

David Gross

Nobel Laureate and Chair, ICTS International Advisory Board

What a wonderful day. What a journey. What a dream.

I was here two years ago when the foundations were just beginning to come up. As I arrived today I was just overwhelmed with joy and a sense of great accomplishment. Perhaps this is the end of the beginning of this marvellous new institute. Let me say a bit about my involvement in this journey, which goes back to about a decade. It was 2005 when I was on a long visit to India – I visited my colleagues in various universities and institutes and all I heard were complaints about the government, the administration, the lack of support, the woeful state of Indian science. I really got angry and I thought this was crazy – India has a great tradition of respect for science, it has great scientific institutes, it has a history. It can easily take advantage of its traditions and culture, respect for excellence to overtake the Chinese who were then pouring enormous resources into science. Everyone said, yes yes but it's the government's fault and we can't do anything.

After talking to some of the people in the government, I realised that this wasn't the case. They were beginning to have resources and wishing to invest in science. But there was very little leadership on the ground, except for a few people. Among them is my very good friend Spenta Wadia, with whom I had many conversations. He told me of his dream to build in India something like the Kavli Institute for Theoretical Physics – the KITP in Santa Barbara. An institute devoted to the theoretical sciences that would serve both the local community – bringing scientists from all over India to work the frontiers of sciences – as well as scientists, colleagues from all over the world. And four years later, in Bangalore, we inaugurated the International Centre for Theoretical Sciences. Some people have alluded to how difficult it is to create a new institution in India. And indeed, I think it was nothing short of a minor miracle that all this happened in a short period of four years. Six years later the campus exists. What a journey, what a dream, what a success.

This has happened with the help of many institutions, people, and colleagues here and abroad. The Tata Institute of Fundamental Research, of course, of which this is an off shoot. The Atomic Energy Commission, the IISc in Bangalore, the other government institutions, also the Simons Foundation. Many dedicated, sacrificing theoretical scientists working in India and abroad. When Spenta asked me to chair the International Advisory Board, I agreed of course. Most of

the members of the IAB are here today and you will be hearing from them later. Some of them will give lectures in the afternoon. All of them have been very helpful and wonderful. We meet often over phone from around the world. Some of the members have already rotated off and new ones have joined. I must say it has been an absolute pleasure to help the establishment of this institute. There is so much goodwill among the academic colleagues, so much self sacrifice and effort that has been poured in to create this place. There is so much hope, so many dreams exist in the construction of this institution that it has been an enormous pleasure to serve as the chair of the IAB.

But the real tribute of course, as already mentioned, must go to Spenta. He has devoted ten years of his life, a good part of what could have been his research to creating this institution. His extraordinary energy and vision – but most importantly because it is India his persistence and patience – has really achieved a miracle. But this is at best the end of the beginning. And now that the foundation has been set, we all hope that all of this effort and dreams will start to materialize in a way it has been alluded to before. But I would like to make a special point – there is something special about an institute of this kind devoted to the theoretical sciences. First of all theorists are natural unifiers, interdisciplinary animals.

Experimentalists, central as they are to science, work by necessity and within very narrow domains because that's where they do their experiments, in well-defined laboratories. Whereas theorists see a broader scope and are able to cross interdisciplinary boundaries. So an institute like this which is able to bring together theory-minded scientists from mathematics to physics to computer science, astrophysics, to theoretical biology can serve a function that cannot be achieved in any other fashion. India has excellent theoretical capabilities and an institute like this we all hope will amplify and magnify that excellence manifold. But this is just the end of the beginning and to realise those dreams is needed. So among the younger theoretical scientists who have joined the ICTS, who will benefit from it, much hard work and sacrifice will be required. But in addition to the contribution of scientists in scientific institutions, I do believe that society, private society and especially the elements in Bangalore who have profited so much from the application of science and technology and have turned Bangalore and the rest of India to a technologically growing country should start giving back. Giving back to the academic institutions from which they emerged, giving back to culture, to science, to the advancement of fundamental theory.

This has been a wonderful day, it's been an incredible journey. And it is such a pleasure to see the end of the beginning and the beginning of the future.

Thank you.