

Fascinating diversity of outlooks

CARSTEN DOSE

CARSTEN Dose, FRIAS Head Administrator, discussed the UBIAS conference and its impact with César Ades, Director of the Instituto de Estudos Avancados (IEA), University of São Paulo, Dapeng Cai, Associate Professor/Core Faculty Member at the Institute for Advanced Research at Nagoya University, Eliezer Rabinovici, Director of the Institute for Advanced Studies (IAS) at the Hebrew University of Jerusalem and Judith Vichniac, Associated Dean of Fellowship Program at the Radcliffe Institute for Advanced Studies at Harvard University.

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Carsten Dose – What was the most surprising idea you came across during this conference?

César Ades – I was fascinated by the diversity of outlooks as well as by the attitude towards creativity and knowledge.

Eliezer Rabinovici – Institutes for Advanced Studies are in some ways a very conservative way of fostering innovation. It was very nice to hear about all the success stories and innovations which have been created within this rather consistent framework. What was new to me was that university-based institutes have one clear advantage over institutes which are not university-based: they are naturally suited to accommodating experimental scientists and this is their strong point.

Judith Vichniac – But that is not the only clear advantage. Institutes for Advanced Study at universities not only have access to libraries which all Institutes do, but also to other resources such as labs and students.

César Ades – Another important point is the cooperation with other faculties. Institutes for Advanced Study should of course be integrated into the university rather than just added.

Judith Vichniac – One program we offer is a mentorship program. We pair students and fellows to work together. We are able to pay the students to help the fellows with their research while at the same time they are trained to do this kind of work. Fellows learn what it's like to be involved with undergraduate education at Harvard.

Dapeng Cai – During the conference I realized some very flexible ways to do things that we have always wanted to do. I guess we have sometimes been

thinking too rigidly and the conference has made us aware of all the resources that are available to us.

Carsten Dose – We are already talking about the strength of being part of the university. Can you give us one small example where the work of your institute really made a difference for your university?

César Ades – We had a group many years ago discussing international relations. Now we have an institute of international relations that was proposed by the research group inside our institute.

Judith Vichniac – There was an initiative on tissue engineering at our institute which, at the time, was a relatively new field. Because of its smallness and nimbleness, Radcliffe acted as a convener of experts from across the university who often do not collaborate. Radcliffe was able to start a discussion that moved the research agenda forward.

Dapeng Cai – We have a tenure track program with which we have recruited some of the best scholars from the world and they are contributing to the university. We also host the Nagoya university lecture which is addressed to 1200 attendees each time. It's a very good chance for the university to reach out to the local community. So it also benefits the university.

Eliezer Rabinovici – The schools that we have are a terrific resource for both the faculty and the students in our university and also for other universities in Israel. They get to know the very best researchers and the very best researchers get to know them, and sometimes afterwards they invite them as post-doctoral fellows. From time to time we have breakthrough research groups. There was one more than twenty years ago which worked on neural networks, and this changed the whole perception of neural networks in the respective disciplines.

Carsten Dose – One of the important subjects we kept coming back to was fostering creativity. What is needed to create this kind of atmosphere in an Institute for Advanced Study?

Judith Vichniac – We try to do everything to make the scholars' time as beneficial as possible. This often means connecting them with faculty not only at Harvard but also at MIT or other research universities in the Boston area. In addition, we try to maximize the interaction between fellows. Individual projects often take a new turn because of these interactions. And this fosters the growth of knowledge.

Eliezer Rabinovici – We focus on groups rather than on individuals. That is why we start by giving them a quiet environment. Sometimes what researchers really need is simply to be able to concentrate on their research. We know from experience that especially in the humanities, scientists work on their own, and interaction with their fellows is relatively rare. At our institute we put them in a cauldron, where they interact on a daily basis with other people who have different points of view. This is the kind of atmosphere which sometimes leads to very important progress. It's very difficult to engineer creativity but there may be conditions which can help.



The interviewees Carsten Dose: César Ades (Brazil), Judith Vichniac (EUA), Eliezer Rabinovici (Israel) and Dapeng Cai (Japan).

César Ades – We also invest more in groups than in individuals and we think there is some virtue in bringing people together. But there is something else. When someone has an idea or a project, this motivates the rest of the group. This is very important. The group grows around a core problem that is original and socially relevant.

Judith Vichniac – While most of our fellows are individual scholars, we admit clusters as well. Other times clusters form spontaneously. One year, we had a group of theoretical cryptographers. Members of that cluster joined forces with a geographer, a scholar of Islamic law, a professor of English and an artist to discuss the concept of space in their different disciplines. This was very exciting for all of us.

