology Review”**  
**Investigators: D. Dolan (PI), J. Dunning**  
**Amount:    \$9,000**
- 2013-2014            **Donation: Ford Focus Electric Vehicle**  
**“Electric Vehicle Evaluation and Education Project (EVEEP)”**  
**Investigators: D. Dolan (PI), CENG Advancement**  
**Amount:    \$40,000**
- 2013-2014            **Donation: 1000 Sunpower Photovoltaic Modules**  
**Investigators: D. Dolan (PI), CENG Advancement**  
**Amount:    \$450,000**
- 2013-2014            **Chevron Student Project/Lab Development Grant**  
**“Novel Dual Axis Tracking Mobile Solar PV Trainer”**  
**Investigators: D. Dolan (PI)**  
**Amount:    \$2,300**
- 2013-2014            **Chevron Student Project/Activity Grant**  
**“Cal Poly Solar Decathlon 2015”**  
**Investigators: D. Dolan (PI), Kim Shollenberger (Co-PI), Jenna Denhaan (Student), Dante Carillo (Student), Dion Celebrado (Student), Christian Ferrer (Student), Simon Hauser (Student), Audrey Rempher (Student), Joseph Rohrer (Student), Casey Smith (Student)**  
**Amount:    \$5,000**
- 2013-2014            **Western Digital Sponsored Research Grant**  
**“Negative Transient Tester”**  
**Investigators: D. Dolan (PI), Chris Aiello (Student)**  
**Amount:    \$46,000**
- 2013-2014            **Western Digital Sponsored Research Grant**  
**“Torture Stand Data Acquisition Board”**  
**Investigators: D. Dolan (PI), Sterling Vinson (Student), Ryan Hoang (Student)**  
**Amount:    \$40,000**
- 2013-2014            **University of California, Lawrence Berkeley National Laboratory, Max Tech and Beyond Appliance Design Competition for Ultra-Low Energy Use Appliances**  
**“High Efficiency Portable Air Conditioner (with 3 phase motor)”**  
**Investigators: D. Dolan (PI), Hannah Homer (Student), Tattianan Davenport (Student), Johnathan Marroquin (Student)**  
**Amount:    \$22,242**

- 2013-2014            University of California, Lawrence Berkeley National Laboratory, Max Tech and Beyond Appliance Design Competition for Ultra-Low Energy Use Appliances  
**“Smart Strip: Smart Sensing Power Bar”**  
**Investigators: Vladimir Prodanov (PI), D. Dolan (Co PI), Niels Smidth (Student), Andrew Vocaire-Tramposh (Student), Sukhjinder Singh (Student)**  
**Amount:    \$15,000**
- 2012-2013            Northrup Grumman -  
**“Cold Capable Electronics Project”**  
**Investigators: D. Dolan (Co PI), Vladimir Prodanov (Co PI), Alyssa Fox (Student), Marlene Ponce (Student), Ken Huynh (Student), Aaron Lee (Student), Richard Tham (Student)**  
**Amount:    \$5,000**
- 2012-2013            Cal Poly College of Engineering R-IDC Funding  
**“Electric Vehicle Research Infrastructure Development”**  
**Investigators: D. Dolan (PI)**  
**Amount:    \$3,915**
- 2012-2013            Cal Poly College of Engineering R-IDC Funding  
**“Cold Capable Electronics Project”**  
**Investigators: D. Dolan (Co PI), Vladimir Prodanov (Co PI)**  
**Amount:    \$4,500**
- 2012-2013            National Fire Protection Association, Fire Protection Research Foundation  
**“Photovoltaic Panel Installation Best Practices Review and All Hazards Assessment”**  
**Investigators: Frederick Mowrer (PI), D. Dolan (Electrical Lead), Kevin Dong, Thomas Korman**  
**Amount:    \$30,000**
- 2011-2013            C<sup>3</sup>RP – California Central Coast Research Partnership  
**“Hybrid Electric Vehicle Grid Connectivity – Phase I Supplement”**  
**Investigators: D. Dolan (PI), J. Dunning**  
**Amount:    \$16,240**
- 2012-2013            Western Digital Sponsored Research Grant  
**“Load Transient Response and Efficiency Test Automation”**  
**Investigators: D. Dolan (PI), Diego Carteno (Student), Eddie Lo (Student)**  
**Amount:    \$37,200**
- 2011-2012            Extramural Funding Initiative, Research and Graduate Programs, California Polytechnic State University  
**“Electric Vehicle Evaluation and Education Project (EVEEP)”**  
**Investigators: D. Dolan (PI), John Dunning, Bridget Benson**  
**Amount:    \$14,971**

