

China Rolls out the Red Carpet for Foreign Experts

The transnational flow of talented people is a major characteristic of globalization. With the objective of building China into an innovative country, the Chinese government is striving to embrace outstanding scientists and experts from around the globe to nurture its capacity in scientific and technological innovation. By implementing positive and open talent strategies, China is becoming a new arena for international talents to work to their full potential.

The Qian Ren Program, literally “Thousand Talents Program” also known as the Recruitment Program of Global Experts, is China’s highest level program to pool top talents from the world. Launched in 2008, it is initially aimed at appointing about 2,000 overseas Chinese experts, in five to ten years’ time, to come back and lead innovation-oriented research or management in key areas in China.

In late 2011, the Chinese government decided to carry out, under the Qian Ren Program, the Recruitment Program of Foreign Experts (RPFE) which is dedicated to employing top-notch non-Chinese foreign scientists and experts to work in China over a relatively long period

of time. Each foreign recruit under RPFE is expected to work in China for three consecutive years and at least nine months each year. They can receive a one-off subsidy of one million yuan from the central government and three to five million more as research grant if engaged in basic research, plus preferential policies and treatment as well as better working and living conditions.

The application is highly competitive. In March 2012, the government announced a list of 40 foreigners as the first successful applicants of the RPFE Program, out of over 100 applicants in total. Among them nine will work for the Chinese Academy of Sciences.

In this issue of *BCAS*, our reporter XIN Ling carries out interviews with four of them: Dr. Natarajan Ishwaran, Prof. Raymond Stevens, Prof. Alexander Strunnikov and Prof. Richard Corlett. They will share with our readers their connections with Chinese science and CAS, their research goals here, as well as their perspectives on living in this nation and some insights into talent policies of China and CAS.





“China is an Exciting Place to Work”: An Interview with Prof. Richard Corlett

In the last 30 years, Prof. Richard Corlett has carried out investigations in South and East Asian tropics and was actively engaged in biodiversity conservation in these regions. From July, 2012, he will start to work as director of a new integrative conservation center and head of biodiversity conservation research group at the Xishuangbanna Tropical Botanical Garden (XTBG), Chinese Academy of Sciences in the remote Menglun Township, Mengla County of south China's Yunnan Province.



Image Courtesy/Richard Corlett

Professor Richard Thomas Corlett.

BCAS: *After teaching in Thailand, Singapore and Hong Kong, why did you choose to come to Yunnan and work at the Xishuangbanna Tropical Botanical Garden?*

Prof. Corlett: I have been visiting XTBG for more than 20 years and have watched it grow into a leading international research centre. Over the same period, I have also watched China's growing global influence and impact. If you put these two together, XTBG is in an ideal position to lead tropical conservation biology in China and the surrounding region. I also have many friends there, so it was not a difficult decision.

BCAS: *You mean you've had cooperation with the Gardens for over two decades? That's really a long time.*

Prof. Corlett: Yes. And this partnership went deeper and deeper with time. I first visited XTBG in the year 1990 as a guest of the Institute of Ecology in Kunming. In 2002, I met the current Director of the Gardens, CHEN Jin, at a meeting in Panama. And I stayed at XTBG for two weeks, in the summer of 2006, to run a training course on

advanced techniques in frugivory and seed dispersal with CHEN. I also participated in the Garden's 50th anniversary celebration, as part of an external review panel. I've been back three to four times since, most recently for the meeting of the ATBC¹ Asia-Pacific Chapter in March this year.

BCAS: *As far as I know, your research has been largely concerned with the ecology of the deforested tropics. As director of the Center for Integrative Conservation and head of biodiversity conservation research group at XTBG, what will be your research focus in the next three years?*

Prof. Corlett: Xishuangbanna is not only the biologically richest area of China, but also one of the few areas of China where it is possible to grow essential tropical crops, such as rubber. This leads to conflicts between biodiversity conservation and economic production, which are also present in the neighbouring regions of Laos, Vietnam and Myanmar. Possible solutions to these problems range between, at

¹ ATBC stands for the Association for Tropical Biology and Conservation.

one extreme, maximizing the efficiency of agricultural production while leaving aside separate areas for biodiversity conservation ('land sparing') to, at the other extreme, sacrificing some agricultural production in order to make the cultivated areas more suitable for wild species ('land sharing'). In practice, the optimal solution will probably lie somewhere between these extremes, but in order to reach this solution we need a better understanding of how well wild plants and animals can survive in small protected areas and in the agricultural landscape. Aspects of this general problem will be a major focus of my research group, but we are also interested in many related issues, including environmental education.

