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# Celebrating 60 Years of Research at the 15th International Symposium on Human Chlamydial Infections

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The 15th International Symposium on Human Chlamydial Infections (ISHCI) was convened at the Menger hotel in San Antonio, Texas, June 19–24, 2022. This was the first in-person international meeting on *Chlamydia* since the start of the COVID pandemic and Julius Schachter's passing. Despite these tragedies we regained our strength and gathered in the Alamo city for commemorating Dr Schachter's many contributions to the *Chlamydia* field. The meeting has been renamed "The Julius Schachter-International Symposium on Human Chlamydial Infections (JS-ISHCI).

Julius Schachter was among the first to recognize *Chlamydia trachomatis* as a common infectious agent that causes sexually transmitted disease. He also reported the first case of chlamydia-induced pneumonia in infants, which triggered screening and intervention programs to prevent pulmonary infection of newborns. By 1981, he and his team members, including Jeanne Moncada, isolated *C. trachomatis* from nasopharyngeal and rectal swabs from children in a trachoma-endemic area, which led to the proposal of a multicenter trial using oral azithromycin to eliminate blinding trachoma. Julius also significantly improved the laboratory diagnosis of human chlamydial infections by using less invasive urine and vaginal swab sampling, making patient self-collection possible for the diagnosis and treatment of asymptomatic infections. Besides his own research on *C. trachomatis* human infections, Julius was deeply involved in the organization and production of every ISHCI. Since the first meeting in 1962 at Lake Placid, the ISHCI has remained a highly respected quadrennial symposium for all chlamydial researchers to exchange scientific findings and ideas and explore collaboration opportunities.

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The meeting began by commemorating the members of the Chlamydia family who recently passed away, including Joseph Igietseme (USA), Byron Batteiger (USA), Pekka Saikku and Maija Leinonen (Finland). Two living legends were recognized: Dr. Sheila West (USA) for her contributions to trachoma research and Dr. Robert C. Brunham (Canada) for his contributions to both clinical and basic research of sexually transmitted chlamydial infections.

As revealed in the Supplemental Material (http://links.lww.com/OLQ/A888), a very robust scientific program was developed for the symposium, which started with the clinical challenges caused by chlamydial infections in both human genital and ocular tissues. Most of the week was used to reveal new findings on diagnostics and the mechanisms of chlamydial biology and its interactions with host cells, as well as host responses. Finally, the program ended with presentations on how to use what we have learnt about *Chlamydia* and model systems, particularly animal models, to promote the development of vaccines for protecting humans from chlamydial infections and diseases. The program was organized into 7 research tracks with a keynote lecture for introducing each track.

The success of the 15th JS-ISHCI was because of the collective efforts by everyone in the chlamydia community. The International Scientific Committee together with other scientists formed a review board, which carefully reviewed the abstracts and made constructive suggestions, ensuring the high scientific quality of the symposium. The local organizing committee members effectively worked together with others in the community to ensure that every step was executed according to the plan. The steering committee provided strong logistical guidance and ensured financial support. Important contributions to the success of the symposium came from the ~100 attendees.

As revealed in the presentations and during the discussions at the 15th JS-ISHCI, the *Chlamydia* field has made significant progresses in both research and clinical applications since last meeting in the Netherlands in 2018. We have learned more about *Chlamydia* genetics, making the manipulation of the chlamydial genome more efficient for supporting subsequent functional studies. The combination of *Chlamydia* mutants with in vitro and in vivo research models has allowed us to gain new insights into the intricate molecular networks between *Chlamydia* and its host at the molecular, cellular and tissue levels. Both new chlamydial mechanisms and host response patterns unique to chlamydial infections have been identified. The exciting findings may motivate more biologists to take advantage of the unique chlamydial evolutionary niches to uncover host mechanisms that are otherwise difficult to discover. More importantly, the basic research achievements will help address the clinical challenges of human chlamydial infections. One of the clinical challenges is to understand why some *C. trachomatis*–infected women can spontaneously clear infection within 2 weeks[1] and remain resistant to subsequent infections[2] while others allow persistent *C. trachomatis* infection. Although clinical studies have identified some correlates,[3,4] the

mechanisms remain largely unknown. At the conference, a mouse model-based study reported a cGAS-STING signaling-dependent mechanism for inhibiting *C. trachomatis* infection in the lower genial tract,[5] which has not only validated previous *in vitro* observations on chlamydial activation of the cGAS-STING pathway[6,7] but also provided the urgently needed mechanistic information for designing new clinical studies. This and other exciting findings have been published in the symposium proceedings.[8] Many attendees have realized that a fundamental understanding of *Chlamydia* and its interactions with its natural hosts in the context of mucosal microbiome may hold the key for designing an effective and safe *Chlamydia* vaccine. The intimate format of the meeting successfully served as a platform for attendees to exchange ideas, establish collaborations, develop out of the box thinking and strategize synergistic research plans, all of which will enable the field as a whole to make new discoveries in chlamydial research in the coming 4 years. Hopefully, when we meet again at the 16th, we may be closer to an effective vaccine for protecting humans from chlamydial infections and diseases.

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