

## Dr. Shirley Telles, Yoga Researcher

*Shirley Telles, MBBS, MPhil, PhD (Neurophysiology), DSc (Yoga), is the director of research at Patanjali Yoga Peeth, Haridwar, Uttarakhand in the north of India. She also heads the ethics body for research in India, called the Indian Council of Medical Research, which has specifically funded a center for advanced research in Yoga and neurophysiology where research on meditation is a special focus.*

*When I contacted Dr. Telles for this interview compelled by the sheer volume of Yoga research she publishes, she quickly accepted via email with an attached list of her published research on Yoga that included 95 studies. Gulp. We then spoke by phone.*

**Julie: What is your secret to publishing so much in the field of Yoga research?**

Dr. Telles: The chance to combine two things that I like: Yoga and writing.

**Julie: What made you decide to have a research focus on Yoga? Did you grow up with Yoga?**

Dr. Telles: I didn't grow up with Yoga at all. My mother had and still has a book on Yoga, but I had never read it. My background is in conventional medicine and then I got into a research career in order to study neurophysiology. My interest was to do a basic degree in medicine and follow that with a PhD at the National Institute in the south of India. I was interested in understanding what happens to the brain in different states of consciousness such as asleep and awake. It was decided that I would study the neurophysiological changes in people who were comatose. But as it turned out, I didn't find that inspiring. So then I asked my guide, is there anything else that you can think of that I could do? He said I could do something in the area of Yoga. At that stage I did not know anything about it so he gave me books to read and arranged for me to meet a person who practiced Yoga. I got really hooked by the theory and by the practice.

**Julie: Do you believe that science can explain consciousness?**



Dr. Telles: In a very simplistic sense, a neurologist understands consciousness as an awareness and responsiveness to one's environment. To that extent, science can study the spectrum of consciousness. But consciousness is something far beyond that, and I believe that there are various dimensions of consciousness that current scientific tools cannot study.

**Julie: Why do you choose to study higher states of consciousness induced by meditation?**

Dr. Telles: The sage Patanjali has described that as a person progresses into higher states of meditation certain faculties become particularly active, like the ability to pay attention, to direct one's attention at will, and so on. If this is really so, it would have a number of applications in daily life and even in therapy.

**Julie: Please talk a little more about the purpose of researching information found in classical Yoga texts. Could some of the information be wrong? Misinterpreted?**

Dr. Telles: It's important to understand whether these writings about the effects of

Yoga practice which are very old (for example, Patanjali's *Yoga Sutras* probably originated around 900 BC), would hold up today and can be verified in the laboratory. The classical texts are based partly on the experiences of the sages, passed on by word-of-mouth, until this compilation by Patanjali. The environment at the time was very different from the environment today and in a sense our physiology itself, our bodies, have evolved. The level of activity, the types of stresses to which we're exposed, the types of foods we eat are different now. Much has changed.

**Julie: You're now able to work in this vein at Patanjali Yoga Peeth, are you not?**

Dr. Telles: It is an opportunity really, to look in-depth at practices emphasized there such as the importance of breath and *pranayama*. And, yes, I've been looking at that from a number of the ancient texts. I've been trying to read in more detail one text in particular which dates back to so many years ago that its origin cannot be traced, and that's the *Swara* Yoga text. *Swara* means breath or the sound of the breath.

**Julie: Besides the classical texts, where do your research ideas come from?**

Dr. Telles: We have a patient population so we can plan studies assessing whether Yoga is effective as a therapy, and the mechanisms involved. Other projects are often need-based. Institutions we are affiliated with approach us to have a Yoga program for a particular group and then I say let's convert it into a research project so that we can really understand to what extent the program is benefiting the people. We evaluate the effects at different stages so that we can modify it, if needed.

In India there are quite a large number of young people working in the software industry. Many of them are in their early 20's and have already developed severe musculoskeletal problems—even as severe as carpal tunnel syndrome—, very high levels of mental stress, many of them on anti-anxiety medication, very unhealthy life-

styles, and so on. Some of the software companies in India have approached us to develop and evaluate a Yoga module for them. We did put together a 45-minute module targeting visual strain, musculoskeletal discomfort, and mental stress.

**Julie: Do these become long-range studies?**

Dr. Telles: In some cases. One of the really big difficulties we encounter is a high drop-out rate—take computer professionals for example. We tried to communicate with them and do a follow-up at least a year later. Most of them were in different parts of India. Some of them were out of the country so the follow-up was virtually impossible. We did try to get in contact with them by email but that is very difficult. So, one of the things which is difficult in Yoga research of this kind is the long-term follow-up.

**Julie: What are some other challenges in researching Yoga?**

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trial—which is what is expected in order to publish the findings in a good journal. It is very difficult to have a situation where you can actually randomize people to Yoga and to say, a conventional treatment because people usually either come forward for Yoga on their own or, if you do the randomization, sometimes you find some people are unwilling to be in the Yoga group and want the conventional treatment. It's not like a drug trial where you have a drug and a placebo. Also, I have certain doubts about how well this model [randomized controlled trial] really suits studies on Yoga.