BCAS: How do you see the status quo and main challenges of biodiversity conservation in Southeast Asian tropics today? Which human factors are accelerating ecological deterioration? What do you suggest as effective means to enforce biodiversity conservation in the region?

Prof. Corlett: Biodiversity conservation in Southeast Asia is at a critical stage. Vast areas of natural ecosystems have already been converted into crop monocultures and many of the remaining areas are threatened by hunting and logging. There are examples throughout the region of successful 'best practice' in biodiversity conservation, proving that conservation can work, but these cover small areas and only a minority of the endangered species. Ultimately all conservation is local, so decisions made in Beijing, or Bangkok or Jakarta are effective only if a majority of local people can be persuaded to support action on the ground. Only if this can be achieved, is enforcement of conservation laws likely to be successful. Experience in a variety of cultures worldwide suggests that this is possible, but achieving it with the urgency that the current crisis requires will be a massive task. Think globally, act locally.

BCAS: "Think globally and act locally," that's a very good point. So when will you arrive in Xishuangbanna? As you've been living in Chinese-speaking regions for many years, I don't expect you to meet too many barriers in Xishuangbanna.

Prof. Corlett: I will arrive at the beginning of July and most of my preparations are already completed.



Image Courtesy Richard Corlett

Prof. Richard Corlett (top left) and Prof. CHEN Jin (center) with training course students at the Ailao Shan Summit in Xishuangbanna in 2006.

Most of my China experience has been in Cantonese-speaking Hong Kong, so I will need to greatly improve my Mandarin, even though English is widely understood at XTBG. The food and local customs in Xishuangbanna are a blend of China and Southeast Asia, so they will not be a problem.

BCAS: The last question. In recent years, the Chinese government has been working hard to lure foreigners to do research in China. More and more foreign scientists are coming to CAS – some for short visits; some, like you, for long stays or even joining the Academy as a full time researcher. What do you think are the key factors that drive them to work in China, especially for a long period of time?

Prof. Corlett: China is an exciting place to work. Foreign scientists, in particular, are attracted by the ambitious expansion of scientific research in China, at a time when many countries are cutting back on research spending. There is also a perception that science is taken more seriously in China and that scientists can potentially have more influence on government policies and practices than in the USA or Europe. It is important to realize that this is a two-way exchange: good researchers, both Chinese and foreign, are very mobile and form part of a global community. China benefits from movements both ways, as does the rest of the world. For me, though XTBG can be rather difficult to get to, but the beautiful gardens and peaceful rural setting make up for this!



Dr. Natarajan Ishwaran: Use Remote Sensing Technologies to Build Landscape Scenarios for Conservation-Development Interactions



Image Courtesy: HIST

Dr. Natarajan Ishwaran.

Dr. Natarajan Ishwaran has been working as Director of the Division of Ecological and Earth Sciences of UNESCO and Secretary of the Man and Biosphere Program for many years. In September 2012, after his retirement, he will arrive at the Center for Earth Observation and Digital Earth (CEODE) of the Chinese Academy of Sciences in Beijing, and embark on a new career as a special-retained foreign expert at the International Center on Space Technologies for Natural and Cultural Heritage (HIST) hosted by CEODE. As a category 2 center under the auspices of UNESCO inaugurated in Beijing in July 2011, HIST is unique in the world in its commitment to use remote sensing technologies to conserve and manage World Heritage sites. The following is a brief interview between Dr. Ishwaran and BCAS reporter Linda on June 12, 2012.

