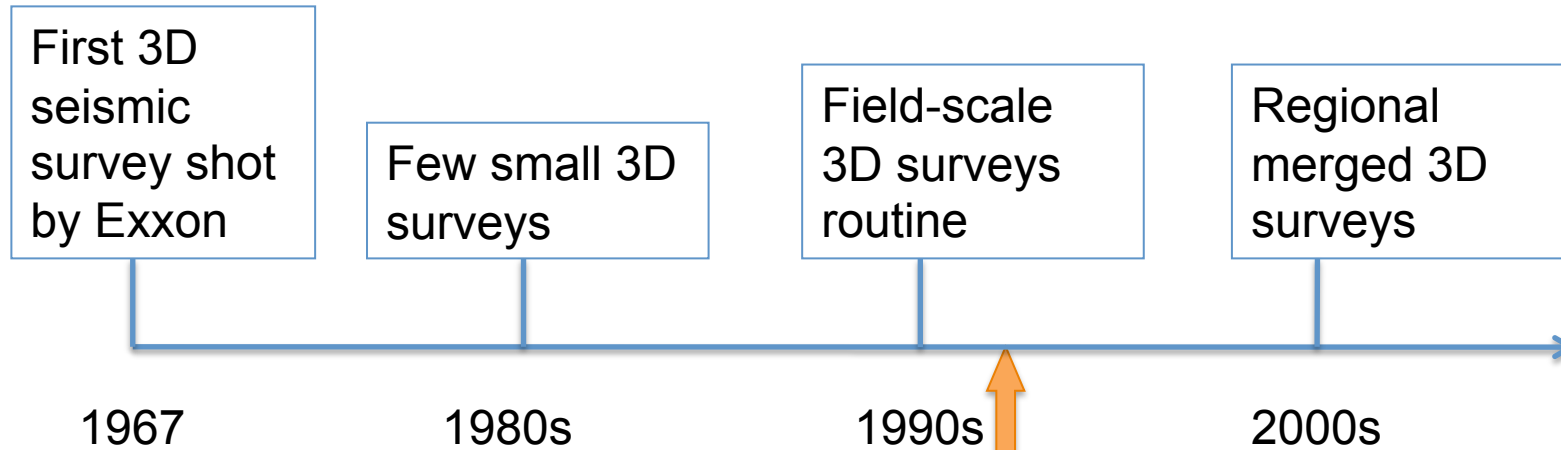


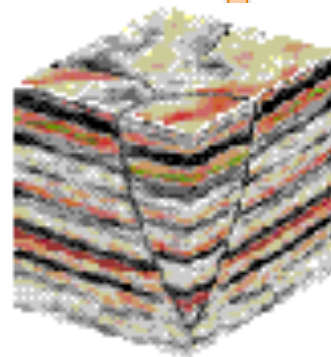
100 Years and Beyond: Future Petroleum Science & Technology Drivers

