

BIO-DATA: Dr. SHARADA SRINIVASAN



Name: Sharada Srinivasan

Permanent Address:

612, 11th cross, Kailas, 2nd Main, J.P. Nagar,
Bangalore 560078, India

Tel: 0091-80-6582829; email:

sharadasrinivasa@yahoo.com

Current Occupation and address

Exponent and researcher of classical Indian dance
form of Bharata Natyam

Researcher in Archaeometallurgy, Archaeomaterials
and inter-disciplinary studies in science and art;

Brief Bio

Dr. Sharada Srinivasan, Faculty Fellow, National Institute of Advanced Studies, Bangalore, India is a unique example of a 'Renaissance' woman combining diverse interests and abilities in dance, science, archaeology, art. She is an acclaimed performer of the south Indian classical dance style of Bharata Natyam. Her research interests and qualifications include the links between dance and temple sculpture and art, the use of musical materials for dance, and the implications of archaeological science, metallurgy and materials characterizations of ancient artifacts for history of art, crafts and performing arts.

Fellow, National Institute of Advanced Studies,

Indian Institute of Science Campus. Bangalore 560012, India

Email: sharada@nias.iisc.ernet.in; tel: 0091-80-22185125; fax: 0091-80-22185028

Education:

-Ph.D. (1996), in Archaeometallurgy, Institute of Archaeology, University College London, UK. Thesis title: "The enigma of the dancing 'pancha-loha' (five-metalled) icons: Art historical and archaeometallurgical investigations on south Indian metal icons'. (Recommended by examiners for publication and in press).

Master's (1989), School of Oriental and African Studies, University of London in Art and Archaeology (Distinction).

-Bachelor of Technology (1987), Indian Institute of Technology, Mumbai, in Engineering Physics

Prizes

Materials Research Society of India (MRSI) Medal 2006

Malti B. Nagar Ethnoarchaeology Award (2005)

MRS Graduate Student Award, 1997, Materials Research Society, USA

Flinders Petrie Prize and Medal from University of London, 1989

Selected invited lecture cum dance performances

Lecture-cum-dance recitals on:

- 'Art & Science of Chola bronzes', Royal Asiatic Society, London, Feb 6th
- <http://narthaki.com/info/articles/art184.html>
- 'South Indian bronzes: concepts of inner and outer space', Indian Arts Circle, London
- 'Siva as cosmic dancer'. Royal Academy of Arts, London, 19th Jan 2007 coinciding with the exhibition on Chola: Sacred Bronzes from Southern India, Jan 2007
- The lecture cum-Bharata Natyam dance recital entitled 'Amidst the "Musical Pillars" of the Hampi temple complex' which explores the scientific and artistic aspects of the so-called 'musical pillars' at the Hampi temple complex in Karnataka:
 - The Singing Pillars of Hampi, Jan 2007, Indian National Trust for Art and Cultural Heritage, INTACH Belgium Chapter, Lueven, Belgium
 - Oct. 2006 "Rock" music & Ritual Dance", UNESCO workshop on Science in Cultural Heritage, International Centre for Theoretical Physics, Trieste
 - Sept. 2006. China Conservatory of Music, Beijing
 - May 13 2005 Nehru Centre, London
 - 19 July 2005. Society for National Awareness, Kolkata
 - July 24, 2005. 22nd International History of Science Congress, Beijing
 - Aug. 17. 2005. International seminar on 'Life, Biology and Consciousness', supported by John Templeton Foundation, Bangalore
 - Sept. 1. 2005. University of Hyderabad at seminar on 'History of Science and Technology in India'
- Given talks/demonstrations animated by *abhinaya* or expressive art of Bharata Natyam; for e.g. on 'The cosmic dance of Siva: an icon of science and beyond' for SSQ-III meet, NIAS, Bangalore, 2003, and on book readings from translations of Tamil writer Kalki's 'Ponniyan Selvan', a historical drama set in the time of the Imperial Cholas (2002-3).
- Performed under the aegis of Singapore Fine Arts (1983), School of Oriental and African Studies & Institute of India Culture, London (1988), Mridula Shastri (Lockerbie Memorial) Fund, Oxford (1988), Indo-Austrian Society, Vienna (1991), Indian Institute of Technology, Mumbai (1986), World Wild Life Fund, Mumbai (1985) and others
- Acted and performed Bharata Natyam (classical South Indian dance) in documentary film-cum-drama on 'Nuclear Winter' screened on Doordarshan National Television in India in 1987

Some lecture-cum-dance demonstrations, dance performances related to dance

- 'Siva as Cosmic Dancer: Archaeometallurgical and astro-archaeological insights on South Indian bronzes'. Royal Academy of Arts, London coinciding with exhibition on 'Chola: Sacred bronzes from Southern India', Jan 2007

- 'Art & Science of Chola bronzes', Royal Asiatic Society, London, Feb 6th
<http://narthaki.com/info/articles/art184.html>

- 'South Indian bronzes: concepts of inner and outer space', Indian Arts Circle, London

- 'Dance as ritual in negotiations of 'inner' and 'outer' space: insights from south Indian pre-history to present day', International conference on 'Change and Stability in Rituals', Heidelberg University and Max Mueller Bhavan, New Delhi. <http://narthaki.com/info/articles/art170.html>

-‘Science in Culture: Archaeometallurgical and archaeo-astronomical insights on South Indian metal icons’. UNESCO conference on Science in Culture Heritage, International Centre for Theoretical Physics, Trieste, Italy. 23-28 Nov. 2006

