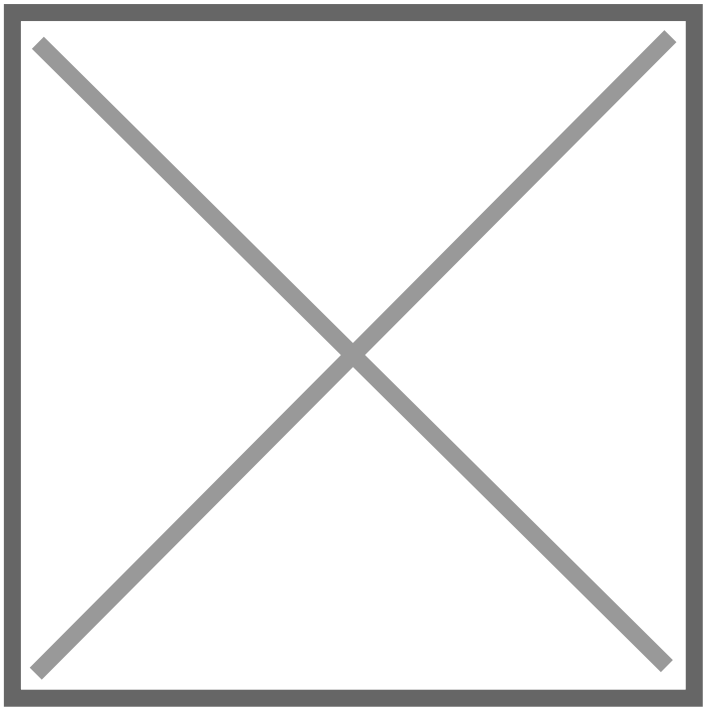
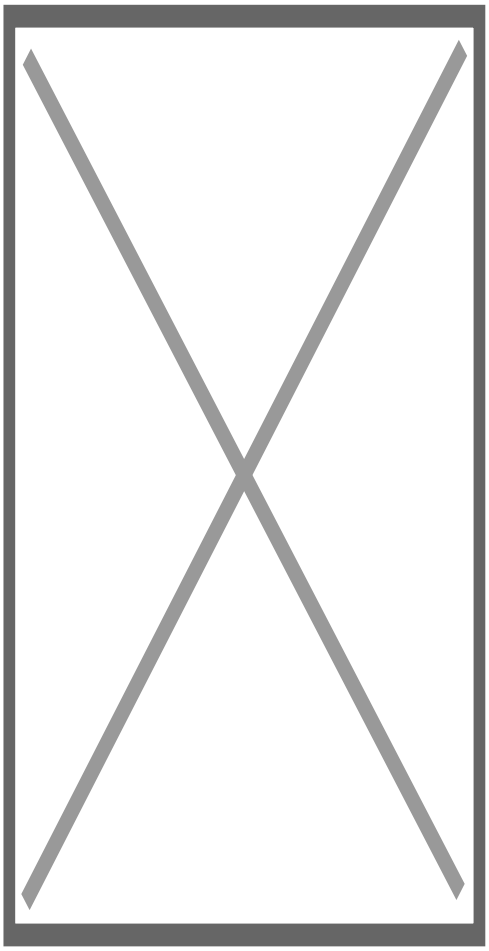
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## Academic-driven Entrepreneur

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**Academic-driven Entrepreneur**



*Dr Villoo Morawala-Patell, founder and CEO, Avesthagen, is an academic-driven entrepreneur who has moved from high-powered academic research to the business world. Owing to her entrepreneurial capabilities, Avesthagen today has a steady revenue stream, a robust portfolio of technologies, services and products, as well as sophisticated collaborations with some of the most respected global business houses. This first generation-entrepreneur has been chosen the BioSpectrum Entrepreneur of the Year by the jury for all her accomplishments.*

No ingredient is more important to business success than innova tion, which is no long erregarded as the exclusive preserve of R&D, but rather as the best approach for managing the risk of today's uncertain business environment feels Dr Villoo Morawala-Patell, Founder and CEO of Bangalore-based Avesthagen. And truly so, it is this strong belief coupled with Dr Villoo's zeal for success that has nurtured the growth of Avesthagen from an R&D-based start-up to a well managed global company today.

