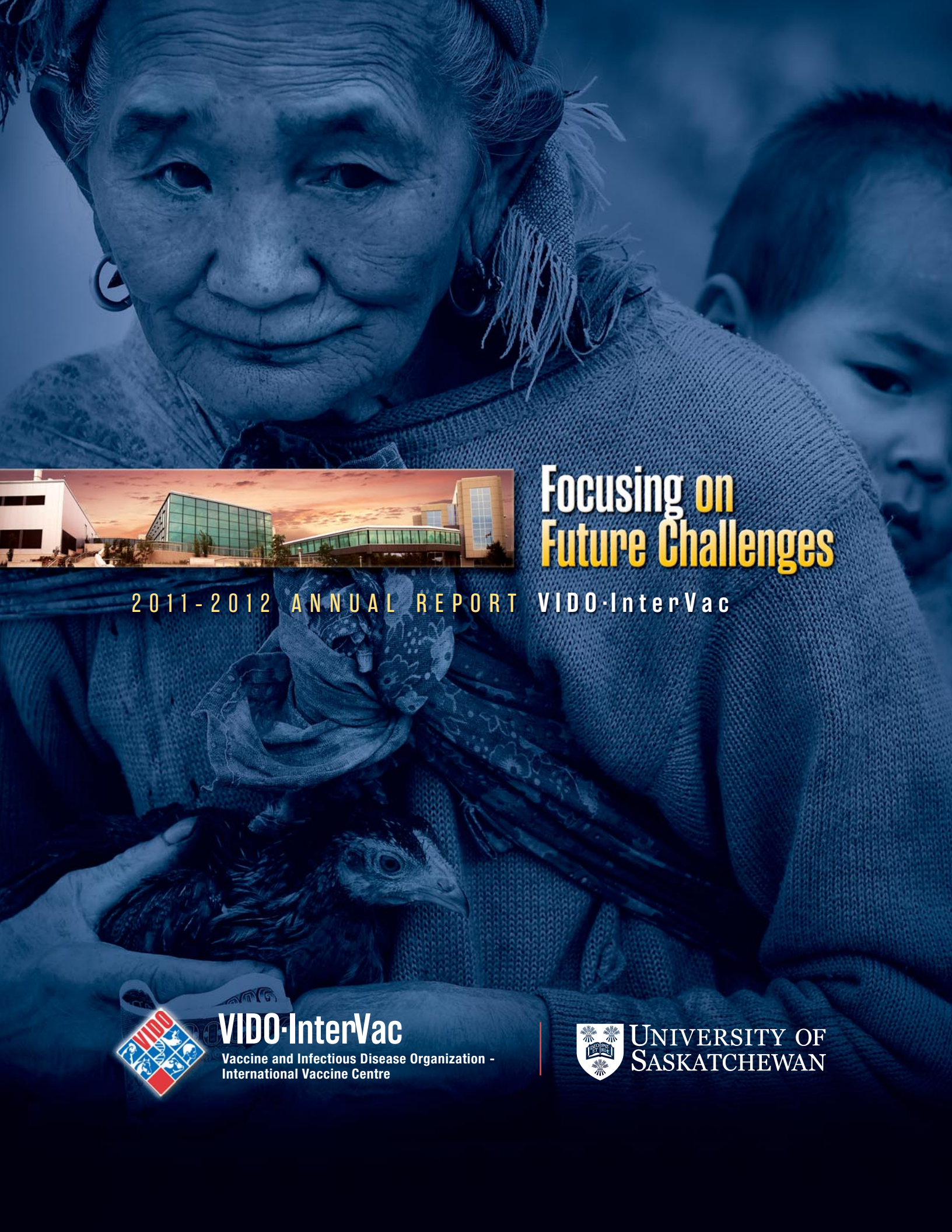

Focusing on Future Challenges

2011-2012 ANNUAL REPORT VIDO-InterVac

VIDO-InterVac
Vaccine and Infectious Disease Organization - International Vaccine Centre

University of Saskatchewan

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Board/Senior Management Team: Back row L to R: Robert Clarke, Paul Hodgson, Don Wilson, David Gordon, Cam Ewart, Volker Gerdts, Lorne Vanin. **Front Row L to R:** Andrew Potter, Terry Oleksyn, Joyce Sander, John LaClare, Luis Barreto, Bill Ballantyne. **Missing:** Rainer Engelhardt, Chris Dekker, Larry Milligan, Alastair Cribb, Karen Chad, Douglas Freeman

Our Mission

To be a pre-eminent research institute investigating the pathogenesis of infectious diseases and the development of effective therapeutic and prophylactic methods to control infectious diseases of humans and animals

Our Vision

Protecting the world from infectious diseases

Message from the Board Chair

Developing creative, proactive strategies for continued future success

This past year was an exceptional time in the life of VIDO-InterVac. The opening of our new facility has created unique opportunities for our scientists and Canada to play an expanding role in international disease control efforts. This enhanced capability is not only strategically important for the Agriculture and Public Health sectors but is playing an increasing role in other areas important to Canada such as international aid, global trade, tourism, economic prosperity and foreign affairs.

