



## Prof. Preeti Aghalayam

### The first woman to head an IIT

**P**reeti Aghalayam, the director in-charge of the newly established IIT Madras campus at Zanzibar, Tanzania is the first woman to lead an Indian Institute of Technology. An esteemed alumna of IIT Madras, she has achieved an extraordinary milestone. This international campus in Zanzibar island, off the east African mainland is the result of a partnership between India and Tanzania, with our country offering scholarships for citizens of Tanzania to study in various degree programmes at this campus.

"I believe that this educational bond will ensure that we stay strong and it's a strategic kind of move," says its Director Dr. Preeti.

Born to academicians parents, Preeti recalls her childhood days, "I was chatty and curious and for our parents there were too many questions." Her father late Dr. Janardhan was a chemistry professor at the Regional Institute of Education (RIE), Mysuru and her mother Dr. Rama taught linguistics. Having grown up in a family with a positive outlook, Dr. Preeti Aghalayam aims to build an

environment where young people are encouraged to look beyond marks and lucrative jobs and tap into inventive side as she did all those years ago.

Preeti Aghalayam completed her B.Tech in chemical engineering from IIT Madras in 1995 and soon acquired M.S. in Chemical Engineering from University of Rochester, New York in 1996. Later she received her Ph.D. degree from the University of Massachusetts, Amherst, USA in 2000. Soon after completing her post-doctoral research work at Massachusetts Institute of Technology, Cambridge in 2002, she returned to India to join as an Assistant Professor at IIT Bombay in the Chemical Engineering department. She spent the next eight years teaching there till she moved to her alma mater in 2010.

Preeti's research work is in the broad area of detailed kinetic modelling for industrially relevant systems. Her group focuses on coal gasification, catalytic converters and combustion as the main areas of research. The group philosophy involves the design of 'smart'



laboratory scale experiments and sophisticated simulations. Among her co-workers and students, Aghalayam is known for her incredible passion for her subject as well as research and methodical thinking. Her main focus areas have been in automotive sector after treatment in the catalytic reduction of nitrous oxide (NO) from fuel-lean engines; carbon black formation, soot in fuel-rich flames and underground coal gasification. She has several international publications to her credit and has authored a book *Mathematical Modeling for Underground Coal Gasification*.

Beyond her academic pursuits, Preeti has a strong sports background and was an avid basketball player during her school days. She is also an accomplished marathon runner and a blogger. In an interview, this running enthusiast says, "Running is everything for me as it helps me shed off the stress. If I am under a lot of stress, my family asks me to run and come back. Running makes me feel human again."

Prof. Aghalayam is also the nodal officer for the 'Gender Advancement for Transforming Institutions' initiative at IIT-Madras.



It seeks to work for advancement of women in the fields of science, technology engineering and mathematics, and to develop and implement policies and address issues relating to the same in a systematic and timely manner. She believes that creating "physical spaces" where men and women could study together comfortably and ensuring that all information and opportunities were available to all parties equally is important. In terms of faculty hiring and recruitment, the attitude of "sitting and waiting for excellent women candidates just won't cut it since it fails to account for hidden barriers in society. It's important to have a little more pro-activeness in faculty hiring so that the applicant pool can be filled with strong women candidates, prompting them to explore us (India), instead of finding something in Europe or the US," she explained in an interview.

The Principal Scientific Advisor's office has recognised her as one of the 75 Women in STEAM (Science, Technology, Engineering, Arts and Mathematics) through the 'She Is' book series. Narrating personal stories of courage, hope and determination, this book talks about the personal and professional struggles of women who did not have it easy but who for sure are role models for every girl who aspires to work in one of these disciplines.

This book series aims to provide young women with more role models, to make visible women's leadership and to stimulate interest in the Sustainable Development Goals. "I am from Mysore and like my daughter says – it is a pastoral land far away from any action. So, I've always constantly felt like my English wasn't good enough, my math wasn't up to par, and my



writing skills were questionable. Somehow, I've always been able to conquer this imposter syndrome and get on with life. You just have to keep your head above water and stay in the clear," encourages Preeti.

She received the prestigious Young Engineer Award of Indian National Academy of Engineering and IChE Young Achiever Award, Indian Institute of Chemical Engineers, Mumbai, 2007. She has been bestowed with Amar Dye Chem Award for excellence in Basic Research and Development in Chemical Engineering in 2008.

Dr Preeti reinforces that it is time we celebrate women research scholars who jump through many hoops, be it the pressures of marriage or pregnancy! Rewarding excellence mindfully and encouraging women who have not dropped out and stayed longer motivates everyone to follow their footsteps. "I remember being super excited about everything – starting my undergrad at IITM and grad school abroad, and coming back to teach at the IITs. Obviously there have been instances that dampen your enthusiasm and take a toll on your spirit. But I think, having a positive outlook (I always do) and just braving the ordeal is the best way to deal with it. If there is something worth fighting for, you should go for it, that's what I have believed", insists this role model academician and administrator.

