

## Risk & Volume Assessment in Exploration Short Course

### REGISTRATION FORM

#### PARTICIPANT'S DETAILS

NAME .....

JOB TITLE .....

ORGANIZATION .....

ADDRESS .....

.....

POSTCODE ..... CITY .....

TEL. NO. .... FAX NO. ....

EMAIL .....

#### PAYMENT DETAILS

**Course Fees: RM 3000** (inclusive of course notes, lunch & refreshment)

- I enclose a cheque / bank draft for the sum of RM .....  
Cheque / draft No. .... Bank .....
- (please make cheque/draft payable to "Geological Society of Malaysia")
- I bank in the fee of RM ..... directly into the following  
account: Name: Geological Society of Malaysia  
Bank: Standard Chartered Bank  
Account No.: 7941 0540 2263  
(please attach the payment slip as evidence of payment)
- Please invoice the above organization for the sum of RM .....

Send completed Registration Form to:

Geological Society of Malaysia  
c/o Department of Geology  
University of Malaya, 50603 Kuala Lumpur  
Email: geologicalsociety@gmail.com  
Tel.: +60 3 7957 7036 Fax: +60 3 7956 3900

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# Risk & Volume Assessment in Exploration



17-18 January 2012

Department of Geology, University of Malaya,  
Kuala Lumpur

*A 2-Day Short Course for  
geoscientists working in exploration,  
for portfolio analysts and for their direct supervisors.  
The course is also instructive for staff from disciplines working  
closely with exploration staff, such as reservoir engineers,  
petrophysicists and geophysicists.*

by

**Jan de Jager**

**Professor, Regional and Petroleum Geology  
The Netherlands**

Organized by  
**Department of Geology,  
University of Malaya &  
Geological Society of Malaysia**



## PROGRAM

### DAY 1 : 17 January 2012 (Tuesday)

<b>09:00</b>	<b>Welcome and Introduction</b> An outline of the programme, the objective of the course. Introduction to Risk & Volume assessment: the main concepts
<b>10:00</b>	<b>Coffee &amp; Refreshment Break</b>
<b>10:15</b>	<b>Risks, Volumes and Uncertainty</b> The difference between risk and uncertainty, basics of essential statistical concepts, the play elements and workflow to assess prospect risks, biases in estimating uncertainties, the results of probabilistic volume assessments and their representation in expectation curves and frequency plots, exercises to enhance understanding of introduced concepts
<b>12:00</b>	<b>Lunch</b>
<b>13:00</b>	<b>Prospects and Plays</b> Play maps and demonstration of how understanding of the regional geology, petroleum systems and hydrocarbon plays is an essential element in the assessment of risks & volumes for individual prospects, exercises on the use of play maps for risk assessment
<b>14:00</b>	<b>Traps</b> Risks and uncertainties associated with hydrocarbon traps, the difference between spill and leak points, how to deal with sealing faults and overpressures, what are the risks of stratigraphic traps, how to estimate realistic uncertainty ranges for hydrocarbon column length, exercises
<b>15:00</b>	<b>Coffee &amp; Refreshment Break</b>
<b>15:15</b>	<b>Reservoirs</b> Risks and uncertainties associated with reservoir rocks, how to deal with layered reservoirs, waste zones and irregularly shaped reservoirs, facies and depth trends in reservoir characteristics, exercises
<b>17:00</b>	<b>Close</b>

### DAY 2 : 18 January 2012 (Wednesday)

<b>09:00</b>	<b>Reflections on Day 1</b> Re-cap of insights gained
<b>09:30</b>	<b>Seals</b> Mechanisms of seal failure, how to deal with leaky seals and differential leakage of gas, overpressures and impact on seal risk and column length prediction, exercises to enhance understanding
<b>10:30</b>	<b>Coffee &amp; Refreshment Break</b>
<b>10:45</b>	<b>Charge</b> Impact of source rock types and timing issues for charge assessment, how to deal with mixed columns (oil and gas), formation volume factors (gas expansion and oil shrinkage), hydrocarbon saturations and recovery factors, the impact of long transition zones in tight reservoir rocks
<b>12:00</b>	<b>Risk Assessment</b> Practical exercise in small groups on prospect risk assessment, group discussion on the impact of positive and/or negative geological indications for the presence or absence of play elements
<b>13:00</b>	<b>Lunch</b>
<b>14:00</b>	<b>Risk Assessment (continued)</b>
<b>15:00</b>	<b>Coffee &amp; Refreshment Break</b>
<b>15:15</b>	<b>Volume Assessment</b> Practical back-of-the-envelope volume calculation exercise, how to quickly calculate low, medium and high volumes for a prospect, recapitulation of how to select appropriate distributions
<b>16:30</b>	<b>Course Summary</b>
<b>17:00</b>	<b>Close</b>

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Venue : Department of Geology, University of Malaya,  
50603 Kuala Lumpur