The future is often uncertain, especially in the world of infectious diseases. In the past we have seen the emergence of numerous novel pathogens that have required rapid research response and mitigation. This has been exacerbated by the rapidly expanding air transportation industry and globalization that have created a synergism for disease impact that is unprecedented. This new paradigm will require creative, proactive solutions that will be at the heart of the work of VIDO-InterVac.

A key strategy for combating these threats has been the One World One Health movement that fosters closer linkages between the animal, human and environmental health research communities. VIDO-InterVac has for many years operated in this way and is therefore well positioned to provide leadership and capacity to conduct research across a wide spectrum of hosts that will facilitate the transfer of knowledge to solve disease problems in all species.

As we move forward, the Board is confident that the management and scientific team at VIDO-InterVac will continue to provide a catalyst for research excellence that will allow Canada to play a lead role in the prevention and control of the spread of infectious diseases. The skill and professionalism of the team was especially evident over the last few years as they continued to conduct their research program at the highest level while designing, building and commissioning a highly complicated containment facility.

This level of commitment can only be achieved through great leadership and dedicated staff. On behalf of the Board we would like to thank Dr. Andy Potter and the entire VIDO-InterVac team for their tireless efforts and enthusiasm. ◆

THE ONE WORLD ONE HEALTH movement fosters closer linkages between the animal, human and environmental health research communities

Dr. Robert Clarke
Chair of VIDO-InterVac Board of Directors

2011/2012 VIDO-InterVac BOARD OF DIRECTORS

Dr. Robert Clarke – Ontario (Chair 2011-2012)
Dr. Luis Barreto – Ontario (Chair 2010-2011)
Dr. Bill Ballantyne – Alberta
Dr. Karen Chad – Saskatchewan
Dr. Alastair Cribb – Alberta
Mr. Chris Dekker – Saskatchewan
Dr. Rainer Engelhardt – Ontario
Dr. Douglas Freeman – Saskatchewan
Mr. David Gordon – Ontario
Mr. John LaClare – Saskatchewan
Dr. Larry Milligan – Ontario
Mr. Terry Oleksyn – Saskatchewan
Mr. Don Wilson – Alberta


AUSTRALIA
CHINA
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CYPRUS
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GERMANY
FRANCE
CANADA
GREECE
SPAIN
INDIA

Message from the Director and CEO

World class resources and expertise poised to meet future challenges

Dr. Andrew Potter
Director and CEO

Looking into the future is never an easy task, yet the goal of most infectious disease researchers involves exactly that; the mitigation of future threats through research and development. While it is not possible to predict with certainty what pathogens will emerge or re-emerge in the future, one can learn from the past and put in place proactive approaches for disease control. For example, we know that approximately 80% of new threats share two properties, namely that they are usually zoonotic in nature and also require containment level III (CL3) facilities for their study. Our roots in the animal health field serve us well for the study of zoonotic pathogens, from the development and use of relevant animal models to our wealth of knowledge on large animal immunology. The recent completion of the International Vaccine Centre, or InterVac, also gives VIDO-InterVac researchers, and those around the globe, access to Canada's most advanced CL3 large animal facility devoted to vaccine research.

As our former Director, Dr. Lorne Babiuk, used to say, "pathogens do not carry passports", a statement that is as true today as in the past. Research organizations such as VIDO-InterVac must therefore maintain a presence globally in order to meet the needs of their stakeholders. We have actively pursued new institutional relationships worldwide over the past year, with new partnerships developed in China, Kenya, South Africa and Kazakhstan to name but a few. In addition, alumni of VIDO-InterVac, including former students, post doctoral fellows and scientists continue to assist the organization in its efforts in both the research and global regulatory arenas.

While VIDO-InterVac's infrastructure is world class, that is only a set of tools that can be used to prepare for future challenges. The mitigation of future threats ultimately relies on the individuals that make up the organization, from the leadership and stewardship of the Board of Directors to our researchers and staff. We have continued to add to our pool of scientific expertise over the past year and the InterVac facility has also provided new opportunities for the growth and development of all individuals at VIDO-InterVac. This group of people not only will help mitigate the threats of future disease, but they are VIDO-InterVac's future as well. ◆

InterVac gives researchers access to one of the world's most advanced CL3 large animal facilities

DEVOTED TO VACCINE RESEARCH


VIDO

Identify and prioritize infectious disease targets for vaccine development

Dr. Volker Gerdts
Associate Director (Research)

The last year has been a long anticipated one from a number of viewpoints. The construction of InterVac was completed and we were able to move equipment into the laboratory and animal care space. New equipment was purchased, and is now ready for use as soon as InterVac is certified. Thanks to a very dedicated group of individuals, this entire process went very smoothly, from the initial ordering to the purchasing and receiving, and finally the installation. We are grateful to all individuals that were involved in this process.

