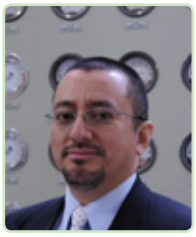
Third Laureate
Applied Research

- Research Work Title: **Upgrading of heavy petroleum**
- Researcher: **Prof. Jorge Ancheyta**
- Country: **Mexico**
- Field: **Petroleum refining**
- Scientific Affiliation: **The Mexican Institute of Petroleum**



Abstract:

The research deals with the development of a process and catalysts for upgrading of heavy petroleum. A new technology (HIDRO-IMP®) has been developed whereby the amount of impurities is considerably reduced by catalytic hydrotreating. API gravity of the feed is substantially enhanced while the yields of gasoline and diesel are increased. These changes in oil composition and quality make refining of the produced upgraded oil much easier and cheaper. Semi-commercial results demonstrated that a °13API heavy crude oil can be upgraded up to °23API, sulfur reduces from 5.2 to 1.7 wt%, metals from 535 to 219 ppm, asphaltenes from 21.8 to 9.8 wt%, among other important reductions in nitrogen and viscosity. The main advantages of this technology against other commercially available technologies are reduced investment costs, moderate reaction severity, and better economics. HIDRO-IMP® process has been continuously optimized so that it is ready for commercial application.

Biography:

Prof. Jorge Ancheyta has worked for the Mexican Institute of Petroleum since 1989 and his present position is Manager of Products for the Transformation of Crude Oil. He has also worked as professor of Chemical Engineering at the National Polytechnic Institute of Mexico since 1992. He has been supervisor of more than one hundred theses and of a number of postdoctoral and sabbatical year professors.

Prof. Ancheyta has been working in the development and application of petroleum refining catalysts, kinetic and reactor models, and process technologies mainly in catalytic cracking, catalytic reforming, middle distillate hydrotreating and heavy oils upgrading. He is author of a number of patents, books and more than 200 scientific papers, and has been recognized with various national and international awards.