Concluding Remarks

Oil Technology Centenary
23-24 September 2013



1993



3d@ic



Early 2000s



**Petroleum
Engineering**

Geophysics

Geology

100 Years and Beyond: Future Petroleum Science & Technology Drivers

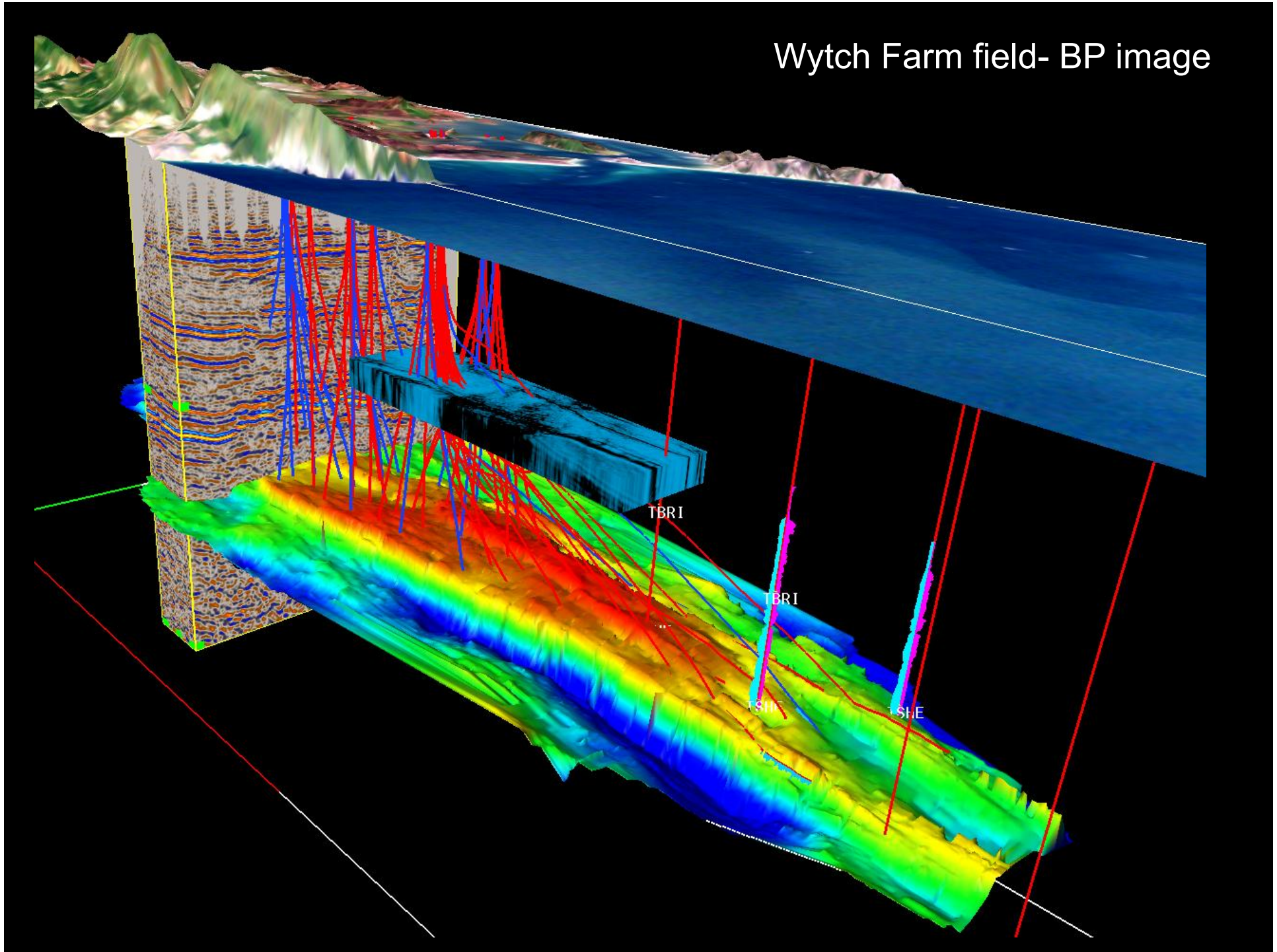
Integrated Exploration and Reservoir Management Phase,
with field trips for all MSc students from 40 countries

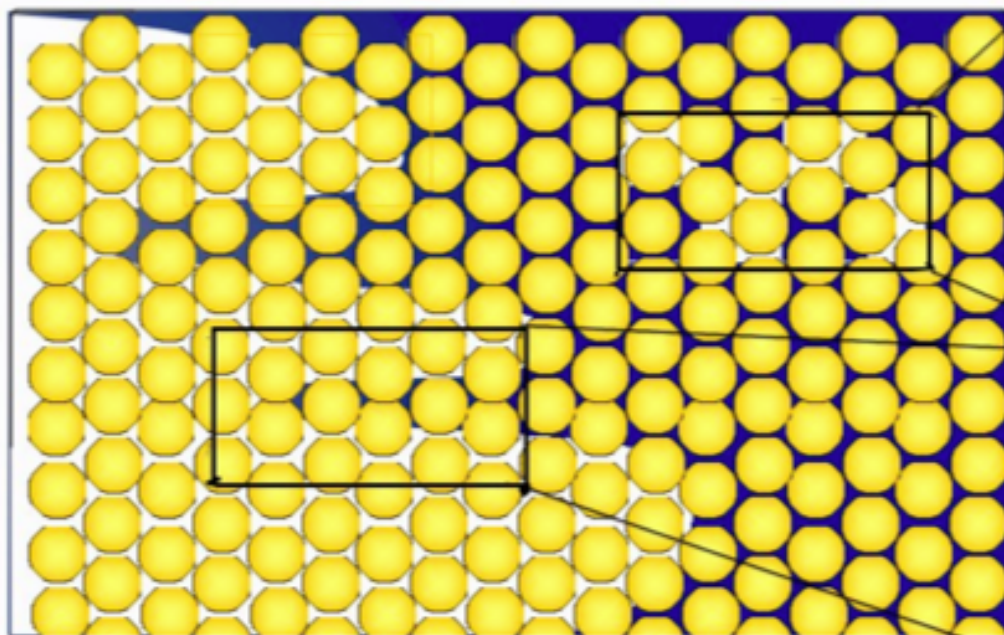
MSc Petroleum Geoscience: 54
MSc Petroleum Geophysics: 27
MSc Petroleum Engineering: 53