Simultaneously the necessary training of individuals began; from individual Standard Operating Procedures to working with animals in a BSL3 facility, to medical first responder training. Proper training is an important aspect to ensure that we work in a safe workplace and I would like to thank again all individuals that were involved in these activities. A core group of technicians were hired to set up the laboratories and, thanks to the effort of all of these individuals and others; I am pleased to say that we are ready to start the work as soon as the facility is certified.

In preparing for future challenges, we have re-organized our research programs and have added a Core and Contract Research Program, managed by Dr. Hugh Townsend. This program manages our contracts with external clients and is also responsible for core research activities of VIDO-InterVac. A strategic planning process is currently underway to identify and prioritize a list of infectious disease targets for this group.

Dr. Francois Meurens, Research Scientist, was recruited in April 2012 from INRA in France. Dr. Meurens will complement our efforts to develop vaccines for emerging disease and strengthen our team of infectious disease immunologists.

Research Highlights

As summarized below, we have made great progress in many of our research projects and have started several new ones, including two international projects in food security funded by the International Development Research Centre. Together with partners in Kenya, South Africa and Canada these projects aim to develop novel vaccines for livestock in Sub-Saharan Africa and

These projects aim to develop novel vaccines for livestock of importance to Sub-Saharan Africa and

WILL HELP LOCAL FARMERS CLIMB OUT OF POVERTY

by improving the health of their animals.

RESPIRATORY SYNCYTIAL VIRUS

is the most common cause of respiratory illness in young children, causing hundreds of thousands of hospitalizations and deaths every year.

Image Courtesy of International Livestock Research Institute

will help local farmers climb out of poverty by improving the health of their animals.

VIDO's research over the last three decades has focused on both human and animal health, and thus it is no surprise that we are close to entering clinical trials with two new vaccine candidates, one for human and one for veterinary application. The first is a vaccine against infections with **Respiratory Syncytial Virus** (RSV), the most common cause of respiratory illness in young children, causing hundreds of thousands of hospitalizations and deaths every year. Vaccines for RSV are not available, but are urgently needed. Led by Dr. Sylvia van den Hurk, our researchers developed a novel vaccine that is highly effective in both cotton rat and mouse animal trials. Vaccinated animals were protected against RSV infection. The vaccine was safe and induced the right type of immunity in the respiratory tract, a crucial requirement for protecting young children. Funding came from the Krembil Foundation and the Pan-Provincial Vaccine Enterprise Inc. (PREVENT). A license agreement was signed with PREVENT and we anticipate the vaccine could enter clinical trials in human volunteers within the next 16 months.

Similarly, our project to develop a vaccine for **Chronic Wasting Disease** (CWD) in elk has made great progress. Chronic wasting disease is the most important disease of cervids in North America and responsible for substantial economic losses to the industry, and many elk producers have left the industry due to the disease. This neurological disease is similar to **Creutzfeldt-Jakob's Disease** (CJD), **bovine spongiform encephalopathies** (BSE) and even some forms of **Alzheimer's** disease and **Huntington's** disease. All of these diseases are characterized by the misfolding of normal proteins into disease specific forms. Misfolding of the protein leads

to malfunction, plaque formation and eventually severe neuropathology. In collaboration with PREVENT, our researchers have developed a vaccine for CWD. Led by Drs. Napper, Griebel and Potter, this vaccine is currently being tested in elk and vaccines are being developed for other members of this important group of diseases.

Other research projects include diseases of both humans and animals for which vaccines or treatments currently are not available. Many of these diseases are chronic in nature and are often associated with suppression or modulation of the immune system, a factor that complicates the development of effective treatments. Furthermore, many of these pathogens have found ways to evade the immune system, or due to their high genetic variability rapidly emerge as different and often more disease causing new strains and types.

For example, infections with **influenza virus** are responsible for devastating diseases in both humans and animals. The recent pandemic and several new outbreaks of both avian and swine influenza have demonstrated the need for better vaccines, ideally universal vaccines that protect against all circulating influenza viruses. Furthermore, an ideal vaccine would be protective after a single-immunization. Live attenuated vaccines are known to induce very potent immune responses after a single immunization. Led by Dr. Yan Zhou our researchers have developed a safe attenuated live vaccine that protects pigs against common influenza strains.

