

CONFERENCE SESSIONS

Wednesday, October 31

Opening Reception Meet and Greet: 6:30 pm-8:30 pm

Thursday, November 1

Time	Ballroom C	Ballroom B	Ballroom A	Convention Centre
7:15 am-8:00 am	Registration & Breakfast			PHEV2007 Showcase and Forum <i>"Where the Grid Meets the Road"</i> (9:00-5:00)
8:00 am-9:00 am	Conference Opening with Featured Speakers			
9:00 am-9:30 am	Guest Speaker: Andy Frank, UC Davis- "PHEV for Energy Sustainability"			
9:30 am-10:30 am	Session 1 Battery Technologies Part I	Session 2 PHEV Impact on Utilities Part I	Session 3 PHEV Simulations Part I	
10:30 am-10:45 am	Nutrition Break			
10:45 am-12:00 pm	Session 4 Battery Technologies Part II	Session 5 PHEV Impact on Utilities Part II	Session 6 Networking Area	
12:00 pm-1:30 pm	Plenary Lunch Lunch Guest Speaker: Phillip Sharer, Argonne- "The Powertrain Systems Analysis Toolkit-PSAT" Lunch Guest Speaker: Jasna Tomic, Westart-Calstart- "Beyond Hybrids-The HTUF Process and Pathway for PHEV"			
1:30 pm-2:45 pm	Session 7 Renewable Energy Integration & Drivers	Session 8 PHEV Experiences and Futures	NSERC Networking Workshop Session A	
2:45 pm-3:00 pm	Nutrition Break			
3:00 pm-3:30 pm	Guest Speaker: Ali Emadi, IIT- "PHEV Opportunities and Challenges"			
3:30 pm-5:30 pm	Session 9 Policy in Support of PHEV	Session 10 PHEV Simulations Part III	Plug-in Highway Workshop	
6:30 pm-10:00 pm	Gala Dinner			

Concurrent Events on Wednesday and Thursday: Simulation courses at University of Manitoba.

Gala Dinner:

The Nov.1st Gala dinner is a great opportunity to network with business, government, academia and guest speakers featured in the two-day conference. Sit back and relax to the musical entertainment of Winnipeg's renowned Ron Paley Jazz Band.

Gala Dinner Guest Speakers: David Hughes (ASPO) "The Energy Sustainability Dilemma: Powering the Future in a Finite World" & Felix Kramer (Cal Cars) "Mapping the future of PHEV"

CONFERENCE SESSIONS

Friday, November 2

Time	Ballroom C	Ballroom B	Ballroom A	Convention Centre
7:30 am-8:15 am	Breakfast & Networking			PHEV2007 Showcase and Forum <i>"Where the Grid Meets the Road"</i> (9:00-5:00) PHEV Public Forum 2:00-4:00
8:15 am-8:45 am	Guest Speaker: Dan Eberle, North American Solar Challenge- "The Soul of Competition"			
8:45 am-9:15 am	Guest Speaker: Mark Duvall, EPRI- "Environmental Assessment of PHEVs"			
9:15 am-10:30 am	Session 11: Future of University Student Competitions	Session 12: PHEV Programs & Funding	NSERC Networking Workshop Session B	
10:30 am-10:45 am	Nutrition Break			
10:45 am-12:00 pm	Session 13: PHEV and its Role for Sustainability		NSERC Networking Workshop Session C	
12:00 pm-1:30 pm	Plenary Lunch Lunch Guest Speaker: Chelsea Sexton, Plug in America- "Grassroots Efforts in Transforming an Industry" Lunch Guest Speaker: Ewan Pritchard, Advanced Energy- "Experience Gained with PHEV School Buses"			
1:30 pm-2:45 pm	Session 14: PHEV Implementation		Session 15: Advanced Student Vehicle Simulations	
2:45 pm-3:15 pm	Nutrition Break			
3:15 pm-3:45 pm	Guest Speaker: Peter Frise, CEO Auto21- "Industry & University collaborations on future transportation research"		NSERC Networking Workshop Session D	
3:45 pm-4:45 pm	Session 16: Future of PHEV and Closing Remarks		Session 17: Networking Area	

Concurrent Event on Friday: Simulation courses at University of Manitoba.