- 2011-2012 University of California, Lawrence Berkeley National Laboratory  
*“Hybrid Solar Photovoltaic Panel for Pool Heating”*  
 Investigators: D. Dolan (PI), Steven Roy (Student), Nathan Green (Student), Andrew Palchak (Student)  
 Amount: \$19,973
- 2011-2012 Chevron Lab Development Grant  
*“Cal Poly Sustainable Energy Lab”*  
 Investigators: D. Dolan (PI), Lisa Friedman (Student), Johnathan Huff (Student)  
 Amount: \$10,000
- 2011-2012 Western Digital Sponsored Research Grant  
*“Load Transient Response Project”*  
 Investigators: D. Dolan (PI), Matthew Gilbert (Student), Eric Horsma (Student)  
 Amount: \$30,000
- 2011-2012 Lockheed Martin Space Systems Company  
*“Cal Poly Sustainable Power for Electrical Resources (SuPER) Project”*  
 Investigators: D. Dolan (PI), J. Harris, A. Shaban  
 Amount: \$2,000
- 2011-2013 C<sup>3</sup>RP – California Central Coast Research Partnership  
*“Hybrid Electric Vehicle Grid Connectivity – Phase I”*  
 Investigators: D. Dolan (PI), J. Dunning, Mason Ung (Student), Allan Agatep (Student)  
 Amount: \$58,240
- 2010-2011 Western Digital Sponsored Research Grant  
*“Slew Rate Test Methodology and Tool Design”*  
 Investigators: D. Dolan (PI), Ryan Mayo (Student), Sean Ulyate (Student)  
 Amount: \$40,000
- 2010-2011 Chevron Sponsored Research Grant  
*“Three-Phase Ground-Fault Circuit-Interrupter System”*  
 Investigators: D. Dolan (PI), Matthew Norlander (Student), J. Oliver, Taufik, A. Shaban, A. Nafisi  
 Amount: \$116,922

## PUBLICATIONS

### *Most Significant Papers (also included in complete listing of publications)*

- [J1] **D. S.L. Dolan**, P.W. Lehn, “Simulation model of wind turbine 3p torque oscillations due to wind shear and tower shadow”, IEEE Transactions on Energy Conversion, vol. 21, no. 3, pp. 717-724, September 2006.
- [C7] **D. S.L. Dolan**, P.W. Lehn, “Analysis of a Virtual Air Gap Variable Reactor”, Power Electronics Specialists Conference, PESC2007, IEEE, pp. 1182-1187, Orlando, Florida, June 2007.
- [C37] **D. Dolan**, M. Ducasse\*, Taufik, “*Characterizing Energy Usage of Chevrolet Volt Versus Speed*”, 2013 IEEE Conference on Technologies for Sustainability (SusTech), Portland, OR, August 2013

## **Complete Listing of Publications**

### **Refereed Journal Papers (accepted or published)**

- [J4] V . Prodanov, and D. Dolan, “Method for Selecting Coupling and By-pass Capacitors in Multi-stage Linear Circuits”, IET Journal of Engineering, Issue 11, pp614-615, 2017.
- [J3] T . Taufik, R. Prasetyo, D. Dolan, D. Garinto, “A Cell-Based Multiphase Interleaving Buck Converter with Bypass Capacitors”, Journal of World Academy of Science, Engineering, and Technology, Issue 43, pp699-703, July 2010.
- [J2] T . Taufik, T. Gunawan, D. Dolan, M. Anwari, "Design and Analysis of Two-Phase Boost DC-DC Converter”, Journal of World Academy of Science, Engineering, and Technology, Issue 43, pp703-708, July 2010
- [J1] **D. S.L. Dolan**, P.W. Lehn, “Simulation model of wind turbine 3p torque oscillations due to wind shear and tower shadow”, IEEE Transactions on Energy Conversion, vol. 21, no. 3, pp. 717-724, September 2006.

