WELCOME!

This issue is filled with exciting stories, the latest advances in research, an inspirational word from the CSPS founding president and more! We hope that you enjoy it!

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The mission of the Canadian Society for Pharmaceutical Sciences is to establish a network of pharmaceutical scientists in Canada, in pursuit of excellence in research, development, and training. The mission includes an electronic journal, the Journal of Pharmacy and Pharmaceutical Sciences, and organization of workshops and an annual symposium.

The goals of the CSPS are to advocate excellence in pharmaceutical research; to promote allocation of funds for pharmaceutical research and to be involved in decision and policy making processes at the government level.

Stay connected!  

Upcoming conferences

CSPS Annual Conference 2019  
May 21-24, 2019 - Sheraton Vancouver Airport, Vancouver, BC

CSPS Annual Conference 2020: Joint with 7th FIP Pharmaceutical Sciences World Congress (PSWC)  
May 22-27, 2020 - Montreal, QC

YOUNG SCIENTIST NETWORK OF CSPS  
YSN-CSPS

The goal for the YSN of CSPS is to build a strong community of pharmaceutical scientists that are connected on-line through our newsletter, Twitter and webinars and in person through workshops and the annual meeting. YSN is working to ensure representation from the 10 pharmacy schools across Canada.

To learn more visit our website at http://www.cspscanada.org/young-scientist-network-of-cspss/?
Dating back to 1914, the University of Alberta has established a tradition of excellence in the education and practice of pharmacy and graduate education and research in pharmacy and pharmaceutical sciences. It is ranked in the top 32 in the world and top three in Canada. It was the first pharmacy program in the nation to graduate a Ph.D. in Pharmacy back in 1961 and the leading program in the nation in clinical pharmacy with a PharmD graduate class of 1985. Besides that, it is the only pharmacy program in Canada with a dual Pharmacy/Master of Business Administration degree.

Our faculty are visionaries that helped to establish the Association of Faculties of Pharmacy of Canada, the Canadian Foundation of Pharmacy and the Canadian Society of Pharmaceutical Sciences. We are committed to excellence in the integration of both Pharmaceutical Care and Cutting-Edge Pharmaceutical Research.

The Faculty of Pharmacy and Pharmaceutical Sciences is home to over 550 undergraduates, 50 graduate students, and a community of 5,279 living alumni. We work to support professionalism through a focus on excellence in teaching and research across all aspects of pharmacy such as clinical patient-care, education, health services, knowledge translation, pharmacoepidemiology and social administration, as well as pharmaceutical sciences, including cardiovascular research, computational drug discovery, drug delivery, medical chemistry, neurology/critical care, obesity/type 2 diabetes, pharmacodynamics, pharmacogenetics, pharmacogenomics, pharmacokinetics, pharmacometrics, pharmacology & toxicology and translational pharmacology.
A word from the Dean

Before joining the University of Alberta as the dean of the Faculty of Pharmacy and Pharmaceutical Sciences in 2016, Dr. Neal Davies had an outstanding career. In 2002, he joined the Washington State University’s (WSU) College of Pharmacy as an academic staff member, where he has held the positions of Director of the Pharmaceutical Sciences Graduate Program, as well as Director of Professional and Undergraduate Research and Director of Summer Undergraduate Research Fellowship program. He has been active on numerous university-wide committees, including service as a member of WSU’s Faculty Senate and Chair of the Institutional Animal Care and Use Committee. From 2011-2016 he was dean of the Faculty of Pharmacy at the University of Manitoba. Throughout his career, Dr. Davies has strived to maintain the highest standard of teaching and research, and his achievements in both areas have been recognized through numerous awards and honours including several from the United States Pharmacopeia and the Canadian Society of Pharmaceutical Sciences. Here is what he has to say to young scientists to thrive in their career...

When we stroll around campus and examine the spacious well-equipped facilities at the University of Alberta and walk through the hallways in the Faculty of Pharmaceutical Sciences today we must appreciate the triumph of academic campaigns and the daunting challenges the profession of Pharmacy has overcome since the early days of our foundational leaders such as Dr. Mervyn Huston.

