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Meet the fellows: Everything about ISV

On September 14th, 2021, a special session was held as part of the 2021 ISV Virtual Annual Congress to review the history of *International Society for Vaccines* (ISV). Congress Chair Dr. Manon Cox (MC) was the moderator of this session, interacting with three ISV fellows: Drs. Denise Doolan (DD), Shan Lu (SL) and Ted Ross (TR).

MC: While working to organize this year's ISV Congress, I was thinking wouldn't it be nice if the audience could get a better understanding what ISV is? The three guests of this session are faces behind the *International Society of Vaccines*. I hope this session can answer questions such as "How can people get involved in the organization, how the organization came about, how you can become a fellow?" and alike questions. For me, one of the most interesting parts of the ISV and the ISV fellows is that all these individuals are people with very interesting backgrounds.

So, I would like to start by asking each guest to briefly introduce yourself and say in a few words how you got involved in the organization and what excites you about ISV?

TR: I am the director of the Center for Vaccines and Immunology at the University of Georgia. I've been working on vaccines and infectious disease models for almost 20 years. I started attending ISV Congresses as a postdoc and then as a professor, as I was quite intrigued by vaccines. And I have now spent most of my career working on vaccines and vaccinology.

In 2012, I was asked by the leadership of ISV if I would step into a role that had been vacated, which was the Treasurer of ISV. Shan Lu was the President at that time. That is how I got involved in ISV, and for the past decade I've been part of the ISV leadership team, helped with the Congresses at various locations, and with growing the society and trying to bring in new members.

MC: So, Denise, how did you get involved and what is your interest?

DD: I am a professor of infectious diseases and vaccinology at James Cook University in Australia, and at the Australian Institute of Tropical Health and Medicine. My primary focus is on developing vaccines for infectious diseases, particularly diseases that affect people in the tropics. I am interested in trying to improve public health throughout the world, not just in countries like Australia and USA.

I have been a member of ISV since 2008 and was asked to consider being part of the Executive Board quite a few years ago, in 2015. Like Ted, I was a member of ISV as a postdoctoral fellow, and then became part of the Executive Board, and was involved in organizing the ISV Annual Congresses, particular the Congress in Paris (2017) and in Atlanta (2018).

I subsequently moved my way through the different positions in the Executive Board, including Secretary, and I am now the President-Elect and looking forward to taking over from Ted as President next year (2022). It's been a great opportunity to be involved with this society.

MC: Very exciting! In preparation for this Congress, I read your portrait that was published in *Human Vaccines & Immunotherapeutics* in 2008. I really recommend everyone to read that because it gives a very nice insight in who you are and how you got to where you are now.

MC: Shan, you are obviously the man behind the scenes who has his hands in many things and has been involved probably for the longest time of this group with the organization.

SL: Thank you. I'm very happy to welcome everyone to this year's unusual Congress. It's a virtual one. But I think probably we have more fun, with more and different formats.

I am a professor of medicine at the University of Massachusetts Medical School, USA. I'm a physician scientist. I started vaccine research while I was a postdoctoral fellow. We were one of the early groups who started exploring DNA immunization, or DNA vaccines. It is hard to believe that was almost 30 years ago.

I later continued this line of research with my own laboratory, probably the first one being named the Laboratory of Nucleic Acid Vaccines in the world, over 20 years ago now. I continue using DNA vaccines to explore HIV vaccine development as a model system. We have pushed our candidate HIV vaccines into human studies, almost into Phase II. Also, my lab works on many other emerging infection targets, including influenza, and some biodefense targets.

I started to be involved in ISV in 2007–2008 when ISV was in a very critical period, and I was lucky to get a chance to be involved as a volunteer. Soon I became a board member, and I did all kinds of work including being the Treasurer. Eventually I was elected as president for one term, then I remained on as Board member and filled in vacant positions when there was no available candidate. I have been responsible for managing the daily operations for the last 15 years.

ISV is small and volunteer based but highly efficient. We don't waste a lot of money or resources. Everyone does a lot of work including me. While the congress chairs work on the scientific organization, I mainly work on the business and technical operation of Congresses. We have had high quality in-person Congresses for more than one decade. And in 2020–2021, we organized seven ISV virtual Congresses, in addition to this one.