### **Refereed Conference Papers (published) (presenting author bolded) student co-authorship indicated with \***

- [C44] F. Cheein\*, **D. Dolan**, P. Salter\*, “Effective Backtracking Algorithm for Half-Cut Cell Solar Panel”, submitted to IET 9<sup>th</sup> International Conference on Renewable Power Generation, Dublin, Ireland, September 2020.
- [C43] **D. Dolan**, J. Dolan\*, J. Puckett\*, S. Stockburger\*, V. Rios\*, “Variation and Measurement of Soiling Losses in PV Arrays with Varying DC to AC ratios”, submitted to 47<sup>th</sup> IEEE PVSC Photovoltaic Specialists Conference, Calgary, Canada, June 2020.
- [C42] **D. Dolan**, V. Prodanov, P. Salter\*, F. Cheein\*, J. Dolan\*, “Reducing Performance Loss Due to Backtracking Error Through Use of Half Cut Cell Modules”, 2019 9<sup>th</sup> International Conference on Power and Energy Systems, Perth, Australia, December 2019.
- [C41] J. Dolan\*, **D. Dolan**, V. Prodanov, J. Puckett\*, “Power Loss Due to Photovoltaic Module Soiling in a California Utility Scale System”, 2019 9<sup>th</sup> International Conference on Power and Energy Systems, Perth, Australia, December 2019.
- [C40] **Taufik**, D. Dolan, “Work-in Progress: Enhancing Students’ Learning in Advanced Power Electronic Course Using a Solar Charger Project”, Proc. of 2015 ASEE-PSW Conference, April 2015.
- [C39] **D. Dolan**, M. Ducasse\*, Taufik, “Variability in Detailed Energy Useage on Repeated Trips in the Chevrolet Volt”, EVS27 27<sup>th</sup> International Electric Vehicle Symposium, Barcelona, Spain, November 2013.
- [C38] **D. Dolan**, J. Dunning, Taufik, “Analysis of Detailed Electric Vehicle Data in Electrical Engineering Education”, EVS27 27<sup>th</sup> International Electric Vehicle Symposium, Barcelona, Spain, November 2013.