Another important RNA virus, the **Hepatitis C virus**, is a causative agent for severe liver disease in humans, which can lead to liver steatosis and death. Hepatitis is economically one of the most important diseases in humans and vaccines are still not available due to the lack of animal models and a poorly understood pathogenesis, in particular the interactions between the virus and the host, and the induction of liver steatosis. Dr. Qiang Liu and his group, members of the Canadian Hepatitis Network, are studying the pathways that lead to liver steatosis in order to develop novel intervention strategies. Dr. Sylvia van den Hurk and her group are assessing the potential of novel dendritic-cell based vaccines and Dr. Joyce Wilson and her team are studying

Our project to develop a vaccine for

CHRONIC WASTING DISEASE

in elk has made great progress. Our researchers have developed a vaccine currently being tested in elk

The Porcine Reproductive and Respiratory Syndrome Virus is the most economically important disease of pigs

VIDO-INTERVAC IS DEVELOPING MORE EFFECTIVE VACCINES.

the role of microRNAs in immunopathogenesis and are seeking to develop ways to interfere with viral replication.

Another highly diverse RNA virus is the **Porcine Reproductive and Respiratory Syndrome Virus** (PRRSV), responsible for the economically most important disease of pigs. Current vaccines are moderately effective and new strains continue to emerge around the globe resulting in billions of dollars lost annually. Led by Drs. Alexander Zakhartchouk, Meurens and Gerdts our researchers are developing novel vaccine technologies that are safe and more effective than existing vaccines. These are based on combinations of novel vaccine and adjuvant technologies.

Infections with **Mycoplasma spp**. are responsible for significant losses to the livestock industry around the world. However, especially in Sub-Saharan Africa, infections with *Mycoplasma mycoides* continue to cause devastating losses to the local cattle industry. Funded by the International Development Research Centre we started a new project with the International Livestock Research Institute in Kenya (ILRI) to develop vaccines against this disease. Complementary, Dr. Jose Perez-Casal and his group are testing vaccines for *Mycoplasma bovis* in cattle and bison, both significant problems for the North American industry. In collaboration with researchers from the University of Alberta and the National Centre for Foreign Animal Diseases another project funded by IDRC is focused on five other viral diseases of livestock in Sub-Saharan Africa, including **African Swine Fever** and ***Peste des Petits Ruminants***.

Sexually transmitted diseases are on the rise in Canada, especially in northern communities, and are becoming a major impediment to the Canadian health care system. ***Neisseria gonorrhoeae*** has achieved "superbug" status, meaning that antibiotic treatments are becoming ineffective. This highlights the need for a better understanding of the mechanisms of antimicrobial resistance and the development of novel treatments for bacterial infections. Dr. JoAnne Dillon and her team are investigating the spread and mechanisms of antimicrobial resistance amongst important pathogens such as *Neisseria gonorrhoeae* and **Chlamydia spp**. By combining basic research on cell division, the group is currently identifying novel targets for vaccines. For example, the groups identified and characterized the gene organization of both the division cell wall (dcw) cluster as well as the *min* cluster which includes the *min* genes-*minC*, *minD* and *minE*, responsible for midcell site selection. Other pathogens of interest include *Staphylococcus aureus* and *Escherichia coli (E. coli)* . As World Health Organization (WHO) coordinator for Latin America, Dr. Dillon's group is leading efforts on characterizing the molecular epidemiology of Gonococci around the world.

Other examples of chronic infections are infections with **Mycobacteria spp**. These pathogens cause devastating human and animal diseases, including human and bovine tuberculosis. For example, Johne's disease in cattle, an important disease caused by infection with *Mycobacterium paratuberculosis (M. paratuberculosis)* , is responsible for serious losses to the dairy and beef industries. Research at VIDO is focused on using reverse vaccinology to develop improved vaccines for mycobacterial diseases. Drs. Scott Napper, Philip Griebel and Andrew Potter are studying host-pathogen interactions in the intestine to develop novel intervention strategies. To characterize the mechanisms by which *M. paratuberculosis* evades the immune system, Drs. Napper and Griebel have developed a novel kinome technology to detect post translational phosphorylation by cell kinases , important cell molecules involved in most cell functions, including innate immune regulation. Kinome

Contamination of meat and meat products is an important concern to human health

VIDO-INTERVAC IS DEVELOPING FOOD SAFETY VACCINES

against Escherichia coli, Campylobacter jejuni and Salmonella.

arrays have been developed and are now being used to characterize the immune response to various pathogens.