We hope to have more people joining ISV and working on the Congress and many other activities.

MC: Thank you very much.

DD: In terms of leadership roles, I started as a Secretary, then became President-elect, and now I'm the incoming President.

MC: Could you give some pointers and some recommendations for people who might be interested in following that same track?

DD: One thing I really like about ISV is, as Shan mentioned, it's a volunteer organization and the people who are involved in it are really dedicated to vaccines, developing vaccines, implementing vaccines, and actually in different phases of the whole vaccine pipeline from basic research to development, implementation and clinical testing.

So I think there's a lot of opportunities for people to be involved no matter what their interest is, and that's one of the things we'll talk about later, the scope of ISV. If people are interested in being involved, it's just a matter of reaching out to any of the people on the Executive Board, or through the website. Join up to become a member. Then there are many different opportunities to be involved.

For committees, we are looking for people who are engaged, energetic, and dedicated, and can do anything that they want to do in this society. We are not-for-profit, and we've got representation from academia, and representation from industry. ISV has a very broad portfolio and so anything that anyone wants to do and that fits within the context of the scope of our mission is really encouraged, and we value people joining and bringing in new blood.

Ted, you now have almost two years as President under your belt. Any lessons? Any thoughts for people in the audience? Should they be interested in pursuing a similar career?

TR: Well, I think of all the people that have served as President, and we've had several distinguished researchers and scientists serve in this role. I had the unique opportunity to spend my entire tenure virtual, since I started in January 2020 and it ends 31 December 2021; so most of the time I've spent myself right here on zoom, talking to people.

However, the opportunities, as Denise mentioned, are quite broad and we are looking for people who want to engage and promote vaccines; you don't have to be an Officer or have to be on the board to contribute. We have committees and many people who sit on these committees. Their time commitment is pretty minimal. We have an outreach committee which selects papers of the month and papers of the year in Vaccinology. And that doesn't take very much of their time. We want people to be engaged in our social media or membership activities and in other ways.

We want to make sure that people are getting out of the society things that they need and we want to be responsive to them. For younger people who don't feel that they are at the stage where they could be up with the big heavyweights, we want them to know that the opportunities exist and that we want junior people and young scientists to be part of the society and actually contribute. ISV is not just dominated by old senior people. We really want a lot of younger people involved; and we've been able to reach out to quite a number of them through the virtual webinar series.

One of the good things about the COVID outbreak is that it's caused us to think in different ways about how to communicate and how to get our message out. So that is a silver lining to this entire pandemic. And I think what the organization has demonstrated in the past year is that it is a way to connect with people who might help you on all kind of ways, and on all kinds of fronts.

MC: It was very enlightening to me, that whoever we wanted to reach out to, we were able to find somebody in the organization who could make a direct connection and build some enthusiasm to help us with things. I think you guys have done a wonderful job there.

Shan, do you have any final thoughts here? Because we've heard a lot of things about how people can get involved and what they can do.

SL: Sure, I think, in some way this is the best time in vaccines, right? The reason we can have a meeting, we feel comfortable, we can go out, especially in US or European countries is because we have a vaccine. Even though we still have a lot of people get infected every day, many of us don't feel that scared compared to last year at this time because we have vaccines – developed within 10 months! This is unheard of. I think if human beings looked back at 2020, this is a landmark and a remarkable achievement. I think we should thank every vaccine scientist, technician, industry developers, regulatory people and clinical researchers. This is a golden time for vaccines so I feel I'm very fortunate. I'm at the right time to learn even though I'm not in an industry group to develop vaccine. At the same time, I was working with ISV, organizing Congresses, promoting the ideas and argue against conspiracy theory.

We still need to develop better vaccines. I think the future is just wonderful. The first mRNA vaccines were against COVID and who knows what's next emerging. I think the future horizon is immense, so ISV can provide a platform to promote your own work and promote your career development. ISV is a wonderful place and I think we as senior members or Fellows will be happy to work with the future generation of vaccine scientists.