- [C37] **D. Dolan**, M. Ducasse\*, Taufik, “*Characterizing Energy Usage of Chevrolet Volt Versus Speed*”, 2013 IEEE Conference on Technologies for Sustainability (SusTech), Portland, OR, August 2013
- [C36] **Taufik**, D. Dolan, "WIP: Enhancing Students' Learning in Introductory Power Electronic Course Using an LED Driver Project", Proc. of 2013 ASEE-PSW Conference, April 2013.
- [C35] **D. Dolan**, A. Palchak\*, N. Greene\*, S. Roy, “Hybrid Solar Photovoltaic panel for Pool Heating” University of California, Lawrence Berkeley National Laboratory, Maxtech Ultra Low Energy Use Design Competition, 2011/2012.
- [C34] **D. Dolan**, L. Friedman\*, J. Huff\*, and Taufik, "Solar Trainer for Photovoltaic Systems Education", Proc.of 2012 North American Power Symposium, September 2012.
- [C33] Taufik, S. McClusky\*, J. Paolucci\*, and **D. Dolan**, "A Robust PWM Inverter for DC Power Supply", Proc.of 2012 North American Power Symposium, September 2012.
- [C32] C. Grasberger\*, **D. Dolan**, and Taufik, "Development of an Open-Source High-Performance Battery Management System", Proc.of 2012 North American Power Symposium, September 2012.
- [C31] **S. Leonard\***, D. Dolan, K. Zombro\*, and Taufik, "A Low Cost Portable Parabolic Solar Concentrator for Combined Heat and Power", Proc.of 2012 North American Power Symposium, September 2012.
- [C30] **D. Dolan**, V. Le\*, Taufik, “Geographic Variation in Environmental Benefits Achieved by Plug in Electric Vehicles and Electric Vehicles”, EVS26 26th International Electric Vehicle Symposium, Los Angeles, CA, May 2012.
- [C29] **D. Dolan**, Taufik, "Use of Online Review to Increase Student Performance on Online and In-Class Evaluations in Power Electronics", 2012 ASEE PSW Conference, April 2012.
- [C28] **D. Dolan**, P. Lehn, Taufik, "Harmonics and Dynamic Response of a Virtual Air Gap Variable Reactor", Conference on Information Technology: New Generations, April 2012.
- [C27] Taufik, T. Wong\*, **O. Jong\***, and D. Dolan, “Design and Simulation of Multiple-Input Single-Output DC-DC Converter”, Conference on Information Technology: New Generations, April 2012.
- [C26] Taufik, J. Thornton\*, and **D. Dolan**, “Piezoelectric Converter for Wind Energy Harvesting”, Conference on Information Technology: New Generations, April 2012.
- [C25] **D. S.L. Dolan**, D. Zepeda\*, Taufik, “Development of Wind Tunnel for Laboratory Wind Turbine Testing”, Proc. of 2011 North American Power Symposium (NAPS 2011), Boston, Massachusetts, August 2011.
- [C24] Taufik, S. McClusky\*, J. Paolucci\* and **D. S.L. Dolan**, “A New Undergraduate Laboratory Course in Magnetic Design”, Proc. of 2011 North American Power Symposium (NAPS 2011), Boston, Massachusetts, August 2011.
- [C23] J. Harris, A. Shaban, and **D. S.L. Dolan**, “Cal Poly Sustainable Power for Electrical Resources (SuPER) Project”, Proc. of 2011 North American Power Symposium (NAPS 2011), Boston, Massachusetts, August 2011.