Conference Opening (Ballroom A, B and C Thursday 8:00am-9:00 am)

Gary Lunn, Minister Natural Resources Canada (or Designate)
Ron Lemieux, Minister Manitoba Infrastructure & Transportation
Gord Steeves, Councillor City of Winnipeg
Lloyd Axworthy, President and Vice-Chancellor University of Winnipeg
Emoke Szathmáry, President and Vice-Chancellor of University of Manitoba

Session 1: Battery Technologies Part I (Ballroom C Thursday 9:30 am-10:30am)

Topic: Battery technologies for PHEV applications

Technical Session

Chairperson: Efrain Ornelas, Pacific Gas & Electric

- Yaser Abu-Lebdeh, National Research Council of Canada
Advanced Li-ion battery technologies for Plug-in hybrid electric vehicles (PHEV)
(Based on research by Yaser Abu-Lebdeh and Isobel Davidson)
- Andy Chu, A123Systems
The use of A123Systems technology in PHEV applications
- Abdelbast Guerfi, Institut de Recherche d'Hydro-Québec
Olivines for HEV and PHEV applications
(Based on research by A.Guerfi, P.Charest, M.Dontigny, M.Petitclerc and K.Zaghib)

Session 2: PHEV Impacts on Utilities and Vehicle to Grid (V2G) Part I (Ballroom B Thursday 9:30 am- 10:30am)

Topic: Impact of PHEV on the utility grid system and vehicle to grid applications

Technical Session

Chairperson: David Checkel, University of Alberta

- Ed Innes, Emerging Energy Technologies, Manitoba Hydro
PHEV, energy efficiency, and comparison to alternatives
- Alec Tsang, Asset Management and Planning, Generation, BC hydro
EV charging evaluation - impact on utility
- Alistair Miller, Office of the Principal Scientist Atomic Energy of Canada Limited (AECL)
A historic perspective on the future cost of off-peak electricity for EVs

Session 3: PHEV Simulations Part I (Ballroom A Thursday 9:30 am-10:30 am)

Topic: Simulation results of hybrid powertrains and PHEV architecture will be presented using simulation software.

Technical Session

Chairperson: Gitanjali DasGupta, Electrovaya

- Matthew Stevens, University of Waterloo, Green Energy Research Institute
Modeling battery degradation in plug-in hybrid vehicles
(Based on research by Matthew Stevens and M.W. Fowler)
- S. S. Williamson, Department of Electrical and Computer Engineering, Concordia University
Optimal control strategy design for extending all-electric driving capability of plug-in hybrid electric vehicles (PHEVs)
- Shereez Ali, University of Windsor
An energy based model for optimization of motor runtime in plug-in hybrid electric vehicles (Based on research by Shereez Ali and Narayan Kar)

Session 4: Battery Technologies Part II (Ballroom C Thursday 10:45 am-12:00 pm)

Topic: Battery technologies for PHEV applications

Technical Session

Chairperson: Stuart Evans, Delta-q

- Mark Shoesmith, E-One Moli Energy Canada Ltd.
The effect of PHEV and HEV duty cycles on battery and battery pack performance
(Based on research by Mark Shoesmith and Lars Ole Valoen)
- Ali Abouimrane, National Research Council of Canada, Institute for Chemical Process and Environmental Technology
Electrolytes for lithium batteries with improved thermal stability
(Based on research by Ali Abouimrane and Isobel Davidson)
- Gitanjali DasGupta, Electrovaya
Conversion kits & battery system solutions for PHEVs with Electrovaya's proprietary Lithium Ion SuperPolymer® technology
- Sadeg Faris, Xellerion
NiZn Battery as the alternative battery technology for PHEV
(Based on research by Sadeg Faris and Tsepin Tsai)

Session 5: PHEV Impacts on Utilities and Vehicle to Grid (V2G) Part II (Ballroom B Thursday 10:45 am-12:00 pm)

Topic: Impact of PHEV on the utility grid system and vehicle to grid applications

Technical Session

Chairperson: Curran Crawford, University of Victoria

- Keith Parks, Xcel Energy
PHEV impacts on the Xcel energy system
- Ken Thomas, Fleet Services Manitoba Hydro
A utility fleet perspective on the role of PHEVs
- Efrain Ornelas, Pacific Gas and Electric
PG&E view of V2G, PHEV projects, and progress so far

Session 6 & 17: Networking Area (Ballroom A)

Session 6 and 17th are sessions where conference delegates may use Ballroom A as a networking area in the allotted time slot.

