



**USP Strategic Workshops  
Office of the Provost of Research**

**DEVELOPMENT OF NEW DRUGS AT THE  
UNIVERSITY OF SÃO PAULO**

December 10, 2015  
Institute of Advanced Studies  
University of São Paulo – São Paulo, Brazil

**EXECUTIVE SUMMARY**

This workshop was divided into three thematic modules: (i) Innovation in the National Pharmaceutical Scenario; (ii) Screening, Design and Discovery of Drug Candidates; and (iii) Translational Research: From Basic Research to the Clinic. The main aim was to bring together chemists, physicians, biologists and physicists for an exchange of ideas and results to stimulate reflection and discussion around strategic themes for research at the University of São Paulo (USP), as well as to create an environment for scientific and technological collaboration between the USP community and external agents. One important characteristic was the participation of renowned experts in the specific thematic areas of interest: José Eduardo Krieger (USP), Glaucius Oliva (USP), Adriano D. Andricopulo (USP), Jorge Kalil (Instituto Butantan), José Fernando Perez (Recepta Biopharma), Luiz H. Catalani (USP), Célia R. S. Garcia (USP), Norberto P. Lopes (USP), Alexander Precioso (Instituto Butantan, and USP) and Gustavo Kesselring (Brazilian Society of Pharmaceutical Medicine – SBMF). The presentations and contributions by the experts were followed by discussions with the audience. The presence of members from the Brazilian pharmaceutical industry among the participants (Aché Laboratories, EMS Pharma, and others) was a key component of this workshop. Some of the big drivers of innovation were discussed. First, the worrying status of the pharma industry, which spends about \$150 billion a year in R&D. The experts pointed out that pharma R&D spending has been less productive for many years. In addition, it is not enough to come up with new drugs; they must also be affordable. The second driver is technology, which is transforming science, medicine, and research tools. In their contributions, the experts showed that pharmaceutical research today is not done the way it was a decade ago. This in one point were USP should be more actively involved through its high level infrastructure for basic and applied research; and its highly qualified and diverse personnel in all areas of chemistry, biology, medicine and in other fields as well. The massive volume of data generated are delivering unparalleled insights into many poorly understood diseases. One of the problems faced by pharmaceutical R&D is that it is difficult to design drugs for diseases that we do not understand very well. The third driver of innovation pointed out was the adoption of new business models. The traditional big pharma model carries high costs. A network of collaboration between pharmaceutical companies and USP can deliver innovation more cheaply, bringing many benefits and advantages. This is an encouraging model of collaboration, although much more is needed for a successful outcome. The last driver of pharmaceutical innovation is policy. Policymakers can change things to promote an enormous impact on innovation. In connection with what is needed for scientific progress, the country benefits from strong patent laws that encourage innovation are clear, demanding major improvements in the procedures of the Brazil's National Institute of Industrial Property (INPI). In sum, the discussions during the day emphasized the need for innovation; identified some of the reasons why innovation is so difficult and what can be done about it; and recognized the challenge that the USP scientific community faces in the journey ahead the desired state of the development of the pharmaceutical R&D in Brazil.