

FALL 2011



L-R: Joan Snyder, Dr. Paul Kubes, Philippe Garneau (Photo credit: Todd O'Keefe)

New discoveries over the past 10 years in scientific research have been a driver in commercial translation and improving the overall impact of the quality of life for patients. But communicating the past 10 years of excellence in research to our outside community means having a unified voice in a language everyone understands.

Branding the Snyder Institute is key in leading the initiative to extend our cause and purpose in the fight against chronic and inflammatory diseases to the general public and key audiences. Our past town hall meeting, with Joan Snyder in attendance and key presenter, Philippe Garneau, Executive Creative Director of GWP Brand Engineering, identified the need to position our public profile and be known for something that people care about. To unite our target groups and add value for a reason to give to the Snyder Institute.

The quality of the research and the quality of our researchers as well as the teams that have developed over the last number

of years have been fundamental in our growth and strength. Successes from the past year include the recruitment of Dr. Bertus Eksteen via the newly filled chair in Liver Disease that has been awarded to

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Dr. Mark Swain. Another indicator is the fact that the Snyder Institute exceeded the national average of 16% for CIHR grants with our high ranking of 36%. And the renovation of two BPRG laboratories and significant equipment upgrades for core laboratories. The space becoming available in our group footprint will open opportunities for flexibility in recruitment and address a critical priority for the sustainability of the institute.

The future focus is to continue to develop the breadth of our expertise and highlight programs such as gastrointestinal, liver, inflammation, and host-microbe interactions. The gastrointestinal division, comprised of key gastrointestinal research group members, ranked in the top five globally and our imaging facility is now publishing papers in the very best journals. Our ability for different clinicians and

scientists to interact is quite unique to our institute and the reason why we built our facilities based on areas of interest versus organ-specific disease.

But there are real challenges we face in fundraising, linking with our community, buy-in from our investigators, and start-up packages for recruitment of high-calibre talent. The decrease in graduate students indicates a loss in critical mass due to faculty members leaving and uncertainty in the position of the institute. These are all factors that must be faced in order to move forward with confidence. However, it is important to note that emerging trends indicate lack of donor fatigue in chronic diseases and the opportunity for a new genotype of donor.

Branding the Snyder Institute will have a fundamental impact on its success and future funding opportunities. It will open opportunities to leverage actionable goals and swing the pendulum in favour of momentum in developing our public profile. The timing is right to foster excellence in our diverse groups and increase the depth of our institute as we move forward into the next 10 years in chronic disease research.

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Dr. George Chaconas (Photo credit: Todd O'Keefe)

The Snyder Institute's Dr. George Chaconas, PhD, Professor of Biochemistry and Molecular Biology and Microbiology, Immunology and Infectious Diseases (MIID), was bit by the science bug early in his life and decided to make it a career in his third year of university. He has never considered another career other than maybe as a musician in renaissance and baroque lute.

Although science got him first, Chaconas understands that to be successful at either science or music, you must have passion for it and the commitment to invest the time to develop your gifts and abilities.

His passion for science was recently recognized as the first researcher awarded with the Canadian Society of Microbiologists (CSM) Murray Award. And for Chaconas, being recognized for a career achievement award means that his work is valued and considered high-quality.

"I'm certainly honoured and not simply because of the award," Chaconas says and adds, "But because I know Bob Murray and he has been a great scientist in Canada for many years. It is particularly

meaningful because a career achievement award is more of a measure of the overall course of your career versus a one-and-only major discovery."

However, Chaconas bases the true measure of a successful career on more than external awards or even more than a major discovery. He is a firm believer that the real reward of a successful career must come from the personal satisfaction gained from the journey.

"From a science perspective, I cherish my most brilliant experiments even if the results are not as fruitful."

except from a small select group of colleagues in our immediate field."

Chaconas treasures each and every one of his experiments based on its scientific process and even goes as far to say that sometimes the most serendipitous discoveries result from the most boring

experiments. He actually takes the most value out of the experiments that did not end up in a major discovery or new treatment. It was the ones where the process took precedent over the results.

"Some of best work or best experiments were probably the ones that ended up in a garbage pail because the results generated little interest," he says with a laugh. "But that doesn't detract from the fact that each was a brilliant experiment. Because from a science perspective, I cherish my most brilliant experiments even if the results are not as fruitful. For me it comes down to just having fun practicing science."