Dr Villoo Morawala-Patell began her professional career at the Hyderabad-based International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in 1978. She worked on projects on the biochemistry of nitrogen fixation in legumes, standardizing a screening technique for drought tolerance and on cytoplasmic male sterility in millet and sorghum, amongst other projects.

After a ten-year stint at ICRISAT, at the age of 32, Dr Villoo decided to go for a PhD program in plant molecular biology at the University of Louis Pasteur, Strasbourg, France, after which she did a post-doctoral program at the University of Ghent, Belgium, at the labs of Prof. Marc van Montagu, who is one of the founding fathers of plant biotechnology. Incidentally, he is also on the scientific advisory board of Avesthagen.

Moving back to India, she established herself as an independent scientist and principal investigator working from the National Center for Biological Sciences (NCBS) and subsequently at the University of Agricultural Sciences (UAS) in Bangalore. It was during this time that she received several prestigious grants from institutions like the Rockefeller Foundation, the Indo-French Center for the Promotion of Advanced Research (IFCPAR) and the UK Department for International Development (DFID).

It was in 1998 that Dr Villoo founded Avestha Gengraine Technologies (Avesthagen) on the premise that the time was ripe in India to establish a research and discovery based biotechnology company, by making use of India's well educated workforce and abundant biodiversity at a time that large multinational life sciences companies had started eyeing the Indian market with increasing interest. "Avesthagen was one of the first and is still one of the few science and discovery driven life sciences companies in India, and has since matured through its seed and early stages into a rapidly growing and profit making operation," says Dr Villoo.

Initially, the going was not easy. The company began from ground zero and obtaining finance was the biggest challenge. Fortunately, Dr Villoo's contacts in the scientific community around the world believed her venture had potential and chipped in to provide the initial funding. Subsequently, she approached venture capital firms (VCs) in India. Dr Villoo recollects, "Many VCs did not have a proper understanding of the biotech industry and dealing with them was a waste of time. However, I was able to locate suitable investors. The early investors came around 2000, who were mainly friends and family. It was in early 2001 that the company raised its first round of venture capital of $2 million."

Avesthagen is backed by well-known investors such as ICICI Ventures, Oriental Bank of Commerce, Tata Industries, Godrej Industries, Cipla Ltd (all based in India) and bioMerieux, France.

Currently, Avesthagen has 230 full time employees, most of whom are engaged in the R&D, product development and collaborative research programs. The company has diversified in the areas of life sciences research and product development, pursuing its vision to achieve convergence of food, pharma and population genetics leading to preventive personalized medicine.

Thanks to Dr Villoo's entrepreneurial capabilities, Avesthagen today has a steady revenue stream, a robust portfolio of technologies, services and products, as well as sophisticated collaborations with some of the most respected global business houses.

Namratha Jagtap

**Entrepreneur of the Year**

**Dr Villoo Morawala-Patell**

Position: Founder and CEO, Avesthagen

Age: 49 years

Academics: Doctoral and post-doctoral qualifications in plant molecular biology from the University of Louis Pasteur (France) and University of Ghent (Belgium) respectively.

Entrepreneurship: At the age of 45, Dr Villoo founded Avestha Gengraine Technologies (Avesthagen) with a mission to improve productivity in agriculture and develop agro-technologies that would lead to value addition in food and pharma products.

Family: Her husband Zareer Patell is an icon on physical fitness (he's a nutritionist and a Black Belt in karate) and a jazz pianist. Her older daughter Farah is doing her Ph D at the Institute of Biotechnology, Cambridge University, UK, while the younger one, Sanaya, is doing her masters in neurobiology at the Boston University in Boston.

Passions: Swimming, reading, writing, art and fashion.

