

ICLR Board of Directors

Kathy Bardswick (Chair)
The Co-operators
Franco Berruti
UWO
Robert Cooke
State Farm
Alan Davenport
UWO
Jean-Jacques Henchoz
Swiss Re Canada
Paul Kovacs
ICLR
Rowan Saunders
Royal & SunAlliance
Nicholas Smith
Lloyd's Canada
Brian Timney
UWO

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ICLR's eighth annual AGM

David Wilmot steps down as Chair and director, Kathy Bardswick named as new Chair

The Institute for Catastrophic Loss Reduction's Board of Directors and Annual General Shareholders' meeting, held the morning of May 16, marked David Wilmot's last as Chairman of the Institute. Mr. Wilmot recently announced his intention to retire from his role as Senior Vice President and Chief Agent for Canada of Toa Re after a reinsurance career spanning 35 years, and from ICLR. He was a member of the original IBC

Smith of Lloyd's Canada, Bob Cooke of State Farm and Kathy Bardswick of The Co-operators along with Paul Kovacs and several representatives from the University of Western Ontario, elected Ms. Bardswick as the Institute's new Chairman, effective immediately. She has been a member of the ICLR board since 2004.

"I would like to thank board members for their confidence to have me step into what are very ►

"I am looking somewhat forward to toning down my insurance activities, but ICLR is one of the things that I will greatly miss."

David Wilmot

committee which recommended the creation of ICLR, and has been a board member ever since. He has served as Chairman for the last three years.

Mr. Wilmot was recently quoted in Thompson's World Insurance News remarking "I think Hemingway said 'retirement' is one of the ugliest words in the language. This is a career move that lets me have more time to pursue personal goals and still continue with my interest in the insurance and reinsurance industries."

Of his departure from ICLR, he said: "I am looking somewhat forward to toning down my insurance activities, but ICLR is one of the things that I will greatly miss."

ICLR's Board of Directors, which consists of Rowan Saunders of Royal SunAlliance Canada, Nick



David Wilmot is retiring from the reinsurance business and from ICLR's board.

large shoes left by David. It will be a challenge, however we will be sure to continue the important work done by ICLR and build on the momentum that has been created over the last nine years.”

Kathy began her career with The Co-operators in 1978. Prior to her appointment as President and Chief Executive Officer of The Co-operators Group on March 1, 2002, Kathy served as Chief Operating Officer of The Sovereign General and L'Union Canadienne. From 1998-2002, she was in charge of operations for these companies and their subsidiaries under the umbrella of The Co operators Group Limited.



Kathy Bardswick, President and CEO of The Co-operators Group and ICLR's new Chair.

She serves as Chair of the International Cooperative and Mutual Insurance Federation and a member of the Credit Union Central of Canada's CEO committee. Ms. Bardswick's corporate board positions include seats with The Sovereign General, L'Union Canadienne, Co-operators Investment Counselling Ltd., HB COSECO, and Co-operators Development Corporation. She is also a member of the executive committee of The Conference Board of Canada, and the Board of Directors for the Burlington Economic Development Corporation. Kathy is a former member of the University of Guelph's Board of Governors.

The Board also elected Jean-Jacques Henchoz, President and CEO of Swiss Reinsurance Company Canada, as a Director. Based in Toronto, Henchoz is responsible for all p&c reinsurance operations in Canada and the English Caribbean. He joined Swiss Re in Zurich in 1998 as a facultative property underwriter, covering German-speaking markets. After a year with Swiss Re New Markets, a division responsible for Alternative Risk Transfer solutions, he was named

underwriting manager in 2000 and led Swiss Re's European financial reinsurance unit. In 2003, he was appointed Head of Strategic Planning in the Property & Casualty Business Group. He has been serving in his current function since September 2005.

Of his election to the Board, Henchoz remarked: "The depth and breadth of the research and public education being produced by ICLR is impressive. I am most proud to be associated with this important organization."

Speeches by the Chairman and Executive Director are available by emailing gmcgillivray@iclr.org 🐾



Jean-Jacques Henchoz, President and CEO of Swiss Reinsurance Company Canada and ICLR's newest Board member.

The Insurance Research Lab for Better Homes wins award

The cover building at the Insurance Research Lab for Better Homes was recognized at a May 16th reception in Toronto when the Ontario Region of the Canadian Institute for Steel Construction conferred it an "Award of Merit" in the *Engineering* category.

The jury panel was impressed with the innovative and cost-effective approach to moving the cover building on rails

to expose the full-scale test house to the natural environment for building envelope research (i.e. mould development) or protect it from the environment for structural engineering research. 🐾



The open door on the steel cover building reveals the full-scale test house within. The structure can be moved by rail to expose the home to the natural elements.

Ontario's first Safer Living home is completed – Canada's second

An ambitious program designed to confront the challenge presented by increasing weather-related catastrophes celebrated another important milestone on February 19, with the completion of Ontario's first safer living home, the country's second.

Located in Sudbury and designed and constructed to withstand winds of 200 km/h, the house is the second to be completed under the *Designed...for safer living* program. The program is a partnership between ICLR and the Canadian insurance industry. The first *Safer Living* home was constructed on West Point, Prince Edward Island and was launched on November 14, 2006.

