Why am I doing research into medicinal mushrooms, especially as a scientist coming from aWestern European country where one does not believe in effects of traditional Chinese Medicine?

All that has to do with my scientific career that started in plant pathology in Wageningen University and was continued with a post doc in a department of hematology of Hopital St. Louis in Paris where I became introduced in experimental pathology. I did experiments in mice trying to stop virally induced leukemia by application of interferon. Interferon showed strong inhibitory effects and I took it as a study material back to Rotterdam medical school where I became head of experimental pathology. My work for the next 10 years was mostly devoted to experimental leukemias and was interrupted by a two year stay at the Salk Institute in San Diego. There I studied the interaction of endogenous genetic information and infectious virus in mice, together making up highly malignant recombinant virus.
In 1981 I started to work edible fungi by becoming director of the Mushroom Experimental Station at Horst in the Netherlands. There was a willingness among mushroom growers in the Netherlands to finance research and I could hire several good scientists to study many aspects of cultivation and properties of Agaricus bisporus, the common white button mushroom. Not only genetics and breeding was successful, we also could work out a method to do composting without emitting harmful ammonia and sulfurous substances into the air. This method led to enormous investments by Dutch mushroom growers who had to comply with new environmental laws, and required therefore more production. As a result the production of Agaricus indeed doubled within years in the Netherlands. All of a sudden Holland became the largest mushroom exporter in the world. Of course duration of the happiness was short. Costs of labor were too high in the Netherlands. Poland learned to grow mushrooms and started to export into the European market and the same happened in Asia: many, many very small Chinese farmers started to grow Agaricus and their combined quantity went into the world market. As a result prices went down below the level of profitability in Holland. In spite of their technical expertise and their perfect mushrooms many Dutch mushroom growers went out of the business.

As scientists we had foreseen all this and we had warned growers and advised them to look for alternative products like other edible fungi. We had worked out the methods for growing Pleurotus, Coprinus, Shii-take, Agaricus arvensis, Agaricus subrufescens and a whole series of other basiomycetes. It had no effect; only very few started to do those mushrooms. The industry became obliged to decrease costs and the experimental station received only very little research money anymore and was reorganized. I started my own consultancy in agricultural research and continued scientific work in Wageningen.

I decided to combine my two fields of expertise and went into the study of medicinal mushrooms.
It very soon became clear to me that those mushrooms also in my hands showed very interesting biological effects. Some induce very high levels of interferon in cells of the immune system and that makes the mushroom extracts suited to be used for immunomodulation, especially for killing abnormal cells like those of various types of cancer. Chinese traditional medicine had made those observations many centuries before already, and more recently several scientists from China, Japan and Korea had found some of the mechanisms behind those medicinal effects. Our immune surveillance recognizes polysaccharides of the mushroom as possibly dangerous and reacts by making special hormones i.e. cytokines that are able to direct the immune system to take action.

I have been studying what the components of different mushrooms do. In short most of them activate inflammatory processes that are directed against changed cells be it virus or bacterial infection or tumor cells. Other mushroom polysaccharides activate our making of antibodies and also defend us against foreign invaders.
Sometimes immune processes go wrong in the body and then we may get harmful or annoying diseases, like autoimmune disease and allergy.
Using mushroom polysaccharides may allow us to regulate diseases like rheumatoid arthritis, multiple sclerosis and various allergies. It all depends on how we can influence and balance the immune processes. That is what I study.

When we get more knowledge it may be possible to find prevention and cure for the diseases that I mentioned before and that all have to do with malfunctioning of the immune system. If the immune system works right cancer cells will be destroyed in the body, autoimmune disease and allergies will not occur anymore.
At the moment we have not yet enough knowledge, we need more research. But science is on its way……

Now a few words about why I am advising Amazing Grace Health Products in matters of science.
I met Frank in an international meeting where I gave a talk about mushroom cultivation and the science behind it. After the discussion he told me that he had this very interesting mushroom, Phellinus linteus or Sang Hwang, that could be used for the treatment of various diseases and that actually was the 1000 year old mushroom of traditional Chinese medicine. I never believe those kinds of stories about successful treatments, but the case seemed interesting enough to ask him for some of the material. I got his Phellinus mushroom extracts and brought them into the lab. I have yet only done limited studies with it but this material showed very interesting effects. Phellinus preps seem to regulate and balance the immune system. I have to do more study on it, but if this is true then Phellinus may cure many diseases that have to do with the immune system. At present I am again in Thailand and I have spoken with some of the people who had taken his medicine themselves or who had taken care of the patients treated with it. I had a chance to interview a few of them.
The case reports I heard are consistent with what I found in the lab. I do not yet understand all of it, but the general picture becomes clear, although I also have to learn a few more things.
For me Phellinus is a beautiful subject of study; Amazing Grace and Frank are very open minded and eager to learn. They are listening intensely and all findings are discussed openly and thoroughly.
Important is that they learn from me and that I learn from them. The discussions will in this way contribute to making a medicine that is both effective and reliable. I certainly hope our discussions to continue.

Curriculum vitae

Leo Van Griensven studied Plant Pathology at Wageningen University and did a Ph.D. in the molecular aspects of virus replication. He did a post doc at Paris University in the hematology laboratory of Hopital St. Louis where he specialized in the study of experimental leukemia viruses. He was appointed head of experimental pathology at the Rotterdam medical school where he worked on bone marrow transplantation and malignant diease in mice. In the mid seventies a sabbatical stay for 2 years was devoted at the Salk Institute in San Diego (USA) to the study of the interaction between endogenous genetic information and infectious leukemia virus.
In 1981 he became director of the Mushroom Experimental Station at Horst in the Netherlands, which he organized into the world's most advanced study center for edible mushrooms especially Agaricus bisporus, the common white button mushroom.
In the year 2000 the experimental station was reorganized due to lack of financial support. Since that time dr. Van Griensven continues his studies of medicinal mushrooms which he started earlier at Horst in Plant Research International of Wageningen University and Research.
Dr. Van Griensven was appointed extraordinary professor of applied mycology at Nijmegen University in 1988 and teaches general and applied mycology for graduate students.
He is co-founder and board member of the European Mycological Association, member of the editorial board of the International Journal of Medicinal Mushrooms, has published over 150 scientific papers in international journals and edited 4 books on various aspects of edible fungi.