

BioSpectrum

the business of biotech

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Bhasker V Iyer
Managing Director,
AstraZeneca

BioSpectrum Awards 2006

M Ramasami

Person of the Year

Dr RA Mashelkar

Life Time Achievement

Dr Viloo Morawala-Patell

Entrepreneur of the Year

Kapil Sibal

Leadership Award

Product of the Year
AlbuRel, ImmunoRel, ReliSeal,
ReliPlasma and HemoRel A



Entrepreneur
of the Year

Dr Viloo 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 Viloo founded Avestha Gengraine Technologies (Avesthagen) with a mission to improve productivity in agriculture and develop agrotechnologies 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 Viloo 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 Viloo 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 Viloo has long-standing professional relationships with individuals, institutions and corporates working in the domain of agri-biotechnology across the world.

Other hats: Dr Viloo 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 abroad.



Academic-driven Entrepreneur

Dr Viloo 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 innovation, which is no longer regarded 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 Viloo Morawala-Patell, Founder and CEO of Bangalore-based Avesthagen. And truly so, it is this strong belief coupled with Dr Viloo'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 Viloo 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 Viloo 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 Viloo 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 Viloo.

Initially, the going was not easy. The company began from ground zero and obtaining finance was the biggest

challenge. Fortunately, Dr Viloo'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 Viloo 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 Viloo'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

"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 abroad.

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 second-

What they said...

Dr Viloo 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 Viloo 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 Viloo 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 Viloo 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 Mittar, Director, Monsanto Research Center.

ary 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 sq ft 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 sq ft 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 sq ft 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. ■

BIO-RAD

Presents

BioSpectrum AWARDS 2006



Date: 11th December 2006 | **Venue:** Grand Ball Room, The Leela Palace, Airport Road, Bangalore

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CYBER MEDIA

It's time to take a bow!

They Came! They Saw! They Conquered!

BioSpectrum

Leadership Award

BioSpectrum

Lifetime Achievement Award

BioSpectrum

Person of the Year

BioSpectrum

Entrepreneur of the Year

BioSpectrum

Product of the Year

BioSpectrum

Best Company of the Year*

- BioPharma
- BioAgri
- BioServices
- BioIndustrial
- BioSupplier

* These awards are judged based on the annual survey of the biotechnology industry 2006 done by BioSpectrum

BioSpectrumAwards-2006



at the most awaited Biotech Industry awards

BioSpectrum

Awards 2006



Life Time Achievement

Dr RA Mashelkar, Director General, Council of Scientific and Industrial Research (CSIR)



Person of the Year

M Ramasami, MD, Rasi Seeds



Entrepreneur of the Year

Dr Villoo Morawala-Patell, CEO, Avesthagen

Product of the Year

AlbuRel, ImmunoRel, ReliSeal, ReliPlasma and HemoRel A

Special Category Award

BioSpectrum Leadership Award in Biotechnology

Kapil Sibal, Minister of Science and Technology and Ocean Development

Reliance's plasma proteins category of products



The Awards will be presented at a glittering ceremony in Bangalore on December 11, 2006. Bio-Rad is the principal sponsor for this year's awards.



T

he activity for the BioSpectrum Awards 2006, the fourth annual biotechnology industry awards, began in early October. An eminent jury panel comprising members representing the biotechnology industry, academia and the public sector was constituted in the first week of October. By virtue of being the Person of the Year in 2005, Dr MK Bhan, secretary, DBT, assumed the responsibility of heading the jury panel. Our practice has been that the winner of the Person of the Year award in the previous year, unanimously becomes the jury chairperson for the following year's awards.

The jury

The panel consisted of distinguished members like Nitin Deshmukh, head, private equity, Kotak Mahindra Bank, who has been working closely with this emerging industry for over a decade; Prof Samir Brahmachari, director, Institute of Genomics and Integrative Biology, brought in the academic perspective; Dr Krishna Ella, CMD, Bharat Biotech, represented the emerging private sector; and Dr KC Bansal, principal scientist, National Research Centre on Plant Biotechnology, IARI, brought the views of the research community



Jury deliberations in progress.



Dr MK Bhan,
Secretary,
Department of
Biotechnology



Nitin Deshmukh,
Head, Private
Equity, Kotak
Mahindra Bank Ltd



**Prof. Samir
Brahmachari,**
Director, Institute of
Genomics and
Integrative Biology



Dr Krishna Ella,
CMD, Bharat
Biotech



Dr KC Bansal,
Principal Scientist,
National Research
Centre on Plant
Biotechnology, IARI



Pradeep Gupta,
publisher of
BioSpectrum, and
CMD, CyberMedia



Abraham E Mathew,
chief editor,
BioSpectrum

Jury Members

to the fore. The two representatives from CyberMedia were Pradeep Gupta, publisher of *BioSpectrum* and CMD, CyberMedia and Abraham E Mathew, chief editor, *BioSpectrum*. The list of nominations along with the backgrounder of the nominees was sent to all the panelists via e-mail well in advance and the research support was provided by the editor of *BioSpectrum*, N Suresh along with Ch. Srinivas Rao, associate editor, *BioSpectrum*.