Session 7: Renewable Energy Integration and Drivers (Ballroom C Thursday 1:30 pm to 2:45 pm)

Topic: Energy drivers that promote the development and applications of PHEV technology and its impact on sustainability, peak oil and GHG

Technical Session

Chairperson: Peter Radziszewski, McGill University

- The Rt. Honorable Edward Schreyer, ASPO Canada
Peaking the capacity to supply oil and climate change
- Jack Wood, The Wood Family Trust & GeoLectric Power Company NM
Implementation of a geothermal-PHEV transportation system in Unalaska/Dutch Harbor
- David Levin Biosystems Engineering, University of Manitoba
Achieving sustainability in transportation for passenger vehicles using bio-fuels and the PHEV platform in Manitoba (Based on research by David Levin and Nazim Cicek)

Session 8: PHEV Experiences and Futures (Ballroom B Thursday 1:30 pm to 2:45 pm)

Topic: Previous experiences with PHEV technology and where new developments can lead us

Technical Session

Chairperson: Isobel Davidson, National Research Council of Canada

- Nigel Fitzpatrick, Azure Dynamics
Canadian sponsored plug-in hybrids and their impact
- Tony Markel, National Renewable Energy Laboratory (NREL)
Plug-in hybrid electric vehicle design options and expectations
- Huang-Yee Iu, Hymotion-A123 Systems
Performance Analysis of the Hymotion PHEV fleet
- David Checkel, University of Alberta
Experience with an early PHEV field trial

Session 9: Policy in Support of PHEV (Ballroom C Thursday 3:30 pm to 5:30 pm)

Panel Goals: Discuss policies that can favor sustainable transportation by implementing PHEV

Panel Discussion

- **Panel Moderator:** Arne Elias, Centre for Sustainable Transportation
- **Panelists:**
 - Tony Markel, National Renewable Energy Laboratory (NREL)
 - Henry David Venema, International Institute for Sustainable Development (IISD)
 - Keith Parks, Xcel Energy
 - Claude Guérette, Transport Canada

Session 10: PHEV Simulations Part III (Ballroom B Thursday 3:30 pm-5:30 pm)

Topic: Simulation results of hybrid powertrains and PHEV architecture will be presented using simulation software.

Technical Session

Chairperson: Grant Koroll, Atomic Energy of Canada Ltd.

- Peter Radziszewski, McGill University
Moving towards a network for advance power train research and development
(Based on research by Peter Radziszewski, Claude Guerette, Charles Guatier, Eric Bibeau, Geza Joos and Vince Thomson)
- Mariam Khan, University of Windsor
Performance analysis of fuzzy-based indirect field oriented control of induction motor drives for hybrid electric vehicles
(Based on research by Mariam Khan and Narayan Kar)
- Shaahin Filizadeh, University of Manitoba
Drive-train design using transient simulation tools
- Roydon Fraser, University of Waterloo
Hardware-in-the-loop platform development for hybrid vehicles
(Based on research by Roydon Fraser, E. Wilhelm, ETH Zurich, E. Switzerland, Fowler and M. Stevens)

Session 11: The Future of University Student Competitions (Ballroom A Friday 9:15 am to 10:30 am)

Panel Goals: Discuss how to improve student vehicle competition in favor of sustainability and to attract more students from various engineering faculties

Panel Discussion

- **Panel Moderator:** Dan Eberle, American Solar Challenge Advanced Vehicle
- **Panelists:**
 - David Checkel, University of Alberta
 - Douglas Ruth, Engineering Dean University of Manitoba
 - Ali Emadi, Illinois Institute of Technology
 - Leon Fainstein, Red River College
 - David Strong, Design Chair Queens University