You have this opportunity to help build something greater because of the fundamental pillars laid by visionaries such as Dr. Huston. The mission, vision and central tenets of the Faculty of Pharmacy and Pharmaceutical Sciences today were left to you by Deans and dedicated faculty who had aspirational dreams of a research-intensive Faculty of Pharmacy and Pharmaceutical Sciences. They understood that for the profession to be taken seriously it must be grounded in research and scholarship. You are all the heirs and successors of these ambitions and represent our proudest legacy.

I challenge each of you to live up, in your own way, to the many role models found gracing the walls outside the class rooms and all the Professor Emeriti on the walls as well as the current Faculty who continue to build what we have today. I challenge you to show leadership in Pharmacy and Pharmaceutical Sciences and push forth through the barriers and hurdles of research. Without getting too prescriptive, I also challenge you all not to just “think outside the box” for we at the University of Alberta Faculty of Pharmacy implicitly understand that can be no box to free thought.

This is the best Faculty I have had the privilege to serve and lead. My pledge to you is that we will always do everything we can to UPLIFT YOU to reach your full academic potential.
“Being involved in science, being a scientist is not a job, it’s a passion”.

Spotlight

Dr. Jamali – Excellence in Research

Dr. Jamali is a professor at the Faculty of Pharmacy and Pharm. Sci., University of Alberta. In addition to his academic achievements, he is the founding president of the Canadian Society for Pharmaceutical Sciences and founding editor of J. Pharm. & Pharm. Sci. (www.cspsCanada.org), the first open access, fully electronic peer-reviewed journal in the field. Recently, we have had an opportunity to interview Dr. Jamali.

Can you tell us about how the CSPS was founded? What was the academic scenario at the time? What was the major challenges encountered to make it all happen?

It was 21 years ago in 1997 that we realized we didn’t have a forum for pharmaceutical sciences in Canada and we had relied on the newly formed American Association for Pharmaceutical Sciences (AAPS). And, obviously, our needs were different, we had different granting agencies, different drug approval polices, scholarships, academia... Everything was different. So I and a bunch of my colleagues put this society together. As a matter of fact most of us were highly involved with the AAPS and some, fellows of AAPS. Initially, there was only almost 60% support for the initiative. Nevertheless, we did it. At that time I already had put together the idea for the Journal of Pharmacy and Pharmaceutical Sciences (JPPS).
The idea was to have an international journal stationed in Canada. And I thought that with the advent of electronic media we may be able to do it differently. Recall it is 1997. There are only 2-3 electronically journals. So the idea was very new. I wanted to put a journal together that didn’t rely so much on, first of all, marketing; secondly on recruiting and collecting so many articles to put them in an envelope and send them around on monthly basis. And then, it should be available free of charge. So I decided the electronic path. With this one I had probably 90% opposition! (laughs). They said it was a stupid thing to do, including some of the very prominent pharmaceutical scientists. Anyways, I did it, and it cost me only 500 dollars to put it together. Interestingly later, AAPS became interested in an electronic journal. After, and I’m not exaggerating, hundreds of thousands of dollars, they came to us. We helped them to establish AAPS journal established with another name.

Now, there is a term that everybody uses nowadays called “open access”. This was arguably first used by us. And it became “free and open access”, a free subscription, free publication and free access. Journal, I received a lot of support from the UofA for both the Journal and CSPA. At that time I was helping the Faculty to develop a curriculum, which turned out to be the Pharmacology curriculum and the dean of the time, Dr. Richard Moskalyk, gave me an assistant for that. I used that position to put all these things together. Initially it was a very small society and a very unknown journal. Now, the society is very much out of its infancy and, as a matter of fact, we just had our 21st annual meeting and the workshop with Health Canada (HC) on complex generics. Over 100 HC employees attended the workshop and we exchanged ideas between industry and academia.

One of the things people should know is that being involved in science and contributing to science involves good research, good teaching and training of students. Part of it is, I would say, the social aspect of it such as putting the society together and publishing a journal so available to everyone. I’m very proud of that as much as of my track record in science doing research. The reason I’m saying this is to encourage other people to get involved as well and do this sort of things. I realize there are hurdles because you don’t get much credit in terms of promotion if you put a society together or a journal. And probably we should do it at a time where you don’t need that much of a credit anymore from your colleagues or institution. Then you can contribute better.