Total = 134

Bridport Sands at West Bay, Wessex Basin (October 2011)

Wytych Farm field- BP image





Effective Mixing Model

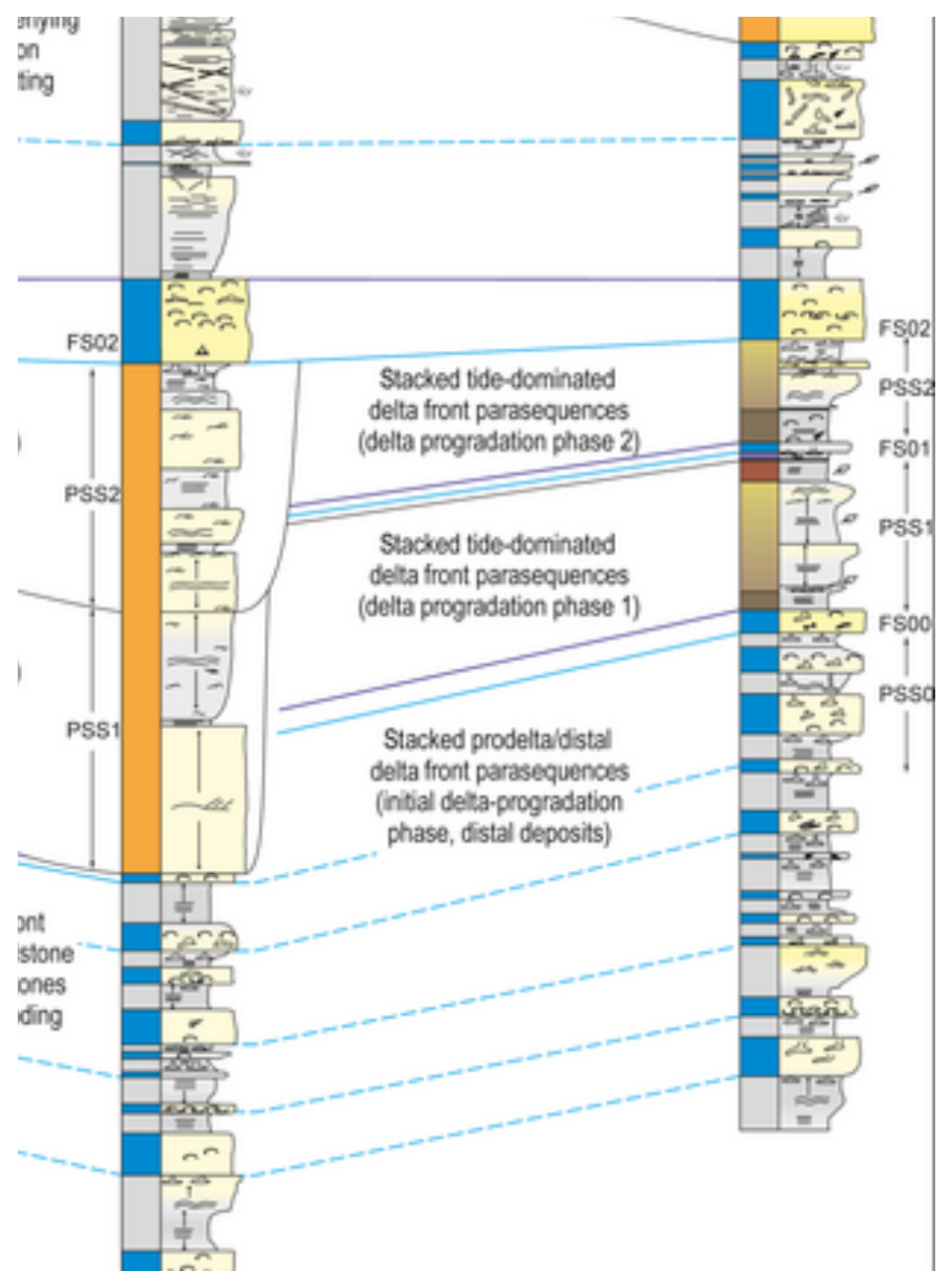
$$K_{fluid} = (K_{brine} - K_{CO_2})(1 - S_{CO_2})^e + K_{CO_2}$$

$$\frac{1}{K_{fluid}} = \frac{S_{CO_2}}{K_{CO_2}} + \frac{S_{brine}}{K_{brine}}$$