Session 12: PHEV Programs and Funding (Ballroom B Friday 9:15 am to 10:30 am)

Topic: Current funding opportunities for PHEV

Technical Session

- **Panel Moderator:** Al Cormier, Electric Mobility Canada
- **Panelists:**
 - Walter Wardrop, IRAP
 - Isobel Davidson, National Research Council of Canada, PHEV program
 - Andy Frank, UC Davis
 - Rick Whittaker, Vice President, Investments, SDTC

Session 13: PHEV and its Role for Sustainability (Ballroom B&C Friday 10:45 am to 12:00 pm)

Topic: Emerging Canadian policy on PHEV to promote sustainability in transportation

Technical Session

Chairperson: Douglas Ruth, Dean of Engineering, University of Manitoba

- Al Cormier, Electric Mobility Canada
Greening policies for electric mobility
(Based on research by Al Cormier and Terry Zdan)
- Isobel Davidson, National Research of Canada, Institute for Chemical Process and Environmental Technology
Canadian government programs supporting plug-in hybrid electric vehicle development
- Charles Thibodeau, Science and Technology Advisor, Office of Energy Research and Development, Natural Resources Canada
The international energy agency's implementing agreement on hybrid and electric vehicles

Session 14: PHEV Implementation (Ballroom B & C Friday 1:30 pm to 2:45 pm)

Topic: Technology ramification aspects to implement PHEV and their impact

Technical Session

Chairperson: Ken Thomas, Fleet Services Manitoba Hydro

- Stuart Evans, Delta-Q Technologies Corp.
Plug-in hybrid electric vehicle (PHEV) - charging for the real world
- Paul Zanetel, New Flyer
PHEV implementation in heavy vehicles, transit buses

- Frank Franczyk- Persen Technologies Incorporated (Persentech)
OttoLink- A tool for recording PHEV performance data
(Based on research by Frank Franczyk and Tom Cwikla)
- Mike Waters, CSE Consulting
Using Plug-in hybrid electric vehicle impact summary for the progress energy Carolinas territory (Based on research by Mike Waters, Tom Outlaw and Kelly Boone)

Session 15: Advanced Vehicle Design and Simulations (Ballroom C Friday 1:30 pm to 2:45 pm)

Topic: Simulation results of student vehicles and model-based design approaches
Technical Session

Chairperson: Grant Koroll, Atomic Energy of Canada Limited

- Chris Mendes, CrossChasm Technologies
Model-based design approaches for plug-in hybrid vehicle design
(Based on research by Chris Mende, M.Stevens, M.W. Fowler and R.A. Fraser)
- Charles Dahan, McGill University
Investigating the conversion of a personal watercraft to electric/hybrid drive through the use of Matlab/Simulink (Based on research by: Charles Dahan, , Elizabeth Lee, Albert Mathews, Simon Ouellette, Olivier Proulx, Amrit Richardson, Peter Radziszewski and Jeff Turner)
- Simon Ouellette, McGill University
Design Challenges and Possible Benefits of Electric/Hybrid Utility Snowmobiles (Based on research by: Simon Ouelette , Charles Dahan, Elizabeth Lee, Albert Mathews, Olivier Proulx, Amrit Richardson, Peter Radziszewski and Jeff Turner)
- Albert Mathews, McGill University
Development of a series PHEV "Formula type" race car (Based on research by: Simon Ouellette, Charles Dahan, Geza Joos, Elizabeth Lee, Olivier Proulx, Amrit Richardson, Peter Radziszewski and Jeff Turner)

Session 16: Future of PHEV and closing remarks (Ballroom B&C Friday 3:30 to 4:45)

Closing Remarks

- Ed Innes, Manitoba Hydro
Future impact of PHEV on utilities
- Arne Elias, Executive Director, Centre for Sustainable Transportation
Role of PHEV in sustainable transportation
- Jasna Tomic, WestStart-CALSTART
PHEV cooperation and synergies to promote the development process
- Chelsea Sexton, Plug-in America
Closing remarks

Workshop: Workshop for Demonstrations for Plug-in Highway (Ballroom A Thursday 3:30 to 5:30)

Workshop Goals: Discuss collaborative PHEV demonstrations projects with utilities for vehicle, utility truck and bus applications. Strong audience participation is required as we want to formulate possible PHEV collaborative demonstration projects across North America with utility participation.