How did this experience contribute to your career?

I started this 20 years ago when I was already a full professor for many years. And at the expense of being self-centered, I already was recognized. Thus, I could spare some time to do these activities. So in a way it didn’t help me but more than that it helped others. On the other hand, of course, I get respect when people recognize me as the founding president of the society and editor of the journal. But career wise, if you’re young and you want to do the things you’re evaluated at the academic level, I wouldn’t recommend you doing that (laughs).

How did your earlier career choice lead you to where you are now?

I didn’t know what I was going to do until I was an adult. I was mostly an artist, I wanted to do arts, but everybody discouraged me as they would say that arts mean suffering. So at the school of pharmacy at Tehran university, which was a very prestigious school, I was introduced to research. And I realized that no matter what area I would have gone to, as my father wanted me to do the law to take over his firm, or I wanted to be an artist... I would have been an investigator on that field. I did the research with passion for 4 years at the University of Tehran and 37 years at the UofA. And the reason I did research was not because I had to do it, or it was because of my job, I did it because I loved it. I did it with passion.

There was a lot of hurdles involved. The most important one is getting financial support for your research. And I managed to do it all 37 years at the UofA and 4 years in Tehran with no problem. I had the money to run it and the money was not only from the conventional agencies. I found ways of attracting money to my lab and activities. Mostly through my consulting.

Many years ago, the topic of stereochemistry became very much the thing of the day. And my lab was one of the few around the world that was doing that and almost every major company wanted to have a piece of that science. To do that I accepted a lot of contracts and through those contracts I supported my lab. There was a time that I had 4 or 5 grants with a lot of people in my lab and it coincided with the time that the agencies started cutting grants for pharmaceutical sciences, which is an issue by itself in Canada. So between the grants, I manage to use the contract funding to support my research. There was no halt in my activities, even the time that I had budget cuts. So my message is: with the passion and a little bit of recognition, and picking up an area that others are interested, you will do well as I did.

What is the best career advice you’ve ever received? (Laughs) I did a lot of trial and error in my career because I was not in a setup that would provide me valuable advice and survival skills. It is important for the grad student to have survival skills when they finish. Survival skills meant the knowhow of how to do it, the communication skills, understanding what is involved in the granting side and so on. Unfortunately, I didn’t have much of those. I did pretty well with my language, although English was my second language. From the writing point of view, I learned a lot from Dr. Allan Mitchell, who was my supervisor in Vancouver. With little comments on what I would write, he took me to where I wanted to be. And communication in science is of prime importance.

The other thing that really helped me was when I came to the UofA, as I mentioned, stereochemistry was becoming the field of the day, and I was working on NSAIIDs and they were all chiral.

And a gentleman who was then a young professor at the University of Saskatchewan, Roger Verbeek, was visiting Edmonton.
With a very kind manner, he mentioned to me: “Have you considered the stereochemistry of these compounds?” Boy... I took off. In the year of 1998 I think my group had 40 publications in the area. Every journal was asking for that. And let me give you another thing... I think life is all about chances, and to me chance means opportunity and taking advantage of that opportunity. Otherwise, opportunities are marching in front of your eyes and you don’t see them. If you grab one of those and build upon it, you’re gonna succeed. I remember one of the graduate students in our faculty, Nick Singh, came to me and said “I want some stereochimically pure naproxen that you have in your lab”. And this was the time I was trying to work with stereochemistry. We’re talking about early 80s. I said to him “what do you want it for?”. As soon as I heard stereochimically my antennas started working. He said, “I want to separate enantiomers of amphetamine”. I asked him “enantiomers of amphetamine are available. Why do you want to do this?” He said, “It’s something I wanted to do”. I said, “Can you do it the other way around? Can you take a pure enantiomer of amphetamine and couple it with these chiral racemic NSAID and separate them?” He said: “Of course I can”. Very confident. Jokingly I said, “You do it, I make you rich and famous”. (Laughs). He came back couple of hours later with some GLC traces (gas chromatography). What he did was: he coupled a single enantiomer of amphetamine with the racemic ibuprofen so it became, let’s say S,S, became stereoisomer and separated them using gas chromatography. That took off. My Gosh it took off like crazy...He became rich but nothing to do with me of course (laughs).