Adjuvants and novel delivery strategies are important aspects of our vaccine development research. Dr. Mutwiri is leading an adjuvant research program, focused on potent immunstimulators such as polyphosphazenes, which are synthetic polymers used for drug and vaccine formulation. These molecules are further optimized by our chemistry group, led by Dr. Attah Poku, who has modified this class of molecules to enhance their potential as vaccine adjuvants. Dr. Heather Wilson is investigating means of overcoming oral tolerance in early life, in order to vaccinate the very young. The group was awarded several grants to develop vaccine platforms for young animals including a vaccine for *Lawsonia intracellularis* in pigs. The potential of a novel adjuvant platform is being assessed against PRRSV in pigs and human diseases such as whooping cough and RSV. Dr. Arshud Dar has used similar adjuvants to improve an experimental vaccine against inclusion body hepatitis in chickens, a significant disease for the poultry industry. This group is currently developing adjuvants for in ovo-immunization of poultry, the most common route of vaccine administration in poultry.

The goal of the **equine vaccines** project led by Dr. Townsend is to maintain an industry wide reputation for excellence in efficacy, licensing and marketing (post-licensing) studies of new and registered equine vaccines and to develop new vaccines for horses. This includes the study of novel immune modulators as adjuvants for existing vaccines as well as responding to industry needs for marketing and licensing studies. The group developed a challenge model for *Rhodococcus equi* in foals and assessed the immunogenicity of two experimental vaccines, a riboflavin auxotroph and recombinant VapA (virulence associated protein) vaccine in neonatal foals.

The **vectored vaccines** team led by Dr. Suresh Tikoo has developed a number of technologies based on bovine, porcine and turkey adenoviruses. These vectors are highly effective in inducing balanced immune responses in both animals and humans and offer a number of advantages such as safety, delivery and improved immunogenicity. Several adenovirus-based vectors are currently being generated, including a vector for African Swine Fever and influenza to name two. Dr. Tikoo's group is also further characterizing the pathogenesis of bovine adenovirus.

Contamination of meat and meat products is an important concern to human health and vaccination represents an effective approach to reduce colonization in animals and subsequent contamination of food products. Under the direction of Drs. Wolfgang Koester, Andrew Potter and Brenda Allen the **food safety group** at VIDO is developing vaccines against *Salmonella enteritidis, E. coli* and *C. jejuni.* Vaccine candidates are being evaluated in clinical studies. Dr. Aaron White is studying the pathogenesis of *Salmonella* and its survival in the environment, including biofilms. Interestingly, the group has identified various genes that facilitate survival under very challenging conditions and is currently assessing means to assess the importance of these antigens for future vaccines.

In summary, I would like to congratulate all members of VIDO-InterVac on the progress we have made in the past year. This clearly is a team effort and we are thankful to our staff for their enthusiasm and motivation to make a real impact on the health of both humans and animals. ◆

Nuturing innovation in a diverse talent pool

The world is changing. People are changing. The economy is changing. Globalization and advances in technology have opened the door to many new opportunities, but with those opportunities come human resource challenges. For example, in the global economy the competition for human capital is fierce. Continued success dictates that we must adapt and be resilient. We are living in a world powered by futuristic technology and the desire for instant information to expand our knowledge.

Ms. Joyce Sander
Associate Director (Human Resources)

One of the major factors that will help ensure the continued success of VIDO-InterVac will be our ability to recruit and manage a diverse group of international talent - people that will bring innovative ideas, fresh perspectives and intuitive views to our organization. We are challenged with providing a working environment that supports the collaboration and creativity required to ensure these culturally diverse, highly qualified, highly motivated professionals remain engaged while meeting their personal and family needs. These personnel have roots around the globe, enabling us to greatly expand our collaborative research projects. Capitalizing on this diversity and recognizing the needs of these professionals will give VIDO-InterVac a competitive advantage and help facilitate the retention of our talented research groups.

It is imperative we understand that a directional shift in our research programs will impact our employees and trainees, while recognizing that change is required to ensure our scientific programs remain relevant. This new generation of employees have spent and will continue to spend a large proportion of their life communicating through technology and expect immediate responses to their requests. One way to ensure this group of employees remains satisfied and engaged is to promote and foster the latest tools for communication, flexible work schedules, appropriate compensation, equal opportunities and consistent labour management. The senior leadership team has made implementing these a priority.

By capitalizing on the cultural diversity of our employees and remaining focused on the infectious disease challenges of the future, VIDO-InterVac will continue to attract scientists from the global marketplace and remain at the forefront of human and animal health. ◆

Continued success dictates that
WE MUST ADAPT
and be resilient and capitalize on the
CULTURAL DIVERSITY OF OUR EMPLOYEES

Cutting edge containment certification in sight

Mr. Cam Ewart
Associate Director (Operations & Maintenance)

September 16th, 2011, marked a momentous occasion for VIDO. After the original vision of Dr. Lorne Babiuk and 10 years of planning, design, and construction, the grand opening of the International Vaccine Centre was held to celebrate the completion of the world's most advanced level 3 containment facility for vaccine development and infectious disease research. Prime Minister Stephen Harper, Saskatchewan Premier Brad Wall, and Saskatoon Mayor Don Atchison were among the many senior representatives from government, academia, and industry who attended the event. The attendance of the Prime Minister raised the profile of the event significantly and generated much media attention for the facility.