- **Workshop Moderators:**

- Jasna Tomic, CALSTART and Tom Molinski, Manitoba Hydro

Workshop: NSERC Network Workshops (Ballroom A Thursday and Friday, closed sessions)

Workshop Goals: Discuss how to set up a PHEV network of researchers and partners

- **Workshop Moderators:**

- Eric Bibeau, University of Manitoba
- Arne Elias, Executive Director, Centre for Sustainable Transportation
- Peter Frise, AUTO21 NCE
- Peter Radziszewski, McGill University

Simulation courses

A variety of simulation courses will be offered during the conference. The courses include a PSAT training course on how to use PSAT by ANL, PSCAD and Opal-RT. Registered PHEV2007 conference attendees will be given priority. All courses will be at the University of Manitoba starting on Wednesday October 31 and ending on Friday November 2nd as per the schedule below:

- Wednesday October 31st-1:00-4:00 p.m.: PSCAD: Analysis and design of vehicle to grid interconnection
- Thursday November 1st-1:30-4:30 p.m.: PSAT: Simulation of electric mobility vehicles using PSAT
- Friday November 2nd- 9:00-12:00 p.m.: Using Simulink for off-line and real-time modeling of vehicle powertrain and Opal-RT blocksets

SHOWCASE AND FORUM

Take the Skywalk from the Delta to the Convention Centre to visit the Showcase Area in anytime on November 1st and 2nd to see eco-friendly transportation options showcased through vehicle displays, booths, a PHEV ride and drive, student posters and presentations on sustainable transportation.

Schedule of Events

Start Time	Interactive Forums		Exhibit Displays	PHEV Ride & Drive	Student Posters
	Nov 1 only	Nov 2 only			
9:00			Informative displays and exhibits by eco-friendly transportation companies, utilities, governments and universities	Have the opportunity to ride or drive in a PHEV inside the Convention Centre	Student posters on sustainability from University of Manitoba, University of Winnipeg, University of Brandon and Red River College.
10:00	RRVCCC: "Sustainable Transportation: What you can do"				
11:00	City of Winnipeg: "Update on Sustainable Transportation Initiatives"				
12:00					
1:00	High School Student Presentation: "What is a PHEV?"	Main Event" PHEV Public Forum-Q&A with Leading North American PHEV Experts			
2:00					
3:00					
4:00					
5:00		Closing			

The showcase and public forum is open to all, free of charge (donation to Winnipeg Harvest will be accepted) and includes:

Main Event: PHEV Showcase & Forum (Convention Centre Friday 2:00 to 4:00)

Presentations by PHEV2007 invited guest speakers describing how they see the future of sustainable transportation. Guest speakers will answer questions from the audience. This forum will provide the chance for the public to understand the role of PHEV in sustainable transportation and interact with PHEV world leaders. (Open to all)

PHEV Forum Moderator: Chelsea Sexton, Plug-in America

PHEV Forum Panelists:

- Felix Kramer, Founder California Cars Initiative
- Andy Frank, UC Davis
- Dan Eberle, American Solar Challenge
- Ali Emadi, Illinois Institute of Technology
- Ricardo Bazzarella, Hymotion

Other Public forums include:

- Red River Valley Clean Cities Coalition presentation: "Sustainable Transportation: What you can do". Come and learn about current state of the art vehicles and what the public can do to improve sustainability in transportation. (Open to all)
- City of Winnipeg: "Update on sustainable transportation activities". Hear about what the municipal government is doing to encourage sustainable transportation.
- Presentation to local high school students: "What is a PHEV?" will be presented by a leading PHEV expert in simple language. (Open to all)
- *PHEV ride and drive*: PHEV attendees will have the opportunity to be a passenger in this emerging technology.
- *Student posters* on sustainable energy systems will be displayed by students, government organizations and local companies. Students are encouraged to present their research work in sustainable areas during this public forum.
- *Networking area* for pre-arranged meetings or impromptu discussion with PHEV stakeholders.