



University of Zurich

## Media release

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### **Brupbacher Prize to Nubia Muñoz and Sir Richard Peto**

**The epidemiologists Nubia Muñoz and Sir Richard Peto are receiving the 2009 Charles Rodolphe Brupbacher Prize for Cancer Research. Nubia Muñoz is being awarded for research into the causes of tumours such as cervical cancer through human papilloma viruses and Richard Peto for his studies into the health risks of smoking. The prize from the Charles Rodolphe Brupbacher Foundation has a value of 100,000 Swiss Francs for each of the winners.**

Every two years since 1993, the Brupbacher Foundation has been awarding the Charles Rodolphe Brupbacher Prize for Cancer Research. The aim of the foundation is to reward researchers who have made important discoveries in fundamental sciences or clinical oncology and have therefore contributed to a better understanding of the causes and treatment of tumour sicknesses. In this year, the prize is going for the first time to two epidemiologists who have made a major contribution to cancer prevention.

#### **Nubia Muñoz**

In 1999, the Brupbacher Prize was awarded to Harald zur Hausen (German Cancer Research Centre, Heidelberg) for the detection of HPV-DNA in carcinoma in the cervix and his hypothesis that papilloma viruses are involved in the origins of cervical cancer. He received the Nobel Prize for Medicine for this last year. This year, Dr. Nubia Muñoz (Lyon) is receiving the prize for fundamental epidemiological work on the causation of tumours through chronic infections, particularly through human papilloma viruses (HPV). Her research has provided final proof of a causal connection. She headed a large, international network in which cervix carcinoma from the entire world were virologically analysed, and this resulted in the conclusion that the HPV types 16 and 18 must be clearly regarded as the cause.

The number of HPV types responsible for cervical cancer has risen in the meantime, and with modern methods, the HPV-DNA can be detected in more than 98% of all cervix tumours. Not least of all thanks to the work performed by Muñoz and her staff, a chronic HPV infection is now seen as a necessary, although not sufficient precondition for the emergence of cervical cancer. This kind of tumour can therefore be seen as the late consequence of a sexually transmitted infection. The work of Nubia Muñoz has also made a significant contribution to the development of vaccines initially aimed at combating the world's predominant HPV types 16 and 18. Due to the high costs which still apply at present, the prophylactic, pre-pubic inoculation of girls is taking place almost exclusively in wealthy countries in which, since introduction of the prophylactic examination (Papanicolaou Test), the frequency of cervical cancer has already been sharply reduced. It is



therefore urgent that inoculation is extended to less developed nations in which there is still a very high mortality level, particularly in Central and South America, Southern Africa and a few Asian countries.

### **Sir Richard Peto**

Apart from the causation of cervical cancer through HPV infections and cancer of the liver through viral hepatitis, there is hardly a more comparably important, avoidable cause of tumours in human beings than smoking. Although the fact that lung cancer is caused by cigarette smoking has been known for more than 50 years, it lasted an astonishingly long time before reliable data on the extent of the risk and the resultant mortality became available. The work carried out at Oxford University by Sir Richard Peto and his colleague Sir Richard Doll, who died in 2005, made decisive contributions to this. Not least of all thanks to their studies, we know today that the risk of contracting lung cancer is more than 20 times higher for male smokers than for non-smokers. In a famous epidemiological study, Doll and Peto followed more than 34,000 male British doctors over five decades (1951-2001) and determined that smokers have a life expectancy that is shortened by 10 years. Peto estimated that the free distribution of cigarettes to British soldiers in the First World War led in the course of decades to more victims than the war itself.

Peto and his staff were also able to show that giving up smoking leads to a significant reduction of the risk. Even longstanding smokers who only quit when they are 50 years old can lengthen their average life expectancy by about 6 years and reduce the risk of contracting lung cancer by the age of 75 years by more than 50%. He therefore made an impassioned note that informing young people about the dangers of smoking is indeed important, but the quickest and greatest effect would be achieved if a larger number of adults were to quit smoking.

Among other things, Peto has calculated that in the 20<sup>th</sup> century, more than 100 million people died early due to cigarette smoking, i.e. at the age of 30-69 years. He commented that the very high ratio of smokers in Asian countries will lead to sickness and mortality of extraordinary proportions. He estimates that in India in the year 2010, about 930,000 adults will die because of their tobacco consumption, 70% of them being between 30 and 69 years of age. Not least of all the work performed by Sir Richard Peto has resulted in an increasing number of governments worldwide initiating measures to protect their citizens, particularly passive smokers, from the health consequences of smoking, not by enlightenment and education but by legislative measures such as bans on smoking in public rooms.

### **The foundation:**

As a young man, Charles Rodolphe Brupbacher (1909-1989) established the Affida private bank on the Paradeplatz in Zurich and sold it after 40 years of activity to Credit Suisse. In honour of her husband, who died of cancer, his widow, Frédérique Brupbacher, established the Charles Rodolphe Brupbacher Foundation.

Further information on the foundation: [www.brupbacher-stiftung.ch](http://www.brupbacher-stiftung.ch)



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