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Réseau des aliments et des matériaux d'avant-garde  
ADVANCED FOODS & MATERIALS NETWORK  
Inspiration from the ground up | Aux racines de l'inspiration

# The HQPA

## Insider

THE OFFICIAL NEWSLETTER OF THE HIGHLY QUALIFIED PERSONNEL ASSOCIATION  
AS PART OF THE ADVANCED FOODS AND MATERIALS NETWORK

## AFMNet Interest Story: HQP Collaboration

**DR. YOSHINORI MINE'S LAB** discovered how to break down egg proteins into highly valuable nutraceutical peptides. They have also discovered a novel concept and approach for healing colitis using specific amino acids. Three labs (two from the University of Guelph and one from Université Laval) are actively participating in this project. Seven HQP are ready for an inspiring innovative human gut and health challenge:

**Name:** Connie Kim (Middle)

**Position:** M.Sc. Candidate

**Role:** Use of amino acids cysteine (CYS) and tryptophan (TRP) to reduce gut inflammation.

“AFMNet has provided me with an excellent opportunity to network with fellow scientists inter-departmentally, inter-provincially, and internationally. With all members of the team working towards the same goal to improve gastrointestinal health, the support and diversity of ideas makes this a viable and fulfilling project.”

**Name:** Maggie Lee (Not Shown)

**Position:** M.Sc. Candidate

**Role:** To determine the anti-inflammatory properties of egg white components and how it alleviates inflammation in immune-related diseases such as inflammatory bowel disease.



*Dr. Mine (Left) & His Team,  
Department of Food Science  
University of Guelph*

**Name:** Denise Young (Right)

**Position:** Ph.D. Candidate

**Role:** Use egg yolk peptides to reduce gut inflammation. In particular, examining the bioactive properties of phosvitin oligo-phosphopeptides (PPP).

“This particular project has exposed me to a vast number of experiences. I have been able to collaborate with a team of students and professors in the Department of Animal & Poultry Science (Dr. Fan's lab) and gain valuable teamwork experience. I was exposed to hands on skills such as direct animal care, surgeries, and sacrifices, as well as fine laboratory skills for measuring various biomarkers.”

Since PPP3 (a particular fraction of PPP) production was not “industry-friendly,” Dr. Mine's lab collaborated with Dr. Pouliot's lab to develop membrane separation techniques for industrial-scale production of PPP3. With the help of Dr. Fan and his research group in the Department of Animal & Poultry Science (who last year developed a piglet model of colitis), PPP3's efficacy can be tested. Appropriate inflammatory biomarkers will be examined for possible down-regulation of immune cells and mediators.

**Name:** Bertrand Chay Pak Ting (Left)

**Position:** Ph.D. Candidate

**Role:** Fractionation of whey proteins hydrolysate by means of membrane processing such as ultrafiltration and nanofiltration. Bertrand is co-supervised by Dr. Sylvie Gauthier (Middle) who is an expert in the bioseparation system of bioactive peptides (egg yolk peptides).



*Dr. Pouliot (Right) & His Team,  
Department of Food Science  
Université Laval*

“I recently joined AFMNet as part of a collaborative project with Dr Mine's lab from the University of Guelph. The second objective will be to develop a large scale preparation method for egg yolk functional peptides as nutraceuticals.”

### HQP Collaboration (continued from cover)

**Name:** Chengbo Yang (Left)  
**Position:** Ph.D. Candidate  
**Role:** Expression of porcine intestinal amino acid transporters during postnatal growth and inflammation.



Dr. Fan's Team,  
Department of Animal & Poultry Science  
University of Guelph

**Name:** Tania Archbold (Right)  
**Position:** Lab Technician  
**Role:** Coordinating the piglet trials, making arrangements for piglets, feed, animal management, as well as preparations for surgery and tissue collections. Also responsible for overseeing piglet health and management or consulting if there are any issues regarding piglet welfare.

**Name:** Dale Lackeram (Middle)  
**Position:** Ph.D. Candidate  
**Role:** Examine how the activity, expression and regulation of lactase, sucrase, maltase-glucoamylase, aminopeptidase N and alkaline phosphatase are affected during episodes of bowel inflammation in our *in vivo* piglet model of IBD.

## R2B Corner: I Think I've Invented Something! Where Do I Start?

Since most countries operate on a 'first to file' patent system, it is important that you discuss your invention with your technology transfer office (TTO) as early as possible in order to establish an invention date. Even if you are unsure if you're on to something, since public disclosure can, in certain jurisdictions, preclude you from obtaining a patent, it is very important to contact your TTO before any publication or presentation has taken place.

Each university has a different intellectual property policy and your disclosure may be handled slightly differently depending on the institution. You will be asked to complete an Invention Disclosure Form. Consult your institution's TTO or their website, for a copy of this form. Also, certain research funding agreements mandate invention disclosure. For example, as a member of AFMNet, you have a duty to disclose the invention to the Network as well. AFMNet's Director of Business Development will work with your TTO to determine the most effective commercialization plan and who will take the lead of the project. In certain cases AFMNet may provide additional partial funding to support these efforts.

Filing an invention disclosure documents the circumstances under which the invention occurred and provides the information necessary to evaluate inventorship, patentability, and obligations to research sponsors outside the university. Filing an invention disclosure also provides an opportunity to explore the possibility of commercializing the results of the inventor's research.

