

ANGUS FERGUSON

E-mail: pak.angus33@gmail.com
Handphone: 66-614809630 in Thailand

Industry Experience

October 1, 2014 - present

**Department of Geology, Faculty of Science,
Chulalongkorn University, Bangkok, Thailand**

Foreign Lecturer M.Sc. Program in Petroleum Geoscience

- Teach courses in Geophysics, Seismic Interpretation, Reservoir Characterization, Sequence Stratigraphy and Oil and Gas Field Study
- Supervise students MSc thesis

October 1, 2014-present

**Consulting projects in Thailand using Singapore registered company
Bright Spot Consultants Pte Ltd**

- Peer review of exploration projects in client acreage in Indonesia
- Evaluation of exploration potential in client acreage in Thailand
- Lecturer in MSc Geophysics Program in Chiang Mai University, Thailand

February, 2012 – March, 2014

Niko Resources Ltd, Jakarta, Indonesia:

Senior Geophysicist

- Geophysical evaluation of deep water exploration blocks, specifically Cendrawasih I,II,III and IV PSC's in Cendrawasih Bay, West Papua, Semai V PSC, West Papua and Sunda PSC, West Java.
- Prepare and present technical presentations for farm-out data room.
- Evaluate shallow hazards using high resolution seismic for proposed well prospects.
- Monitoring seismic processing for PSDM.

October, 2007 – January, 2012

Pearl Energy, Jakarta, Indonesia:

Chief Geophysicist

- Evaluate and assist on all geophysical operations associated with present and future operated and non-operated blocks for Pearl Energy in Indonesia
- Technical G&G evaluation of Ruby Field, South Makassar Straits for final field development plan
- Areas covered included South Sumatra, East Java, South Makassar Straits, Salawati and Natuna
- Projects consisted of seismic acquisition, monitoring seismic processing and re-processing, interpretation of 2D and 3D seismic, producing maps in depth for reservoir calculations, evaluation and recommendation for bidding on new blocks, assisting in contract bids and technical evaluation of contractors.

September 2005-September 2007

VICO Indonesia, Jakarta, Indonesia:

Exploration Specialist, ILX Team

- Main objective was to select and present step-out development / exploration locations based on combining 3D seismic and geological data from nearby producing fields.
- Project resulted in multiple prospects based on a new play concept. The first well drilled resulted in a successful gas well.

September, 2001- August 2005

Universiti Brunei Darussalam, Brunei:

Senior Lecturer, Department of Petroleum Geoscience

- Courses taught included: Seismic Interpretation, Sequence Stratigraphy, Geophysics, Reservoir Modeling and Oil and Gas Field Evaluation.
- Each year, 5-6 research projects were supervised for the MSc degree students. Projects included regional 2D seismic interpretation, seismic facies studies in shelf and deepwater environments, overpressure identification and hydrocarbon potential, AVO evaluation, gas hydrate identification and AVO in deepwater sediments and velocity modeling.

- In addition to the teaching there were many consulting projects for oil companies which included prospect evaluation and regional studies in the Kutai Basin in Indonesia for Unocal Indonesia, a structural balancing project for VICO Indonesia and geological evaluation of the Sarawak Basin in Malaysia for Murphy Oil.
- Field Trip Leader for Mahakam Delta field trips in Kalimantan, Indonesia. The Field Trips have been used for training oil company asset teams consisting of geologists, geophysicists, engineers and managers in the concepts of deltaic depositional environments for reservoir studies and exploration.
- A major 3D seismic interpretation project of deepwater depositional systems in offshore Brunei was completed in January, 2005.

July 1999-August 2001

Independent Geophysical/ Geological Consultant:

Clients and projects included:

- Unocal Indonesia Company, Indonesia: Evaluate offshore areas for prospect resource base and recommendations for forward work programs for exploration in Kalimantan. Organized Mahakam delta field trip for the Unocal asset team.
- Singapore Petroleum Company, Singapore: Evaluate international new venture acreage.
- Kalrez Petroleum Limited, Indonesia: Evaluate selected South Sumatra shut-in fields for potential new ventures. Complete an evaluation and propose well locations for acreage in Seram Island, Eastern Indonesia.
- CTOC (Carigali-Triton Operating Company), Malaysia: Seismic sequence stratigraphy of Block A-18 in northern Malay Basin using 2D seismic and integration with well data. Organized and taught the Mahakam delta field trip for CTOC asset team consisting of geologists, geophysicists, reservoir engineers and management staff.