BCAS: *You've been working for the UNESCO's Man and Biosphere Program for many years. What do think of the status quo of biological conservation in China and East Asia?*

Dr. Ishwaran: Well yes, I have been working for that program, and before that I also worked for the World Heritage Convention of UNESCO. So I've been involved in conservation-related work for the last 35 years. For East Asia including China, given the fact that there are a lot of people here, its conservation performance is quite encouraging: I know that today in China the pandas are still there in the wild, the elephants are still there in the wild, but twenty years back their conservation prospects looked very bad. Despite the progress, we must also see the numerous threats and challenges for conservation in

the East Asian region, especially in the poorer regions in China and in countries like Mongolia. They still face serious conservation problems due to lack of human and financial resources.

BCAS: *What role should scientists play in biological conservation?*

Dr. Ishwaran: I think science should form the basis for conservation planning. But science alone is not going to be enough, because conservation is not only about plants and animals but about people. For conservation in natural areas of very remote places where communities are not very well-to-do, you have to think about people too. It is easy to formulate conservation solutions while you are sitting in a university or some research

¹ Mr. HONG Tianhua is now Deputy Director and Secretary-General of HIST. He used to work as First Secretary of the Permanent Delegation of the People's Republic of China to UNESCO in Paris from 2005 to 2010.

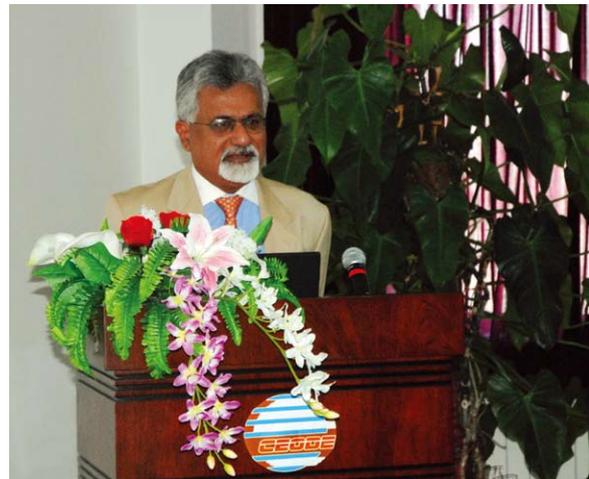
institution, but in the place where conservation has to happen, there are other players such as local authorities, local government and local communities who may think and view things differently from what scientists have envisioned. So I think scientists shall collect information, carry out research and develop some attitude toward conservation, and then bring their information and knowledge to discussions at the local, regional and provincial government level to help people find good solutions and to accommodate human needs. We have to accommodate human needs.

BCAS: Soon you'll start working as a foreign expert at HIST in Beijing. How can remote sensing technologies help conserve natural and cultural heritage? What will be your major goal at HIST?

Dr. Ishwaran: Remote sensing, particularly in the area of cultural heritage conservation, has been used for a variety of purposes. Special remote sensing techniques and technologies can help us identify places of important archeological and other cultural objects, not only on the surface (of Earth) but also below the surface. Remote sensing is also a tool for what I call “spatial planning”. Planning is very important for natural and cultural heritage sites, especially those located in the middle of populous cities, where their existence is threatened by other competing land uses. Therefore, remote sensing is a tool not only for understanding how things have changed from the past; it could also be very useful for building scenarios for the future and plan how the landscapes can look like. My major objective at HIST is to test out this idea. We'll bring in scientists in remote sensing and other technical fields, and enable them to co-operate with planners and policy makers at the local level. I'm looking forward to it.

BCAS: Why did you choose China, and how do you like the Beijing city?

Dr. Ishwaran: Well, I'm leaving UNESCO at the end of July. But I'm still interested in testing things out,



Dr. Natarajan Ishwaran addresses the opening ceremony of the 4th EABRN-UNESCO Training Workshop convened at GEODE in April, 2011.

some of the things I'm here talking to you. When I was in UNESCO I couldn't fully engage in country-level or place-level conservation work because I was at the international level – all those meeting and international events. So when I knew I was to leave UNESCO, I want to get involved in work at country and place levels. And China is a country I've been coming since 1989. I have Chinese friends like Tianhua, and he used to work with me in Paris and we have talked about some of these ideas before. So when I was about to leave, Tianhua¹ encouraged me to apply for the program (the recruitment program for foreign experts) in China, and fortunately I was chosen. I'm looking forward to this. I'm also looking forward to using this opportunity to build partnerships between HIST and other parts of the world.