The attendance of the Prime Minister RAISED THE PROFILE OF THE GRAND OPENING SIGNIFICANTLY and generated much media attention for the facility.

In March 2012 we reached the important milestone of substantial completion for InterVac, signifying the turnover of the building to the owner. This milestone was linked to the completion of the commissioning process, something that is uncommon in the construction industry. However, it was important for the construction activities to be completed so that we could prove that the building would operate in the manner in which it was designed. InterVac is now fully commissioned with all infrastructure tested and validated to ensure that critical systems maintain operations under a variety of challenging conditions. We have also developed commissioning procedures that exceed the parameters dictated by the regulatory agencies. For example, we are using independent data collection devices to record actual temperatures and pressures within our autoclaves in order to validate the conditions within the units. These extra measures demonstrate the attention to detail and careful planning of InterVac's construction.

The process of certification, the one aspect of the project that is outside of VIDO's control remains ongoing. The certification process examines the completed facility; all test reports, the validation, and the SOP's. In late April the 'as-built' and the standard operating procedures (SOP's) for InterVac were submitted to the two regulatory agencies responsible for certifying the facility; the Canadian Food Inspection Agency (CFIA) and the Public Health Agency of Canada (PHAC). Both agencies have been an integral part of the project from the beginning, including the review of drawings and specifications prior to the start of construction, an interim review of SOPs, and official site inspections during construction. The certification teams will be conducting a significant site inspection in the near future to ensure the facility meets all applicable standards. Once certified, InterVac will be fully operational and VIDO-InterVac will begin its next phase of operations. ◆

Top: Left to Right: Dr. Andrew Potter, Mayor Don Atchison, U of S President Peter McKinnon, Premier BradWall and Prime Minister Stephen Harper reviewing the architectural drawings at the grand opening of InterVac.
Above right: The recently commissioned InterVac building at night.
Left: Dr. Lorne Babiuk, former Director of VIDO at the Grand Opening.

Expanded opportunities to impact the world

Dr. Paul D. Hodgson
Associate Director (Business Development)

The past year has provided several memorable moments for our organization from both a communication/marketing and business development perspective. We had the pleasure of hosting the Prime Minister of Canada, the Premier of Saskatchewan, the Mayor of Saskatoon and a variety of other dignitaries at the Grand Opening of InterVac in September 2011. In addition, we have been able to tour a variety of stakeholder groups through InterVac to ensure they experience the magnitude of this world class level 3 research and development facility prior to certification. It is important for our stakeholders to understand the opportunities that InterVac provides in vaccine development for infectious disease research challenges not previously available to VIDO.

To ensure we fully utilize this capacity we have made efforts to expand our research partners through enhanced marketing and service delivery. As part of these efforts we have fully implemented our management group for contract research. The focus of the group is to use multiple techniques to ensure we deliver a quality product and enhance our partners' experience. This plan aligns well with our overall goal of implementing a formal management system for our organization that conforms to ISO9001 standards.

Two highlights this past year were the execution of the first contract for InterVac and the regulatory approval of Nuplura™ in the United States. This Novartis vaccine contains technology developed at VIDO, providing further evidence of the application of our research in promoting animal health.

Internationally we continue to make progress in both India and China with letters of agreement being executed in both of these countries with partner institutions. These agreements will provide the framework for more significant cooperative funding opportunities and advance research of importance for diseases in all countries.

As we continue to work towards the certification of InterVac we are certain this facility will provide the additional infrastructure required to assist our staff in helping to protect the world against future infectious disease challenges. ◆

Nuplura ™

CONTAINS TECHNOLOGY DEVELOPED AT VIDO,

providing further evidence of the application of our research in promoting animal health."

Managing resources for future challenges

Focusing on future challenges has always been VIDO-InterVac's philosophy. The Finance group supports this philosophy by ensuring that the necessary information is available to properly manage our resources.