Chaconas is especially proud of his project collaboration with Dr. Paul Kubes on intravital imaging that started in the hands of two talented post-doctoral fellows and is now moving forward into the future. He states that between its people and infrastructure, the Snyder Institute opens up opportunities for its members to practice their love for science in an interactive and collaborative environment.

For Chaconas, this translates into more opportunities to get back to practicing his passion for science and investing some time playing music.

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Christina Eshaghurshan (Photo credit: Todd O'Keefe)

Christina Eshaghurshan, a 2nd year PhD student with the Snyder Institute, has more than one reason to smile lately. She has 5,000 of them.

Eshaghurshan recently entered an abstract based on “Novel Bacterial Streptococcus Species and Emerging Antibiotic Resistance in Adult Cystic Fibrosis Patients” into the inter-disciplinary category at the Alberta Graduate Conference in a competitive field of more than 400 students. She was picked as one of the final five presentations and eventually won the top prize of \$5,000. Although nervous to speak in front of a judging panel and general audience of more than 250 people, Eshaghurshan was up to the challenge to bridge the connection about the multiple applications of research to more than just one disease.

“An important skill for a graduate student is the ability to convey research,” says

Eshaghurshan. “Talking science and research with my peers is one thing, but it is much harder to discuss it with a general public. But in the end, I know the research will speak for itself.”

Eshaghurshan prepared for the conference from experiences in science outreach programs in high schools and previous public speaking presentations, such as a recent student speaking role at the 2010 North American Cystic Fibrosis (CF) conference last October. Although humbling and nerve wracking being the only student speaker, it was key for developing her self-confidence in public speaking.

Overall, Eshaghurshan believes that her broad level of education at the Snyder Institute has opened up opportunities she never imagined during her undergraduate degree.

“Honestly, I never would have gone into science until I worked in Dr. Michael Surette’s lab,” she says and adds, “Working

in his lab and seeing all the collaboration that comes out of it completely changed my career path. The freedom and opportunity I am given is truly the reason for going after my PhD.”

Her movement from being an undergraduate student to pursuing her PhD occurred in her fourth year during a lab honours project. She realized that working in the lab was better than even going to classes. It was then that she decided it made sense to continue that train of thought and look further into science as a career path. She recently applied and was accepted into the MD Plus/Leaders in Medicine program with the Faculty of Medicine.

Eshaghurshan is just one of our many students who have a bright and long future in research and translational medicine. She says the true reward for the conference was the fact that her audience was able to understand how research can change lives. She plans on spending her winnings on tuition and savings. Maybe even a little trip on the side. And then, of course, get back to talking science with her peers.

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Dr. John Conly (Photo credit: Todd O'Keefe)

Co-director of the Snyder Institute, Dr. John Conly, MD, Professor of Medicine and with cross-appointments in Departments of Microbiology, Immunology and Infectious Disease (MIID) and Pathology and Lab Medicine, has many highlights over this past year during his recent sabbatical with the World Health Organization (WHO) and the University of Geneva in Geneva, Switzerland. One particular memory was climbing Le Salève with his sons and some Swiss colleagues as guides. They scaled across the cliff-side base using metal rungs in the cliff face and climbed upward, eventually reaching the summit with a view that overlooks Geneva and Lake Geneva in one direction and the valley that stretches toward France and the French Alps in the other direction.

“It was a magnificent view and quite an accomplishment to do it with my sons,” Conly says with a laugh. “Although I don’t think they quite knew what they were getting into when we started out early that morning.”

Conly split his time at WHO in The Department of Global Alert and Response with a focus on key issues related to infection

prevention and control in healthcare, including participating in the development of a Global Infection Prevention and Control (GIPC) network. He worked closely with WHO in conducting multiple systematic reviews and forming revisions of the pandemic H1N1 guidelines based on evidence-based methodologies. Conly was also engaged with the writing team on the WHO’s World Health Day report released in April of 2011 on anti-microbial resistance.

Conly also spent time at the University of Geneva and worked on a grant successfully captured prior to leaving for his sabbatical. His role focused on studying strains that were causing resistant *Staphylococcus aureus* infections in Europe which were

shipped to Dr. Kunyan Zhang’s laboratory here at the Snyder Institute to perform virulence assays using a model developed in Calgary. They are hoping to pool all the data this summer.