Construction of the homes to "better than building code" standards, which involve special building material and methods from the foundation to the roof, was funded by The Co-operators.

"The cost of damage from natural disasters has doubled every five to seven years since the 1960s, and more and more people are living in vulnerable areas. This is an alarming trend that is not sustainable and must be confronted," said Kathy Bardswick, president and CEO of The Co-operators and member of the ICLR board of directors. "As an insurer, we see first-hand the devastation wrought by natural disasters. It is incumbent upon us



The roof is attached to the frame using special clips.



Ontario's first-ever Safer Living home was constructed in Sudbury. The house, a partnership between ICLR and The Co-operators, was built after the family's original homestead was destroyed by fire.

to do all we can to promote safer living, and we hope this will encourage all stakeholders to embrace safer standards."

As with the PEI home, the Sudbury house, which was insured by The Co-operators, had to be rebuilt from the ground up after it was destroyed by fire. The new house was designed to withstand the most hazardous weather conditions in the area - wind storms and extreme winter weather. Special construction features include:

- Impact-resistant windows rated for high wind pressures;
- 5/8" thick steel rods that anchor the floors together, including between the first floor to the foundation
- Steel "hurricane clips" and bracing to secure the trusses to the framing, and braced gable ends to withstand high winds
- Special shingles designed to meet 170 km/h standards, installed using additional nails and cement
- Ice and water shield over the entire roof
- Water-resistant sealing around windows and doors.

Many of the special features were imported from the United States, where a similar program was developed several years ago by ICLR's sister organization, the Institute for Business and Home Safety.

"Canadians have a tradition of building strong homes, yet we have the knowledge to build homes that are even more resilient to extreme weather events that are increasing in frequency and severity," said ICLR executive director, Paul Kovacs. "We need to harness that knowledge to build safer homes for future generations of Canadians. This home will stand as a model as we work to build more resilient homes and communities right across the country."

In the months and years to come, additional safer living homes will be built in various regions of Canada. The homes will be designed to be resilient to the perils in that area, which may include earthquakes, prairie wildfire, tornadoes and hailstorms. 🐾

ICLR retrofits an Edmonton home to make it more resilient to tornado and winter storm

The Institute for Catastrophic Loss Reduction (ICLR) unveiled its latest home retrofit project on May 9. As part of the insurance industry's ongoing commitment to educate Canadian homeowners about disaster safety, ICLR once again chose Emergency Preparedness Week (May 6-12) to unveil its latest home retrofit project, this time in Edmonton, Alberta.

Glenn McGillivray, Managing Director of ICLR, conducted a media tour of the home. Says McGillivray: "Actions taken to make a home more resilient to natural catastrophes should reflect local hazard risk. The Edmonton area – indeed much of Alberta - represents an active zone for tornado and winter storms. Homeowners living in these areas, and in other places in Canada that are subject to different extremes, can prepare now for hazards that will inevitably strike in the future."

The Edmonton home retrofit included:

- Anchoring book shelves to walls
- Outfitting the washing machine with armoured water supply hoses
- Anchoring two hot water heaters
- Securing pictures to the walls and antique glassware to shelves
- Applying safety and security film to windows
- Taking measures to prevent pipes from freezing
- Reinforcing the garage door
- Installing snow melt cables on roof edges and gutters to prevent the formation of ice dams
- Installing basement flood and sump pump sensors.

On average, the tornado season in Canada ranges from April to October – about 160 days. However, this is not an absolute, as the three latest tornadoes ever to touch down in recorded history in Canada occurred on December 12, 1946 (Exeter, Ontario), November 29, 1919 (Leamington, Ontario) and November 9, 2005 (Hamilton, Ontario).

Canada ranks second in the world for tornado occurrences after the United States. According to Environment Canada, in the summer, an average of one tornado every five days is reported in Canada. However, on August 2, 2006, eleven separate tornadoes were reported in Ontario, from Burlington/Oakville in southern Ontario, to the Peterborough and Haliburton areas. An average of 16 occur in Alberta each year.

On July 31, 1987, a tornado cut south to north through Edmonton, ripping a continuous damage swath 37 kilometres long, and up to 1,000 metres wide. Immediately to the West, an area of 125 square kilometres was struck by tennis

ball-size hail. According to the Insurance Bureau of Canada, there were 60,000 successful automobile and building insurance claims, 50,000 of them for hail damage. Of the 32,000 successful homeowner claims, approximately five-sixths (or 27,000) were for hail damage. This represented about 18 percent of all homes in the Greater Edmonton area at the time. Twenty-seven people were killed in the event, making it the second deadliest tornado in Canadian history.

Just after 7 p.m. local time on July 14, 2000, a tornado measuring F3 on the Fujita Tornado Intensity Scale ►



As can be illustrated from the above photo, taken near Biloxi, Mississippi after Hurricane Katrina, garage doors—especially wide garage doors—are very susceptible to wind damage, often buckling from the force. The photo was taken by an engineering professor from the University of Western Ontario while doing damage surveys for an ICLR project. Horizontal steel bars were added to the garage in Edmonton to prevent such a failure from occurring.