1991- June 1999

VICO Indonesia, Jakarta, Indonesia:

Exploration Specialist

- Used workstation skills in both Geoquest and Landmark geophysical and geological workstations to produce regional interpretational sections and more detailed field cross-sections and maps for exploration and step-out development proposals.
- Developed a structural model that was incorporated into a three year Kutai Basin Regional Study. Applied structural model to explain the basin evolution and timing of hydrocarbon generation and entrapment.
- Demonstrated the recognition of sand-filled channels on 2D seismic and proposed the first 3D seismic programs in VICO Indonesia.
- Integrated the results of the Kutai Basin Study to propose two new exploration play areas at VICO Indonesia. Assisted in the 3D seismic processing evaluation, mapping and prospect generation in both areas for geophysics and geology.

1990-1991

Petrel Robertson and A.F. Exploration Consultants Ltd., Calgary, Alberta, Canada

Senior Geophysicist/Geologist

- Geophysical and geological consulting including 3D seismic acquisition and evaluation.
- Resulted in successful oil discoveries and land purchase of prospective acreage for clients. Doubled the reserves for a small publicly traded company (Petrostar Ltd.)

1979-1988

PanCanadian Petroleum Ltd. Calgary, Alberta, Canada (Encana):

District Geologist

- Rapid advancement in the company to District Geologist level due to proven ability to supervise and train staff, successful discovery and development of a 30 MMBO oil pool and the development and extension of previous pools.
- Was a member on an inter-discipline team that reduced the company average time from pool discovery to production by 60%.
- Completed geological interpretations and farm-in recommendations for offshore acreage in East Newfoundland Basin, Canada.

1974-1976

Ontario Geological Survey: Summer Employment

Junior and Senior Mapping Geologist

- Mapping glacial surficial deposits in Ontario
- Assisted in producing glacial surficial maps in St. Marys, Tillsonburg and Thunder Bay

Education

1989-1990

University of Calgary, Alberta, Canada: BSc After in Geophysics

- Returned to university to complete a geophysics degree after 9 years in industry.
- Thesis topic on 3D seismic interpretation of sand-filled channels in Southern Alberta.

1976-1978

University of Calgary, Calgary, Alberta, Canada: MSc in Quaternary Geology

- Thesis topic on Quaternary sedimentation and palynology in Elk Valley B.C

1972-1976

University of Waterloo, Waterloo, Ontario, Canada: Honours BSc in Earth Sciences

- Thesis topic on geophysical gravity anomaly mapping the Onondaga Escarpment: a buried bedrock escarpment.

Awarded J.P. Bickell Scholarship and U. of W. Earth Sciences Scholarship
Industry Teaching Experience

Additional teaching experience

Field trip leader for IPA, Next, and Individual company training on Modern and Ancient Mahakam Delta trips, Kalimantan, the Mahakam Delta Field Trips have been run 1-3 times a year since 1998.

- IPA Cross Borneo Field trip, East Kalimantan, Sabah Malaysia and Brunei, November 29- December 6, 2004
- Modern and Ancient Mahakam Delta for Engineers, East Kalimantan, Indonesia. February 3-8, 2000
- Deltaic Sedimentation and the Modern and Ancient Mahakam Delta, East Kalimantan, Indonesia. April 14-20, 1999.

Instructor for Landmark sponsored course to Pertamina (Indonesia National Oil Company)

- Seismic Sequence Stratigraphy, August 2-4, 2000

Taught IPA sponsored structural course:

- Detached Inversion: Structural Modeling within the Sanga Sanga PSC, Kutei Basin, Kalimantan. Bandung November 29, 1998.

Joint instructor for IAGI/MIGAS Industry course:

- Assessment and Development of Exploration Plays, October 1998.

Instructor at Southern Alberta Institute of Technology (SAIT), Calgary:

- Taught Evening Geological certificate program, January 1985 – June 1987.
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Sessional Instructor at University of Calgary, Alberta, Canada:

- Prepare first year labs, train instructors and organize field trips, 1978 – 1979.