-‘Unravelling martial arts swords from Kerala’ at International conference on ‘Metallurgy: A touchstone for cross-cultural interactions’ at British Museum, London, April 28-29, 2005

- **Research Publications**

- Srinivasan, S. 2006. The Art and Science of Chola Bronzes. *Orientalism*. Vol. 37 No. 8, 46-55. <http://www.orientations.com.hk/thisiss.htm>
- Srinivasan, S. 2006. Megalithic high-tin bronzes: archaeometallurgical and ethnoarchaeological investigations manufacturing technology and musical and artistic significance, *Man and Environment*, 2006
- Srinivasan, S. 2006. Art and archaeometallurgy of Nataraja: exploring visual metaphors for consciousness. In: S. Menon (ed.). 242-54.
- Srinivasan, S. Mirror: Metal mirrors from India. In Selin H. (ed.): *Encyclopedia of Non-Western Science*, Springer Verlag (in press).
- Srinivasan, S. Aesthetics and the foundations of science: Insights from Indian metallurgical traditions. In: Sreekantan, B.V. (ed). Foundations of Science. *Project of the History of Indian Science, Philosophy and Culture (PHISPC)*. (in press).
- SRINIVASAN, S. 2004. ‘Siva as cosmic dancer: On Pallava origins for the Nataraja bronze’. *World Archaeology*. Vol. 36(3): 432-450. *Special Issue on ‘Archaeology of Hinduism*.
- SRINIVASAN, S. 2005. ‘Nataraja reveals cosmic secrets’. Physics and Metaphysics. *Best of Speaking Tree*. Mumbai: Times Group Books
- SRINIVASAN, S. 2004. ‘The cosmic dance of Siva: an icon of science and beyond.’ In S. Menon, B.V. Sreekantan, A. Sinha, P. Clayton and R. Narasimha (eds.) ‘*Science and Beyond*’. Bangalore: National Institute of Advanced Studies, pp. 98-105.
- SRINIVASAN, S. 2001. Dating the Nataraja dance icon: technical insights. *Marg-A Magazine of the Arts* 52(4): 54-70.

The Week, Rhythm divine

- Jon Stock/London (01-04-2007)



DANCE

Dr Sharada on Nataraja and metaphysics

There was an air of genuine excitement when Dr Sharada Srinivasan stepped up to the lectern at the Royal Asiatic Society in London. The organisation has hosted many important events since its inception in 1823, but few could have rivalled

Sharada's lecture for its sheer drama.

Throughout her talk on the 'Art and Science of Chola Bronzes', which coincided with an

exhibition of Cholas at the Royal Academy of Arts in London, she illustrated her points with poetry and graceful hand movements. She danced for 20 minutes after the lecture. Billed as a dance-lecture, the event kept with the theme of Nataraja as a lyrical synthesis of art and science. It was the late historian Ananda Coomaraswamy who coined the phrase 'the Cosmic Dance of Siva' to describe Nataraja, adding that the icon was poetry, but nonetheless science. Since then, many have continued to explore this theme including Fritjof Capra, who wrote in his *Tao of Physics* that "for modern physicists, Siva's dance is the dance of subatomic particles". Sharada, a Fellow of the National Institute of Advanced Studies, took this approach to an altogether higher level with Dr Nirupama Raghavan, the astrophysicist and former director of the Nehru Planetarium, who died last month.

For the first time, south Asian metal artefacts were subjected to careful micro-drilling to trace element and lead isotope analysis to scientifically date different styles of icons to specific periods. In an article in *THE WEEK* in 2003, Sharada revealed that the metal icon of Nataraja, dancing with his leg extended, had already emerged in the 7th century Pallava period. It had previously been thought of as a 10th century Chola innovation. Nirupama was clearly intrigued by the article, particularly because Sharada had briefly alluded to the astrophysicist's own work on Nataraja. At that time, Nirupama was pursuing the theory that some of Siva's imageries in metallic icons were inspired by stars, especially the Orion constellation. "It is as if our ancestors used the star positions as wire frames in the graphic design of the icons," she was quoted as saying.

According to Nirupama, said Sharada, the supernova explosion in the region of the Orion constellation in 1054 may have impacted the religious poetry, rituals and depictions related to Nataraja's cosmic dance. "She thought the processional chariot festival which takes place every December at the Nataraja temple in Chidambaram was directly linked to the dramatic supernova, which would have suddenly appeared in the sky, remaining bright enough to have been seen during daylight for 21 days," she added.

Sharada told the audience that a star chart for Orion dated 800 AD was mapped on to a Nataraja bronze image which she had dated, using lead isotope analysis, to the Pallava period (800-850 AD). "Apart from implying high astronomical competence, it also seems to ratify the Pallava dating, possibly making this the earliest known Nataraja bronze image," she said.

The 'astonishingly good fit', as she calls it, prompted gasps of delight among the audience including Professor Tony Stockwell, president of the Royal Asiatic Society. The ghostly composite image of Nataraja was projected on the wall, a symbol not just of science and art harmoniously joined, but of an extraordinary meeting of minds.

Paying tribute to Nirupama, Sharada said: "It is almost as if Nirupama lingered on until I had at least finished my tour. I have learned life lessons about cosmic creation and destruction-the exhibition opened on my daughter's birthday on November 7 and closed with Nirupama's passing away." She also dedicated a Nataraja poem by M.S. Subbulakshmi to Nirupama.