

## Anjali Shiras (1962–2020)

Anjali Shiras, senior scientist at the National Centre for Cell Science (NCCS), Pune passed away on 2 October 2020 due to cardiac arrest after courageously battling COVID-19 infection. She was 58 years old.

Shiras hailed from Nagpur, and received her Bachelor's degree from Mumbai and Master's degree in Microbiology from Pune University. She completed her Ph.D. from the Cancer Research Institute (CRI), Mumbai.

Shiras began her professional career in 1989 in NCCS (erstwhile National Facility for Animal Tissue and Cell Culture-NFATCC) as scientist B. She embarked on a challenging area – non-coding RNAs – which was still an emerging field. In collaboration with L. C. Padhy (TIFR, Mumbai), her group identified a long non-coding RNA pair – which they named Ginir and Giniras (genomic instability inducing RNA/antisense RNA of Ginir). Being a concept not known to many, the existence of such an element was not easily accepted by the scientific community in the country. According to Shekhar Mande (DG CSIR and former Director of NCCS), 'had it not been for the severe unjustified scepticism that she received in her early career, she would have been labelled as one of the pioneers of non-coding RNA biology field worldwide'. But Shiras continued to work hard towards understanding the role and mechanisms of Ginir. She strived tirelessly for almost 25 years to bring the project to a logical conclusion. Ultimately, she along with her team succeeded in unravelling a hitherto-unknown mechanism of oncogenesis mediated by a long non-coding RNA. They also established a unique role of Cep112–Brcal interaction being modulated by Ginir RNA in maintaining mitotic fidelity. The results were published in the *PLoS Biology* in 2018, a successful conclusion to efforts of almost

two decades. With her hard work and perseverance, Shiras carved a niche for herself in the field of non-coding RNA. She believed that scientific research should be done with integrity, honesty, trust and curiosity.

Another research area that was close to her heart was glioblastoma (GBM). She focused on studying the microenvironment of GBM tumours in context with extracellular vesicles, interaction between glioma stem cells and vascular endothelial cells, role of miRNA-34a and signalling pathways such as wnt in the proliferation and growth of tumour cells. Her group also performed secretome analysis in human GBM cell lines to explore the possibility of identifying biomarkers for GBM. Patent applications have been filed for some part of the work on Glioma stem cells.

More recently, Shiras moved into the area of induced pluripotent stem cells (iPSC) and garnered the expertise to develop, culture and drive these cells into various lineages. Her group has been successful in establishing and characterizing two human iPSCs of Indian origin by the reprogramming of CD4<sup>+</sup>T cells. These iPSC cell-lines are valuable in drug development and disease modelling studies. As iPSC cell lines are in great demand, she was planning towards their commercialization. She also worked on developing a novel strategy for the reprogramming of somatic cells to induced pluripotent stem cells, a project that was funded by the DST-UKIERI scheme.

Shiras has authored more than 40 publications, many of which are in prestigious, high profile journals. She was resourceful and had extramural funding from various government and non-government agencies. She had a number of collaborations with various institutions, including NCL (Pune), AFMC (Pune), KEM Hospital (Mumbai and Pune) and an international collaboration

with South University, Bath, UK. Shiras supervised and mentored many Ph.D. and Master's students. She inculcated good scientific values in them and taught them that no shortcuts or compromises for fast success could lead to good science. In her later years at NCCS as a senior scientist, Shiras also shouldered many administrative responsibilities.

She was a member of many scientific associations in the areas of neuro oncology and stem cell biology, and actively participated in national and international conferences regularly. Shiras's talks and lectures in various forums were highly appreciated. Her scientific contributions earned her respect from many senior, eminent scientists in India and abroad. The Founder Director of NCCS, Dr Ulhas Wagh, in his message mentions 'I will remember Dr Anjali as a brilliant and hardworking scientist genuinely interested in science. NCCS was fortunate to have her longstanding association.' Members of various scientific organizations have expressed shock over her untimely death.

Shiras's affectionate, friendly and helpful nature made her popular among her students and colleagues. Her sudden death leaves a void that is difficult to fill in the scientific community, NCCS and among her friends. In the words of Dr Manoj K. Bhat (Director NCCS), 'She will be sorely missed by the NCCS family and scientific community. She will be fondly remembered as a passionate human being, a brilliant scientist and a wonderful colleague.'

Shiras is survived by her husband and daughter.

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