Another key highlight from his work perspective with the University of Geneva

was his involvement with its unique

innovation academy concept and the supporting infrastructure provided by its investment community. He can personally attest that Switzerland’s recent ranking by the World Economic Forum as the world’s most competitive economy is well-founded. Its innovations-process approach and ability to move forward with large-scale projects left a strong and definitive impression on him.

“Switzerland is a knowledge-based economy that takes its ability to move the agenda forward on innovation very seriously,” Conly states. “Its pride on orderliness and precision is reflected in the ability to take an idea from its incubator stage and quickly get it to market.”

His year in Geneva was an enriching experience for Conly and he feels there is a great deal to learn from the Swiss approach to innovation. His hope is to implement some of the infrastructure ideas and strategies at the Snyder Institute in the coming years so it can compete on a global level in a knowledge-based economy. And although he doesn’t have any plans to climb local mountains right away, he is happy to be back on Canadian soil and looking forward to contributing with his colleagues in the area of infectious diseases.

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L-R: Curtis Dumonceaux & Jimmy Joy (Photo credit: Todd O'Keefe)

Summer brings more than sun. It also brings allergy season. This time of year can play havoc on a person who suffers from chronic lung disease such as asthma. Depending on the physiology and inflammatory nature of their disease, allergy season is a battlefield.

The enemy is labored breathing, limited exercise capacity and an overall diminished quality of life. But allergy season is only one of many triggers of lung disease. Understanding the nuances of those triggers is just one role of the hand-picked research team at the Snyder Institute's TAMARATT Experimental Respiratory Suite (TERS).

"Our respiratory clinical trials cater to people who suffer from chronic lung diseases such as asthma and Chronic Obstructive Pulmonary Disease (COPD)," says Curtis Dumonceaux, BSc, Clinical Research Associate.

"Observing and characterizing key information is necessary for developing new medications and interventions, and helping to improve the quality of life for our patients."

"Our respiratory clinical trials cater to people who suffer from chronic lung diseases such as asthma and Chronic Obstructive Pulmonary Disease (COPD)."

Independent infrastructure and equipment, such as the pulmonary function room, enables the team to efficiently accommodate schedules and cater to patient needs. Smooth trials are essential to help patients go through visits in timely fashion.

Many of the TAMARATT projects are individually structured and based on accurate measurements and documentation of various sub-types of chronic lung disease tests, such as pulmonary function tests and tests of airway inflammation. These tests have been characterized as some of the most

difficult bedside tests based on the high level of collaboration between two individuals.

"To coax a good quality breathing test out of a patient is somewhat of an art form in some ways," says

Dumonceaux and adds, "Especially if they are asthmatic or have bad COPD and are taking in oxygen and are very short-of-breath. It involves cooperation

and convincing to perform a high-quality breathing test really well and get accurate measurements."

Accurate measurements of a patient's lung physiology are critical for validating research data and introducing a medication that could potentially improve the patient's overall quality of life. A recent example of successful clinical trials is a female volunteer who came out as a different person. Her lung function doubled, she became less concerned about breathing, and was able to perform physical activities that were previously limited.

Dumonceaux believes the combination of resources and bench-side research facilitates the ability to move clinical trials forward from isolated research and translate it into medical practices. With more than 20 clinical trials, TAMARATT is working hard so one day soon an asthmatic individual can enjoy everything summer has to offer.

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Dr. Pere Santamaria (Photo credit: Todd O'Keefe)

From a very young age, Dr. Pere Santamaria, MD, PhD, Professor of Microbiology, Immunology and Infectious Diseases (MIID), was always naturally curious about science and our place in the universe. However, his interest in disease research developed when he was struck by a rare autoimmune disease when he was 15-years-old. The disease defined what he wanted to do in life and gave focus to his eventual research ambitions.

Fast-forward years later and Santamaria is not only removed from his native Spain and living and working in Calgary, but also pursuing his own destiny in the field of autoimmune disease research within the Snyder Institute.

His work in immunology was recognized this summer in the form of a Collaborative Health Research Project (CHRP) Program grant from the Natural Sciences and Engineering Research Council of Canada (NSERC) and the Canadian Institutes of Health Research (CIHR) totalling \$579,480.