ICLR retrofits an Edmonton home to make it more resilient to tornado and winter storm cont...

touched down five kilometres west of a campground/trailer park at Pine Lake, Alberta, located about 90 kilometres north of Calgary. Travelling east, the kilometre-wide twister remained on the ground for 15 to 20 kilometres - about half-an-hour - carving a swath of damage ranging from 800 to 1,500 metres wide. It is estimated that winds reached 300 km/h. Baseball-sized hail was also reported. Several hundred trailers were flipped over, boats and cars were tossed into the lake, buildings were levelled, trees were



The home's hot water tanks were strapped to the walls to guard against water damage and gas leak/explosion, should they be jarred loose from their anchors.

uprooted and common items were turned into deadly missiles. Approximately 400 camp sites were destroyed. The storm claimed 12 lives and injured 140.

A September 7, 1991 hailstorm in Calgary, Alberta, caused insured damage of \$342.7 million (2004 dollars), making it the most destructive hailstorm and third-largest insured natural catastrophe loss in Canadian history. The storm dropped 10-centimetre diameter hail in Calgary subdivisions for up to 30 minutes, splitting trees, breaking windows, damaging roofs and siding and denting cars. All told, more than 116,000 insurance claims were filed as a result of the event, a Canadian record which held until the Great Ice Storm usurped it in early 1998.

According to McGillivray: "We can prevent natural hazards from becoming disasters if people undertake simple, appropriate preventative measures beforehand. Such actions and measures are affordable and take little time to do. We showcase them today in this home."

This is the fifth year that ICLR has retrofitted an existing home as part of Emergency Preparedness Week. In 2006, a

home in Ottawa was made more resilient to earthquakes and winter storms. In 2005, a home in Vancouver was made more resilient to earthquakes, and in 2004, a Halifax home was protected against hurricanes. In 2003, a home in London, Ontario was made more resilient to tornadoes. The Institute has also retrofitted several child care centres as part of its "Protecting our Kids from Disasters" program. 🐾

Friday Forum schedule for the balance of the year

ICLR seeks to strengthen the insurance community's awareness of the risks associated with natural hazards. Each month we host an informal discussion of current research and industry issues related to natural hazards. Attendance is limited to ensure that participants can directly contribute to the discussion.

The cost is \$75 for members (\$150 for non-members) for each forum. Business casual dress.

June 15
Flood mapping
(Don Pearson, Conservation Ontario)

September 21
Flood
(Slobodan Simonovic, University of Western Ontario)

October 19
Earthquake in Ottawa and Montreal (Gail Atkinson, University of Western Ontario)

November 16
Nov. 9, 2005 Hamilton tornado
(Richard Kinchlea, City of Hamilton)

For more information, contact Tracy Waddington at (416) 364-8677 or twaddington@iclr.org

Course on natural disasters at UWO is picking up pace

The establishment of ICLR at the University of Western Ontario was instrumental in the introduction of a new fourth year undergraduate course at the Department of Civil and Environmental Engineering: *Natural Disasters: Mitigation, Modeling and Assessment*.

This course is an examination of natural disasters and their effects on society and consists of three modules. The first course module focuses on flooding events and their management, the second on hurricane models and events, and the third on earthquake.

A set of specific learning objectives include:

Management of floods

At the end of this section, the student should be able to

- Understand the role of structural and non-structural flood management measures
- Understand the role of flood mitigation reservoirs, determine the size of the reservoir and estimate the impact of reservoir storage on flood peak reduction
- Understand the role of levees and flood walls and determine their height
- Estimate the effect of structural and non-structural flood management measures

- Implement the expected annual flood damage analysis

Hurricane modelling

At the end of this section, the student should be able to

- Identify the applications of hurricane models
- Understand the basics of hurricane formation and structure
- Identify the components of a typical hurricane model and the parameters they depend on
- Identify the physical databases available for the determination of model parameters, and understand their shortcomings
- Understand the effect of wind on buildings, and the ways in which it can be simulated through the use of vulnerability functions
- Quantify differences between models due to decisions about modelling approaches, parameter distributions, etc.

Earthquake

At the end of this section, the student should be able to

- Recognize the characteristics of seismic motions
- Understand the effect of earthquakes on buildings

and how to mitigate the losses

- Understand the effect of earthquakes on bridges and how to mitigate the losses
- Understand the effect of earthquakes on lifeline structures and how to mitigate the losses.

Professor Simonovic, ICLR's Director of Engineering Studies, is the course coordinator. Other instructors include Profs. C. Miller and A. El Damatty.

Since the course was first introduced, the number of students registering for it has been on the rise. Fifty-five students enrolled in the course this year. 🐾



Slobodan Simonovic, Professor of Engineering, UWO and ICLR Director of Engineering Studies.

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Mission
To reduce the loss of life and property caused by severe weather and earthquakes through the identification and support of sustained actions that improve society's capacity to adapt to, anticipate, mitigate, withstand and recover from natural disasters.

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