SARANAC LAKE — A leading global health expert said Monday that researchers know they can create a vaccine to protect against COVID-19, but it’s still too soon to predict how effective the first vaccines will be.
Barry Bloom, a renowned immunologist who has spent his career easing the impact of tuberculosis and leprosy on developing nations, was at the Trudeau Institute to deliver the annual Ralph M. Steinman Memorial Lecture. Trudeau named Bloom an honorary trustee at the event.

The lecture was supported by a gift from Mr. and Mrs. J. Michael Ritchie of Upper Saranac Lake.

Bloom said researchers understand how COVID-19 infects individuals and have identified how to trigger an immune response without making patients sick — critical elements in constructing a vaccine.

But huge questions remain, he cautioned. It’s still unknown whether the antibodies triggered by a vaccine will be sufficient to guard against COVID-19, or whether those antibodies will persist more than a few months, guaranteeing lasting protection. Even if a vaccine is effective, it’s not clear whether it can be mass-produced as quickly as needed.

“We’ve got a big problem and a really small set of tools,” said Bloom, who spoke to an audience gathered both at Trudeau’s campus and on the internet.

Atsuo Kuki, Trudeau’s president and director, said he was honored to have Bloom present the annual Steinman lecture, named for a Nobel Prize-winning immunologist who was a longtime member of Trudeau’s board of trustees.

“In science, we build on the work others have done,” Kuki said. “But so many of Dr. Bloom’s achievements are absolutely foundational to the research carried out at Trudeau. In finding the immune responses that protect against tuberculosis, and helping create the mechanisms by which TB vaccines work, our work today owes a huge debt to him.”

Bloom also made a low-tech suggestion for thwarting the spread of COVID-19: Wear a mask.

He noted that people are fond of saying that masks are mostly for the protection of others. “I don’t believe that’s true,” he said. Even though cloth masks don’t exclude all the smallest aerosol particles that transmit the disease, they may reduce how many get through, both upon exhaling and inhaling. And he said he suspects that when everybody wears masks, enough of the virus is screened to make a real difference.
Bloom has served as an adviser to both the White House and the World Health Organization. He was the founding chair of the board of trustees for the International Vaccine Institute, which promotes vaccine development for the developing world.

He noted that tuberculosis is responsible for 1.7 million deaths a year, more than any other infectious disease. This year, though, the toll from COVID-19 looks like it will surpass tuberculosis.

Bloom was introduced by a former colleague, William R. Jacobs Jr. Jacobs, a professor of microbiology and immunology and genetics at the Albert Einstein College of Medicine, developed a revolutionary tuberculosis diagnostic. Jacobs said that as large as Bloom’s scientific breakthroughs may loom, his ability to rally the world around challenges such as HIV, leprosy and TB in underserved communities remains one of his greatest achievements.