- [C22] **D. S.L. Dolan**, and Taufik “An Active Power Factor Correction Laboratory Experiment for Power Electronics Course”, Proc. of 118<sup>th</sup> ASEE Annual Conference and Exposition, Vancouver, Canada, June 2011.
- [C21] Taufik, and **D. S.L. Dolan**, “Web Based Magnetic Design”, Proc. of 118<sup>th</sup> ASEE Annual Conference and Exposition, Vancouver, Canada, June 2011.
- [C20] **D. S.L. Dolan**, V. Prodanov, and Taufik “Student Perception of Lecture Video Use as a Means to Increase Time for in Class Problem Solving”, Proc. of 118<sup>th</sup> ASEE Annual Conference and Exposition, Vancouver, Canada, June 2011.
- [C19] **D. S.L. Dolan**, Joseph Durago\*, and Taufik, “Development of a Photovoltaic Emulator using Labview”, Proc. of 37<sup>th</sup> IEEE Photovoltaic Specialists Conference, Seattle, Washington, June 2011.
- [C18] Taufik, D. Forbes\*, D. S.L. Dolan and R. Putri, “Digital Control of Parallel-Connected DC-DC Converters”, Proc. of the 8th International Conference on Information Technology, April 2011.
- [C17] Taufik, J. Arakaki, D.S.L. Dolan, M. Anwari, and M. Hamid, “Comparative Study of 4-Switch Buck-Boost Controller and Regular Buck-Boost”, Proc. of the International Conference on Advanced Science, Engineering and Information Technology, January 2011.
- [C16] Taufik, R. Prasetyo\*, D.S.L. Dolan, D. Garinto “A New Multiphase Multi-Interleaving Buck Converter With Bypass LC”, Proc. of the 36th Annual Conference of the IEEE Industrial Electronics Society, Phoenix, November 2010.
- [C15] **D. S.L. Dolan**, Joseph Durago\*, Joe Crowfoot\*, Taufik, “Simulation of A Photovoltaic Emulator”, Proc. of 2010 North American Power Symposium (NAPS 2010), Arlington, Texas, September 2010.
- [C14] M.McCarty\*, Taufik, and **D. S.L. Dolan**, “Determining the Optimum Operating Parameters of a Unipolar PWM Inverter Using Experimental Approach”, Proc. of 2010 North American Power Symposium (NAPS 2010), Arlington, Texas, September 2010.
- [C13] Taufik, R. Prasetyo\*, **D. S.L. Dolan** and D. Garinto, “A New Multiphase Interleaving Buck Converter With Bypass Cell Capacitor and Inductor”, Proc. of the 53rd IEEE Int'l Midwest Symposium on Circuits & Systems, Seattle, Washington, August 2010.
- [C12] Taufik, J. Ruckdaschel\*, **D. S.L. Dolan** and M. Anwari, “Modeling and Analysis of a Static VAR Compensated Mixed Load System”, Proc. of IASTED International Conference on Modeling and Simulation, Banff, Alberta, July 2010.
- [C11] **Taufik**, R. Prasetyo\*, D. S.L. Dolan and D. Garinto, “A Cell-Based Multiphase Interleaving Buck Converter with Bypass Capacitors”, Proc. of International Conference on Computer, Electrical, and Systems Science, and Engineering, July 2010.
- [C10] **Taufik**, T. Gunawan, D. S.L. Dolan and M. Anwari, “Design and Analysis of Two-Phase Boost DC-DC Converter”, Proc. of International Conference on Computer, Electrical, and Systems Science, and Engineering, July 2010.
- [C9] **D. S.L. Dolan**, P.W. Lehn, “Harmonic Mitigation in a Virtual Air Gap Variable Reactor via Control Current Modulation”, submitted to IEEE 2008 PES General meeting, Pittsburgh, Pennsylvania, July 2008, 5 pages.

- [C8] **D. S.L. Dolan**, P.W. Lehn, “Finite Element Analysis of a Virtual Air Gap Variable Transformer”, 2008 IEEE Canadian Conference on Electrical and Computer Engineering, CCECE2008, Niagara Falls, Ontario, May 2008, 6 pages.
- [C7] **D. S.L. Dolan**, P.W. Lehn, “Analysis of a Virtual Air Gap Variable Reactor”, Power Electronics Specialists Conference, PESC2007, IEEE, pp. 1182-1187, Orlando, Florida, June 2007.
- [C6] **D. S.L. Dolan**, “Economic Cost Model for Wind Energy Generation”, AWEA WINDPower2007, Los Angeles, California, June 2007, 6 pages.
- [C5] **D. S.L. Dolan**, “Cost Benefit Analysis of an Ontario Community Wind Energy Project”, AWEA WINDPower2007, Los Angeles, California, June 2007, 21pages.
- [C4] **D. S.L. Dolan**, P.W. Lehn, “Simulation model of wind turbine 3p torque oscillations due to wind shear and tower shadow”, Power Systems Conference and Exposition, PSCE’06, 2006 IEEE PES, pp. 2050-2057, Atlanta, Georgia, November 2006.
- [C3] C. Sao, **D. S.L. Dolan**, P.W. Lehn, “Voltage Flicker Model of Wind Turbine Generators due to Windshear and Tower Shadows”, CIGRE Canada Conference on Power Systems, Montreal, Quebec, October 2006, 4 pages.
- [C2] **D. S.L. Dolan**, C. Sao, P.W. Lehn, “Lightning Exposure of Wind Turbines”, 2006 Canadian Conference on Electrical and Computer Engineering, pp. 717-724, Ottawa, Ontario, May 2006.
- [C1] **D. S.L. Dolan**, P.W. Lehn, “Real-Time Wind Turbine Emulator Suitable for Power Quality and Dynamic Control Studies”, International Conference on Power System Transients, IPST05-074-26a, Montreal, Quebec, June 2005, 6 pages.