Again, what I’m saying is that, I was in the lab. He came to me and offered... Think about it, first it was Roger Verbeeck, said something. Couple of days later Nick say can you give an enantiomer of naproxen and I said can you reverse it? And see what happened, there was an advice, there was an opportunity that I took advantage of.

Anyways, do you realize how many opportunities, as I said, march right in front of your eyes and you don’t see them. Just grab it and make something out of it. That is life. That is success.

What impresses you the most when you are considering hiring a grad student? A post-doc? A research associate?

For accepting a trainee, of course they have to have the initial criteria to be accepted in the program. But the most important thing is if they show passion towards the work. Let’s say you are an employee of a certain university overseas and you are giving a chance to do a post-doc or a PhD, it doesn’t necessarily mean you’re passionate about it. See what I mean? But at the same time, you may be, I have had some of them who are in this position, who are very passionate and great scientists. So you have to be very careful when choosing them, to make sure they are doing it with passion. Or, is this a job for them? That is the most important thing.

Out of that, very early on in my career I learned something. I had the opportunity to meet some undergrad students with passion for science. But their marks didn’t make it. I helped them. Some of them are famous people now (laughs). I helped them with the courses and they became so excited because of that and in one year, all of the sudden, their marks were improved, and they got scholarships and became successful.

What I’m saying is the passion. If you make it to these universities, you’ve got the knowledge base, and what you need is the love of it.

When myself came to the U of A first year I didn’t have a lab nor money to set up the lab. I found an old HPLC sitting in a lab and I asked the dean if I could use it, he said yes and gave me money to buy a column. While I was teaching drugs in breast milk in the class, a student came to me and said “My wife is taking naproxen, and at the same time she’s breastfeeding. We’re worried about how much goes into breast milk and there’s nothing in the literature”. Again, an opportunity. And I said, Steven, what about if you bring the wife and the kid and we babysit them for a day and take some urine samples and do it. So I collected urine from the baby and through that we showed that not much of naproxen is penetrating into the baby. See, naproxen is so widely used, and that is still the only publication on naproxen in breast milk, one patient.

I didn’t have a lab, I was new, I didn’t have a firm position, but I loved the science of it. I’m not the most academically clever person, probably I even had attention deficits. But boy I have the passion! Can you see how far the passion can go? I never thought this was a job. I am retired right now, but nothing has changed. I’m there still doing research, not in the lab, somewhere else. That is what I want in a student. The ones who have this drive will succeed.

What is your biggest advice for achieving success?

Perseverance and confidence. In our profession we face a lot of rejections, either regarding grants or papers. And we go to constant scrutiny. Sometimes you get comments. Don’t let negative comments discourage you. Or if your area of research is not a priority of these people who give you money, can you find other ways of doing it? If you have the passion, you’ll find it. But you have to persevere. And you have to have confidence. Then you can do it. You can do it. That is the biggest thing I would suggest to you.

Another thing also, is that if you’re lucky enough to be in a good institution. The U of A as well as the university of Tehran were both institutions that provided so much and opportunities. That is why I stayed 37 years here. A good environment, a good research environment and a good teaching environment is necessary. And you know, when you have the passion you go to the class to teach, they see you and they don’t mind being like you and join your group.

What skills have you found essential for success in this occupation?

The knowledge basis is extremely important and of course the application of the knowledge base to real world. And ability to communicate all of this to the public including your students. If you wanna be an effective teacher, you have to have the communication skills. With communication skills come your style and passion.

Do you want to succeed in this profession? You have to have papers, you have
These are all different things. But I cannot go and use the skills I have to write the paper and use that to teach in the class. Even when teaching or giving a seminar, be prepared to present conference sessions on it. Be prepared to talk or give a seminar of 45 minutes. But can you do it in half an hour if someone ask? Even more, can you do it in 15 seconds if CNN called? You see what I mean? Can you say what you are doing in a few words that a lay person understands? That’s communication. Taylor it to your audience, think why are you doing it?