MC: Thank you Shan. I think it is very important to mention that one of our fellows Kathrin Jansen, the Chief Scientific Officer of Pfizer, was critically involved in getting those mRNA vaccines off the ground. We have also seen in one of our Meet the Fellow session, Sarah (Gilbert), who played an amazing role with the adenoviral vaccines that ultimately ended up with Astra Zeneca. What they've done and what they've contributed is truly remarkable. I think this just shows that ISV has been in the center of this all, and hopefully will continue to be in the center of many of these developments.

MC: Shan, you mentioned earlier, you're going to tell us a little bit about the history of ISV, and I think that a lot of people are very interested in learning more.

SL: It's a long history. If you really want details, please visit our ISV website (www.ISV-online.org). You will find a nice history written by previous president and founding member of ISV, Professor Ray Spier, who unfortunately passed away a few years ago.

For the ISV history, we may divide it into three phases. The original founding was in the early 90s, 1992–1994. At that time, vaccines changed from a pure industry product to more academic research. We know more about biomarkers, immunology, why vaccine works, structural biology, and so on.

So that's why at that time people said maybe we should get organized. That's how the ISV was initially founded. At that time, we didn't have a website and we didn't have e-mails, so it was very hard to organize people globally. People could only take advantage of conferences at that time to meet. At one of the Cold Spring Harbor Vaccine meetings, ISV was first formally organized. But the operation of that first organization was not successful and eventually became not functional after a few years. Then ISV tried to link with some other vaccine meetings, here and there, and tried to collaborate with other existing organizations. There were funding, management, and other challenges so the second phase was also not very successful.

The real turning point came in 2007 when Elsevier, the publisher of the journal *Vaccine* (at that time Professor Ray Spier was the Editor-in-Chief) organized a conference in Amsterdam to celebrate the 25th anniversary of *Vaccine*. A lot of vaccine scientists joined the meeting and everyone liked it. But it was a one-time event. During the meeting, Ray and I discussed whether we could have another meeting in the next year in Boston.

I volunteered to organize that meeting. However, there was no organization, no funding, and no real members. We started from scratch. Elsevier did not like to be a congress organizer as that was not their mission being a publishing group; but they were able to work with us as a partner. You can go to the ISV website to find details on how Ray and I re-started ISV – by incorporating it as a US-based nonprofit corporation, establishing an ISV bank account and applying a US tax ID etc. I worked with Westin Hotel in Boston on many of the congress details and started a congress scientific committee. The 2008 meeting was a success with several hundred people attending and an excellent quality program.

And the ISV was re-born! We established the ISV website, an e-mail system, and used the Congress to drive the growth of ISV. The next year (2009), the Congress was in Singapore and the first positive HIV vaccine trial (RV144) results were reported there. Then we moved around among North America, Europe, and Asia in the subsequent years (Vienna-2010, Seattle-2011, Shanghai-2012, Barcelona-2013, Philadelphia-2014, Seoul-2015), continuing the collaboration with Elsevier.

The ISV Constitution was revised, and an election was held every two years for the election of ISV Officers and Board members. No president serves more than one term, ensuring the continuity of ISV without letting anyone or a group people dominate for a long time. It's a very democratic process and has attracted many old and new faces in the vaccine field.

Starting in 2016, ISV has been organizing and managing our annual congresses completely by ourselves, as we did not agree with Elsevier to let them own the whole Congress due to the nonprofit status of ISV. ISV has grown further and has become much stronger financially since we run our own annual congresses, which is the venue for fund raising. The pandemic has forced us also to learn how to run virtual congresses.

We are very happy to see that ISV and ISV Congress have become widely accepted by the global vaccine community as the key player in the field of vaccine science. Especially since the outbreak of COVID, when ISV was the only global platform which organized COVID vaccine update congresses with the participation of every major vaccine developer in the world, including those from China and Russia, in addition to those from Western country vaccine companies, at a time of serious global tension among different countries.

MC: You did an amazing job trying to summarize that all in five minutes.

MC: Ted, what is the Mission and how do people participate in that?

TR: I always tell people the mission is right there in the title. We are the society for vaccines. The goal is to promote and to support vaccines in all its forms. It's not just the manufacturing and the scientific discoveries of vaccines, it's also public policy, governmental oversight; really, it's the totality of vaccines.

