

Summary Report: 64th Lindau Nobel Laureate Meeting

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The Lindau Nobel Laureate Meeting was extraordinary in every way, from the live-streamed opening ceremony with greetings from outer space, to the closing statements delivered in a Royal palace courtyard. Since 1951, this unique gathering of Nobel Laureates and young scientists has taken place annually in Lindau, a charming island town on Lake Constance in southeastern Germany. This year's meeting brought together 600 young scientists from 80 countries and 37 Nobel Laureates in Physiology or Medicine.

The week-long event involved an intense [schedule](#) of plenary lectures, panel discussions, Q&A sessions and interactive workshops. Participants were also treated to a number of social activities, including a concert by the Vienna Philharmonic Orchestra, a Bavarian Evening, a barbecue with Lindau locals, and a boat trip to beautiful Mainau Island.

Each Laureate delivered a plenary lecture on a topic of their choice. Some discussed their Nobel-winning discoveries (e.g. Randy Schekman on autophagy signaling), while others focused on their current research (e.g. Bruce Beutler on his new high-throughput “forward genetics” pipeline), or presented a broad overview of their field (e.g. Michael Bishop on the genetic basis of cancer). Several Laureates also addressed personal initiatives related to science policy or activism. For example, Schekman openly criticized the “broken” peer-review system for academic publishing and Françoise Barré-Sinoussi called for equitable distribution of HIV therapies in the developing world. All of the Nobel lectures can be viewed for free on the Lindau Mediatheque website: www.mediatheque.lindau-nobel.org.

It's impossible to choose a favourite among such an accomplished field of speakers, but one that clearly stood out was Oliver Smithies, a British geneticist who received the Nobel prize for his development of gene targeting methods in embryonic stem cells. Smithies presented a thoughtful and entertaining reflection of his journey in



With Nobel Laureate Oliver Smithies.

life and science, earning him a standing ovation from fellow Laureates and young scientists alike. Entitled “Where Do Ideas Come From?”, [his inspiring lecture](#) included anecdotes from his early days in research (including his “quite accidental” invention of gel electrophoresis), snapshots from his 1960's lab notebooks (“nothing beats hard copies”), and sound advice for young scientists (“you MUST do something you love”). Smithies' passion for science and discovery is both undeniable and contagious. Remarkably, at 89 years old, he still runs a research program and conducts experiments himself!

Several moderated panel discussions were organized to address current topics in science in medicine. These lively conversations between selected Laureates and young scientists tackled issues like collaboration between industry and academia, and the challenges and opportunities afforded by “Big Data” (of particular interest to me, as a microbiome researcher).

Smaller Q&A sessions offered opportunities for informal discussion with the Laureates. I attended sessions with Oliver Smithies, Elizabeth Blackburn (discovered telomeres and telomerase), Roger Tsien (developed GFP: green

fluorescent protein), and Harald zur Hausen (identified HPV as the cause of cervical cancer). Discussion topics ranged from practical (how to choose a good mentor?), to personal (how does life change after winning the Nobel prize?), to philosophical (what makes us human?). Seizing the rare opportunity to pose questions of a Nobel Laureate, I asked Tsien about his commercial venture (his synthetic fluorescent molecules for image-guided surgery are nearly ready for human trials), and zur Hausen about his opinion on HPV vaccination for boys (he is strongly in favour, and believes current governments are irresponsible for not mandating it).

The Laureates were surprisingly approachable. They were generally eager to discuss past and current challenges in medical research, and keen to offer career advice. I had the great fortune of sitting next to Françoise Barré-Sinoussi (discoverer of HIV) for dinner one evening, and we had a fantastic conversation about the early days of HIV research and the patent wars that ensued, her genuine surprise at winning the Nobel prize, and the difficult task of selecting an outfit for the award ceremony in Stockholm. I also spoke at length with Martin Chalfie (co-Laureate with Tsien, for developing GFP), who was on a dual mission to promote funding for basic science (with [this video](#)), and to mentor PhD students on securing the best postdoctoral positions (with [this editorial](#)).

Much to my delight, I was invited to interview Barry Marshall for a special issue of *Nature*. Marshall received the Nobel Prize for his discovery of the bacterium *Helicobacter pylori* and its role in peptic ulcer disease. We had a terrific conversation, touching on his early inspiration for science, his journey with *Helicobacter* (including the famous self-experiment, where he consumed the bacterium to prove his hypothesis), his advice for young scientists, and his thoughts on the future of microbiome research (a special thrill for me, as a scientist in this field!).



With Nobel Laureate Barry Marshall.

Another personal highlight, as a population health scientist, was the opening lecture by epidemiology superstar Hans Rosling. Entitled “[The IGNORANCE Project](#)”, his interactive presentation demonstrated how poorly public officials understand basic global patterns and population dynamics, and emphasized why this worldwide ignorance presents a major barrier to improving global health. Known for pioneering technologies to interpret and visualize Big Data, Rosling used his innovative GapMinder software to portray major trends in global health, and engaged the entire audience using iClickers to deliver a pop quiz (revealing that, when it comes to global health statistics, Nobel Laureates and young scientists in Lindau are just as ignorant as public health officials!)

The Lindau meeting offered a tremendous opportunity to meet other young scientists from around the world, each recognized as future leaders in their respective fields. I have established an international network of new friends and potential collaborators, including a fellow microbiome scientist in Vienna, and a like-minded data linkage researcher in Australia. The meeting organizers have wisely established a Lindau Alumni Directory to foster these new connections.

I also had opportunities to discuss and promote my current research with the media. I was [profiled](#) on the Lindau Nobel meeting website, interviewed by Canadian and international journalists, and featured by the German television station ARD-alpha as a “[Young Scientist of the Day](#)”.

The Lindau Nobel Laureate Meeting was truly an unforgettable, once-in-a-lifetime experience, and I am profoundly grateful to the CIHR for sponsoring my attendance. The connections and inspiration gleaned in Lindau will motivate my research career for many years to come.

My Tweets from the meeting are available [here](#) (or visit Twitter and search: @MeghanAzad #Inlm14)