2018 ISV Annual Congress Updates

The International Society for Vaccines is pleased to invite you to the 2018 ISV Annual Congress to be held October 28–30 at the Atlanta Marriott Marquis Hotel in Atlanta, Georgia, USA. Atlanta is home to a vibrant vaccine and bioscience community of Universities, Biomedical Companies, and the U.S. Centers for Disease Control and Prevention. This year’s Congress is co-chaired by Ted M. Ross and Denise Doolan along with local co-chairs Rafi Ahmed, Julia Hilliard, and Mark R. Prausnitz. There is a poster reception scheduled at the end of Day 1 on October 28th. Please visit the ISV Congress Registration website before the Early Bird Registration ends August 15, 2018. The Gala Dinner will be hosted by the Fernbank Museum of Natural History. The Gala Dinner is a separate Registration. In addition to representation from the global and regional vaccine groups such as the Korean Vaccine Society (KVS), the Japanese Society of Vaccines (JSV), and the ISV China branch will also join the Congress as co-organizers.

2018 ISV Congress Invited Speakers
Rafi Ahmed, Emory University, USA, Martin Bachmann, Jenner Institute, UK, Hank Balfour, University of Minnesota, USA, Edward Belongia, Marshfield Clinic Research Institute, USA, James Crowe, Vanderbilt University, USA, James Cherry, UCLA, USA, Tony Cunningham, WIMR, University of Sydney, Australia, Baptiste Dungu, MCI Sante Animale, Morocco, Jean-Louis Excler, International Vaccine Institute, Korea, Tong-Ming Fu, Merck Research Laboratories, USA, Jonathan Gershoni, Tel Aviv University, Israel, Aidar Ishmukhametov, Chumakov Institute of Poliomyelitis and Viral Encephalitis, Russia, Eun-Kyong Jo, Chungnam University Medical School, Korea, Rave Kane, Georgia Tech University, USA, Hiroshi Kiyono, University of Tokyo, Japan, Harry Kleanthous, Sanofi Pasteur, USA, Gary Kobinger, Université Laval, Canada, Yong Taik Lim, Sungkyunkwan University, Korea, Karin Löré, Karolinska Institute, Sweden, Guanghui Ma, Chinese Academy of Sciences, China, Michael McNeil, U.S. Centers for Disease Control and Prevention, USA, Martin Moore, Meissa Vaccines, USA, Vish Nene, ILRI, Kenya, Morten Nielsen, Technical University of Denmark, Denmark, Glen Nowak, University of Georgia, USA, John Oxford, Queen Mary College, UK, Pauline Paterson, LSHTM, UK, Hyewon Phee, Amgen, USA, Stanley Plotkin, VaxConsult, USA, Thomas Richie, Sanaria, USA, Nadine Rouphael, Emory University, USA, Tim Schacker, University of Minnesota, USA, and Terry Tumpey, U.S. Centers for Disease Control and Prevention, USA.

Please join us in Atlanta for this exciting meeting to present your work and interact with colleagues. The feedback we have received suggests attendees find this event provides optimal opportunities to present their research on a global stage, gain new ideas, and establish fruitful collaborations.

We look forward to seeing you and hearing your latest research! Please note that ISV members receive a $100 discount from the registration fees. ISV has also negotiated special pricing with the conference center hotel, Atlanta Marriott Marquis, with links to be added to the Congress website in the near future. Please remember to sign up before the early bird deadline August 15th to receive the best rates at www.ISVCongress.org.

Sincerely, your 2018 ISV Co-Chairs
Ted M. Ross, University of Georgia – USA
Denise Doolan, James Cook University – Australia

From the Editor

We are pleased to announce that the proceedings of the 2016 Annual ISV Congress was published in Human Vaccines & Immunotherapeutics, 2017 December 2; 13 (12):2754. The proceedings of the 2017 Annual ISV Congress held in Paris is scheduled to be published in the upcoming August edition.

2018 ISV Congress
- 12th year for Congress
- Venue: Atlanta Marriott Marquis Hotel in Atlanta, GA, USA
- October 28–30, 2018
- http://ISVCongress.org/

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International Society for Vaccines newsletter
Point of View
Twists and Turns in the Polio Endgame

*Contributed by John J. Donnelly, Ph.D., President of Global Healing.*

Recent reports and publications have served to underscore the complexity of polio epidemiology as wild poliovirus (WPV) cases continue to decrease. The last case of WPV type 2 was reported in 1999, and this strain of the virus was declared eradicated by the WHO in 2015. WPV type 3 was last reported in 2012 and experts are guardedly optimistic that it will not be seen again. Only WPV type 1 remains endemic in certain parts of Nigeria, Afghanistan and Pakistan. However, having got rid of the wild virus, it is now necessary to get rid of the vaccine. The Sabin strains used in the oral polio vaccine (OPV) themselves have the potential to mutate and cause paralytic polio on very rare occasions (1 in about 2.7 million vaccines). These mutants are termed Vaccine Derived Polioviruses or VDPV. VDPVs can be contagious, and may spread illness between children, and such viruses are termed circulating VDPVs or cVDPVs. The Sabin type 2 strain was the main culprit in these events, which is one reason that the WHO removed it from OPV in 2016. However type 1 and type 3 Sabin strains also can mutate into cVDPVs. cVDPVs are most likely to occur where OPV coverage is below 80%, and some recent outbreaks have occurred in areas where OPV coverage fell below 50%.1 Where OPV is used, the best tool to prevent cVDPV is comprehensive immunization with the current bivalent OPV, backed up with monovalent OPV2 wherever type 2 cVDPVs are seen.