Beijing is a big and nice city, and I like it because I've seen it change over my life time. When I came in 1989 there were lots of bicycles; now I don't see many. Change is a good thing. Well, I find the climate here pleasant, and I like Chinese cuisine, for instance the spicy food from Sichuan. Now my wife is working in Paris and we have two small children, and I hope they can come and stay with me for some time during my stay here at HIST.

To Scale New Scientific Heights and Mt Qomolangma in China: An Interview with Prof. Raymond Stevens

Prof. Raymond C. Stevens is a world-leading scientist in the structural study of G protein-coupled receptors and related drug design. For more than two decades he has worked at Harvard, University of California, Berkeley and the Scripps Research Institute and partnered with outstanding scientists from all over the world. As a successful applicant of the RPGE grant, he is going to work at the Shanghai Institute of Materia Medica, Chinese Academy of Sciences with his former students and other Chinese colleagues in Shanghai from 2012 to 2015. Besides science, his greatest ambition is to climb Mt Qomolangma from the China side in 2016.



Image Courtesy Raymond Stevens

Professor Raymond Stevens with Mt Qomolangma (also known as Mt Everest) in the background. Professor Stevens plans to climb the mountain from the China side in 2016 as one of his pursuits.

BCAS: *How did you get to know the “Recruitment Program of Global Experts”? Why do you choose to come to China and work at CAS?*

Prof. Stevens: Last year two of my Chinese students WU Beili and ZHAO Qiang were offered professor positions at the Shanghai Institute of Materia Medica and they asked me if I would help them start up their new labs focused on human G protein-coupled receptors(GPCRs). Chinese students have worked in my U.S. lab for 20 years helping me and I thought it was time for me to come to China and help them, and we had received a joint US-China biomedical research grant(NIH-NSFC) to support the collaboration. It was from this effort that I became familiar with the Global Experts program in China. Once in Shanghai, I observed that the energy and excitement about science is very real and incredibly high and so I thought it would be both fun and very productive to conduct more research in China.

BCAS: *So for the next three years, you are going to help Professors WU and ZHAO build up their labs at the Shanghai Institute of Materia Medica?*

Prof. Stevens: Yes. My first priority is to continue helping them build their labs and to help train their students in Shanghai. The future is in the next generation of scientist and so this needs to be the priority. In addition to helping Professors WU and ZHAO, I also have another former student from the U.S. named XU Fei who started a Shanghai biotechnology company called RuiYi focused on antibody therapeutics for GPCRs and I will continue to help her develop drugs in the area of fibrosis. Lastly, I am interested in establishing an international research center in Shanghai called *iHuman* focused on human cell signaling. This center will work from molecules to man, and bench to bedside to understand and develop new treatments to help mankind. The basic science goal is to understand how we evolved as humans and our how recognition developed through understanding human cell signaling evolution.

BCAS: *Do you see any barriers – for instance the language, food, local customs and research atmosphere – lying ahead for you, due to such a long stay in a quite different nation?*

Prof. Stevens: I have been visiting China for over 20 years and so I am familiar with the customs and traditions and also how life has changed in China over the past 20 years. I started spending a lot of time in China last year as a Chinese Academy of Sciences senior visiting professor at the Shanghai Institute of Materia Medica. For the past year I have been learning Mandarin 2 hours a day, 3 days a week. I am excited about the opportunity and do not anticipate any problems, The only limitation to research will be access to resources.

BCAS: *In recent years, the Chinese government has been working hard to lure top overseas scientists to do research in China. A large number of Chinese scholars working abroad have returned, and more and more foreign experts are coming to CAS – some for short visits; some, like you, for long stays or even joining the Academy as a full time researcher. What do you think are the key factors that drive foreign scientists to work in China, especially for a long period of time?*

Prof. Stevens: For myself, I love to do scientific research and make new discoveries, and I do not think as much about the geographical lines in the world. I also believe scientific research in basic and biomedical development should be a global effort funded by all

developed countries. I believe many other scientists have similar views and people want to do research where it is exciting and without resource limitations. It is critically important not to constrain the mind through distractions or resource restraint if we want to really push the limits and make the most significant breakthroughs. I believe an international effort is the best way to proceed forward in these global economic times.