Other positions: Dr Villoo holds the position of Professor Emeritus, University of Agricultural Sciences (UAS), Bangalore. She was also the principal investigator and visiting scientist, NCBS at the Tata Institute for Fundamental Research (TIFR), Bangalore from April 1995. She is a member of Advisory Board for Biotechnology at Mysore University as well. Owing to her pioneering work in the field of molecular biology, Dr Villoo has long-standing professional relationships with individuals, institutions and corporates working in the domain of agri-biotechnology across the world. She is a member of the New York Academy of Sciences and also a key member of the Task Force and Vision group for Biotechnology, instituted by the Karnataka government.

Awards and accolades: Recently, Avesthagen was declared a Red Herring Award winner for "disruptive innovation." The award recognizes that Avesthagen is an emerging star in Asia and follows a stringent evaluation of its business model, profitability forecasts, management team and technology.
Owing to her pioneering work in the field of molecular biology, Dr Villoo has long-standing professional relationships with individuals, institutions and corporates working in the domain of agri-biotechnology across the world.

Other hats: Dr Villoo has received several prestigious grants from institutions such as The Rockefeller Foundation, Indo-French Centre for the Promotion of Advanced Research (IFCPAR) and DFID. She has to her credit several joint patents in the field of gene discovery, gene functionality, gene transformation, bioinformatics and biotherapeutics.

In the pipeline: A substantial pipeline of 11 biosimilar molecules is being developed in collaboration with Cipla Ltd for marketing by Cipla in India and aboard.

**"We plan to go in for IPO in the latter half of 2008"**

What is Avesthagen all about?
Avesthagen is about creativity. Avesthagen fosters collaborative and partner-embracing organizational culture in which innovation thrives. We believe in and are competent at bringing "new realities" into existence. Our systems biology approach to biotechnology is one such "new reality". Instead of starting with a molecule that might be therapeutic and hoping to find a disease target, a systems biology approach starts with a target or a disease phenotype and then logically develops a therapeutic.
Avesthagen is a very conceptual and thought-provoking company with long-term intentions. We believe that rapid progress through our integrated systems biology programs will be instrumental in leading towards our goal of preventive, personalized medicine in the years ahead. While there will be drugs that do generate billion dollar sales, they will be the exception rather

than the rule. Targeted therapies and personalized medicine is now the new mantra and biotech is at the forefront of a major shift in healthcare towards predictability-from drug discovery to the development of accurate molecular diagnostics and targeted treatments.
With the healthcare industry maturing and expanding globally, changing market dynamics have provided both, challenges and opportunities for industry participants. At Avesthagen, we have built a robust portfolio of strategic partnerships, with market leaders across our different technology platforms as a means to address the challenges and capitalize on these opportunities.
India is forging ahead in developing biosimilars, generic drugs, novel biopharmaceuticals, diagnostics and new seed. In addition, India has become a destination of choice for providing world-class research, clinical and manufacturing services to the global industry. Today, India is being touted as one of the key countries that will help drive the global adoption and acceptance of biotech crops in the future. Avesthagen is poised to lead this charge through its innovative "Seed for Food" and "Food for Medicine" programs thereby providing a multifaceted hedge against hunger, sickness and environmental degradation.

You are aiming to become a global biotech company in the next few years. How do you plan to go about it?
If you look at today's top 10 biotechs, they have revenues of $1-10 billion. So, Avesthagen has to fall somewhere in this range by the year 2015. The company has so far proved itself in delivering novel technologies and then finding global partners to allow these technologies to reach global heights. We clearly see our strengths on three counts in moving ahead:

- Established, cost-effective biologicals product development capabilities (laboratory as well as manufacturing base)
- Location-the largest emerging market is Asia
- Established network of collaborations with institutes and hospitals across the region to access new technology platforms and clinical studies

Currently, we have about 230 employees and a substantial product pipeline of 11 biosimilar molecules (in cancer, autoimmune and cardiovascular disease segments) being developed in collaboration with Cipla Ltd. The first two products will be out in the end of 2008 and there after we will add on two products every year to our portfolio. This itself will take care of the $1 billion. The Indian biopharmaceutical business, presently estimated at $200 million, is expected to grow to about $3.3 billion by 2007-08, dominated by recombinant proteins, vaccines and monoclonal antibodies. The Avesthagen-Cipla tie-up hopes to capitalize on this opportunity as a base and catapult it into markets aboard.