**Julie: Should Yoga research have a place in Yoga therapy training programs?**

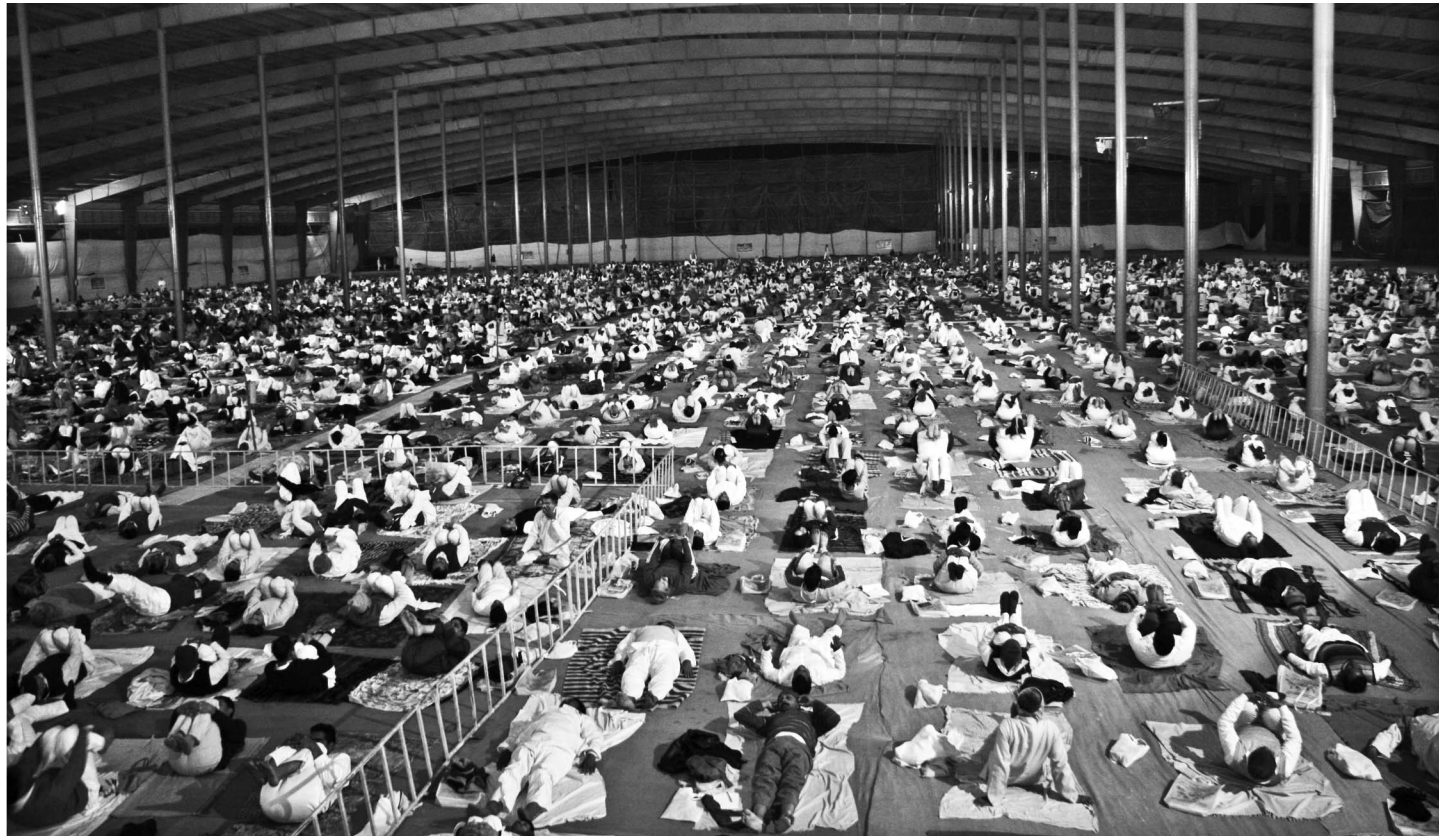
Dr. Telles: Undoubtedly, yes. In fact, in India we are now moving toward evidence-based Yoga therapy. The corporate hospitals in

India are ready to use those practices that have been researched and found to be useful in the Yoga module in larger hospitals. For example, cardiologists, who want to refer patients, first want to see the available literature on Yoga for cardiac problems. We are in the process of making such a compilation based on the available literature.

Those in Yoga therapy training programs should be aware of studies that have shown the good effects of Yoga practice as well as those which have shown negative effects or adverse effects of the practices. If they're not aware of these studies, there is a risk that they could be teaching people practices that are not so good for them.

**Julie: What happens to the spirituality component of Yoga in all of this?**

*(continued on page 17)*



Hall at Patanjali Yoga Peeth, Haridwar, Uttarakhand, India where 10,000 can practice Yoga.





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## Interview *continued*

Dr. Telles: It's very difficult to say. Spirituality is an inherent part of Yoga. One of the things which may surprise you is that when we do public programs in India, we cannot always emphasize it because when we talk about spirituality it often gets linked with religious beliefs and the people in India who may attend a Yoga program will be from different belief systems. We have people of Islamic belief or Christians as well as Hindus and if one emphasizes the spiritual aspect sometimes people do not like it. So instead the emphasis is placed on principles of living, including philosophical principles which are good and applicable to anyone anywhere, irrespective of their religious beliefs. This is good, as this is really the essence of spirituality.

