

**AAPG Annual Meeting
March 10-13, 2002
Houston, Texas**

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Upstream Research -- Who Will Do It and How Will They be Trained?

In this presentation, I will provide a brief history of which organizations have provided the upstream research in the past, and which organizations are currently doing most of the research. I will provide information concerning how various research organizations operated in the past, and how those operations have changed. I will provide my views concerning the roles that all the organizations will have in future research and development projects, to include both organizational and subject matter issues. The service companies and universities will do an ever-increasing volume of research. However, the research will have to be paid for by industry and government agencies.

Without question, personnel issues will be important in the future. The upstream workforce is ageing. In 5-15 years, over one-half of the upstream workforce will reach retirement age. The productivity increases that we have seen in the petroleum industry in the past 10 years have come from two sources -- better computing power and an experienced workforce. When many of the experienced personnel retire in the near future, there could be a loss of productivity. The industry will have to not only recruit new personnel, but will have to train these new professionals, and find ways to archive and make available the experience that will be missing in the workforce. Universities and training organizations will be required to educate the new workforce.