Avesthagen today has about 95 patents and is using its portfolio of patents to drive new deals. The patents cover a wide range of scientific technologies including transgenics, development of molecular markers, new methodologies, protocols, novel proteins and genes isolated from plants for therapeutic value. Each of these patents score high in terms of their scientific and technical merit and are certainly poised to provide maximum economic benefits. Two of our patents were recently globally evaluated and the valuation was pretty high. Avesthagen's value is not being ever linked to its revenues. And this is really one of the first such cases where revenue was secondary as compared to the reason why people pay the value to be associated with Avesthagen. So all this has added to what I want to call Avesthagen gravitas and we will definitely realize our dream of becoming a global biotech.

What are your growth and expansion plans?
In terms of management, in order to support and continue to effectively manage the rapid growth and development of the company, Avesthagen is in the process of strengthening its management structure substantially, both at the senior management level and the second line of management at the business unit level.
In terms of infrastructure, Avesthagen in the last few years has grown to its present shape in its 11,500 sft headquarters and R&D facilities at the "Discoverer" building of the ITPL. In order to continue to cater to its rapid growth, and also provide for pilot scale manufacturing facilities for several of its product pipelines, the company has taken two additional facilities on lease. One is a facility comprising 12,000 sft of built up space about 2 km away from ITPL, where a cGMP facility for the pilot scale manufacturing of mammalian biotherapeutics is being established (as part of the JV with Cipla), as well as a pilot scale plant extraction facility for the FFM programs with Nestle and Avesta Nordic. At the same location, a new structure will be built to accommodate a biosafety level P3 laboratory for research on infectious pathogens in partnership with bioMerieux.
As an interim measure to provide space to facilitate the growth of the company's activities, a second unit in ITPL has been taken up. Avesthagen has taken a 14,500 sft unit on the ground floor of the "Innovator" building. This unit will house the genomics, diagnostics and Seed for Food R&D and product development activities of the company, as well as some of the pharma related projects. In addition, the bio-informatics team and logistics, purchase and certain administrative activities will be relocated there.

What are your other future plans?

We plan to go in for an IPO. We will list in the latter half of 2008. Avesthagen needs big finance and it will go right down to the grassroots to raise its money. We will basically have quite a different style of IPO. It will be a knowledge and pipeline IPO.

Who are your role models and what are the qualities you have imbibed?

I would say the timelessness of Mahatma Gandhi, Nehru's vision of modern India, and JRD's implementation of that vision of a clean company with no compromises. So it is a mixture of the three.

**What they said...**

Dr Villoo Morawalla-Patell is one of the most resourceful biotech entrepreneurs I have known. She has built Avesthagen into a strong and innovation-led company and is a strong feature of India's growing biotech profile. I congratulate Villoo on this well deserved award and wish her continued success in the years ahead.
Kiran Mazumdar-Shaw, CMD, Biocon Ltd

It is indeed befitting that Dr Villoo has bagged this honor. She has been very successful in raising resources and building partnerships with global firms in creating a unique and multi-dimensional life sciences company. Her perseverance and indomitable spirit should set an example to any aspiring entrepreneur.
Dr KK Narayanan, Managing Director, Metahelix Life Sciences

A scientist of high caliber armed with excellent fundamental training in life sciences in India and abroad, Dr Villoo was one of the very few people in India at that time (over five years ago), to take on the challenge of entrepreneurship in life sciences.I congratulate her on winning the BioSpectrum Entrepreneur of the Year 2006 award.
Dr Jagadish N Mittur, Director, Monsanto Research Center.