César Ades – Value to society is a point which has always been a key element of our institute's work. When we form groups and do research, our initial motivation is usually a social problem. For example, we have a group working on nutrition and poverty, a major problem in Brazil. The group is multidisciplinary and has a lot of members. Some of the figures they have come up with are different from the figures published by the government. That is why we organize workshops and invite public policy makers to them. Maybe a new generation of politicians will be more aware of the importance of academic issues in their decisions. Of course as academics, we have no decision-making powers. Nevertheless we think it is important for Institutes for Advanced Study to discuss urgent problems at an academic level. The university should look to society.

Eliezer Rabinovici – We had a big debate on this issue and the general feeling is that the best contribution that scientists can make is to do what they do best, and then the results will eventually reach society. As you probably know, the GPS (Global Positioning System) was made possible by formulas based on Einstein’s theory of relativity. I would say that only a very small percentage of physics students and professors know how to work with general relativity but any taxi driver knows how to plug in and get the benefits of a GPS. It’s very difficult to plan how we can have a positive impact on society. It’s the same with the internet, which was invented at Cern for totally different reasons. Nobody thought that it was going to dominate our life to the extent it now does. I would definitely not put in our application forms: “What is the relevance to society?” It is too presumptuous to know.

Judith Vichniac – Radcliffe is an institute at a private university with private funding which puts us in a different situation than state funded institutes. Our donors regularly raise the issue of relevance. While we do want to protect pure research, when researchers touches on societal issues or research connected to issues of health, for instance, we make sure that our donors are aware of this.

Eliezer Rabinovici – But there are risks involved. Of course it is great if people do research which is useful. But we should not allow ourselves to pretend that we are something that we are not.

Dapeng Cai – One of our professors was once supposed to give a lecture addressed to professors from other fields. The topic was Adam Smith and economic thought in the 18th century. The professor was used to giving lectures to people from his own field, but because this time he was to going to speak to professors from other fields, he had to think about how to make it understandable. Thinking about this led to him to new reflections about the relevance of Adam Smith’s thoughts for today’s economic issues and which later became a new research project at our institute.

Eliezer Rabinovici – We also have outreach talks, in which the groups explain to our staff what it is that they do. Because our staff has to work with them for half a year or a year, they are interested in hearing about it. We also give outreach lectures to the public which we advertise in the major newspapers. In addition, each group is asked to give one outreach lecture about their work to the other groups over lunch. This is something we strongly encourage.

Carsten Dose – *I would now like to focus on the global dialogue which we have practiced over the last two days. What is your impression of the work done at our different institutes?*

César Ates – It helped me to put my own institute in a wider context. One of the problems of an Institute for Advanced Study is how it defines itself. An institute of physics has no need to define itself, neither does an institute of biology. But people ask us: “What do you do that is relevant? What are you contributing?” One of the outcomes of the conference is a more complete image of

the possibilities of Institutes for Advanced Study. I think all modern universities should have such an institute. We should convince our colleagues about that.

Judith Vichniac – I found the whole discussion about these initiatives in Germany and the possibilities and constraints involved absolutely fascinating. While we share many characteristics, there are many substantial differences. You came to visit Radcliffe not so long ago and I marvel at what you have accomplished in such a short amount of time. This could not have happened without the resources that you have which are quite extraordinary. Yet, you have to account for your performance in ways that are different from us. We all face different constraints.

Eliezer Rabinovici – A certain homogeneity I recognized during the conference was in the presentation. If we went and visited each institute we would find big differences. A presentation can of course not properly reflect this.

Dapeng Cai – I'm somehow relieved to see that we share a number of challenges that so far seemed to be problems that only our institute had. We have been trying to find solutions to them and the conference gave us new ideas about how to approach these issues.

César Aedes – I think there is one more advantage of course. We will begin visiting each other. I think this is quite concrete and real.

Carsten Dose – *What do you think might think could develop from having met here?*

Judith Vichniac – We haven't been successful in recruiting fellows from certain areas of the world. But now I know people in different places like Brazil, Japan, China, I can ask them to help me in this endeavor. That's going to open up possibilities for us and that's why I came here. I'm looking forward to reaping the benefits of these connections.

Eliezer Rabinovici – I'm interested in visiting other institutes to find out where people did experiments that we weren't able to do. Of course nobody can do everything, and in this way we can learn from each other. Of course there are budgetary constraints...

César Aedes – Maybe we could think of smaller meetings, of some centers that are interested in a particular type of collaboration. This would be easy to organize and not so expensive.

Dapeng Cai – Good practices should definitely be shared among institutes. That would be very nice.

Eliezer Rabinovici – But we want to preserve our diversity. We don't want everybody to do the same thing.

Carsten Dose – *I think this discussion conveyed some of the ideas and the energy that came out of our meeting here over the last two days. Thank you very much.*

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Received on 25 Ago. 2011 and accepted on 3 Aug. 2011.