Although not all inventions disclosed to the university are done with the aim of patenting, the rules of patent law are helpful in deciding whether or not to file an invention disclosure. To file a patent, you must be able to fully describe your new product or process so that someone else familiar with the field could use it immediately. In other words, if the idea is too raw for you to publish as an academic paper, it is probably also too early to disclose as an invention. However, once again, early disclosure is better than later as having a better idea of the commercialization process will help prevent accidental disclosure in the future.

### Last Issue's R2B Quiz: What is "Freedom to Operate" (FTO)?

"Freedom to Operate" (FTO) is a term used to describe the process of determining whether a particular action, such as testing or commercializing a product, can be done without infringing on the valid intellectual property rights of others.

Unfortunately, I received no correct answers to the last question. Yet I am hopeful I can award a terrific prize to each of the first 3 people to email [paul.truscott@afmnet.ca](mailto:paul.truscott@afmnet.ca) a correct response to this content question.

### This Issue's R2B Quiz: What issue would you like to see addressed in an upcoming column?



## AFMNet Helps Undergraduates Reach Their Goals

After receiving one of the six available AFMNet Undergraduate Research Supplements (UGRS), I spent four months working in Dr. Gordon Gray's plant science lab at the University of Saskatchewan. In the lab, I had direct exposure to many commonly used molecular biology techniques. These techniques have since provided me with a fundamental understanding of a variety of published work in the field. In the lab, I was able to see how questions were mapped out into research proposals and the type of lab techniques that would be used to answer these questions. I very much enjoyed the opportunity to learn and apply these skills when working through problems that involve molecular biology.

Currently, I am in the second year of my undergraduate degree and although a number of my courses focus on the application of molecular biology and biochemistry to the study of disease, I would like to better understand how these concepts are used to conduct research studies in the field of Health Science.

Career paths that I may follow would include practicing medicine while working part time in research or strictly focusing on research.

My work in plant molecular biology provided me with valuable skills that I may be able to apply when conducting future research in the field of Health Science. I have found great value in the experiences the AFMNet UGRS has provided me and will look for other such opportunities in the future.

- Jessica Lydiate,  
University of Saskatchewan



*Jessica Lydiate*

## Wrapping Up: The End Of A Practicum

Well, it is sad to say, but my practicum experience with AFMNet has come to an end. I joined AFMNet last September, as part of the 4<sup>th</sup> year undergraduate Nutritional Sciences practicum placement, in hopes of advancing my knowledge of nutrition. AFMNet assigned me the project of developing three nutrition education modules to be used in elementary and secondary schools. At the AFMNet Winter School in November 2007, I presented the high school education module to my fellow HQPs. Using the positive feedback I received at the Winter School, I created the other two modules in the form of lesson plans geared towards the elementary and middle school years.

The lesson plan for the elementary school students was by far the most challenging to develop as children in this age group have short attention spans and possess little knowledge of basic nutrition. I decided to make this lesson interactive, through the use of videos and a storybook, to grab the children's attention. To simplify the information, I used basic terms and referred to the food groups by color. This helped the children to understand the groups (or color) each food item fell under and how to balance these food groups. Once the lesson was complete, the students were asked to apply their knowledge to create healthy, balanced meals.

I have enjoyed my time with AFMNet. Not only did I enhance my knowledge of nutrition, I learned how to communicate the information that I have received to all age levels, and produce work of which I can be proud. I would like to take this opportunity to express a final word of thanks to AFMNet and to my supervisors Fouad Elgindy and Leah Cahill for an unforgettable experience.

- Nisha Ramberran,  
Nutritional Sciences,  
University of Manitoba



*Nisha Ramberran*

## Making the Right Move: A Communications Officer's Story

A wise man once told me, “work hard, and do all that you can to climb the ladder of success. Just make sure that the ladder is leaning against the right wall.” Making the proactive choice to nominate myself to be a part of the HQP Governing Council (GC) seemed a bit difficult to justify with all the responsibilities that I had at the time. However, today I can confidently say that accepting the opportunity to become one of the Communications Officers has proven to be a great benefit and was definitely a climb up the “right wall.”

It has been almost a year now that I have been a part of the HQP GC and my term is briskly coming to an end. Nevertheless, the memories and lessons of this past year will last a lifetime. It would not be feasible to describe all of my experiences with the HQP GC in this article, for that it would require an eight page Insider at the least. I can, however, acknowledge the skills that I have developed throughout my term. The Communications Officer position provided the necessary tools to further develop and strengthen my ability to work well in both a team setting and independently. For the most part, my team consisted of the other members of the HQP GC who offered unconditional assistance and constructive criticisms throughout my term. Independently, I was able to exercise my creativity by designing a new face and template for the HQP Insider.

But alas, it is in with the new and out with the old! My message for the new HQP GC is to cherish every moment they experience during their term in the coming year! And for those HQP who are thinking of getting involved with the HQP GC, I say, do it! The experience is worth it, every “ladder” step of the way...up the “right wall,” of course.

- Stephen Ozsungur,  
 Department of Nutritional Sciences,  
 University of Toronto



*Stephen Ozsungur*

## Upcoming Events!

### AFMNet's Fourth Annual Scientific Conference

**Date:** Saturday, May 31 - Tuesday, June 3

**Location:** Four Seasons Hotel,  
 Vancouver, British Columbia

**Stats:** As of May 1, 63 HQP are registered  
 with 60 posters to be presented

**For More Info:** Please Visit  
<http://www.afmnet.ca/asc/4/summary.html>



*H.R. MacMillan Space Centre\*,  
 Vancouver, BC*

\* Photo Courtesy of Tourism Vancouver

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