

# GAMBLING RESEARCH



## AGRI Chair in Gambling Research Appointed at University of Lethbridge

*Dr. Darren Christensen is a behavioural scientist who will be working on several projects that incorporate economic decision making, treatment, neuroscience and unique drug interventions that he hopes will contribute to research that can be used to help stop problem gamblers before their gambling becomes a problem to themselves – and to their families, friends and society.*



Dr. Darren R. Christensen, the Alberta Gambling Research Institute's (AGRI) new Chair in Gambling at the University of Lethbridge, has an empty office but a research agenda that is going to be packed over the next five years – and beyond.

Christensen joined the U of L Faculty of Health Sciences in January, 2014 as the first of up to three appointments made by AGRI to increase research

capacity in the gambling research field from not only within the province, but internationally.

As a native New Zealander who has worked in Australia and the United States, Christensen says that apart from the leap in time zones (and temperature) to relocate his family from summer in Australia to winter in Canada in a few hours of flight time, he is looking forward to his various research interests taking a leap forward as well.

"Australia and Canada are two countries where there is a significant focus on gambling research," Christensen says. "I was working at the University of Melbourne's Problem Gambling Research and Treatment Centre, which is Australia's premiere research university. I knew of the AGRI system, and U of L (and AGRI) researchers Dr. Rob Wood and Dr. Rob Williams – two gambling researchers with international reputations. This was an excellent opportunity to move my research programs forward and also work in a completely different country and university environment."

Christensen is a behavioural scientist, and will be working on several projects that incorporate economic decision making, treatment, neuroscience

The primary aim of the Alberta Gambling Research Institute, a consortium of the Universities of Alberta, Calgary, and Lethbridge, is to support academic research related to gambling.

### MISSION

To facilitate evidence-based broad research that informs gambling public policy and educates Albertans and the wider audience about the effects of gambling.

and unique drug interventions that he hopes will contribute to research that can be used to help stop problem gamblers before their gambling becomes a problem to themselves and to their families, friends and society.

One of the key positive shifts in addressing problem gambling is the way it has now been defined and classified in the updated edition of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), Christensen says.

"In the most recent DSM (DSM-5), problem gambling has been moved into the addictive behaviour/ substance abuse section – the only addictive behaviour to be shifted like this in the updated manual. One of my projects involves developing a theoretical understanding of how problem gambling fits into the spectrum of addictions and substance

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abuse. Previously, pathological gambling was listed as an impulse control disorder in the DSM-4 (which dated from 2000). This compartmentalized

it with other types of compulsive behaviours not elsewhere defined (e.g., hair-pulling, kleptomania, pyromania, etc.). Now there are new options to consider when treating problem gamblers."

Why the shift? The effects of gambling on a person who is susceptible to addiction are not that different than if a person took drugs or alcohol. "(Problem gambling) is physiologically different from substance abuse because gamblers don't ingest a substance, but it is similar in that the 'reward systems' that fire up in the brain when people win -- or nearly win -- are similar to those that activate when someone takes a drug," Christensen says.

"People experience a variety of feelings when they win. Some people feel a sense of 'activation' -- endorphins flood the brain and cause pleasurable sensations. On the other hand, some people who may be stressed for one reason or another may experience some dissociation and so relax when they play. The process of gambling is similar to drug taking... it is the act of taking the drug, the experience of the drug entering your system and how an individual reacts and feels, rather than just the high."

With the opportunity to explore the connections between problem gambling and substance abuse in greater detail, Christensen is looking to examine (or re-examine) research and treatment relating to substance abuse, and hopes to learn more about how different types of treatments that have been successful in substance abuse could be applied to people with a gambling addiction.

"My background is in behavioural science, so I consider all behaviour as a choice -- why or why not? Using this behavioural point of view, I am looking to translate why and how people make choices and decisions in the realm of problem gambling. This is a field in which there is very little research at the moment."

Christensen says that he wants his work to be thought of as complementary, not contradictory, to current methods of treatment -- but he also wants to push the boundaries of research to ensure he is exploring all options.





"I have an obligation to prove what I believe is possible to counsellors and my research colleagues, and find a way to test how treatments that have been successful in substance abuse can be applied to gambling."

One of the more unusual methods Christensen has tested involves administering a drug commonly used to suppress alcohol or drug cravings in people identified as problem gamblers.

"I developed a clinical trial using a drug used for alcohol dependence and opioid (heroin) dependence. Called naltrexone, it is a drug that is not generally approved for use in gambling, but we received permission to start a clinical trial with nine people in Australia," Christensen says.



"My colleagues and I are looking at the neuro-activations pre-and post-treatment for this group of problem gamblers using activities that simulate some of the experiences people have while gambling. That study, which started in August, 2013, is still in progress, and it is one that I want to replicate here."