In my profession of teaching, I communicate with various audience. Each of them needs skills of its own. And the best way of improving your skills is to find out your flaws. My most important critic is my wife, she is a scientist too. I often ask her to come and listen to me in a conference. And she would tell me what flaws I have, and I had me videotaped. My wife thinks that I still have the problems (laughs) but I think I have improved. The whole thing was that I accepted the criticism and didn’t go super defensive. Any topic of research that you are doing you should be able to explain it around a dinner table in a language that everyone understands. That’s the communication skills that I would love to see in my students.

Please tell us about your research interests and main focuses of your lab.

Application has always been in my mind. My research topic in general terms is drug-disease interactions. From very early on my whole idea was to treat the patient, not only the disease. Patients have age, sex, other diseases and so on. If you have an underlined disease you may not respond to the drug therapy the way the literature says because literature may not consider other diseases that you had, and that has been a very good area and a lot of people have picked up on it. That is my major research aim.

Of course, out of that I have become very interested in developing skills in drug development and I do quite a bit of consultancy for drug companies and regulatory agencies.

Any final thoughts or advice for young scientists?

I guess I’ll summarize what I have said: Being involved in science, being a scientist is not a job, it’s a passion. If you think of it as a job you better quit. I’ve had trainees with the highest qualifications, 100% in marks and everything. But after sometime I realized, no, they don’t have it. On the other hand, there were students who didn’t have high marks, but boy, they had passion! You have to have this longing, curiosity for science.

Stay curious and hungry. And with perseverance and knowledge base you going to make it. And of course, try to see how many opportunities you have missed, try to grab even one opportunity and run with it.

Can you tell us a bit about yourself?

First of all I’m very much involved in learning of social issues, I go all the way as deep as the philosophy of what we do. I’m a student of history. But something that has been with me from the age of 5 has been drawing and painting. I do paint and I remember once I had a lab full of people, several grants to manage, teaching plus an administrative job at the university and somebody asked me “how do you do these things?” And I said: “I paint”. She said: “Do you have time for that?” I said: “Without painting how could I have my mind working?”

So, this is where I get the strength to work. I could’ve been a professional painter but what I have done I’m happy with it. The moral of the story is this: you have to have a way of getting out of the everyday pre-occupations, for me it is art.

My wife who is also an artist has been a supportive of mine all the way through. This is a story I have to tell you:

Desktop computers were new, and I was writing a proposal for the Arthritis Society and she called and asked if I was coming home. And I said that the deadline is today and at the end of the day I have to submit the proposal. After a while, all of the sudden, my computer crashed and back then computers didn’t have backups so everything was lost. I called her and said “I guess I’m coming home early”. She asked me why and I told her what had happened. She said “Don’t, you have it fresh in your mind, try to write it down, and I did”. She brought a picnic basket and food to my office. We had a picnic, and went to the post office and submitted it. And I got the grant! (Laughs) This is a support isn’t it?

So, another word of advice, you never make it all by yourself. If you see a successful person you, have seen an army of conditions and people around that person. Parents, your colleagues, your children, your wife, husband, your institution… Would I have been able to do it without her? No. Without my parents? No. Without these great students I’ve had? I took the students and they with their passion went to the lab and did it, THEY did it. I gave them the tools, I gave them the eagerness to do it. Yes, I had all these behind me. I think that’s a good lesson, be humble.
The journey of a young scientist

Seyed Amirhossein Tabatabaei Dakhili
Winner of the Antoine A. Noujaim Award of Excellence in the last CSPS conference.

What made you decide to study at U of A? And why did you choose your current supervisor?
When I was trying to apply for grad studies I was looking for faculties in Canada because as an Iranian, US was not a choice for me. So I found that the Faculty of Pharmacy and Pharmaceutical Sciences at the UofA was one of the top faculties in Canada. Because my master degree was more in medicinal chemistry and drug discovery and design I was looking for professors with background in medicinal chemistry, which was very hard to find. Then I noticed that the only faculty member here that worked with medicinal chemistry here was Dr. Velasquez, so I applied directly. I didn’t want to do just molecular biology because my master was in drug design and analytical bioscience. So it had all the aspects of drug discovery, from medicinal chemistry, to molecular biology, to computational techniques, I wanted to do the whole thing. So Dr. Velasquez was the best choice for me.