BCAS: *I hear you love climbing mountains and running marathons. Last year you completed a 156-mile marathon across the Sahara Desert. Do you think such hobbies have helped build up your perseverance and pioneering spirit in scientific study? China is a country rich in high mountains and beautiful sceneries and I hope you have a wonderful time in China.*

Prof. Stevens: I absolutely agree that running ultramarathons across deserts and climbing mountains is like doing science. It is hard and takes time, knowledge, preparation, patience, and also perseverance. With such efforts, great things can be accomplished. I visited the Chinese side of Mt Qomolangma this past spring with my family, and I intend to climb Mt Qomolangma from the China side a few years from now.

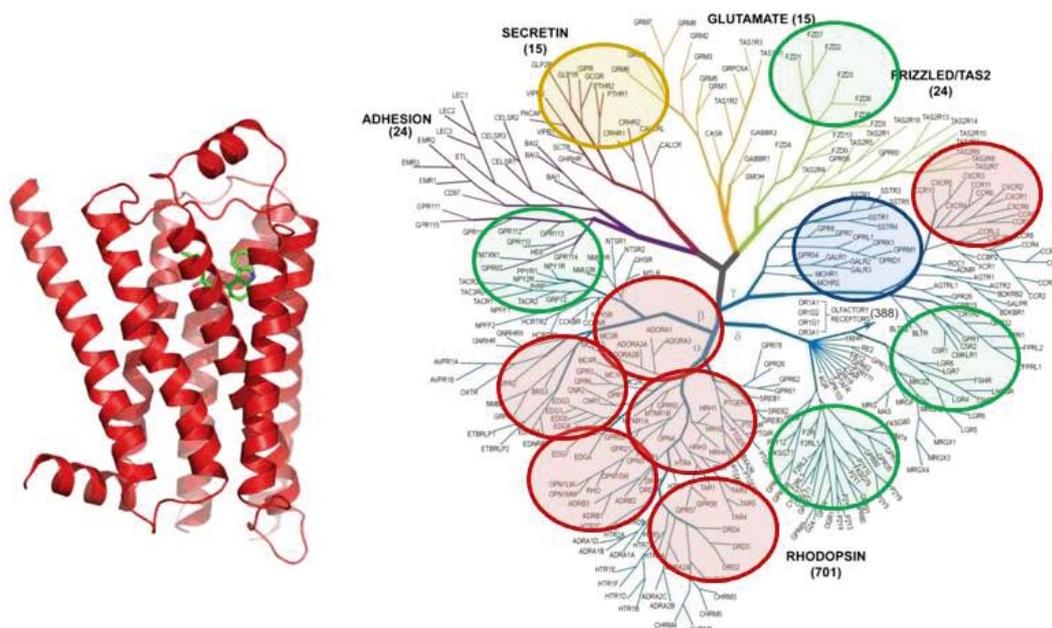


Image Courtesy Raymond Stevens

(Right) The human G protein-coupled receptor family, the largest family in the human genome that controls our vision, smell, CNS, hormone and 80% of all human cell surface signaling. (Left) Three-dimensional structure of a representative G protein-coupled receptor. These receptors bind different ligands with incredible selectivity using the same protein architecture.

Prof. Alexander Strunnikov: Drug Discovery Opportunities Lead Me to China

After working for NIH for more than 16 years as microorganism genetics expert, in late 2011, Alexander Strunnikov joined the CAS Guangzhou Institutes of Biomedicine and Health (GIBH) and embarked on cancer research that had enticed him for quite a few years. As he mentioned, the successful application of the RPF grant has played a key role, and that he needed only minor lifestyle adjustments to facilitate his work in Guangzhou.



Image Courtesy: Alexander Strunnikov

Professor Alexander Strunnikov.

BCAS: What made you decide to come to China and join GIBH at the end of 2011?