### Theses

- [T3] D. S.L. Dolan, “Modelling and Performance Evaluation of the Virtual Air Gap Variable Reactor”, Ph.D. Thesis, University of Toronto, 2009.
- [T2] D. S.L. Dolan, “Real time wind turbine emulator suitable for power quality and dynamic control studies”, M.A.Sc. Thesis, University of Toronto, 2005.
- [T1] D. S.L. Dolan, S. Figel, P. Zyla, “High Current Switch-Mode Power Supply for Low Voltage Microelectronics”, B.A.Sc. Thesis, University of Toronto, 2003.

**PRESENTATIONS (excluding conference presentations)**

- [P10] **D. S.L. Dolan**, “*Modelling and Performance Evaluation of the Virtual Air Gap Variable Reactor*”, seminar presentation for Cal Poly EE 563 Graduate Seminar, presented at California Polytechnic State University, San Luis Obispo, California, May 2009.
- [P9] **D. S.L. Dolan**, “*Operation of a Virtual Air Gap Variable Reactor*”, seminar presentation for ECE Energy Systems Group Seminar Series, presented at University of Toronto, Toronto, Ontario, November 2007.
- [P8] **D. S.L. Dolan**, “*Summary of Wind Monitoring Study*”, presented to Town of Caledon Council at regular Town of Caledon Council Meeting, Caledon, Ontario, October 23, 2007.
- [P7] **D. S.L. Dolan**, “*Wind Power*”, presented at Frost Center Institute, Minden, Ontario, August 26, 2007.
- [P6] **D. S.L. Dolan**, “*Operation of a Virtual Air Gap Variable Reactor*”, presented at University of Toronto Connections 2007, Toronto, Ontario, June 2007.
- [P5] **D. S.L. Dolan**, “*Renewable Energy for your Home*”, a series of 10 Workshops presented to the Citizens of Caledon as a part of the Ontario Ministry of Energy Community Conservation Initiatives program, Caledon, Ontario, January 2007- March 2007.
- [P4] **D. S.L. Dolan**, “*Community Wind Power*”, presented to Town of Caledon residents at public meeting, Caledon, Ontario, June 19, 2006.
- [P3] **D. S.L. Dolan**, “*Community Wind Power Projects*”, presented at Energy Matters: An Energy Conservation Summit for Ontario’s Municipalities, Toronto, Ontario, March 29, 2006.  
**<http://www.amo.on.ca/AM/Template.cfm?Section=Presentations1&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=57248>**
- [P2] **D. S.L. Dolan**, “*Standard Offer Program Stakeholder Presentation*”, presented to the Ontario Power Authority as a representative of Windy Hills Caledon Renewable Energy, Toronto, Ontario, June 2005.  
**[http://www.powerauthority.on.ca/Storage/19/1454\\_Windy\\_Hills\\_Caledon\\_Renewable\\_Energy.pdf](http://www.powerauthority.on.ca/Storage/19/1454_Windy_Hills_Caledon_Renewable_Energy.pdf)**
- [P1] **D. S.L. Dolan**, “*Introduction to Wind Energy*” presented at 2004 U of T Day on behalf of DEEP program, Toronto, Ontario, October 2004