Our mission is to support vaccine people in our society and vaccines in general, to bring vaccines to the market, to help researchers to be a resource for all people who want to work on vaccines. We're not really pushing any given agenda, we support all areas of vaccines, veterinary vaccinology, and human vaccinology. We want to bring resources to people. Our website serves as a source where you can find information on vaccines. We try our best to bring out the best information, and sometimes it's not always positive. You know you want to bring all the information about vaccines forward, but the goal is not to be us dealing with conspiracies and understanding that vaccines are one of the most important developments for biomedical research in the last 150 years.

And as we've seen with COVID, it really can change your life, and vaccines are very important and that's our mission. People who would like to support vaccines and do anything they can to bring that positive message forward. Communication and networking is one of the major tools that we have to make that happen.

MC: Is it correct to say that the major event for ISV is the annual Congress, and now with the virtual possibilities that we have, we might be able to do other things. Are there other things that you envision that we should be doing other than being heavily involved in organizing meetings, selecting papers of the year, etc. Any thoughts there?

TR: Our Congress has been really the best way to network historically. But as I said, we now have a new understanding of how to communicate. We've been able to reach out to many more people worldwide through these virtual webinars and congresses that we've had.

But on an individual level, we are wanting to support local communities. We can have more specialized meetings in certain areas, in areas of the world where we can help support the people so that they're getting more information, and to communicate more effectively within a particular region in the world, or a particular discipline.

And that's something we've learned now through this whole virtual system, that ISV can actually have outreach beyond just having an in-person meeting where people show up. It's difficult for people in some countries to travel all the way around the world and attend these meetings. This has been a great way to reach out to them and for them to communicate with us.

I think that this meeting will have a number of possibilities for people to have chats with one another etc, so that the attendees have been able and should be able to talk to one another and maybe exchange e-mail addresses if they want to do further.

MC: Do you want to add to that, Shan?

SL: Yes, I think what Ted touched on is very important, because we call us the International Society for Vaccine. It's not just a membership. We are also not forcing any local organization to merge or to be taken over by ISV. We have many local vaccine groups as partners as can be seen on our website. We have organized activities jointly, or the local organizer was the main organizer and ISV was the co-organizer or sponsor. We have worked with such models with partners in Korea, Japan, China, Canada, Russia, Turkey, Belgium and South Africa.

MC: Denise, you're going to be the second female President of the ISV, if I'm not mistaken. A big example position for young female scientists amongst us. What would you like to accomplish in the coming two years? And hopefully, you're not like Ted, tied to the computer screen, but actually you're going to be able to meet us in person.

DD: Yes, I certainly hope so. I guess one of the things that I want to really do is to promote the geographical representation of ISV. As has been mentioned by both Ted and Shan, we are not just a US based organization. We are representing all the different countries and the membership derives from many countries throughout the world, representing all the different continents. When we organize our Board meetings, we consider the time zones; I am based in Australia and so in a different time zone to other Board members. We are trying to get people involved from all the different countries of the world. So far, there has been a major emphasis on human health, but we are also representing animal health and wildlife health. Bringing in the One Health concept, and all the different aspects of vaccinology will be important. As Shan mentioned, we've been engaged with partners, for instance, in Africa.

The other thing I'm really interested in promoting is the bringing in scientists, in particular junior scientists, and getting them more engaged. ISV has played a really important role in mentoring scientists, and we've had "Meet the Fellow" sessions where at our real-life conferences, junior scientists can come in and talk to the Fellows and we want to expand that and engage people, particularly in more junior stages.

Also promote committees to engage the membership, different things we can do to promote vaccinology. The other thing that I'm interested in doing is promoting ISV as our resource. Making it the go-to organization for people in vaccines; a workshop for different types of vaccines, or regulations, or all the different aspects of the vaccine development pipeline from the bench to the bedside to the clinic.

There are all many opportunities that we can promote. We can bring in different aspects of industry as well as not-for-profit. With our status, we are a completely unbiased organization. You mentioned previously that both Kathrin Jansen and Sarah Gilbert have been involved in ISV (Fellows) and just wanted to point out that those individuals have played key roles in the COVID vaccination programs. They have both been involved with ISV for many, many years. So it's not just that they are important now, but they have been behind the scenes; like many of the people who are involved with ISV who have played key roles in vaccine development.