**Julie: You wrote an essay in that regard and it won the John Templeton Foundation Award for creative ideas in neurobiology. Would you comment on that, please?**

Dr. Telles: The gist of the research idea was that using neuro-imaging I would like to compare what happens to the brain when people do either prayer or meditation related to different faiths. It need not be specific to any one belief, but could be related to beliefs of Hinduism or Buddhism or Christianity or Judaism, or whatever. In India we have people representing almost every faith, every ritual belief, and so I thought that it would be nice to draw people from different faiths and actually see if we could show that irrespective of religious practices, the changes in the brain and the changes in the body are fairly comparable. It would have a unifying effect.

Since then we have applied to the Templeton Foundation for funding. If the project is funded we would probably have at least some answers a year from now.

**Julie: Does it trouble you that making available on the Internet the results of your Yoga research may encourage people to try Yoga practices without knowing much, if anything at all, about Yoga?**

Dr. Telles: It does. And to my email address, which is cited in most of the publications, I get large numbers of such queries. There's just a single, very clear, straightforward message that we give to everyone who sends a query about using a technique in a certain way. The answer is that one should never learn Yoga or practice it based on something you've read until you've contacted a qualified teacher who can verify that what you're doing is alright because while Yoga can actually help in the management of a large number of conditions if done properly, it is equally likely if it is done in a wrong way it can create damage. I'm really clear about this.

**Julie: What research could you point out that you feel most proud of?**

Dr. Telles: I will cite one study in which I felt involved both academically and personally. One month after the Boxing Day tsunami in South Asia, we went to the Andaman Islands, an archipelago in the Bay of Bengal, to give them medical relief, first of all, and Yoga, if possible. At this stage we had no clear plans to do a research study. There



Featured presenters at 8th Integrated Medicine Symposium: Yoga and Qi Gong, June 27, 2009, organized by the Chinese University of Hong Kong (Hong Kong). Dr. Telles fourth from left and Sat Bir Khalsa, fifth from left.

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were about 1,000 people housed in a large camp, with very minimal facilities. They were keeping the camp clean and were getting food supplies. However there were frequent aftershocks and people were all very fearful and hopeless about their future. We ended up teaching them Yoga, documenting the findings, and publishing them.

More recently we have seen that Yoga can also help people who are subjected to repetitive trauma, in the form of floods in the north Indian state of Bihar. I am pleased to say that a week of Yoga practice reduced their feelings of sadness and reduced their anxiety. These results have appeared in *BMC Psychiatry* this year [2010]. Unlike the earlier study on tsunami survivors, I did not travel to Bihar myself, so my involvement here was more academic.

In connection with these studies, I may mention that one of the most satisfying outcomes was when I was approached by a person in the U.S. after the southern states were affected by a hurricane. The paper on tsunami survivors was out and someone contacted me and said I would like to use your work. I think she did and we were in touch for a while, but I never really got to know if it helped the people or how long she carried on with it. It is very satisfying if research reaches people.

**Julie: What about effects of Yoga research on Yoga?**

Dr. Telles: It depends on the extent to which the findings reach the common man. In India we have quite an active press. I am often queried and very soon after an article, based on the manuscript, is published in a widely read paper, then there are a large number of people sending queries and wanting to practice Yoga for the reason mentioned in the study. I don't know how it works in the west, but my experience has been within maybe the first four months after I publish a paper I get quite a number of queries from magazines and newspapers to cover it.

**Julie: Do you foresee Yoga becoming part of the mainstream of health care?**

Dr. Telles: We're moving that way. In the last five years it's been much quicker, probably because on one side people are seeing benefits of Yoga and on the other side people are frustrated with certain diseases in which conventional medicine doesn't bring about the relief to the extent they would have imagined. So the two have combined to reach a state where people are now much more receptive to Yoga as a therapy and yes, I do believe that the future is good.

**Julie: Would you share a few of your goals with us?**

Dr. Telles: There are many practical applications that I want to look at. I'm very keen on looking at Yoga for children, and in fact Yoga Peeth is very keen on introducing it in schools. I believe that change should happen early in life. I would like to have begun practicing Yoga earlier than I did. I would like children to learn Yoga as early as possible and see even more how it impacts their lives over a period of time. I also feel that promotion of positive health is important in the prevention of disease. We can study people who are regularly practicing Yoga now and over a five-year period see how many of them develop a disease compared to a group of people who do not practice Yoga. Over here we get really large numbers coming to the institution, easily 3,000 come for a camp—you probably can't imagine such numbers. We're planning to monitor the effect Yoga has on their lives.

**Julie: What would you like to say in closing?**

Dr. Telles: If you have a way of making Yoga a lifestyle in its entirety probably the benefits will be many, many times more than what we see when we separate the components and have just, say, a 30-minute practice every day. I do feel very strongly about that. **YTI**

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