Homogeneous Reuss

Patchy, Hill, 1963

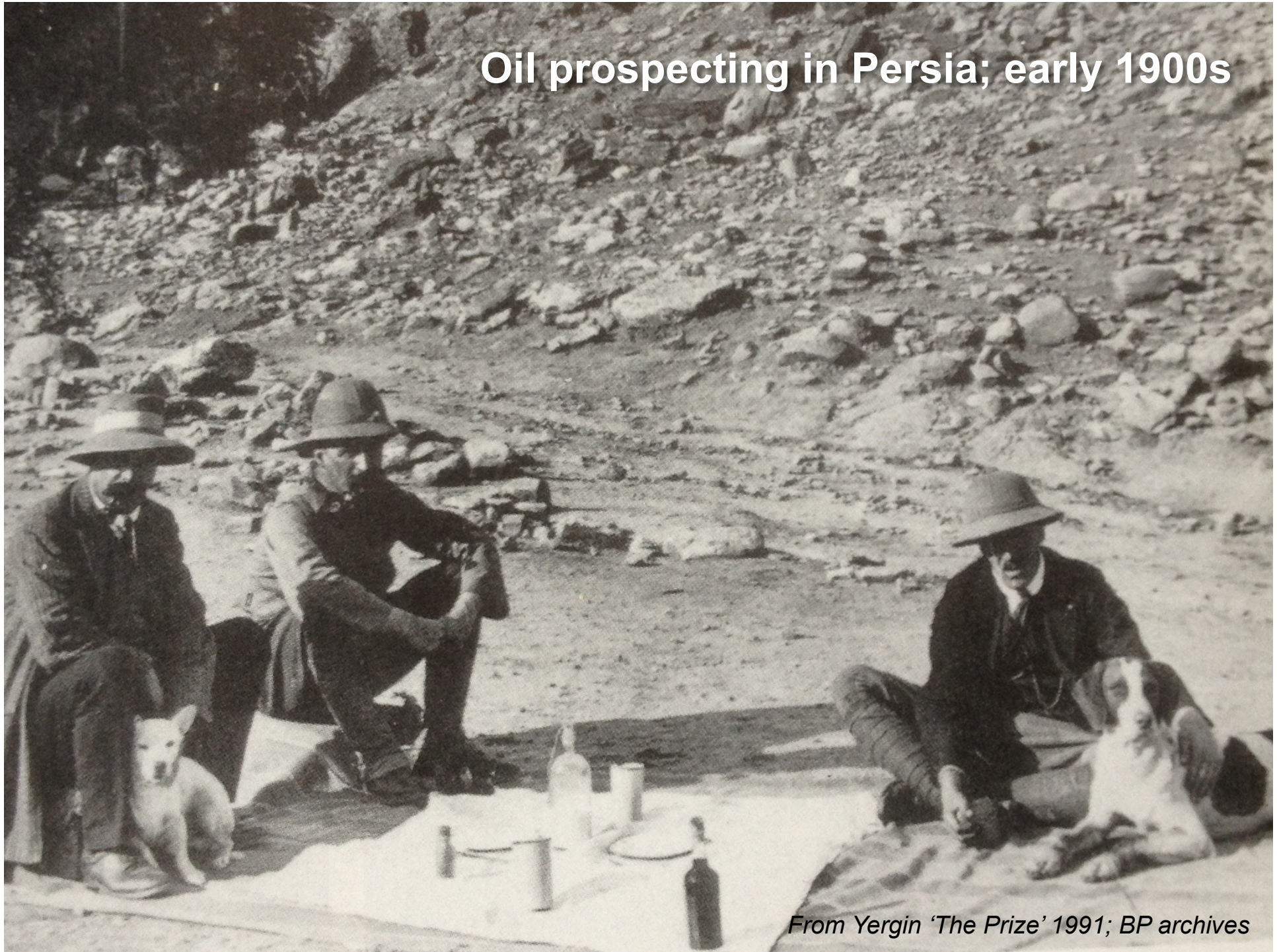
$$\frac{1}{K_{sat} + \frac{4}{3}\mu_{sat}} = \sum_{i=1}^N \frac{S_i}{K_i + \frac{4}{3}\mu}$$



100 Years and Beyond: Future Petroleum Science & Technology Drivers

- **global trends**
- **exploration trends and technologies**
- **development & production trends**
- **sustainable energy, unconventional hydrocarbons, climate change**

Oil prospecting in Persia; early 1900s



From Yergin 'The Prize' 1991; BP archives



Students in 2012

Acknowledgements

Organising Committee

Professor Howard Johnson (Chair)

Dr Mike Ala

Professor Alastair Fraser

Professor Peter King

Professor Mark Sephton

Professor Mike Warner

Steve Whalley (The Geological Society)

Laura Griffiths (The Geological Society)

Dr Jonathan Craig (The Geological Society)

Daphne Salazar (Secretary)

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Statoil

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