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 **Esq**
Pole vault**By Srabana Lahiri**

If you are impressed by the 'Kashmir se Kanyakumari' bit from people who have gone places, go global and meet **Pallamraju Duggirala**, a research scientist at the Center for Space Physics of Boston University.

His work on the daytime occurrence of Aurora, the polar lights, has taken him to the North Pole and South Pole — literally to the opposite ends of the globe! Just back from Greenland on a mission to measure daytime Aurora Borealis, Raju and his team made the first daytime observation of the sunlit cusp, using HI-RISE (a high

resolution spectrograph developed by them) and initiated a new field of research in daytime optical studies of the upper atmosphere.

Says the scientist about his sojourn, "Contrary to its name, Greenland is not green! It was named Greenland mainly to encourage people to go there. Most of it is covered by ice caps and the native people live in igloos. Ice acts as a good thermal insulator and the inside of the igloo is warm, even though the outer temperatures are sub-zero. Life is different from Antarctica as Greenland is more accessible. At least in some medical emergency, you can be evacuated."

In 1993-1994, Raju spent two months aboard Maitri, the Indian research station in Antarctica. That was before he'd gone to the US. "The selection process was stringent," remembers Raju, "We had to submit a proposal to the Department of Ocean Development, outlining the specific work we were going to do, its national relevance vis-a-vis the international scenario. Once the logistics were approved by a high-level national coordination committee, the President of India had to give the final nod. We were then given snow-ice training in the Himalayas to help us identify the risks of staying in a climate with an average summer temperature of minus 250 Celsius. Sometimes, it is as cold as minus 880 C in Antarctica, the driest and coldest of all continents. Another hazard there is carbon monoxide poisoning, that has killed a few scientists. The objective of our training was to teach us to survive there and come back safely."

A little prod, and he gets talking on his favourite subject: "Aurora Australis is a light that occurs in the polar region, about 100 kilometres above the earth's surface. The uniqueness of our experiment in Antarctica was to see it in the daytime, using an instrument developed by us. Our findings on the structure and colours of daytime Aurora and other regions of the visible spectrum were highly acclaimed."

Was it all work and no play at Maitri, cut off as they were from the rest of the world? "No," says Raju, "We did celebrate January 26 and birthdays. We had get-togethers to keep up the morale of the teams, and we cooked regular Indian meals with raw ingredients taken from India! There were galley duties to be shared, and food supplies to be escorted. We also visited the Russian station Novo. If we had free time, we volunteered to help the other teams. A penguin wandering near Maitri provided welcome diversion once. I thought penguins were smooth and soft to touch, but when I held it, it felt really tough. We then took the lost creature back to its habitation."

What posed a problem for Raju was getting used to 24 hours of sunlight. The Circadian rhythm went for a toss! "It became really essential to train the body to know what is day and what is night. Going by our watches, we had to decide when it was bedtime. We actually set up dark rooms to catch a few hours of sleep. Besides, it was so windy that we had to be on our guard all the time. A couple of people would stay awake round the clock just to see nothing untoward happened," recounts Raju.

Life at Maitri also was rife with the risk of fire. "There is plenty of oxygen in the air in Antarctica, as all constructions are made of wood, for better insulation. So there was a perpetual fire hazard," recalls Raju. "Another task was to maintain constant vigilance on the lake nearby to see that the water didn't freeze. If it did, life would end then and there at Maitri."

For Raju, the hazards did not end at Maitri. They persisted, and turned into reality when the ship encountered a problem on his return journey. The radar broke, and it drifted with the icy ocean currents for 20 long days. Along with the crew, Raju too took turns at breaking the ice, with four-inch thick crane ropes tied to the radar, and each time, it took them two hours or more.

"All of us became navigators. We read maps, used the global positioning system and kept up radio contact with land. Imagine our plight — all around us, the sea was freezing and we were fast running out of fuel and supplies," says Raju. "I tried to be jovial. I did not let my emotions surface. If one person had become emotional, the morale of the whole crew would have gone down. Finally, we were rescued."

The 34-year-old Raju is obviously calm and easy-going. He calls himself an optimist, and his motto is to "do his job". Schooling in places like Jaipur and Delhi, thanks to his father's transferable job, gave the Hyderabad-born Raju a broader perspective on life.

A degree course at Osmania University and a PhD at the Physical Research Laboratory, Ahmedabad led him on to specialisation in space research and a position at Boston University. He now has a special visa status, recommended by the US Department of

State, as a 'person of recognition in the field of space physics'. Still, Raju affirms that his mind is firmly rooted to his birthplace: "I belong to this place. This is part of a journey — my profession has taken me to the USA, but I'll definitely be back."

For the moment, Raju is happy where he is. "At Boston University, there is enough scope for me to go ahead, the facilities and infrastructure are great, the attitude is very professional, and no, I have not come across any racism so far," he says.

His visit to Hyderabad this time was an unfortunate and unplanned one. The sudden demise of his mother brought him flying across continents to the city he loves. And here he perceives a change.

"I see a lot of development, compared to what the city was four-five years ago. I access the websites of all the Hyderabad newspapers every day to keep in touch," he observes.

Wife Bhuvaneshwari and three-year-old son Anant Krishna make up Raju's little world at home. Says out-and-out family man Raju, "My wife, a home-maker, does much more important work than me, and is very understanding too. To do well in any profession, you need a good family life. So I always make time for my wife and son."

The ultimate aim of Raju's research — to understand the behaviour of the upper atmosphere to see how well it can be used to enhance day to day life on the ground — holds much hope for the denizens of planet earth, what with ozone layer depletion and rising pollution levels putting survival itself in question. Here's wishing he reaches the heights.

Knits, a big hit this season

Style talk by Y Malini Reddy

The nights are slowly drawing in, it's cold outside... Yup winter is here! Here are some must-haves for the coming season. Well don't take my word for it. Check out what the stores in Hyderabad have to offer this winter yourself.

You will find a wide range of health and beauty products from lotions to potions to heated clothing to help you smile away those winter blues. Although changes in men's clothing tend to be subtler, there's plenty of news. Men are stepping up to style this winter.

The boxy look is gone and sweaters, pants, suits and shirts have a more streamlined fit. Layered dress-casual looks with a sleek European influence form the cornerstone of menswear this season.

Shirt jackets, V-necked sweaters, turtlenecks and flat-front pants are the key players with black being the number one colour for men.