Recent news reports in the popular press have not discriminated between VDPV and wild polio and instead have opted to splash “Polio outbreak” across their headlines. Laboratory reports confirming that the cause is a VDPV or not a poliovirus at all often lag behind these reports by several days, an eternity in the modern news cycle. Such incomplete reporting may undermine public confidence that wild polio is in fact being eradicated and has already been eradicated in the Americas and much of the rest of the world, and put support for the endgame campaign at risk. These events are not usually reported this way, but are actually good news stories. An important part of the endgame is to intensify surveillance for acute flaccid paralysis (AFP), the hallmark of polio infection, and environmental surveillance of sewers and water supplies to detect any remaining WPV in the environment. Thanks to very hard work by national health authorities, improved surveillance is being pushed into areas where little work had been possible before. The report of a case of AFP in an unvaccinated child in a remote indigenous population in Venezuela2 illustrates one such event that 10 years ago may not have been detected. As surveillance continues to improve, more AFP cases are likely to be detected in remote areas where not only surveillance, but also vaccine coverage, has lagged. What this means is that health authorities are better prepared than ever to find and deal with either vaccine-derived polio or wild poliovirus should it reappear.

These pressures are one more example of the dilemma faced by vaccine makers when their vaccines succeed. A vaccine that works and is used reduces caseload to the point where vaccine-related adverse events outnumber the actual disease cases. The public then demands improvements to the safety of the vaccine. A recent example is whole cell pertussis vaccine, where reports of vaccine adverse events drove vaccine makers to re-invent the vaccine in search of fewer possibly vaccine-related side effects. Researchers now are hard at work trying to produce new versions of OPV with more robust attenuating mutations that will further reduce the risk of VDPV. The question is whether the new vaccines can be proved safe and effective in time to be used in the polio endgame.

What can the general scientific community do to support the efforts to eradicate polio? Three things come to mind:

1. Educate – improve public understanding that AFP caused by vaccine strains is something that humans control and can prevent through diligent immunization, and that has existed in the background since the beginning of the polio eradication campaign.

2. Advocate – for the continued investment to wipe out wild polio 1 and control the risk of VDPV by comprehensive immunization until the vaccine is no longer needed.

3. Innovate – A mixed regimen of inactivated polio vaccine (IPV) and OPV is an important tool to manage OPV adverse effects and prevent paralytic polio. This combination was used in the US and Europe before switching to all IPV and is now being implemented in selected countries by WHO and GAVI. Yet, IPV supplies are limited because of the complex manufacturing processes and limitations on where the vaccine can be produced. Process improvements are needed to enable manufacturers to supply the world with IPV at an affordable cost. OPVs with less potential to produce VDPV also are needed, and fast, to cover the period between eradication of WPV and OPV cessation, and for mass vaccination in the event WPV should reappear.

All of these are worthwhile areas of endeavor for vaccinologists and health authorities, and should continue to be financially supported by governments and private donor organizations.

1[https://www.cdc.gov/mmwr/volumes/66/wr/mm6643a6.htm](https://www.cdc.gov/mmwr/volumes/66/wr/mm6643a6.htm)

Resurgence of poliomyelitis: Are vaccine-derived polioviruses (VDPVs) undermining vaccine confidence?

Alarming polio outbreak spreads in Congo, threatening global eradication efforts.

By Leslie Roberts

Science. 6 JULY 2018. 361(6397): 10–11. DOI: 10.1126/science.361.6397.10

Almost a year after the WHO declared the end of an outbreak of Ebola Virus Disease (EVD) in the Democratic Republic of Congo (DRC), a new outbreak of EVD was reported in early May. Further straining public health efforts, cases of vaccine-derived poliovirus type 2s (cVDPV2s) have been reported.

The Global Polio Eradication Initiative (GPEI) has tracked the global emergence of wild poliovirus and circulating vaccine-derived poliovirus cases for the previous 12 months. According to the WHO Polio Fact Sheets, 22 cases of wild poliomyelitis and 96 cases of cVDPV were reported in 2017; however, up to 03 July 2018, there have been 11 cases of wild poliomyelitis and 13 cases of cVDPV reported. Now, 30 years after eradication poliovirus cases are once again being reported in Venezuela.

Research Highlights

“Stabilized single-injection inactivated polio vaccine elicits a strong neutralizing immune response.”
Stephany Y. Tzeng, Kevin J. McHugh, Adam M. Behrens, Sviatlana Rose, James L. Sugarman, Shiran Ferber, Robert Langer, and Ana Jaklenec


Tzeng and colleagues report on an injectable microparticle formulation of the inactivated polio vaccine (IPV) that releases multiple pulses of stable antigen over time.

