GAMBLING RESEARCH REVEALS

The Alberta Gaming Research Institute is a consortium of the Universities of Alberta, Calgary, and Lethbridge. Its primary purpose is to support and promote research into gaming and gambling in the province.*

OUR MISSION

To significantly improve Albertans' knowledge of how gambling affects society

ALBERTA GAMING RESEARCH INSTITUTE

Highlights from the Institute's Eighth Annual Conference

In late March, 2009 more than one hundred delegates arrived at The Banff Centre in Banff, Alberta to participate in the Institute's Eighth Annual Conference. The theme of this year's conference was Internet gambling and, over the course of two days, attendees heard presentations from a distinguished roster of academics and government officials from around the globe. In addition to presentations and poster sessions, the conference afforded a valuable opportunity to network with other educators, policy makers, regulators, and researchers involved in aspects of gaming and gambling.

PowerPoint slides from the majority of conference sessions are available from the Completed Program webpage in the 'Events' section of the Institute web site under the '2009 Conference' link. The following presentation summaries provide a sampling of the content discussed at the event.

Best Conference Poster Awarded to Annie Gendron

Congratulations to Annie Gendron from the Université du Québec à Trois-Rivières. Her research project entitled "Comparison of the profiles of young non-gamblers, gamblers and Internet gamblers relative to psychological distress, severity of substances use and impulsiveness/risk taking" was judged as the best Conference 2009 poster presentation.

"...more than one hundred delegates arrived at The Banff Centre."

Michael Bowling

Rob Williams, conference presenter

Poker and artificial intelligence
– Dr. Michael Bowling

In a fascinating presentation, computer scientist Dr. Michael Bowling provided an overview of the challenges involved in developing a computer program that could beat the world's best poker players in a two-player game. Bowling explained that Hold'em poker provides a formidable challenge to artificial intelligence (AI) researchers because there are literally billions of possible "decision points" in poker, the absolute margin of victory over an opponent is vitally important, and luck is involved in some aspects of game play (e.g., the starting cards a player is dealt as well as the subsequent "community" cards).

Dr. Bowling explained that the Computer Poker Research Group at the University of Alberta has been involved in the development of poker-playing computer programs since 1997. The current generation of AI software has been dubbed "Polaris." In 2007, as test of Polaris' abilities, Bowling arranged for it to take on professional players in the Man-Machine Poker Championship. This involved a series of "head-to-head" duplicate matches[1] of Limit Texas Hold'em. It managed to score a tie and one victory over the humans—perhaps the first time a computer program had ever won against professional players—but Polaris ended up losing the overall four-match series.

The second Man-Machine Poker Championship took place one year later (July, 2008) in Las Vegas and pitted Polaris against seven of the world's highest-rated limit poker professionals. This time, Polaris emerged victorious in the overall series with three wins, two losses, and a draw. Bowling credits Polaris' victory to a re-programming of the AI that he described as "lying to the computer about how the game works." Essentially, Polaris became a more challenging rival by adapting its strategy to one of five distinct game-play "personalities" based on what Polaris determined to be most effective against its opponent's playing style.

Though beating the world's top limit poker professionals was satisfying, Bowling required confirmation of the effectiveness of Polaris' play by evaluating it using statistical methodologies[2]. To do so, he had to control for the influence of luck on the outcome of the matches. According to Bowling, "Luck is what changes the possible *expected outcome* of a starting hand as the betting progresses; skill is involved to see how much less or more money is lost." Bowling and his team devised several complementary statistical measures[3] which required data on far fewer hands played to draw statistically significant conclusions. After these measures were applied to match data from the 2008 competition, Bowling found that Polaris' match performance was perhaps even more impressive than the actual results indicated. All three of its wins were statistically significant.

In concluding, Bowling noted that poker is a game of imperfect information which mirrors many real-world scenarios. Research being undertaken by the Computer Poker Research Group involving Game Theory has numerous applications in situations (e.g., online auctions) where crucial decisions must be made in the absence of key information about what competitors are doing. After all, said Bowling, "Game theory suggests if you're playing correctly, then even if your opponent knows how you play, you won't lose money."

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> −Michael Bowling

[1] In a duplicate match, the same cards are dealt to both human players and Polaris, but with the seating reversed.

[2] Confirmation using existing methodologies was impossible because none of Polaris' match results were considered statistically significant. Data from at least 20,000 separate hands of poker are required for results to be statistically significant when using money as a tool to evaluate poker players.

[3] The DIVAT analysis tool as well as a technique known as "imaginary observation."