And the other thing that I want to mention is that we are trying to engage the expertise of different people within the ISV Executive Board or the ISV Fellows and somehow get that expertise out to the members; because we have a lot of expertise but a lot of it is not yet captured for the benefit of the membership.

That's what I'm going to try and do, which is going to keep me busy, I think.

MC: Very exciting and broad agenda that you have ahead of you. I hope you have a lot of time to make those things happen, but it's true that I can see and hear the passion and the enthusiasm in your approach.

So let's talk a little bit practical. We need to talk about the finances too, as we talk about membership. What does that mean? What does somebody need to do to become a member of the organization? How much does it cost? What do they need to do?

TR: Well, it's actually very easy to become a member of ISV. You access our website. Whether you're a trainee or whether you're a senior scientist, you select your level of membership. You pay a very nominal membership due annually, and you're a member of ISV; and we ask you to maintain that membership each year. We do have the ability to do multi-year memberships, for three years or five years. Compared to most societies, we are very minimal cost; and for students it's like \$35 for a student membership.

SL: That's correct, and you get a discount for any Congress anyway.

TR: So it's very easy to become a member of ISV. And what we hope that you'll do is be a participant in ISV. You get to come to the meetings, be on all our mailing lists, get access to all of these webinars, and hopefully you'll participate in the society.

MC: Yeah, and again important to have a nominal amount. The amount is indeed such that anyone can afford it. You know that is really not a limitation, because as Shan mentioned, if you attend an ISV meeting, you basically become a member automatically for one year.

SL: Just \$100 regular member.

MC: Even for people from the industry, just \$100, right?

SL: Yeah, no matter whether you are from industry or academia it is \$100. I can emphasize that for 16 years we have not changed that rate. Also, a member will get \$100 discount in the annual congress registration, so the membership is basically free if you attend the annual congress.

MC: It's very important for everyone to realize that membership dues are not a reason to not become a member.

Denise, how can someone become an elected member of the Board of Directors?

DD: With the ISV board, there are elections every two years. Before the annual general meeting, which is held September/October during the Congress, there is a call out to membership to invite anyone who is interested in becoming a member of the Board to submit a nomination. We are encouraging anyone who is an ordinary member of the ISV who is not already involved in the board to submit a nomination package, that provides a little bit of a background such as their bio, their interest in ISV, and what they would like to do; it needs to be supported by a letter from either two ordinary members or from one of the Fellows. So it's a very simple process. Then the packages go out before the annual general meeting and people will vote for the board membership. The Board is designed to include not just fellows of ISV, but also has five positions for non-fellows from the ordinary membership, to try and bring in everyone and to promote the next generation. For the Treasurer or the Secretary – again, it's a nomination process, so it's very inclusive.

MC: I must say I've been a member of the Board for the past two years and it is interesting because it's an experience to learn more about the organization and to possibly get more involved, but I can imagine that there may be some barrier to people who really do not know what is needed to get them involved. In my situation, I was asked by somebody to submit that nomination letter. So I think it's really important that people realize that you need to self-nominate, but also for members to reach out to other members and explain what the process is, because the more people we can choose from, the better it is and I think it really helps making this a vibrant organization going forward, right?

DD: The other opportunity is because the Congresses are organized in different regions throughout the world, what we're finding is that people who are assisting with the Congress organization are also then becoming aware of ISV and getting involved and then progressing onto the Board.

Shan, then the other question that people might be thinking about is how do you become a Fellow? What do you need to do to become a Fellow?

SL: We don't have very strict criteria. There are two pathways. One based on your contribution in the field of vaccines, where a current fellow nominates you. I can give you example: Stanley Plotkin. OK, so that's kind of a no-brainer. Or you just mentioned Kathrin Jansen for example. Or Sarah Gilbert joined last year because of her amazing achievements in her career. So those are for the main group of fellows, who have made enough contributions in science and technology related to vaccines.