With the stage set for choosing the biotech champions for the year 2006, the panel meeting was held at the DBT

office in Delhi on October 30. The jury members had the onerous task of selecting the awardees for the Life Time Achievement, Person of the Year, Entrepreneur of the Year, and Product of the Year awards from a list of impressive nominations along with dwelling on the possibility of a Special Category Award. This award has been given only once in 2003, the year in which the *BioSpectrum* awards were instituted, to the State of Andhra Pradesh for its impressive forays in the biotech sector. During 2004 and 2005, the jury

had decided against having any special category awards.

Jury deliberations

The jury panel was completely in sync with the selection of the award winners. Dr RA Mashelkar, director-general, CSIR, was the unanimous choice for the Life Time Achievement category. "Dr Mashelkar is the perfect example of a scientist and a policy maker who has reared and nurtured the biotech industry. He has been a prime mover in the biotechnology segment," said Dr Bhan. "This is the appropriate time to honor him as he is completing his term at CSIR this year," noted Pradeep Gupta.

M Ramasami, managing director, Rasi seeds, which is currently India's largest Bt cotton seeds company, was chosen the Person of the Year. This was again a unanimous decision. "Ramasami's contributions to the Indian farming community have been invaluable. Besides supplying high quality hybrids in various crops, his company has put the Bt gene in a good background (cotton hybrid) which had greatly benefited the cotton farmers," opined Dr Bansal. In just two years Rasi has expanded its Bt cotton seed business to over Rs 300 crore.

The jury members were in complete agreement with the selection of Dr Viloo Morawala-Patell, CEO, Avesthagen, as the Entrepreneur of the Year. She is a first generation scientist-turned-entrepreneur who founded Avestha Gengraine Technologies, which is focused on the novel concept of preventive personalized healthcare. "Dr Viloo has set up an impressive company with a sustainable business plan. She has been successfully forging alliances and coming up with products," said Nitin Deshmukh.

Before the discussion on the fourth award category, the Product of the Year award, Dr Krishna Ella, stepped out of the discussion room as his company's product too figured in the list of nominations. This award was given collectively to five Reliance Life Sciences products, which the company recently released. These are AlbuRel, a plasma volume expander; ImmunoRel, purified immunoglobulin G; ReliSeal, a biological glue and hemostatic agent; ReliPlasma, inactivated plasma; and HemoRelA, which is the clotting factor VIII.

BS Awards Gallery

2003

Person of the Year
Kiran Mazumdar-Shaw



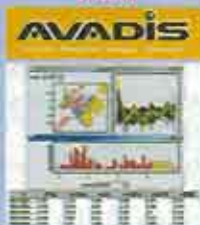
Lifetime Contribution
Prof. MS Swaminathan



Entrepreneur of the Year
Dr Krishna M Ella



Product of the Year
AVADIS



Special Category Award
State of the Year



2004

Person of the Year
Dr Cyrus S Ponnawalla



Lifetime Contribution
Dr Manju Sharma



Entrepreneur of the Year
Dr KK Narayanan



Product of the Year
JEV Chex



2005

Person of the Year
Dr MK Bhan



Lifetime Contribution
Dr NK Ganguly



Entrepreneur of the Year
Sudhir Pal J

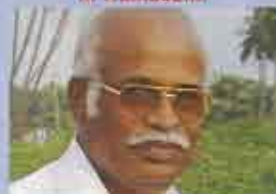


Product of the Year
Q-Vac & Shantetra



2006

Person of the Year
M Ramasami



Lifetime Contribution
Dr RA Mashelkar



Entrepreneur of the Year
Dr Viloo Morawala-Patell



Product of the Year
Reliance's plasma proteins



Special Category Award
Leadership Award in BT



Coming to the Special Category award, the jury members chose Kapil Sibal, minister for science and technology and ocean development, in consensus for the BioSpectrum Leadership Award in Biotechnology. All the jury members felt that the minister had gone beyond the call of his duty and given a stupendous boost to the life sciences sector since taking

over as the minister in 2004. "Minister Sibal is the most articulate and global spokesperson for the Indian science and technology", said Prof Brahmachari. "He has promoted the Indian science and technology as a brand and positioned it on a special platform", added Dr Ella.

In the next few pages, we have tried to capture the achievements of three

remarkable individuals fired by their convictions and beliefs, a cabinet minister who had passionately championed the cause of Indian science and a team of scientists, whose dedication saw a number of excellent biotech products reaching the market in a very short time.

Rolly Dureha