Grants are essential for moving research forward and paying for the cost of doing science, but also key for prioritizing ideas

and providing a framework of thought to channel scientific ideas into an executable research plan to maximize the chances of success.

Santamaria's work focuses on harnessing the use of nanotechnology for the treatment of autoimmune diseases, including type 1 diabetes. He serendipitously discovered a novel therapeutic platform for the treatment of autoimmunity while pursuing curiosity-driven research.

His discovery is an example of the huge potential of multi-disciplinary research and bridging technology, in his case Particle and Molecule Engineering, Immunology and Biomedicine.

He believes that the rapidly growing field

of nanotechnology offers tremendous research opportunities in different areas of interest within the Snyder Institute that

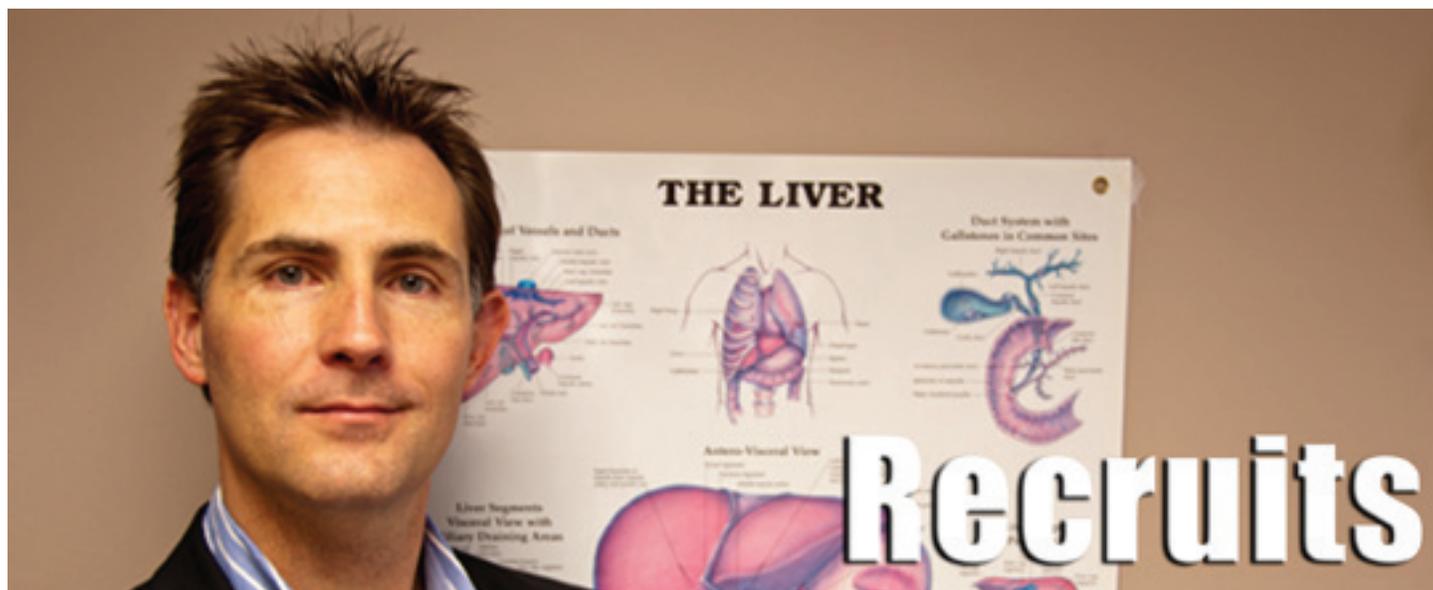
could potentially bridge different research interests, as well as add depth and foster excellence to the Institute as a whole.

"Supporting our collective group with more depth and developing areas of expertise for potential impact on different areas of research, such as nanomedicine, will foster a higher level of excellence," says Santamaria. "The potential for new discoveries is huge."

The Snyder Institute will also be building on Santamaria's success by potentially looking into ways to expand on nanomedicine within the institute. It is hosting a symposium on nanomedicine on October 4th, 2011 to discuss with key speakers including Drs. Warren Chan from the University of Toronto, David Cramb from the University of Calgary, and Nils Petersen from the University of Alberta.