Christensen is well aware that not every project he undertakes will reveal a full-on 'cure' for problem gambling on his watch, because the paths people take to this problem are varied and often have underlying challenges that do not relate to gambling.

"Some people might respond better to talking one-on-one to a counselor, where they feel more understood, they feel like someone is supporting them, they feel like their story makes sense to someone," he says. "For them, just telling their story and having an empathetic listener, that's enough. For them there's no point in medication or other training / procedure."

However, for a number of reasons, a person may not be responding to more traditional treatments, and that's where Christensen hopes his research will have some effect.

**"By examining the effectiveness of a number of other options, I am hoping to open up new avenues for treatment."**

"Some people will have gone through a range of counsellors, psychiatrists or psychologists without much success (to stop their gambling). Because they have become so desperate, they are interested in trying something else. By examining the effectiveness of a number of other options, I am hoping to open up new avenues for treatment."

Christensen has also implemented treatment programs he describes as 'leisure substitution' to groups of gamblers who interact with non-gamblers in social settings. This helps them understand how to moderate their behaviours or interests in gambling, with remarkable results in stress reduction and interest in gambling in general.

Additionally, he has examined the published gambling expenditure literature in Australia to determine 'safe' gambling amounts.

Call pre-commitment, Christensen says a person can gamble, but in a way that is designed so they don't exceed a value they decide in advance, and when they are not in a gambling frame of mind.

"This is a well-documented protocol in Australia, Canada and other countries to stop excessive gambling. A gambler can pre-commit an amount of money (or time) before they gamble which they can't exceed per day, week or month."

The missing piece of the puzzle, according to Christensen, was the amount of money. "Some of my research has revealed the possible limits that a person might want to choose. We looked at the confidence levels of what people would be

willing to spend and chose the highest amount that 'recreational gamblers' might spend (as a 'low' limit); they would be people who don't score any DSM-4 or DSM-5 criteria for having a gambling disorder. Then we identified the lowest dollar amount problem gamblers would spend, per day (as a 'high' limit).

Overall, Christensen is looking for convergence in treatment options in as many different places as possible. "I am excited about exploring projects that are new to gambling research, and that sit theoretically with the way gambling is thought of now in the DSM-5. The possibility of defining some new biological markers in the brain could help us find new and powerful ways to help people with gambling addiction."

Faculty of Health Sciences Dean Dr. Chris Hosgood says Christensen's appointment as the AGRI Chair in Gambling will not only build on-campus relationships across related disciplines in Health Sciences, but his proven research experience with neuroscience and social sciences-related projects should be of interest to other researchers at the U of L, and elsewhere in the province.

"Darren's interests cross a number of boundaries, both research-related and international, so his perspective is one we are quite excited about adding to our faculty," Hosgood says, adding that

the estimated \$700,000 research award covers Christensen's salary, research startup fund and the ability to add graduate student researchers over a five-year period.

"With the Alberta Gambling Research Institute's support and Darren's commitment, we have been able to fulfill a key point in our strategic plan. Among other benefits, we know this helps to build research capacity at the U of L, in the province and among our graduate student ranks. It also presents the opportunity to translate some of Darren's research to other disciplines."

## Problem Gambling Warning Signs

**Click this 2-minute podcast to listen to Dr. Christensen as he provides a quick primer on problem gambling warning signs for friends, family members and co-workers.**

(introduction by Bob Cooney)



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## FROM THE LIBRARY: New Open-Access Journal Responsible Gambling Review



Gambling researchers and others interested in topics related to responsible gambling will be interested to know that a new peer-reviewed, open-access journal entitled *Responsible Gambling Review (RGR)* was officially launched in early 2014. RGR is co-edited by Dr. Richard Wood and Dr. Mark Griffiths and the aim of this publication

is to help bridge the gap between research and the application of findings, as well as report on the actual experiences of implementing new RG policies and practices. Authors are invited to submit manuscripts that provide an overview of new findings in the field of RG. The inaugural issue is freely accessible from the journal's home page @ <http://rgreview.org/>.

## Institute Establishes Three New Research Grant Opportunities

The Institute is pleased to announce the availability of three new research grant opportunities. Applications are now being accepted for Leveraging Grants, Team Development Grants, and Impact Grants. Leveraging Grants enable researchers with non-AGRI funding to augment projects with a gambling-related component. Team Development Grants support the development of multi/interdisciplinary teams of academic researchers, among Partner Universities, nationally, internationally, and other stakeholders in order to establish research programs. Impact Grants support initiatives that contribute to addressing AGRI priorities other than primary research (e.g., data repository, KT, outcome measures, etc.). An overview of these and other grant types offered by the Institute is available from the **Grant Opportunities** section of the web site. For additional information please contact the Institute's Executive Director **Vickii Williams**.

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## Conference 2014 Reminder

An up-to-date Conference 2014 program and schedule of events is available on the Institute web site. Speaker presentations to be made available post-conference.



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