

Pritinder Kaur

Pritinder Kaur was born in Kanpur, India and was educated in India, Zambia and England. She graduated with a BSc Hons degree in Cell Biology from Queen Elizabeth College, University of London in 1981. She then did her PhD thesis with Chris Potten at the Paterson Institute in Manchester, UK. Her postdoctoral experience was gained at the Fred Hutchinson Cancer Research Center in Seattle, initially with Jim McDougall and then with Bill Carter. She subsequently moved to Australia to work at the Hanson Centre for Cancer Research in Adelaide. In January 2000 she moved to the Peter MacCallum Cancer Centre in Melbourne to set up her lab within the Stem Cell Biology Program.

Pritinder's research interests have centred on keratinocyte biology. As a postdoc she investigated the role of human papillomaviruses in epithelial carcinogenesis and the role of integrins in mediating adhesion of normal and transformed keratinocytes. Since 1997, her research efforts have been directed towards understanding epidermal cell replacement with an emphasis on keratinocyte stem cell biology.

In the interview below, Fiona Watt, Editor-in-Chief of JCS, asks Pritinder about her experiences as a woman in science.

FMW: *How has your research career impacted on your personal life and vice versa?*

PK: Like most Indian children, I was strongly encouraged to study hard and go to university. My parents' great regard for higher education was already evident to me as a young girl of 14 living in India. I vividly remember my mother introducing me to someone who had just completed a PhD degree with the kind of reverence afforded to a demi-god. This closely held value was translated into great personal support when I opted to embark on my PhD thesis work in Manchester, even though it meant living away from home at a 'marriageable' age. My parents were surprisingly ready to part with tradition again when I completed my PhD and made plans to go to the USA as a single woman. As

traditional Sikhs, my parents found it much harder to accept my decision to marry out of the faith than the one to pursue a career instead of devoting myself to raising a family.

As a postdoctoral scientist at the Hutch, I was able to devote much of my time to science, making it a productive and enjoyable pursuit. I got married to Paul Simmons, also a scientist, in 1986 and in 1988 I fulfilled my strong desire to become a mother. Having a young child gave me a great sense of balance – unconditional love is a wonderful antidote to failed experiments and to rejected papers and grants. However, I had to become very organised (and a tad anti-social) to finish my experiments before the childcare centre closed. For a while I seriously doubted the wisdom of pursuing a career in science while wanting to be a caring and involved mother.

We moved to Australia in 1990, primarily because my husband was offered the opportunity to set up his own lab, a move that has served his career extremely well. I was offered an interesting position as a senior scientist in the same institution and obtained a competitive Florey Fellowship to study angiogenesis, an area not too far removed from my interests in carcinogenesis at that time. In the ensuing years, even after the birth of my second child in 1995, it became clear to me that I wanted to pursue a research career based on my long-standing interests in keratinocyte biology. There is no doubt in my mind that this would have been easier outside Australia from the point of view of obtaining funding. However, the addictive Australian family-oriented culture and lifestyle combined with the fact that my husband had just established a productive research group in Adelaide made it difficult to consider leaving Australia at that time.

It was difficult to establish an independent group centred around my research interests in skin. However, my persistence and hard work, bolstered by encouragement from my husband and many colleagues, led to increasing success in building a small group in Adelaide. The culmination of these efforts was my recruitment to the Peter Mac to head up my own lab. This is an intellectually supportive and stimulating



Pritinder Kaur with daughter Sian Simmons on Orcas Island near Mt Baker, Washington State, 1989.

environment, making it possible for me to pursue science while my kids grow up in a wonderful society.

FMW: *What changes for women in science have you observed during the course of your career?*

PK: The proportion of women scientists running research laboratories has not changed much since I was a graduate student. It is still minor despite the widespread acceptance of women as capable researchers at the postgraduate and postdoctoral level. The child-bearing/rearing years often coincide with the lab-building years in a researcher's life. I conclude that this timing conflict contributes to the small number of women heading up research labs, notwithstanding the fact that men are more involved than ever in childcare duties.