Mr. Lorne Vanin
Associate Director (Finance)

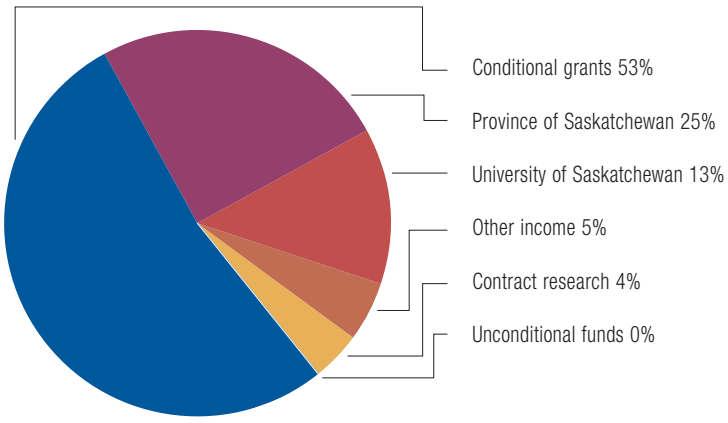
In the past year revenue has increased 11%, mainly due to additional funding from the Province of Saskatchewan related to InterVac. At the same time we have been able to decrease expenses by 4% in 2011-2012. This was due mainly to a reduction in salary expense and related material costs, because of the successful completion of several post-doctoral positions. The other expenses remained consistent with the prior year or decreased slightly, (see graph).

Additionally, Capital assets increased substantially in 2011-2012, as InterVac was readied for future operation. VIDO-InterVac's cash balance increased along with funds that were received for research projects that will be conducted in future periods.

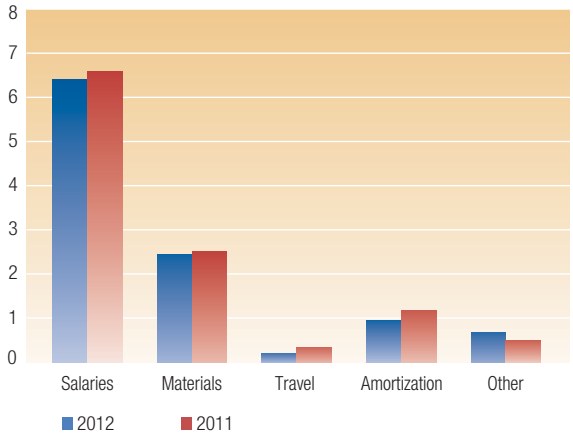
VIDO-InterVac receives funding from a wide variety of sources, including federal and provincial governments, livestock industry councils and agencies, foundations and pharmaceutical companies (see graph). VIDO-InterVac is financially accountable to these organizations and continues to meet their various reporting requirements which ensure that all funding is appropriately managed. The accounts of VIDO-InterVac itself are examined annually as a part of the Province of Saskatchewan's audit of the University of Saskatchewan. In addition, on an annual basis VIDO-InterVac's accounts are internally reviewed by a department of the University of Saskatchewan. These various reports and reviews guarantee that the resources of VIDO-InterVac are used wisely to achieve the organizations objectives.

The near future will be a very important and interesting time for VIDO-InterVac. As always, the finance group will support the management of the organization to help ensure its future success. ◆

Sources of Revenue



Annual Expense Comparison (in millions)



UNIVERSITY OF SASKATCHEWAN
VACCINE & INFECTIOUS DISEASE ORGANIZATION-INTERNATIONAL VACCINE CENTRE

STATEMENT OF FINANCIAL POSITION

AS AT APRIL 30, 2012

ASSETS	2012	2011
CURRENT ASSETS		
Funds held - University of Saskatchewan	**$ 11,222,033**	$ 8,631,931
Accounts receivable (Note 3)	**6,334,189**	6,536,329
Inventories (Note 4)	**137,960**	117,007
	17,694,182	15,285,267
LONG TERM ASSETS		
Long Term Accounts Receivable (Note 3)	**245,663**	175,000
Investments	**11,075,644**	10,917,044
Capital Assets (Note 5)	**15,665,241**	14,492,078
	$ 44,680,730	$ 40,869,389
LIABILITIES		
CURRENT LIABILITIES		
Accounts payable	**$ 427,476**	$ 105,937
Accrued vacation pay	**546,697**	472,142
	974,173	578,079
UNEARNED REVENUE (Schedule 1)	**14,186,464**	12,569,722
	15,160,637	13,147,801
EQUITY		
INTERNALLY RESTRICTED FUNDS	**$ 13,854,852**	$ 13,229,510
INVESTMENT IN CAPITAL ASSETS	**15,665,241**	14,492,078
	29,520,093	27,721,588
	$ 44,680,730	$ 40,869,389