## **CONFERENCES / WORKSHOPS ATTENDED (including Conferences attended as a Presenter)**

- 2019 9<sup>th</sup> International Conference on Power and Energy Systems, Australia, December 2019 (Presenter)
- 2017 Intersolar North America Conference, San Francisco, California, July 2017 (Attendee)
- 2016 Intersolar North America Conference, San Francisco, California, July 2016 (Attendee)
- 2015 Intersolar North America Conference, San Francisco, California, July 2015 (Attendee)
- IEEE PVSC 2015 Photovoltaics Specialists Conference, New Orleans, LA, June 2015 (Presenter)
- 2014 Intersolar North America Conference, San Francisco, California, July 2014 (Attendee)
- AWEA Windpower 2014, Las Vegas, Nevada, May 2014 (Attendee)
- EVS 27 International Electric Vehicle Symposium, Barcelona, Spain, November 2013 (Presenter)
- Sustech 2013 IEEE Conference on Technologies for Sustainability, Portland, Oregon, August 2013 (Presenter)
- 2013 Intersolar North America Conference, San Francisco, California, July 2013 (Attendee)
- 2013 IEEE Transportation Electrification Conference and Expo (ITEC), Detroit, Michigan, June 2013 (Attendee)
- UC Santa Barbara Summit on Energy Efficiency, Santa Barbara, California, May 2013 (Attendee)
- Electric Energy Systems Curriculum for Sustainability Conference, Napa, California, February 2013. (Attendee)
- NAPS 2012 North American Power Symposium, Champaign, Illinois, September 2012 (Presenter)
- IEEE 2012 PES General meeting, San Diego, California, July 2012. (Attendee)
- EVS 26 International Electric Vehicle Symposium, Los Angeles, May 2012 (Presenter)
- ASEE PSW Conference, San Luis Obispo, April 2012 (Presenter)
- International Conference on Information Technology: New Generations, Las Vegas, Nevada, April 2012 (Presenter)
- VPPC 2011 (Vehicle Power and Propulsion Conference , Chicago, Illinois, September 2011 (Attendee)
- NAPS 2011 North American Power Symposium, Boston Massachusetts, August 2011 (Presenter)
- IEEE 2011 PES General Meeting, Detroit, Michigan, July 2011 (Attendee)
- ASEE 2011 American Society of Engineering Educators, Vancouver, B.C. , July 2011 (Presenter)
- IEEE PVSC 2011 Photovoltaics Specialists Conference, Seattle, Washington, July 2011 (Presenter)
- AWEA Windpower 2011, Anaheim, California, May 2011 (Attendee)
- NAPS 2010 North American Power Symposium, Arlington Texas, September 2010 (Presenter)
- IEEE International Midwest Symposium on Circuits and Systems, Seattle, Washington, August 2010. (Presenter)
- IASTED International Conference on Modeling and Simulation, Banff, Alberta, July 2010, (Presenter)
- IEEE 2008 PES General meeting, Pittsburgh, Pennsylvania, July 2008. (Attendee)
- CCECE2008 – 2008 IEEE Canadian Conference on Electrical and Computer Engineering, CCECE2008, Niagara Falls, Ontario, May 2008. (Presenter)
- WWEC 2008 – The 7<sup>th</sup> Annual World Wind Energy Conference, Kingston, Ontario, June 2008. (Conference Executive Chair)

- APPrO 2007 – The 19<sup>th</sup> Annual Canadian Power Conference (featuring the Green Power Conference), Toronto, Ontario, November 2007. (Attendee)
- IEEE Project Management Seminar, Toronto, Ontario, November 5-6, 2007. (Attendee)
- Hydro One Connection Workshop, Toronto, Ontario, September 19, 2007. (Attendee)
- PESC07 Power Electronics Specialists Convention, Orlando, Florida, June 2007. (Presenter)
- University of Toronto Connections 2007, Toronto, Ontario, June 2007. (Presenter)
- AWEA WINDPower2007, Los Angeles, California, June 2007. (Presenter)
- Ontario Energy Association: 2007 OEA Energy Leaders Roundtable, Toronto, Ontario, May 10, 2007.
- Ontario Energy Association: Coal Conference, Toronto, Ontario, May 10, 2007. (Attendee)
- OSEA / Ministry of Energy Presentation by Herman Scheer - Wind Energy Policy, Queens Park, Toronto, Ontario, February 25, 2007. (Attendee)
- IEEE PES Power Systems Conference and Exposition, PSCE'06, Atlanta, Georgia, November 2006. (Presenter)
- APPrO 2006 – The 18<sup>th</sup> Annual Canadian Power Conference and Trade Show, Toronto, Ontario, November 2006. (Attendee)
- CIGRE Canada Conference on Power Systems, Montreal, Quebec, October 2006. (Presenter)
- AWEA Wind Assessment Workshop, New York, September 12-14, 2006. (Attendee)
- University of Toronto Connections 2006, Toronto, Ontario, June 2006. (Attendee)
- 2006 Canadian Conference on Electrical and Computer Engineering, Ottawa, Ontario, May 2006. (Presenter)
- Energy Matters: An Energy Conservation Summit for Ontario's Municipalities, Toronto, Ontario, March 29, 2006. (Presenter)
- Ontario Centres of Excellence: Bridging the Innovation to Commercialization Gap Conference, Toronto, Ontario, February 7, 2006. (Attendee)
- CANWEA 2005, 21<sup>st</sup> Annual Conference and Trade Show, Toronto, Ontario, October 2005. (Attendee)
- OSEA Local Wind Forum, Toronto, Ontario, October 15, 2005. (Attendee)
- Environmental Finance Workshop, Toronto, Ontario, October 12, 2005. (Attendee)
- International Conference on Power System Transients, IPST05, Montreal, Quebec, June 2005. (Presenter)