Protective features for Sweden's online gamblers – Jakob Jonsson

Jakob Jonsson

Martin Sychold, conference presenter

Sarah Nelson, conference presenter

Researcher Jakob Jonsson of Sweden's Spelinstitutet provided details about how online poker is offered in Sweden and results of investigations examining Swedish Internet poker players. He explained that the long-established tradition of card playing among the Swedes has allowed for a seamless transition to the world of Internet poker. The country's gambling help line, however, reveals that this game is consistently referenced as a problematic format by those experiencing gambling-related difficulties. Jonsson noted that, in contrast to some other jurisdictions offering online gambling, Sweden's state owned lottery Svenska Spel only permits access to Swedish citizens. Although some Swedish online poker players are also using international sites, Jonsson said that there is a desire to bring them back "home" to the Svenska Spel site.

Protective features were built into the Svenska Spel poker software to encourage Swedish citizens to gamble in a responsible manner. For example, there are mandatory 5-minute breaks every hour during play, requirements that players establish time and spending limits before participating, and promotions (e.g., "play" money formats, rakebacks, "freerolls," etc.) are taboo. Players can use a "navigator" feature to be continually apprised of how much time and money they've spent during gameplay. For individuals concerned about their gambling behaviour, a "self-test" exists which assesses gambling habits to detect any signs of problems. Those in need what Jonsson described as a "cool-off period" can also choose to take advantage of a self-exclusion option.

As a way of testing the effectiveness of the suite of Svenska Spel harm-minimization strategies, Jonsson undertook two studies which involved a series of web questionnaires. Playing habits were explored and measured using the Problem Gambling Severity Index (PGSI) instrument that was specially modified for Internet poker. Data were collected from poker players at the Svenska Spel site as well as those individuals who frequented other "international poker sites." An analysis of results revealed that there were higher rates of problem gambling for those people who exclusively played at international sites.

In his conclusion, Jonsson indicated that his research found poker players generally *liked* the Svenska Spel responsible gambling features. These features were also surprisingly effective though there was seemingly room for improvement. Jonsson said that, "Today ten per cent of Swedes gamble on the Internet and growth in gambling is nowhere else." He is also certain that, within ten years, the online format will be larger than the land-based one. Fittingly, Jonsson closed by commenting that new Swedish poker players now almost always start at the Svenska Spel poker site.

"Today ten per cent of Swedes gamble on the Internet and growth in gambling is nowhere else."
–Jakob Jonsson

The development of British Columbia's online lottery presence – Kevin Gass

Kevin Gass, Vice-President of Corporate Affairs for the British Columbia Lottery Corporation (BCLC) presented on the steps his organization took in the development of its online gaming presence. The prospect of operating online gambling sites first caught the attention of BCLC about six years ago. At that time, it recognized that a proliferation of advertising for "grey market" (i.e., non-regulated) online gaming sites was occurring. In addition, revenue generated from traditional lottery products in British Columbia was projected to flatten out and likely decline in the future[1]. Gass explained that, "Instead of sticking our head in the sand about Internet gambling and pretending it didn't exist, we looked to Europe where they had several additional years of experience."

Approximately five years ago BCLC launched their PlayNow.Com site to provide online lottery games. Gass said that a rationale for this initiative was to re-capture spending by British Columbians that was flowing to sites in offshore jurisdictions. At present, games available on PlayNow.Com include lotto, 5-minute keno, e-bingo and "interactives" (i.e., electronic versions of scratch-and-win products that include entertainment features). Additional lottery games have been gradually introduced since the launch of the site.

Public reaction to PlayNow.Com has been positive as evidenced by the fact that there are now 115,000 registered online players. Access is restricted to residents of British Columbia who are 19 years of age or older. Built into the site are a variety of protective features that allow players to set personal weekly spending limits, view real-time on-screen session and spend logs, review their 52-week account history, and voluntarily self-exclude[2]. According to Gass, an unforeseen benefit of the site has been to heighten the public's perception of trustworthiness when making lottery transactions. Purchasing lottery products online from BCLC is viewed as greatly reducing opportunities for fraud when compared to over-the-counter ticket purchases.

Peering into the future of BCLC's online lottery products, Gass foresees a greater emphasis on sports betting, new lottery games, partnerships with the professional sports teams (e.g., Vancouver Canucks professional ice hockey team), propositional betting, and online poker. He concedes that, from a purely "business view," online products are one of the few "growth" areas available to lottery providers in most jurisdictions. Gass ended his presentation with the observation that, "In Canada, we can choose to regulate, legally oppose or compete with the offshore sites... British Columbia has adopted a strategy of competing with them and the province has encouraged BCLC to do so."

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[1] Gass stated that traditional ticket lottery revenue in most Canadian jurisdictions comes from an older demographic and there are fewer "new" or younger lottery participants.

[2] Over 200 people have self-excluded on PlayNow.Com which is a much smaller number than have registered with BCLC's casino self-exclusion program.