“Strategic Response to an Outbreak of Circulating Vaccine-Derived Poliovirus Type 2 – Syria, 2017–2018.”
Chukwuma Mbaeyi, Zubair Mufti Wadood, Thomas Moran, Fazal Ather, Tasha Stehling-Aniza, Joanna Nikulin, Mohammad Al Safadi, Jane Iber, Laurel Zomahoun, Nidal Abourshaid, Hong Pang, Nikki Collins, Humayun Asghar, Obaid ul Islam Butt, Cara C. Burns, Derek Ehrhardt, Magdi Sharaf


This report highlights the continuing geographical spread of vaccine-derived polioviruses (VDPVs) which can cause outbreaks of paralytic poliomyelitis.

“Fradicating polio with a vaccine we must stop using.”
Nicholas C. Grassly


2018 ISV Congress Scientific Committee

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Ted Ross, University of Georgia – USA
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Thiru Vanniasinkam, Charles Sturt University, Australia
Nene Vish, ILRI, Kenya
Heather Wilson, University of Saskatchewan, Canada
Anna–Lise Williamson, University of Cape Town, South Africa
Suh–Chin (Samuel) Wu, National Tsing Hua University, Taiwan

Check the ISV 2018 Congress website for updates.
ISV Fellow of the Month (May)

Shan Lu, M.D./Ph.D., is the ISV Fellow of the Month for May, 2018. Professor Lu is a physician scientist who holds a primary appointment within the Department of Medicine at the University of Massachusetts Medical School (UMMS), an adjunct faculty appointment at Nanjing Medical University, Jiangsu Sheng, China, and an appointment as honorary professor at Fudan University, Shanghai Shi, China. Dr. Lu received his M.D. degree from the Nanjing Medical College in 1982, and his Ph.D. degree from the UMMS in 1991. The main focus of his research program is to investigate novel vaccination strategies that induce durable humoral immunity. An area of prominent research involves studies examining the immunogenicity of protein antigens for which his laboratory employs the human immunodeficiency virus type–1 (HIV–1) envelope proteins (Env) as a model system. A central goal of this research is to examine how mutations within Env enable HIV–1 to escape from host immune surveillance; information gained from these studies will drive the rational design of novel vaccines that confer immunity against HIV–1. Toward this goal, Professor Lu’s laboratory developed a novel HIV–1 vaccine formulation based on sequential immunization with a polyvalent DNA prime followed by a protein boost which elicited broad and balanced immune responses in humans. When not directly engaged in biomedical research, Professor Lu serves as Deputy Editor-in-Chief of Emerging Microbes and Infection (EMI) published by Nature. Dr. Lu has been an active and dedicated member of the ISV, and has contributed to the Society by serving as the Executive Board as Treasurer (2008–2011 and 2016–2019) and as President (2011–2013).

ISV Fellow of the Month (June)

Britta Wahren, PhD, is the ISV Fellow of the Month for June, 2018. Dr. Wahren is Professor Senior within the Department of Microbiology, Tumor, and Cell Biology at the Karolinska Institutet. Dr. Wahren has been a pioneer for many areas of vaccinology, including her prime–boost clinical trials for both prevention and therapy of HIV/AIDS, and her therapeutic vaccine studies for cancer (targeting CEA) and her novel passive immunotherapy for HIV known as Dock–and–Lock therapy. She is a Professor at the Karolinska Institutet and has devoted significant effort to mentoring and educating PhD and post-doctoral students throughout Europe via various European consortia such as EAVI, AVIP, and Europrise. One of Dr. Wahren’s focuses was designing a genetic HIV vaccine for immunotherapy and prophylaxis, and targeting genes that HIV possesses and making small DNA constructs. The resulting vaccine has been used in human trials in four different countries in Europe and Africa, and appears to be one of the most effective vaccines to prime for immune responses against a variety of HIV strains as it stimulates both Humoral and Cell–mediated immunity. The vaccine concept is an unusual one as the vaccine is composed of viral genes and not the usual proteins. The individual produces the vaccine antigen, thus making the vaccine tailor–made for the immune responses of the vaccinated individual. Efforts are underway to design a similar tailor–made genetic vaccine against the common colorectal cancer cells.

History of Vaccines

On May 14, 1796, Edward Jenner, an English physician and scientist, inoculated eight–year–old James Phipps with what became the world’s first vaccine: exudate from a cowpox. The source of the exudate was a pustule from a milkmaid, Sarah Nelmes. The terms “vaccine” and “vaccination” are derived from Variolae vaccinae (smallpox of the cow), a phrase initially coined by Edward Jenner, who later served as the President of the Royal Jennerian Society which was formed at the London Tavern on January 19, 1803 with the goal of eradicating smallpox through vaccination.

ISV Job Bank

If you have a position to fill, take advantage of this opportunity by posting the position at the Job Openings portal on the ISV website.

International Society for Vaccines

ISV now has 100 Facebook members and over 440 LinkedIn members. Join us online to take part in discussions or to find out what is happening in the society.

We would like your ideas for future newsletter articles. Is there an article you’d like to submit to the newsletter? What are the most pressing issues in vaccine research? Please send us your thoughts.

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