Convention Talks:

- Reservoir Characterization using Seismic Attributes and Inversion Analysis of Globigerina Limestone Reservoir, Madura Strait, Indonesia in IPA Annual Convention, 2017, Jakarta, Indonesia.
- Kutai Basin Exploration: Past and Future. An Example of the Use of Simple Play Types and Serendipity for Successful Exploration and Development in IPA 2016 Technical Symposium, Indonesia Exploration: Where From- Where To,
- Detached Inversion: A new structural style applied to the Mahakam Foldbelt, Kutei Basin, East Kalimantan, Indonesia. Presented at Tectonics & Sedimentation of Indonesia Conference, March 15-20, 1999. Bandung Indonesia.
- Structural Development of the Mahakam Foldbelt, East Kalimantan, Indonesia. Presented at Tectonics, Stratigraphy and Petroleum Systems of Borneo Conference, June 22-25, 1997, Brunei Darussalam, Brunei.
- Structural Modeling within Sanga Sanga PSC, Kutei Basin, Kalimantan: Its Application to Paleochannel Orientation Studies and Timing of Hydrocarbon Entrapment. Presented at Petroleum Systems of SE Asia & Australasia, May 21-23, 1997, Jakarta, Indonesia.

Publications

Naghadeh, D.H., Morley, C.K., and Ferguson, A.J. 2018. Stochastic Gabor reflectivity and acoustic impedance inversion. *J. Geophys. Eng.* 15 (2018) 179-191 (13pp)

Ferguson, A.J. 2016. Kutai Basin Exploration: Past and Future. An Example of the Use of Simple Play Types and Serendipity for Successful Exploration and Development in IPA 2016 Technical Symposium, Indonesia Exploration: Where From- Where To, 32-TS-16

Ferguson, A. J. et al. 2005. Recognition of Major Debris Flow and Turbidite Depositional Patterns Using 3D Seismic Facies Analysis in Deepwater Sediments in Offshore Brunei Darussalam. Abstracts Article #90039 2005 AAPG Annual Convention, Calgary, Alberta

Ferguson, A. J. et al. 2004. Control of Regional and Local Structural Development on the Depositional Stacking Patterns of Deepwater Sediments in Offshore Brunei Darussalam. IPA AAPG Deepwater and Frontier Symposium, 2004. pp 113-125.

Ferguson, A. J. and McClay, K. 1997. Structural Modeling within the Sanga Sanga PSC, Kutei Basin, Kalimantan, Indonesia: Its Application to Paleochannel Orientation Studies and Timing of Hydrocarbon Entrapment. In *Petroleum Systems of SE Asia & Australasia*, 1997 ed. Howes, J.V.C and Noble, R.A., pp. 727-743.

Ferguson, A. J. and Osborn, G. 1981. Minimum Age of Deglaciation of Upper Elk Valley, British Columbia, Canada. *J. Earth Sci.* 18, pp 1635-1636.

Hook, J.A., Butterworth, P.J. and Ferguson, A. J.. 2002. Contrasting Miocene Fluvio-Deltaic Channel Types from Perjuangan Quarry, East Kalimantan, Indonesia: Implications for Subsurface Reservoir Correlation. IPA 28th Annual Convention Proceedings (Volume 1), 2002 pp 617-632.

McClay, K., Dooley, T., Ferguson, A. J. and Poblet, J. 2000. Tectonic Evolution of the Sanga Sanga Block, Mahakam Delta, Kalimantan, Indonesia. *AAPG Bulletin*, v. 84, No. 6, pp. 765-786.

Sebayang, D. and Ferguson, A. J., 2003. Characterization of Deep-Water Depositional Systems in the Basin Plain Environment Using Shallow 3D Seismic Data Across the Topaz Anticline, North Sumatra, Indonesia. IPA 29th Annual Convention Proceedings (Volume 1), 2003 pp 1-7.

Professional Memberships

AAPG, IPA, SEG, SEAPEX

References

Professor Joe Lambiase, former Program Director, Petroleum Geoscience Program, Chulalongkorn University, Bangkok, Thailand, e-mail: joe_lambiase@yahoo.com

Dave Carter, Chief Geophysicist, KrisEnergy Thailand, phone no. +66813711907, e-mail: david.carter@krisenergy.com

Peter Butterworth, Chief Geologist, BP Angola, phone no. +244 917 311 240, e-mail: butterp@bp.com