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Dr. Bertus Eksteen (Photo credit: Todd O'Keefe)

We all have choices to make. For new recruit, Dr. Bertus Eksteen, MBChB, FRCP, PhD, Associate Professor of Medicine, it came down to an offer from Harvard University and another from the University of Calgary's Snyder Institute.

Eksteen understands the value of collaborative environments from previous experience pooling resources with global study groups during his time as a MRC clinician scientist at the Centre for Liver Research in Birmingham (UK). His research and clinical interests, with a strategic focus on chronic inflammatory liver diseases and supportive immune processes, are key for identifying genetics that predispose people to the devastating chronic liver disease of Primary Sclerosing Cholangitis (PSC).

Operating with world-class researcher leaders and competing on a global level made sense for Eksteen. He knows that the Snyder Institute's commitment to research, investment in technology, and core infrastructure facilities plays a fundamental role in that competition.

"When it comes to imaging, there are two places with this kind of vision: Harvard and the Snyder Institute."

"We are developing imaging of the immune system on a world standard here in Calgary," says Eksteen, a transplant hepatologist at the Foothills Hospital. "When it comes to imaging, there are two places with this kind of vision: Harvard and the Snyder Institute."

He sees an opportunity to leverage this commitment to invest in competitive recruitment, drafting students and post-doctorals, and aggressively push for the early-phases of translational medicine.

Some of his key initiatives involve making better models of disease for testing and developing phase one studies. Most recently, he is part of a \$6 million Alberta Innovates grant to examine the genetics, immunology and environmental factors that contribute to Inflammatory Bowel Disease (IBD) and PSC and a Euro 20 million international PSC grant to decipher PSC susceptibility genes and translate it to actual clinical care.

"We have the core facilities for the next phase in translational research," he explains. "But, the goal is to execute those

first steps such as having a dedicated unit for effectively monitoring patients, infrastructure for health records and planning for studies.

"Phase one and proof of concept studies are not very expensive, and involve only a few patients to show effects," he says. "Subsequent studies, such as phase two and phase three studies with several hundreds of patients, costs several millions of dollars. None of us can afford this. But pharmaceutical companies can and will invest into dedicated units. This requires an academic-pharmaceutical company partnership and involves strategic planning to do it properly."

Eksteen understands that communicating our cause and purpose outside the scientific community is fundamental for transferring our knowledge to the general public and raising the profile of the Snyder Institute and the overall profile of the University of Calgary and its Faculty of Medicine.

Telling the world about what we bring to host-microbes interaction, inflammation and auto-immunity disease research will increase support of our cause and purpose. And also stay on top of recruiting the best talent to the Snyder Institute.

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Todd O'Keefe (Photo credit: Mozz)

This will be how most people will see the new Snyder Institute's Communication Coordinator, Todd O'Keefe, BPR, over the upcoming year. Key to his role will be telling the important stories of the Snyder Institute, connecting with its community, and bridging the relationship of science and research on a human level.

O'Keefe is a seasoned writer with more than six years of diverse and versatile experience in strategic planning, offline print, online and digital marketing, social

media and brand development.

Prior to joining the Snyder Institute, his role as the Marketing and Communication Coordinator for Mount Royal University (MRU) Recreation was key for leveraging the new brand identity of MRU.

As a former entrepreneur and marketing communication specialist, his passion for all things digital and ability to leverage actionable web analytics is key for leading strategic integrated marketing campaigns.

With a modern world searching for information on the World Wide Web, he recognizes that the best way to increase the visibility of the Snyder Institute in search terms is blending a high focus on web marketing and communications with tactical planning.

He believes that a blend of his formal education in Public Relations and Marketing fused with innovative and strategic writing are the keys to attaining overall key target audience awareness.

III Calvin, Phoebe and Joan Snyder
**Institute of Infection,
Immunity and Inflammation**

“Scientific Innovation Today for a Healthy Tomorrow”

The Snyder Institute newsletter will be published every 12 weeks with original content geared toward informing, enlightening, and inspiring its readers. We look forward to hearing back from you regarding content and also if you have some stories you would like to have published. Contact Todd O'Keefe for more information.

View the most current issue @ <http://www.iii.ucalgary.ca/newsletters>

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