Unaudited

UNIVERSITY OF SASKATCHEWAN
VACCINE & INFECTIOUS DISEASE ORGANIZATION-INTERNATIONAL VACCINE CENTRE

STATEMENT OF OPERATIONS

FOR THE YEAR ENDED APRIL 30, 2012

	2012	2011
INCOME		
Conditional grants		
Government of Canada	**$ 1,459,164**	$ 1,788,135
Government of Saskatchewan	**7,050,623**	4,568,001
Other Governments	**701,365**	1,131,035
Non-Government	**577,287**	877,941
Commercial contract research	**552,740**	522,460
Royalties and Licensing Fees	**195,307**	75,079
Investment income	**415,014**	503,549
Unconditional revenue	**16,200**	31,000
University of Saskatchewan	**1,613,860**	1,831,139
Miscellaneous Income	**9,484**	7,750
Gain (loss) on disposal of capital assets	**(3,688)**	(6,134)
	12,587,356	11,329,956
EXPENDITURE		
Salaries and benefits	**6,407,298**	6,600,922
Materials and supplies	**2,458,717**	2,537,232
Equipment repair and service agreements	**339,698**	144,851
Sub-contract research	**312,007**	299,315
Travel and recruiting	**238,249**	355,907
Patents and legal fees	**42,646**	47,283
Amortization	**974,638**	1,202,537
Other expenditures (Note 6)	**15,598**	35,320
	10,788,851	11,223,367
EXCESS OF EXPENDITURE OVER INCOME	**1,798,505**	106,589
FUND BALANCES, BEGINNING OF YEAR	**27,721,588**	27,614,999
FUND BALANCES, END OF YEAR	**$ 29,520,093**	$ 27,721,588
INTERNALLY RESTRICTED FUNDS	**13,854,852**	13,229,510
INVESTMENT IN CAPITAL ASSETS	**15,665,241**	14,492,078
	$ 29,520,093	$ 27,721,588

Unaudited

Review statement

October 2, 2012

The University of Saskatchewan's Financial Reporting Department has examined the Financial Statements as prepared by VIDO and have found that the figures presented therein reconcile to the University's financial records. In addition, Financial Reporting has reviewed the adjusting transactions and have concluded that the adjustments are reasonable and accurate. Therefore, the University of Saskatchewan can confirm that the statements as presented by VIDO are accurate and in accordance with the University's financial policies.

Financial statement users are cautioned that these statements have not been audited or reviewed for purposes other than those described above.

Scott Caswell, B. Admin, CA
Financial Analyst, Financial Reporting
Financial Services Division, University of Saskatchewan

VIDO-InterVac contributors

Advancing Canadian Agriculture and Agrifood
Agriculture and Agri-Food Canada
Agriculture and Food Council of Alberta
Alberta Agricultural Research Institute
Alberta Beef Producers
Alberta Chicken Producers
Alberta Food Council
Alberta Innovates- Bio Solutions
Alberta Livestock and Meat Agency
Alberta Livestock Industry Development Fund
Alberta Prion Research Institute
Becker-Underwood Inc.
Bill & Melinda Gates Foundation
Bioniche Life Sciences Inc.
Boehringer Ingelheim Vetmedica Inc.
Canada Foundation for Innovation
Canadian Institutes of Health Research
Canadian Poultry Research Council
Canadian Swine Health Board
Cangene Corporation
Cattle Industry Development Council
CEVA Sante Animale
DeNovaMed Inc.
Genome AB
Genome BC
Government of Canada Department of Foreign Affairs and International Trade
Government of Canada Department of National Defense
Government of Manitoba Department of Agriculture, Food and Rural Initiatives
Government of Saskatchewan Department of Advanced Education, Employment and Labour
Government of Saskatchewan Department of Agriculture and Food
Government of Saskatchewan Enterprise and Innovation
Health Sciences North
International Development Research Centre
Jarislowsky Chair in Biotechnology Management
Kamloops Stockmen's Association
Krembil Foundation
Maple Leaf Foods Inc.
Meadow Ridge Enterprises
Merial Limited
National CIHR Research Training Program
National Pork Board
National Veterinary Research and Quarantine Service- Korea
Natural Sciences & Engineering Research Council of Canada
Novartis Animal Health Canada Inc.
Novartis Animal Health U.S.,Inc.
Ontario Cattlemen's Association
Ontario Ministry of Agriculture Food and Rural Affairs
Pan-Provincial Vaccine Enterprise Inc. (PREVENT)
Poultry Industry Council
Prevtec Microbia Inc.
PrioNet Canada
Sanofi Pasteur
Saponin, Inc.
Saskatchewan BeeKeepers's Association
Saskatchewan Chicken Industry Development Fund
Saskatchewan Health Research Foundation
Saskatchewan Horned Cattle Trust Fund
Shastri Indo-Canadian Institute
Synbiotics Corporation
University of Alberta
University of British Columbia
University of Calgary
Valorisation-Recherche, S.E.C.
World Health Organization

VIDO-InterVac

Vaccine and Infectious Disease Organization - International Vaccine Centre

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