Can you tell us in brief about the research you presented at the conference? In your opinion, what were the key points in presentation that contributed for you winning the Antoine A. Noujaim Award of Excellence in the last CSPS conference?
The research that I presented was part of my PhD thesis. We were designing some inhibitors for a transcription factor, however transcription factors are known to be “undruggable”. And we published an article on the molecular modeling of this transcription factor. We identified binding sites for it and we started designing the inhibitor for this factor and we are currently labeling it with fluorine 18 and imaging strategy. So we use a transcription factor as imaging target. They call it thanostatic drugs, so they serve as both anticancer and for imaging purposes. You hit two birds with one stone. You give the patient the drug and you can also trace the cancer tumor in the patient while treating the patient.

I have been to so many conferences, so experience is a factor. The feedback you get from your supervisor whenever you do it, the rehearsal before the presentation, is a big factor. And the other factor I think is that your poster should have a very good story with a good start and a good end. If you just jump from here and there and show the results... And if those results in your poster are so much into the details, then probably no one will understand those results other than yourself and your supervisor (laughs).

I think it’s important just the highlights of your research, simple things and simple words when you’re explaining it.

What do you enjoy most about your job/ project/ college-life?
I worked as a pharmacist, but I got bored. The cool thing about being a researcher is that every day that you wake up you have to do something new, you have to tackle a problem, solve something. So whenever I come to the lab I have a new thing to do, whenever I find something, I get excited! So I found “x”, now I have to find “z”. It’s not you just go to work, and you do the same thing everyday... that’s boring.

Do you think that the supervisor/principal investigator play a role on the success of a trainee? If so, how?
They do. I mean, in my opinion, if the supervisor limits you to the things he wants then the success would be his vision. But if he tells you the project and you do it the way you want to do it, like you have the freedom to do whatever you have in your thoughts. That’s exactly what my supervisor did. He never said no to me whenever I had a thought in my mind, I mean, most of the times he thought it was stupid (laughs). But he never said no. Like, whenever I said I wanted to try that, he never said “No, don’t do that”. But sometimes he stops me if I’m doing things that he really thinks that are unnecessary and are taking my time. But he gives me that freedom and confidence. He encourages me. And always says good things about me to others “Amir is a very good student, he works so hard, I’m so proud of him”. So, he builds that confidence in me (laughs). And at the same time, he tells me not to be overconfident, because when you are, with a small mistake people think that all that confidence was fake.
Dr. Jamali
RESEARCH SYMPOSIUM

Every year, the Faculty of Pharmacy and Pharmaceutical Sciences gathers together to celebrate and showcase pharmacy and pharmaceutical science research accomplishments at the University of Alberta. Undergraduate and graduate research is presented by students, awards and recognitions are given to those who excel in their field, and colleagues and alumni from across the industry gather at special events to celebrate and network. Special speakers: Dr. Okpo Eradiri from the Center for Drug Evaluation and Research, FDA, USA and Dr. Reza Mehvar from Chapman University, USA.

Events will take place November 29 & 30.

UNIVERSITY OF ALBERTA
FACULTY OF PHARMACY AND
PHARMACEUTICAL SCIENCES

RECENT PUBLICATIONS

Zaid H. Maayah, Ti Zhang, Marcus Laird Forrest, Samaa Alrushaid, Michael R. Doschak, Neal M. Davies and Ayman O. S. El-Kadi. DOX-Vit D, a Novel Doxorubicin Delivery Approach, Inhibits Human Osteosarcoma Cell Proliferation by Inducing Apoptosis While Inhibiting Akt and mTOR Signaling Pathways. Pharmaceutics, 10, 144; 2018. doi:10.3390/pharmaceutics10030144


Sciences: A Publication of the Canadian Society for Pharmaceutical Sciences, Societe Canadienne Des Sciences Pharmaceutiques, 2(11s), 192s–199s.

Cor, M. K., & Brocks, D. R. (2018). Examining the relationship between prerequisite grades and types of academic performance in pharmacy school. Currents in Pharmacy Teaching & Learning, 10(6), 695-700.