But if you look at the list of our Fellows, you do see some fellows who are relatively junior, maybe less well known in science or technology; but they really put a lot of effort for a period of time in participating in ISV activities and did a lot of work during that unique period.

It is a completely democratic process, as members nominate, and members will vote. The fellows will vote at the end. It is a majority vote. If you have more than half of the fellows say you're not qualified, then you cannot be elected.

I personally feel a lot of people don't know this is a great organization and a very open one. People just want to say I want to do things and then the opportunity is unlimited. Also, what I can say from a diversity perspective is that we're doing quite well, but getting more younger people involved as Denise was pointing out is important. And even though they come to the conferences, getting them more involved in board positions would be probably a real good way moving forward.

DD: If I can just add one comment here, it's probably really important to realize that even though there are some very high-profile vaccinologists involved with ISV, so it can be a little bit daunting to particularly junior members, the membership and the people involved are incredibly open and supportive, and so people shouldn't feel that this is a person I can't talk to. That's part of what we're trying to do, to mentor young people and bring the young people in and promote the development and the involvement of others. People shouldn't be put off by the fact that there are these really high-profile vaccinologists involved because we represent everyone.

MC: It is so nice that Shan indicates that there're two paths to become a fellow, that you can also become a fellow by being very actively involved in various roles within the organization.

I think we touched briefly on, and I think it's important enough to touch on it again, on finances of the organization. The fact that it is a voluntary organization, but the reason why Congresses and in-person meetings are so important (and maybe Shan can speak to this) is there are obviously a lot of sponsors from the vaccine industry, from institutions that help us do what we do. Maybe you want to say a few more words about that Shan.

Also, the journals that are supporting us – because I think that that is also very helpful for young people to know that we have very close collaborations with journals. That can help access, to write papers.

SL: Yeah, thank you for bringing that up, because ISV does need money to perform its functions. Nowadays it is very expensive to hire people, rent online platform or storage space. ISV probably is one of the most economically run low cost not-for profit organizations.

ISV is a US IRS approved tax exempt organization. This means that we have to satisfy certain criteria. We don't have big sponsorship from any one industry entity, and no one dominates our program for selling their products. But we do accept sponsorship from the industry.

At the same time, we do work with nonprofit organizations such as Bill & Melinda Gates Foundation, who has been our sponsor for multiple years and we work with Canada Researcher Council, for example, and other organizations.

We run a very economically efficient operation. None of the officers or board members are paid. Rather, some of them donate money to ISV in various formats. When ISV was re-organized in 2008, we had zero balance in our bank account.

Now we have sufficient balance to survive in a situation such as 2020 when we could not have our regular in-person meeting to conduct fund raising.

I would like to thank our members, volunteers, sponsors. ISV would like to welcome more support from individuals and organizations to promote the common interest in vaccines.

MC: Education is so important, and indeed it does cost money to set up systems for people to interact with.

SL: In the past few years, we have given out scholarships to quite a lot of members/congress delegates using funding from the Gates Foundation or other private/public donations, especially for those working in low to middle income countries.

MC: We have 3 minutes left. I want to give each of you a one-minute opportunity to talk about what does somebody need to know when they want to contribute, for example, become part of the paper of the month activity?

TR: All they have to do is to reach out to either one of us, reach out to one of the officers, or just reach out to the website, and the staff will forward anything to us. So if you want to contribute, you want to be part of any of our committees, or other ways that maybe we haven't thought of that you want to contribute, we're always welcome to hear your thoughts and your ideas.

DD: There's also the ISV newsletter, which provides a lot of information to the membership. It also provides an opportunity for the membership to contribute particular stories or particular opportunities within the membership. So as Ted says, we're very open, lots of opportunities here, so anything you want to contribute just let someone know.

SL: I think anyone if you just have a slight interest, just write to us. Our web e-mail is info@isv-online.org. It's very easy.

MC: And that is also a great way to wrap this up right? Because I think one of the real reasons why we want to get new people involved, more people involved, is we want to

come up with new ideas on how to better connect, how to interact more, et cetera.

So if anyone has ideas, please feel free to share them with us and work with us.

I think this has been a wonderful session. I hope that the participants are enjoying this, but I want to thank you very much for your time and for making this information available to all.

Thank you.

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