#### **MEDIA ATTENTION AND NEWS ARTICLES**

April 7, 2015	College of Engineering News April 2015 - article titled "Cal Poly Charges Ahead in Promoting Electric Vehicle Use"
October 21, 2014	College of Engineering News October 2014 - article titled "Dale Dolan Selected for New Interdisciplinary Faculty Program to Promote University Entrepreneurship"
August 27, 2014	College of Engineering News August 2014 - article titled "Cal Poly Drives Electric Car Use with Fleet of Charging Stations"

August 14, 2014	The Tribune - article titled “Cal Poly to Install Electric Vehicle Charging Stations on Campus”
Spring, 2014	College of Engineering, Engineering Advantage article titled “SunPower Gift Promotes Sustainability in the Classroom”
Spring, 2014	College of Engineering, Engineering Advantage article titled “A Wave of Sustainability”
Spring, 2014	College of Engineering, Engineering Advantage article titled “Here comes the Sun (Again)”
March 6, 2014	Mustang News - article titled “Cal Poly to Compete in 2015 Solar Decathlon”
February 18, 2014	College of Engineering News February 2014 - article titled “Cal Poly To Compete in U.S. Department of Energy Solar Decathlon 2015”
January 13, 2014	The Tribune - article titled “Cal Poly Institute to Explore Sites for Wave Energy Testing Facility”
December 11, 2013	Mustang News - article titled “Cal Poly Wins Department of Energy Grant, Will Research Ocean Wave Power”
December 9, 2013	Cal Poly News - article titled “Cal Poly Institute for Advanced Technology and Public Policy’s Wave Energy Project Nets \$750,000 Dept. of Energy Research Grant”
October 25, 2007	Caledon Enterprise article titled “Windy Hills Gathers Momentum”
September 5, 2007	Huntsville Forester article titled “A New Energy Source for Muskokans”

### PROFESSIONAL AFFILIATIONS

- Chair, IEEE Power Engineering Society – Central Coast Chapter (May 2011 – May 2019t)
- Member, IEEE Central Coast Section Executive Committee (May 2011 – Sept 2016)
- Member, IEEE
- Member, IEEE Power Engineering Society
- Member, IEEE Power Electronics Society
- Member, Ontario College of Teachers
- Member, Ontario English Catholic Teachers Association
- Reviewer, **IEEE Transaction on Energy Conversions** (May 2006 - Present)
- Reviewer, **IEEE Transaction on Power Systems** (May 2006 - Present)
- Reviewer, **IEEE Power Engineering Society Letters** (August 2007 - Present)
- Reviewer, **IEEE Transaction on Power Delivery** (September 2008 - Present)
- Reviewer, **Applied Energy** (July 2009 - Present)
- Reviewer , DOE's ARPA-E Initiative ( July 2009)
- Reviewer , DOE's Smart Grid Investment Grant Program ( August 2009)