Prof. Strunnikov: There was a complex mix of factors that prompted me to make such a decision. First of all, while most of my career was dedicated to studies in lower eukaryotes and microorganisms, in the past five years (with the advances of cancer genomics) I became enticed by the idea to apply my knowledge to the translational research on human disease. Particularly, as my field of interest was chromatin and chromosomes, I got especially interested in the deregulation of epigenetic networks in human cancers. However, with my basic science training and microbiological background, it was difficult to make such a transition in the United States. The choice of GIBH, CAS was logical in that respect, as it offered me a streamlined access to cancer research in China, with a strong potential for drug discovery embodied by its Drug Discovery Center, favorable intellectual property rules, and existing strengths in chemical biology and stem cells. Incidentally, GIBH was

the only Chinese institution I have applied to. Second, I was led by an example. In the past several years a number of my colleagues, prominent Chinese American scientists, have moved back to PRC after 15-20 years spent in the US. Third, the Thousand Talents Program grant from the government of China has played the decisive role, easing the worries of making the actual transition and having sufficient startup funds.

BCAS: You've opened several new directions on cancer research at GIBH. Is that going to be the focus of your study in Guangzhou?

Prof. Strunnikov: Yes. The past five years have brought significant technological breakthroughs in the area of genome and epigenome research. As a result, we now know a great deal about mutations that are associated with different diseases, different types of cancer in particular. On the other hand, we witness a growing capacity of medicinal chemistry and the steady increase in the number of designer drugs, i.e.

drugs specifically “engineered” to target a specific protein that causes or marks a particular disease. My hope is to discover chemical compounds that can target and inhibit chromosomal proteins that similarly mark cancer stem cells or could be a factor in cancer onset and development. I have several favorite target proteins to explore in that respect. We have also initiated work to map new epigenetic pathways that are linked to tumorigenesis.

BCAS: How’s your work and life been in Guangzhou for the last six months? Did you find any barriers, for instance the language, food or local customs, and how did you deal with them?

Prof. Strunnikov: Overall, I enjoy life in South China, and in Guangzhou in particular. It is a modern vibrant city with a clear upward trend with respect to the internationalization, ecology, and quality of urban life as a whole. The biggest problem for me is language barrier. Because it affects not just my social functions but my work productivity as well, I wish that CAS, or MOST, or some other interested entity has established some kind of language immersion program for new global recruits, such as myself. An experience of Alexander von Humboldt-Foundation in Germany comes to mind as an example of an approach to such a problem.

A more personal aspect of the transition during the past six months for me was learning to live without driving a car. While I grew up in a big city, completely car-independent, in the past twenty years I wholly embraced the car-centered lifestyle in the US. So, once I get my Chinese up to speed, I plan to get a set of wheels to match.

BCAS: In recent years, the Chinese government has been working hard to lure top overseas scientists to do research in China. A large number of Chinese scholars working abroad have returned, and more and more foreign experts are coming to CAS – some for short visits; some, like you, for long stays or joining the Academy as a full time researcher. What do you think are the key factors that drive foreign scientists to come and work in China, especially for a long period of time?

Prof. Strunnikov: I am not an expert in socioeconomics or politics, but the simple truth is that people who



Image Courtesy Alexander Strunnikov

Professor Alexander Strunnikov in front of his new lab in June 2012.

are entrepreneurial at heart always look for new opportunities. We may see opportunities in a number of seemingly disconnected factors. As I mentioned, for me it was scientific freedom and a promise of personalized clinical research. For some – it is, universally, money, a shot at financial success. I can also assume that many talented scientists overseas simply long for secure employment with stable long-term material support for their research. In essence, the success of any scientific research program resides with its ability to generate, support and develop innovation. Such a mission is multi-factorial, and the positive outcome is by no means guaranteed. Nevertheless, the steps taken by China in recent years in the direction of scientific globalization are, in my opinion, steps in the right direction. These, for example, include cooperative grants with foreign institutions, graduate student exchange, or the direct recruitment of foreign talent to China.

BCAS: Except for such recruitment programs, how can China and CAS attract more elite researchers from abroad and boost scientific cooperation?

Prof. Strunnikov: From my experience I could tell that CAS could probably do more to shorten the period of adjustment and integration for a foreign scientist by providing more incentive or direct logistical support to host institutions. I have also mentioned in my letter to the Thousand Talents Program, that it would be beneficial to offer professorships at local universities to foreign recruits. This way, they could get involved in part-time teaching as well as develop student base for their research projects.