

# on the couch with...

## Doctor Rajah Vijay Kumar

3D Vasculography and Cardiac Mapping Device unveiled for the first time in the Africa A diagnostic machine that will revolutionize medical treatment, save lives as well as save the patients and government a fortune. The haemoseis 256 is here!!!

*Dr Rajah Vijay Kumar (48) (Chairman and Managing Director of Organization de Scalene) was recently in South Africa to unveil a revolutionary technology to diagnose cardiac and other blood flow disorders. Unveiled locally by Scalene South Africa (PTY) Ltd, the Haemoseis 256 helps in the measurement of the entire cardiovascular system through a non-invasive evaluation using a technology called 3D Vasculography and Cardiac Mapping (3DVG). With a complete vital Haemodynamic picture of the heart, lungs and blood vessels the Haemoseis 256 can for the first time in history provide new and powerful physiological, rather than anatomical, cardiovascular information to the outpatient clinic, emergency rooms, intensive care units, cardiac catheterization labs and operation theaters. Providing more than 60 vital parameters on adult and paediatric patients, the device can empower doctors with more and unique information of the cardiovascular system, which was never before possible non-invasively or invasively using one device. The Haemoseis 256 has the ability to pick up changes and symptoms in the cardiovascular system even before symptoms show. (Early detection of coronary artery disease may prevent heart attacks). We caught up with Doctor Kumar, who is a pioneering researcher and an opinion leader in the field of Biophysics, Radiobiology, Nanotechnology and Sustainable Energy, to chat about his patented ideas and what he was like growing up as a child.*

PT: You have a Bachelor of Science majoring in Physics, Chemistry and

Mathematics, a post graduate in Microelectronics, a Doctorate in Science in Medical Engineering and you also hold a Masters of Business Administration in Corporate Crisis Management. Where did you complete your studies?

**RVK:** Most of my formal education was in Bangalore, India. I still consider the Indian system of education to be unique in its own way, whichever be the field, the foundation is very strong. Every bit of what we have studied from Class I to whatever level is directly applicable.

PT: Where were you born? And where did you go to school?

**RVK:** I was born in a hospital just two kilometers from where I live today in Bangalore, a place called Dooravani Nagar. It translates to Telephone Town and they used to make all the country's telephones there. My schooling was also in Bangalore. As a child I was mostly incompatible to most schools and as a result, my 10 years of schooling was finished in 5 schools. Either I was thrown out of school or I left the school. I always had a great sense of enquiry, so I wished to get convinced on everything I was told. In examinations, I would write the correct answers but also write a disclaimer at the bottom that I don't believe in the answer I have written because I am not convinced. This would make the teachers angry and I sometimes got caned. I would then tell my dad to change the school or my dad will be asked to take me away from school.

PT: In your personal opinion, what have you your greatest achievements?

**RVK:** None till now, I am still looking

for that "greatest achievement" I don't think I can find it in my life time. Every new thing that I work with, after it is made, it looks simple to me. Looking for this great achievement motivates me to work on and find simple solutions.

**PT:** You have worked for more than twenty years on regenerative tissue engineering and high speed biological data acquisition, modeling and simulation of the human cardiovascular system, artificial intelligence and neural networks in medical diagnosis and engineering. What made you decide to focus on these aspects?

**RVK:** When I started Scalene in 1993, our aim was to provide Engineering Solutions to human problems. Thus we choose Healthcare, Energy, Water and Food. Our ever-growing world needs urgent solutions to these issues, without having an impact on Environment, Social Setups, local governance or religion. So the focus as you see is aimed at achieving our ultimate aim.

**PT:** You have several inventions patented under your name? Could you list these?

**RVK:** Over the period of time, we have worked on many projects; I have a dozen patents in the field of Medical Diagnostics, Drug Delivery, Tissue Engineering, Energy, Nanosciences, Bio-fuels, Ultrasonics.

**PT:** Your work on Nanotechnology has sparked off a new technique in selective tissue destruction with a "nanoblaster" that is undergoing laboratory trials. Could you briefly explain what this technique entails?

**RVK:** Nanoblaster is still in the laboratory. The concept is to use ferrite



Dr Mohanlall of Scalene Cybernetics Ltd and Doctor Rajah Vijay Kumar

nanoparticles, which are magnetic and in the shape of a fans blades that is first coated with Gold so the ferrite particles become inert. It is then coated with a substance called Carboxidextran. Cancer cells love Carboxidextran as it provides instant energy to the tumor cells. This material is made into an injectable form and injected intravenously. The Nanoblaster is then used to guide the particles to the tumour site. Tumour thinks it is a delicious food and grabs everything into itself. Once all or almost all of these particles are in, the nanoblaster will start rotating the nanorotors till all the tumor cells are destroyed.

**PT:** What advice would you have for

learners hoping to follow in your footsteps?

**RVK:** Think outside the box, stay focused in what you do and never give up.

Scalene South Africa's (PTY) Ltd Managing Director, Dr Rakesh Mohanlall, commented that the Haemoseis 256 will be the instrumental tool of choice for all Physicians and Cardiologists to optimize treatment regimens for the benefit of the patient. We have placed the 1st device at 325 Umhlanga Rocks Drive at Ingenuity House to benefit the public for now until we have commissioned units at every government and private healthcare facility in the African Continent.