Institute *of* **Physics**

LONDON AND SOUTH EASTERN BRANCH REMS SECTION

At Home IOP HQ 76 Portland Place London W1B 1NT
Thursday 14 July 2005

This at home has been organised by George Freeman and David Pick

10.30 – 11.00	Arrive & Coffee	
11.00 – 11.05	Welcome and REMS Notices	
11.05 – 12.05	The Buzzard Development	Paul Doble
12.05 – 13.05	Archery Bows	Felix Weinberg
13.05 – 14.15	Lunch on site	
14.15 – 15.15	Bees and their systems	Chris Deaves
15.15 – 16.15	Food Colour Appearance and the Consumer	Douglas B MacDougall
16.15 – 16.30	General Discussion / AOB	
16.30	Tea and disperse	

The Buzzard oil field is located in the Outer Moray Firth, 100 kilometres northeast of Aberdeen. The field was discovered in May 2001 and is estimated to contain over 1 billion barrels of oil in place, making it one of the most significant development projects in the UK North Sea in the past decade. Regulatory consent for the field development was granted in November 2003, with contracts placed for long lead procurements items soon after. The development infrastructure for the field includes a production facility incorporating three piled structures supporting separate wellhead, production and quarters/utility facilities linked through bridges. Subsea facilities will deliver injection water to two remote clusters locations.

Paul Doble, Buzzard Development General Manager, has had a career in the oil and gas industry for some 30 years. He joined Nexen from Aker Maritime UK where he was Business Development Director, co-ordinating Aker's business development opportunities in the UK, the Caspian and some activities in West Africa. Prior to joining Aker, Paul successfully managed a number of major North Sea developments - including Gryphon and Janice for Kerr McGee. Prior to that he worked for Shell where his last assignment was Deputy Project Manager for the Kittiwake Development

Archery Bows: From the prehistoric origins of the bow, the art and science of the bowyer played a crucial role in hunting and warfare. The building of empires was often predicated on innovations in the mechanics of bow design and construction. This brief talk will examine the physics of energy storage and relase by bows of various architectures and show how modern bows, developed in the 1950s, perfected the design by building in a negative modulus of elasticity.

Felix Weinberg is Professor Emeritus and Senior Research Fellow at Imperial College. He is a Fellow and Rumford Medallist of the Royal Society. He has been an F. Inst. P. since 1960. He is also a member of the Royal Richmond Archery Club.

Bees and their systems: This is really an excuse to talk about the world of the beehive and the

major systems and behaviours that it uses to operate. We will also explore the external systems that depend on the bees, such as plant pollination, and finally talk about the the word of the beekeeper and how he/she tries to use these systems for profit, be it honey or other results.

Chris Deaves is the Hon Secretary and a Tutor at the Twickenahm and Thames Valley Beekeepers' Association. He has kept bees and taught beekeeping for about 15 years and holds the British Beekeepers Association Senior Certificate. (Yes, there is an examination system for beekeepers.)

He also confesses to being a lapsed Associate Member of the Institute, having graduated in Physics and Astronomy at University College, London a long time ago, although these days he makes a living working on large computer projects.

Food Colour Appearance and the Consumer: The attractiveness of food to the consumer is important for successful sales in the supermarket. Many factors control the appearance of food, from initial selection and harvest to processing and display. Pigmentation and structure both contribute to the overall appearance and affect the perception of freshness and quality. This talk will illustrate some of the factors involved in food colour appearance and methods of measuring them with reference to a variety of food products and sensory judgement of their quality.

Dr Douglas B MacDougall retired recently from the University of Reading where his research concentrated on sensory analysis and the relationship of instrumental colour measurement to the visual colour and appearance of food. Previously he had been in charge of the Colour Laboratory in the Food Quality Section and then Co-leader of the Development Group at the AFRC Meat Research Institute. He is a Fellow of the Institute of Food Science and Technology and a member of the Colour Group of Great Britain.