Women's careers still tend to be secondary to their husband's, even in science. It is rare to come across men who are willing to relocate to allow their partners to pursue a high-flying career at the expense of their own. Equally, women seem more willing to sacrifice a successful career for their families. Thus, despite equal opportunities, the majority of women are not as free to pursue their career ambitions as men.

In Australia scientists are judged by the usual parameters – i.e. numbers of grants and high-impact publications. With the limited grant funding opportunities in this country (compared with the UK and USA), there is an understandable tendency to favour PIs with outstanding track records, who tend for the most part to be men who can devote themselves entirely to science. Importantly, good quality research by less well-established scientists is also well regarded. I have been fortunate in being able to consistently attract federal grant funding for my ‘cottage industry’-sized research program since 1994.

Male chauvinism still lurks in many guises though and can sometimes work for you. I recall one occasion, soon after moving to Australia, when I was interviewed for a grant. The panel was almost exclusively made up of men and the arrival of a woman investigator seemingly capable of addressing all the reviewers’ concerns in an articulate manner visibly impressed my interrogators. I remember thinking I had scored points for being a woman *and* defending my grant well. That year, I was one of the few people to extract 2 years funding from this state-wide funding body, where most investigators received one-year grants. Whatever works!

Although overt sexual discrimination has become politically incorrect, it has not been entirely eliminated even among the intelligentsia. For example, it is difficult for some men to take direction from women lab heads. Outspoken women are still perceived as somewhat aggressive and masculine. I was once provided with an insight into how challenging it can be for guys to accept women as their equals. A close male friend and colleague once openly admitted to being disturbed by an experimental design I came up with – he

said ‘That’s a really good idea – I would never have come up with that... and you’re a girl!’ It must also be said that throughout my career I have had the good fortune to interact with many male colleagues who have boosted my self-confidence enormously and encouraged me to pursue a career in research.

FMW: *Do you feel that being a woman is an inherent advantage/disadvantage for a career in science and why?*

PK: If you work hard, have a good mind and lots of time, gender is not an issue for any career, including science. To generalise, what tends to be a limitation for women is their biological and maternal tendency to be a nurturing parent. Even with the most sensitive partner, women tend to take more responsibility for the wellbeing of their children. Particularly during the years when children are young but also when they are teenagers, devoting enough time and effort to family and career, and doing both well, is a challenge.

To me, being a mother is as passionate an endeavour as conducting exciting research. I am also aware that this role will only be demanding for a finite time – the last 15 years since my first daughter was born seem to have flashed by. However, I am also very conscious of the fact that in order to keep my lab’s research activities funded, I am in direct competition with many illustrious colleagues who have made far greater scientific contributions. So, like a lot of women who want a good career and to be close to their children, I ‘do a lot of guilt’ as I say goodbye to them in the morning and when I drop work at the end of the day to be home in time for dinner.

Science does offer women a fair amount of flexibility – a computer and internet connection at home ensures that grants can get written while children are asleep.

Directing lab work by phone from home when kids are sick works surprisingly well. Having a sensitive husband who takes care of the children while you are away at a conference is a must. I have been fortunate to have a network of supportive ‘mums’ who have been of enormous help. Women also have the advantage of being very capable of multitasking, a great attribute for any career including science.

As a postdoc, I remember the advice of a senior colleague not to have kids until after I had my own lab. Her concession to having family and a scientific career was encapsulated in her motto ‘If you are too young to have amniocentesis (i.e. aged less than 35), you are too young to have children!’ She also used to say ‘What I need is a housewife!’ – a sentiment that I can well relate to.

FMW: *What are your remaining career ambitions?*

PK: In terms of my contributions as an independent researcher, I feel as if I have only just got the ball rolling and so one of my ambitions is to make significant contributions to my research field. However, it would be great to play a role in encouraging more women to pursue scientific careers beyond their postdoctoral years. I would like to contribute to an increased awareness among scientists and granting bodies of the demands on women who contribute to society by nurturing children, as well as by carrying out medical research – something I had not given much thought to until this interview.

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Feedback on our series of Women in Cell Science articles is always welcome and should be emailed to wics@biologists.com